Graph2D Library --- Windows ---

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Chapter 1

Plot10 & Advanced Graphing II

Graph2D is completly written in FTN77 and ANSI C90. At first it was developed with the Open Watcom compiler. Now the MINGW-GCC is used in addition, in order to enable linking against applications written in modern Fortran.

1.0.0.1 How to build the library:

Copy the sources into the /build subdirectory by invoking "$$getfiles.bat win32 (win16, gnu32, gnu64...)" and then use the Workspace files.

1.0.0.2 Using the library:

After building the library and linking it to an application, the main characteristics could be changed by the following files:

- Initialization: by calling subroutine WINLBL, the registry or by ∗.ini/∗.xml files
- Icons: by linking against a resource or using ∗.ini-files

1.0.0.3 Hardcopies

As default ∗.wmf-hardcopies are used, but other formats could be configured before compiling the package.

Chapter 2

Compilersetup and foreign libraries

2.0.1 Setup of the IDE

2.0.1.1 Open Source Libraries

Building and storing of the binaries in /OpenContent/binaries/... is only necessary once, and only if a new compiler is used.

sglib is a macro-library, no compilation is necessary:

- Copy the file "sglib.h" into the /include directories.
- Copy the file "index.html" -> TekLib\OpenContent\docs\sglib

2.0.1.2 OpenWatcom for Windows 16bit and 32bit

2.0.1.2.1 Basic Configuration of the IDE Make the directory C:\UsrProg\Watcom and then "Run as Administrator" open-watcom-2_0-c-win-x64.exe and open-watcom-2_0-f77-win-x64.exe with the following options

- 16bit Compiler: All
- 32bit Compiler: All
- Target: DOS, Win16, Win NT
- Host: Win 64
- Toolkit: All

2.0.1.2.2 Build the miniXML library:

- Unzip mxml-x.y.zip to \build
- Copy OpenContent\MiniXMLlib\OpenWatcom∗.∗ to \build
- Compile the static version with mxml1.wpj and the DLL-version with mxml1d.wpj
- Copy from \build:
  mxml.h -> TekLib\OpenContent\binaries\Watcom mxml1.lib
  !!! Caution, DLL is only of limited use: Erroneous file operations "Unable to read XML file with default callback." !!!
  mxml1d.lib, mxml1d.dll ->TekLib\OpenContent\binaries\Watcom\lib
- Copy the documentation from \build\doc:
  mxml.html, mxml-cover.png -> TekLib\OpenContent\docs\Mini-XML

2.0.1.3 MingGW (TDM and CodeBlocks) for Windows 32bit and 64bit

2.0.1.3.1 Basic Configuration of the IDE Install both TDM-Toolchains, for 32- and for 64-bit (e.g. in C:\Usr↩ Prog\TDM-GCC-64 and C:\UsrProg\TDM-GCC-32). Then edit the following entries in CodeBlocks at Settings -> Compiler:

- GNU GCC Compiler:
  "Compiler Settings" -> "Compiler Flags" General\Target 64bit [-m64]
  " Toolchain executables" : C:\UsrProg\TDM-GCC-64
- GNU Fortran Compiler:
  "Compiler Settings" -> "Other Compiler options": -m64
  "Toolchain executables" : C:\UsrProg\TDM-GCC-64

In order to build 32bit programs the global GCC settings have to be changed accordingly. The 32bit settings define new compilers and can now be distinguished from the 64bit versions when used inside the 32bit workspaces.

2.0.1.3.2 Building the miniXML library MiniXML: Compilation uses a MSYS-Terminal, seperately for 32- and 64-bit.

- Unzip mxml-x.y.zip
- $ cd /home/mxml-x.y
- $ ./configure –help
- For 32bit: $ ./configure –build=mingw32
  For 64bit: $ ./configure –build=mingw64
- Edit makefile and insert the following flags:
  LIBS = -lpthread -lssp
- $ make
- $ make test

- $ exit
- Copy (inside MS Windows):
  mxml.h -> TekLib\OpenContent\binaries\gcc libmxml.a, (libmxml1.a, mxml1.dll) ->TekLib\Open↩
  Content\binaries\gcc\lib

- Copy the documentation:
  mxml.html, mxml-cover.png -> TekLib\OpenContent\docs\Mini-XML

Chapter 3

Data Type Index

3.1 Data Types List

Here are the data types with brief descriptions:

Chapter 4

File Index

4.1 File List

Here is a list of all files with brief descriptions:

Chapter 5

Data Type Documentation

5.1 TKTRNXcommonBlock Struct Reference

`#include <TKTRNX.h>`

Public Attributes

- FTNINT khomey
- FTNINT khorsz
- FTNINT kversz
- FTNINT kitalc
- FTNINT ksizef
- FTNINT klmrgn
- FTNINT krmrgn
- FTNINT kScrX
- FTNINT kScrY
- FTNINT kBeamX
- FTNINT kBeamY
- FTNINT kminsx
- FTNINT kminsy
- FTNINT kmaxsx
- FTNINT kmaxsy
- FTNREAL tminvx
- FTNREAL tminvy
- FTNREAL tmaxvx
- FTNREAL tmaxvy
- FTNREAL trcosf
- FTNREAL trsinf
- FTNREAL trscal
- FTNREAL xfac
- FTNREAL yfac
- FTNREAL xlog
- FTNREAL ylog
- FTNINT kStCol
- FTNINT iLinCol
- FTNINT iBckCol
- FTNINT iTxtCol
- FTNINT iMouse

5.1.1 Detailed Description

Definition at line 24 of file TKTRNX.h.

5.1.2 Member Data Documentation

5.1.2.1 iBckCol

```
FTNINT TKTRNXcommonBlock::iBckCol
```

Definition at line 44 of file TKTRNX.h.

5.1.2.2 iLinCol

```
FTNINT TKTRNXcommonBlock::iLinCol
```

Definition at line 44 of file TKTRNX.h.

5.1.2.3 iMouse

```
FTNINT TKTRNXcommonBlock::iMouse
```

Definition at line 44 of file TKTRNX.h.

5.1.2.4 iTxtCol

```
FTNINT TKTRNXcommonBlock::iTxtCol
```

Definition at line 44 of file TKTRNX.h.

5.1.2.5 kBeamX

```
FTNINT TKTRNXcommonBlock::kBeamX
```

Definition at line 33 of file TKTRNX.h.

5.1.2.6 kBeamY

```
FTNINT TKTRNXcommonBlock::kBeamY
```

Definition at line 33 of file TKTRNX.h.

5.1.2.7 khomey

```
FTNINT TKTRNXcommonBlock::khomey
```

Definition at line 27 of file TKTRNX.h.

5.1.2.8 khorsz

```
FTNINT TKTRNXcommonBlock::khorsz
```

Definition at line 29 of file TKTRNX.h.

5.1.2.9 kitalc

```
FTNINT TKTRNXcommonBlock::kitalc
```

Definition at line 30 of file TKTRNX.h.

5.1.2.10 klmrgn

```
FTNINT TKTRNXcommonBlock::klmrgn
```

Definition at line 31 of file TKTRNX.h.

5.1.2.11 kmaxsx

```
FTNINT TKTRNXcommonBlock::kmaxsx
```

Definition at line 35 of file TKTRNX.h.

5.1.2.12 kmaxsy

```
FTNINT TKTRNXcommonBlock::kmaxsy
```

Definition at line 35 of file TKTRNX.h.

5.1.2.13 kminsx

```
FTNINT TKTRNXcommonBlock::kminsx
```

Definition at line 35 of file TKTRNX.h.

5.1.2.14 kminsy

```
FTNINT TKTRNXcommonBlock::kminsy
```

Definition at line 35 of file TKTRNX.h.

5.1.2.15 krmrgn

```
FTNINT TKTRNXcommonBlock::krmrgn
```

Definition at line 31 of file TKTRNX.h.

5.1.2.16 kScrX

```
FTNINT TKTRNXcommonBlock::kScrX
```

Definition at line 31 of file TKTRNX.h.

5.1.2.17 kScrY

```
FTNINT TKTRNXcommonBlock::kScrY
```

Definition at line 31 of file TKTRNX.h.

5.1.2.18 ksizef

```
FTNINT TKTRNXcommonBlock::ksizef
```

Definition at line 30 of file TKTRNX.h.

5.1.2.19 kStCol

```
FTNINT TKTRNXcommonBlock::kStCol
```

Definition at line 43 of file TKTRNX.h.

5.1.2.20 kversz

```
FTNINT TKTRNXcommonBlock::kversz
```

Definition at line 29 of file TKTRNX.h.

5.1.2.21 tmaxvx

```
FTNREAL TKTRNXcommonBlock::tmaxvx
```

Definition at line 38 of file TKTRNX.h.

5.1.2.22 tmaxvy

```
FTNREAL TKTRNXcommonBlock::tmaxvy
```

Definition at line 38 of file TKTRNX.h.

5.1.2.23 tminvx

```
FTNREAL TKTRNXcommonBlock::tminvx
```

Definition at line 38 of file TKTRNX.h.

5.1.2.24 tminvy

`FTNREAL TKTRNXcommonBlock::tminvy`

Definition at line 38 of file TKTRNX.h.

5.1.2.25 trcosf

`FTNREAL TKTRNXcommonBlock::trcosf`

Definition at line 40 of file TKTRNX.h.

5.1.2.26 trscal

`FTNREAL TKTRNXcommonBlock::trscal`

Definition at line 40 of file TKTRNX.h.

5.1.2.27 trsinf

`FTNREAL TKTRNXcommonBlock::trsinf`

Definition at line 40 of file TKTRNX.h.

5.1.2.28 xfac

`FTNREAL TKTRNXcommonBlock::xfac`

Definition at line 41 of file TKTRNX.h.

5.1.2.29 xlog

`FTNREAL TKTRNXcommonBlock::xlog`

Definition at line 41 of file TKTRNX.h.

5.1.2.30 yfac

`FTNREAL TKTRNXcommonBlock::yfac`

Definition at line 41 of file TKTRNX.h.

5.1.2.31 ylog

`FTNREAL TKTRNXcommonBlock::ylog`

Definition at line 41 of file TKTRNX.h.

The documentation for this struct was generated from the following file:

- TKTRNX.h

Chapter 6

File Documentation

6.1 AG2.for File Reference

Graph2D: Tektronix Advanced Graphing II Emulation.

Functions/Subroutines

- subroutine ag2lev (ilevel)
- subroutine line (ipar)
- subroutine symbl (ipar)
- subroutine steps (ipar)
- subroutine infin (par)
- subroutine npts (ipar)
- subroutine stepl (ipar)
- subroutine sizes (par)
- subroutine sizel (par)
- subroutine xneat (ipar)
- subroutine yneat (ipar)
- subroutine xzero (ipar)
- subroutine yzero (ipar)
- subroutine xloc (ipar)
- subroutine yloc (ipar)
- subroutine xloctp (ipar)
- subroutine ylocrt (ipar)
- subroutine xlab (ipar)
- subroutine ylab (ipar)
- subroutine xden (ipar)
- subroutine yden (ipar)
- subroutine xtics (ipar)
- subroutine ytics (ipar)
- subroutine xlen (ipar)
- subroutine ylen (ipar)
- subroutine xfrm (ipar)
- subroutine yfrm (ipar)
- subroutine xmtcs (ipar)
- subroutine ymtcs (ipar)
- subroutine xmfrm (ipar)

- subroutine ymfrm (ipar)
- subroutine dlimx (xmin, xmax)
- subroutine dlimy (ymin, ymax)
- subroutine slimx (ixmin, ixmax)
- subroutine slimy (iymin, iymax)
- subroutine place (ipar)
- subroutine xtype (ipar)
- subroutine ytype (ipar)
- subroutine xwdth (ipar)
- subroutine ywdth (ipar)
- subroutine xetyp (ipar)
- subroutine yetyp (ipar)
- subroutine setwin
- subroutine dinitx
- subroutine dinity
- subroutine hbarst (ishade, iwbar, idbar)
- subroutine vbarst (ishade, iwbar, idbar)
- subroutine binitt
- subroutine check (x, y)
- subroutine typck (ixy, arr)
- subroutine rgchek (ixy, arr)
- subroutine mnmx (arr, amin, amax)
- subroutine cmnmx (arr, amin, amax)
- subroutine optim (ixy)
- subroutine loptim (ixy)
- subroutine coptim (ixy)
- real function calpnt (arr, i)
- subroutine calcon (amin, amax, labtyp, ubgc)
- subroutine ymdyd (iJulYrOut, iJulDayOut, iGregYrIn, iGregMonIn, iGregDayIn)
- integer function leap (iyear)
- subroutine iubgc (iyear, iday, iubgcO)
- subroutine oubgc (iyear, iday, iubgcI)
- subroutine frame
- subroutine dsplay (x, y)
- subroutine cplot (x, y)
- subroutine keyset (array, key)
- real function datget (arr, i, key)
- subroutine bar (x, y, line)
- subroutine filbox (minx, miny, maxx, maxy, ishade, lspace)
- subroutine bsyms (x, y, isym)
- subroutine symout (isym, fac)
- subroutine teksym (isym, amult)
- subroutine teksym1 (istart, iend, incr, siz)
- subroutine grid
- subroutine logtix (nbase, start, tintvl, mstart, mend)
- subroutine tset (nbase)
- subroutine tset2 (newloc, nfar, nlen, nfrm, kstart, kend)
- subroutine monpos (nbase, iy1, dpos, spos)
- subroutine gline (nbase, datapt, spos)
- subroutine label (nbase)
- subroutine numsetc (fnum, iwidth, nbase, outstr)
- subroutine iformc (fnum, iwidth, outstr)
- subroutine fformc (fnum, iwidth, idec, outstr)
- subroutine fonlyc (fnum, iwidth, idec, outstr)
- subroutine eformc (fnum, iwidth, idec, outstr)

- subroutine esplit (fnum, iwidth, idec, iexpon)
- subroutine expoutc (nbase, iexp, outstr)
- subroutine alfsetc (fnum, labtyp, string)
- subroutine notatec (ix, iy, string)
- subroutine vlablc (string)
- subroutine justerc (string, iPosFlag, iOff)
- subroutine width (nbase)
- subroutine lwidth (nbase)
- subroutine remlab (nbase, iloc, labtyp, ix, iy)
- subroutine spread (nbase)
- real function findge (val, tab, iN)
- real function findle (val, tab, iN)
- integer function locge (ival, itab, iN)
- integer function locle (ival, itab, iN)
- real function roundd (value, finterval)
- real function roundu (value, finterval)
- subroutine savcom (Array)
- subroutine rescom (Array)
- integer function iother (ipar)

6.1.1 Detailed Description

Graph2D: Tektronix Advanced Graphing II Emulation.

Version

(2022,284, x)

Author

(C) 2022 Dr.-Ing. Klaus Friedewald

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Layer 2: scientific 2-D graphic subroutines

Note

The control character for exponent (originally -1) is now SOH=char(1) and for index (originally -2) STX=char(2).

```
Package:
 - AG2.for:         chart plotting routines
 - AG2Holerith.for: deprecated routines
 - AG2USR.for:      default userroutines
 - G2dAG2.fd:       commonblock
```

Definition in file AG2.for.

6.1.2 Function/Subroutine Documentation

6.1.2.1 ag2lev()

```
subroutine ag2lev (
             integer, dimension(3) ilevel )
```

Definition at line 94 of file AG2.for.

6.1.2.2 alfsetc()

```
subroutine alfsetc (
             real fnum,
             integer labtyp,
             character *(*) string )
```

Definition at line 2564 of file AG2.for.

6.1.2.3 bar()

```
subroutine bar (
             real x,
             real y,
             integer line )
```

Definition at line 1689 of file AG2.for.

6.1.2.4 binitt()

```
subroutine binitt
```

Definition at line 714 of file AG2.for.

6.1.2.5 bsyms()

```
subroutine bsyms (
             real x,
             real y,
             integer isym )
```

Definition at line 1841 of file AG2.for.

6.1.2.6 calcon()

```
subroutine calcon (
             real amin,
             real amax,
             integer labtyp,
             logical ubgc )
```

Definition at line 1326 of file AG2.for.

6.1.2.7 calpnt()

```
real function calpnt (
             real, dimension(5) arr,
             integer i )
```

Definition at line 1271 of file AG2.for.

6.1.2.8 check()

```
subroutine check (
             real, dimension(5) x,
             real, dimension(5) y )
```

Definition at line 798 of file AG2.for.

6.1.2.9 cmnmx()

```
subroutine cmnmx (
             real, dimension(5) arr,
             real amin,
             real amax )
```

Definition at line 920 of file AG2.for.

6.1.2.10 coptim()

```
subroutine coptim (
             integer ixy )
```

Definition at line 1115 of file AG2.for.

6.1.2.11 cplot()

```
subroutine cplot (
             real, dimension(5) x,
             real, dimension(5) y )
```

Definition at line 1539 of file AG2.for.

6.1.2.12 datget()

```
real function datget (
             real, dimension(5) arr,
             integer i,
             integer key )
```

Definition at line 1661 of file AG2.for.

6.1.2.13 dinitx()

```
subroutine dinitx
```

Definition at line 644 of file AG2.for.

6.1.2.14 dinity()

```
subroutine dinity
```

Definition at line 658 of file AG2.for.

6.1.2.15 dlimx()

```
subroutine dlimx (
             real xmin,
             real xmax )
```

Definition at line 464 of file AG2.for.

6.1.2.16 dlimy()

```
subroutine dlimy (
             real ymin,
             real ymax )
```

Definition at line 476 of file AG2.for.

6.1.2.17 dsplay()

```
subroutine dsplay (
             real, dimension(5) x,
             real, dimension(5) y )
```

Definition at line 1525 of file AG2.for.

6.1.2.18 eformc()

```
subroutine eformc (
             real fnum,
             integer iwidth,
             integer idec,
             character, dimension(*) outstr )
```

Definition at line 2435 of file AG2.for.

6.1.2.19 esplit()

```
subroutine esplit (
             real fnum,
             integer iwidth,
             integer idec,
             integer iexpon )
```

Definition at line 2468 of file AG2.for.

6.1.2.20 expoutc()

```
subroutine expoutc (
             integer nbase,
             integer iexp,
             character, dimension(*) outstr )
```

Definition at line 2488 of file AG2.for.

6.1.2.21 fformc()

```
subroutine fformc (
             real fnum,
             integer iwidth,
             integer idec,
             character, dimension(*) outstr )
```

Definition at line 2376 of file AG2.for.

6.1.2.22 filbox()

```
subroutine filbox (
             integer minx,
             integer miny,
             integer maxx,
             integer maxy,
             integer ishade,
             integer lspace )
```

Definition at line 1756 of file AG2.for.

6.1.2.23 findge()

```
real function findge (
             real val,
             real, dimension(1) tab,
             integer iN )
```

Definition at line 2923 of file AG2.for.

6.1.2.24 findle()

```
real function findle (
             real val,
             real, dimension(1) tab,
             integer iN )
```

Definition at line 2942 of file AG2.for.

6.1.2.25 fonlyc()

```
subroutine fonlyc (
             real fnum,
             integer iwidth,
             integer idec,
             character, dimension(*) outstr )
```

Definition at line 2404 of file AG2.for.

6.1.2.26 frame()

```
subroutine frame
```

Definition at line 1511 of file AG2.for.

6.1.2.27 gline()

```
subroutine gline (
             integer nbase,
             real datapt,
             integer spos )
```

Definition at line 2174 of file AG2.for.

6.1.2.28 grid()

```
subroutine grid
```

Definition at line 1957 of file AG2.for.

6.1.2.29 hbarst()

```
subroutine hbarst (
             integer ishade,
             integer iwbar,
             integer idbar )
```

Definition at line 672 of file AG2.for.

6.1.2.30 iformc()

```
subroutine iformc (
             real fnum,
             integer iwidth,
             character, dimension(*) outstr )
```

Definition at line 2344 of file AG2.for.

6.1.2.31 infin()

```
subroutine infin (
             real par )
```

Definition at line 142 of file AG2.for.

6.1.2.32 iother()

```
integer function iother (
             integer ipar )
```

Definition at line 3067 of file AG2.for.

6.1.2.33 iubgc()

```
subroutine iubgc (
             integer iyear,
             integer iday,
             integer iubgcO )
```

Definition at line 1474 of file AG2.for.

6.1.2.34 justerc()

```
subroutine justerc (
             character, dimension(*) string,
             integer iPosFlag,
             integer iOff )
```

Definition at line 2667 of file AG2.for.

6.1.2.35 keyset()

```
subroutine keyset (
             real, dimension(1) array,
             integer key )
```

Definition at line 1635 of file AG2.for.

6.1.2.36 label()

```
subroutine label (
             integer nbase )
```

Definition at line 2201 of file AG2.for.

6.1.2.37 leap()

```
integer function leap (
             integer iyear )
```

Definition at line 1460 of file AG2.for.

6.1.2.38 line()

```
subroutine line (
             integer ipar )
```

Definition at line 109 of file AG2.for.

6.1.2.39 locge()

```
integer function locge (
             integer ival,
             integer, dimension(1) itab,
             integer iN )
```

Definition at line 2964 of file AG2.for.

6.1.2.40 locle()

```
integer function locle (
            integer ival,
            integer, dimension(1) itab,
            integer iN )
```

Definition at line 2982 of file AG2.for.

6.1.2.41 logtix()

```
subroutine logtix (
            integer nbase,
            real start,
            real tintvl,
            integer mstart,
            integer mend )
```

Definition at line 2043 of file AG2.for.

6.1.2.42 loptim()

```
subroutine loptim (
            integer ixy )
```

Definition at line 988 of file AG2.for.

6.1.2.43 lwidth()

```
subroutine lwidth (
            integer nbase )
```

Definition at line 2733 of file AG2.for.

6.1.2.44 mnmx()

```
subroutine mnmx (
            real, dimension(5) arr,
            real amin,
            real amax )
```

Definition at line 881 of file AG2.for.

6.1.2.45 monpos()

```
subroutine monpos (
             integer nbase,
             integer iy1,
             real dpos,
             integer spos )
```

Definition at line 2160 of file AG2.for.

6.1.2.46 notatec()

```
subroutine notatec (
             integer ix,
             integer iy,
             character *(*) string )
```

Definition at line 2619 of file AG2.for.

6.1.2.47 npts()

```
subroutine npts (
             integer ipar )
```

Definition at line 155 of file AG2.for.

6.1.2.48 numsetc()

```
subroutine numsetc (
             real fnum,
             integer iwidth,
             integer nbase,
             character, dimension(*) outstr )
```

Definition at line 2317 of file AG2.for.

6.1.2.49 optim()

```
subroutine optim (
             integer ixy )
```

Definition at line 971 of file AG2.for.

6.1.2.50 oubgc()

```
subroutine oubgc (
             integer iyear,
             integer iday,
             integer iubgcI )
```

Definition at line 1488 of file AG2.for.

6.1.2.51 place()

```
subroutine place (
             integer ipar )
```

Definition at line 512 of file AG2.for.

6.1.2.52 remlab()

```
subroutine remlab (
             integer nbase,
             integer iloc,
             integer labtyp,
             integer ix,
             integer iy )
```

Definition at line 2808 of file AG2.for.

6.1.2.53 rescom()

```
subroutine rescom (
             integer, dimension(1) Array )
```

Definition at line 3051 of file AG2.for.

6.1.2.54 rgchek()

```
subroutine rgchek (
             integer ixy,
             real, dimension(5) arr )
```

Definition at line 854 of file AG2.for.

6.1.2.55 roundd()

```
real function roundd (
              value,
             real, value finterval )
```

Definition at line 3000 of file AG2.for.

6.1.2.56 roundu()

```
real function roundu (
              value,
             real, value finterval )
```

Definition at line 3016 of file AG2.for.

6.1.2.57 savcom()

```
subroutine savcom (
             integer, dimension(1) Array )
```

Definition at line 3035 of file AG2.for.

6.1.2.58 setwin()

```
subroutine setwin
```

Definition at line 622 of file AG2.for.

6.1.2.59 sizel()

```
subroutine sizel (
             real par )
```

Definition at line 188 of file AG2.for.

6.1.2.60 sizes()

```
subroutine sizes (
             real par )
```

Definition at line 177 of file AG2.for.

6.1.2.61 slimx()

```
subroutine slimx (
             integer ixmin,
             integer ixmax )
```

Definition at line 488 of file AG2.for.

6.1.2.62 slimy()

```
subroutine slimy (
             integer iymin,
             integer iymax )
```

Definition at line 500 of file AG2.for.

6.1.2.63 spread()

```
subroutine spread (
             integer nbase )
```

Definition at line 2871 of file AG2.for.

6.1.2.64 stepl()

```
subroutine stepl (
             integer ipar )
```

Definition at line 166 of file AG2.for.

6.1.2.65 steps()

```
subroutine steps (
             integer ipar )
```

Definition at line 131 of file AG2.for.

6.1.2.66 symbl()

```
subroutine symbl (
             integer ipar )
```

Definition at line 120 of file AG2.for.

6.1.2.67 symout()

```
subroutine symout (
             integer isym,
             real fac )
```

Definition at line 1858 of file AG2.for.

6.1.2.68 teksym()

```
subroutine teksym (
             integer isym,
             real amult )
```

Definition at line 1883 of file AG2.for.

6.1.2.69 teksym1()

```
subroutine teksym1 (
             integer istart,
             integer iend,
             integer incr,
             real siz )
```

Definition at line 1931 of file AG2.for.

6.1.2.70 tset()

```
subroutine tset (
             integer nbase )
```

Definition at line 2090 of file AG2.for.

6.1.2.71 tset2()

```
subroutine tset2 (
             integer newloc,
             integer nfar,
             integer nlen,
             integer nfrm,
             integer kstart,
             integer kend )
```

Definition at line 2128 of file AG2.for.

6.1.2.72 typck()

```
subroutine typck (
             integer ixy,
             real, dimension(5) arr )
```

Definition at line 823 of file AG2.for.

6.1.2.73 vbarst()

```
subroutine vbarst (
             integer ishade,
             integer iwbar,
             integer idbar )
```

Definition at line 692 of file AG2.for.

6.1.2.74 vlablc()

```
subroutine vlablc (
             character, dimension(*) string )
```

Definition at line 2644 of file AG2.for.

6.1.2.75 width()

```
subroutine width (
             integer nbase )
```

Definition at line 2692 of file AG2.for.

6.1.2.76 xden()

```
subroutine xden (
             integer ipar )
```

Definition at line 312 of file AG2.for.

6.1.2.77 xetyp()

```
subroutine xetyp (
             integer ipar )
```

Definition at line 596 of file AG2.for.

6.1.2.78 xfrm()

```
subroutine xfrm (
             integer ipar )
```

Definition at line 390 of file AG2.for.

6.1.2.79 xlab()

```
subroutine xlab (
             integer ipar )
```

Definition at line 290 of file AG2.for.

6.1.2.80 xlen()

```
subroutine xlen (
             integer ipar )
```

Definition at line 364 of file AG2.for.

6.1.2.81 xloc()

```
subroutine xloc (
             integer ipar )
```

Definition at line 246 of file AG2.for.

6.1.2.82 xloctp()

```
subroutine xloctp (
             integer ipar )
```

Definition at line 268 of file AG2.for.

6.1.2.83 xmfrm()

```
subroutine xmfrm (
             integer ipar )
```

Definition at line 438 of file AG2.for.

6.1.2.84 xmtcs()

```
subroutine xmtcs (
             integer ipar )
```

Definition at line 416 of file AG2.for.

6.1.2.85 xneat()

```
subroutine xneat (
             integer ipar )
```

Definition at line 202 of file AG2.for.

6.1.2.86 xtics()

```
subroutine xtics (
             integer ipar )
```

Definition at line 342 of file AG2.for.

6.1.2.87 xtype()

```
subroutine xtype (
             integer ipar )
```

Definition at line 544 of file AG2.for.

6.1.2.88 xwdth()

```
subroutine xwdth (
             integer ipar )
```

Definition at line 570 of file AG2.for.

6.1.2.89 xzero()

```
subroutine xzero (
             integer ipar )
```

Definition at line 224 of file AG2.for.

6.1.2.90 yden()

```
subroutine yden (
             integer ipar )
```

Definition at line 327 of file AG2.for.

6.1.2.91 yetyp()

```
subroutine yetyp (
             integer ipar )
```

Definition at line 609 of file AG2.for.

6.1.2.92 yfrm()

```
subroutine yfrm (
             integer ipar )
```

Definition at line 403 of file AG2.for.

6.1.2.93 ylab()

```
subroutine ylab (
             integer ipar )
```

Definition at line 301 of file AG2.for.

6.1.2.94 ylen()

```
subroutine ylen (
             integer ipar )
```

Definition at line 377 of file AG2.for.

6.1.2.95 yloc()

```
subroutine yloc (
             integer ipar )
```

Definition at line 257 of file AG2.for.

6.1.2.96 ylocrt()

```
subroutine ylocrt (
             integer ipar )
```

Definition at line 279 of file AG2.for.

6.1.2.97 ymdyd()

```
subroutine ymdyd (
             integer iJulYrOut,
             integer iJulDayOut,
             integer iGregYrIn,
             integer iGregMonIn,
             integer iGregDayIn )
```

Definition at line 1405 of file AG2.for.

6.1.2.98 ymfrm()

```
subroutine ymfrm (
             integer ipar )
```

Definition at line 451 of file AG2.for.

6.1.2.99 ymtcs()

```
subroutine ymtcs (
             integer ipar )
```

Definition at line 427 of file AG2.for.

6.1.2.100 yneat()

```
subroutine yneat (
             integer ipar )
```

Definition at line 213 of file AG2.for.

6.1.2.101 ytics()

```
subroutine ytics (
             integer ipar )
```

Definition at line 353 of file AG2.for.

6.1.2.102 ytype()

```
subroutine ytype (
             integer ipar )
```

Definition at line 557 of file AG2.for.

6.1.2.103 ywdth()

```
subroutine ywdth (
             integer ipar )
```

Definition at line 583 of file AG2.for.

6.1.2.104 yzero()

```
subroutine yzero (
             integer ipar )
```

Definition at line 235 of file AG2.for.

6.2 AG2.for

```
00001 C> \file       AG2.for
00002 C> \brief      Graph2D: Tektronix Advanced Graphing II Emulation
00003 C> \version    (2022,284, x)
00004 C> \author     (C) 2022 Dr.-Ing. Klaus Friedewald
00005 C> \copyright  GNU LESSER GENERAL PUBLIC LICENSE Version 3
00006 C>
00007 C> \~german
00008 C>  Schicht 2: Unterprogramme zur Erzeugung wissenschaftlicher 2-D Graphiken
00009 C> \note
00010 C>     Die Sonderzeichen Hochindex (alt: -1) und Index (alt: -2) sind jetzt
00011 C>     SOH=char(1) (Hochindex) bzw. STX=char(2) (Index).
00012 C>
00013 C> \~english
00014 C> Layer 2: scientific 2-D graphic subroutines
00015 C> \note
00016 C>     The control character for exponent (originally -1) is now SOH=char(1)
00017 C>     and for index (originally -2) STX=char(2).
00018 C>
00019 C> \~
00020 C> \note \verbatim
00021 C>   Package:
00022 C>    - AG2.for:         chart plotting routines
00023 C>    - AG2Holerith.for: deprecated routines
00024 C>    - AG2USR.for:      default userroutines
00025 C>    - G2dAG2.fd:       commonblock
00026 C> \endverbatim
00027 C
00028 C
00029 C  Tektronix Advanced Graphics 2 - Version 2.x
00030 C
00031 C
00032 C     Neuer Code in Fortran 77. Die Verwendung der im Manual dokumentierten
00033 C     Unterprogramme bleibt unveraendert, die direkte Manipulation von
00034 C     Variablen des zugrundeliegenden Commonblockes ist jedoch nicht mehr
00035 C     empfehlenswert. IBASEX (iPar) und IBASEY(iPar) mit ipar <>0,
00036 C     IBASEC, COMGET und COMSET sollten in neuen Programmen nicht verwendet
00037 C     werden.
00038 C
00039 C     Die Zwischenspeicherung der Statusvariablen ueber
00040 C           SAVCOM und RESCOM
00041 C     und die Achsensteuerung ueber
00042 C           IBASEX(0), IBASEY(0) und IOTHER
00043 C     werden weiterhin unterstuetzt.
00044 C
00045 C     Die Implementation der Unterprogramme COMGET und COMSET setzt die gleiche
00046 C     Laenge von REAL und INTEGER-Variablen voraus.
00047 C
00048 C     Da Holerithvariablen von modernen Compilern uneinheitlich unterstuetzt
00049 C     werden (4Habcd entweder als gepackte Integervariable oder als Character-
00050 C     variable interpretiert), wurden die folgenden Routinen angepasst:
00051 C      - subroutine PLACE (Lit): Lit wird nur noch als Ordnungszahl (1..13)
00052 C        und nicht mehr alternativ als Literal ('STD', 'UPH') interpretiert.
00053 C
00054 C     subroutine LEAP (iyear): Die Schaltjahrkorrektur erfolgt nicht mehr
00055 C     als SUBROUTINE ueber einen Common-Block, sondern direkt als
00056 C     integer function LEAP (iyear) ! = 1: Schaltjahr, sonst 0
00057 C
00058 C     Die Sonderzeichen Hochindex (alt: -1) und Index (alt: -2) sind jetzt
00059 C     SOH=char(1) (Hochindex) bzw. STX=char(2) (Index).
00060 C
00061 C     Intern erfolgt die Stringverarbeitung ueber Charactervariablen als
00062 C     nullterminierte C-Strings.
00063 C
00064 C     Der User-API wurden die folgenden Unterprogramme als Charactervarianten
00065 C     der Original-Holerithroutinen hinzugefuegt:
00066 C      - subroutine NUMSETC (fnum,nbase, outstr,fillstr)
00067 C      - subroutine FONLYC (fnum,iwidth,idec, outstr,fillstr)
00068 C      - subroutine EFORMC (fnum,iwidth,idec, outstr,fillstr)
00069 C      - subroutine EXPOUTC (nbase,iexp, outstr,fillstr)
00070 C      - subroutine ALFSETC (fnum,iwidth,labtyp,outstr)
00071 C      - subroutine NOTATEC (IX,IY,LENCHR,IARRAY)
```

```
00072 C      - subroutine JUSTERC
00073 C
00074 C      - subroutine USESETC (fnum, iwidth, nbase, labstr)
00075 C
00076 C      subroutine MONPOS (nbase,iy1,dpos, spos) ! spos ist INTEGER
00077 C      subroutine GLINE (nbase,datapt,spos) ! spos ist INTEGER
00078 C
00079 C     Der Code ab Version 2.0 wird nicht mehr fuer CP/M entwickelt. Letzte
00080 C     unter CP/M compilierbare Version: (2006, 013, 1)
00081 C
00082 C     Zugehoerige Module:
00083 C      - AG2.FOR:     Basisfunktionen
00084 C      - AG2Holerith: Veraltete Unterprogramme zur Wahrung der Kompatibilitaet
00085 C                     (Unterstuetzung Holerithvariablen und vektorisierter Zu-
00086 C                     griff auf den Commonblock)
00087 C      - AG2USR.FOR:  Userroutinen
00088 C      - G2dAG2.fd:   Commonblockdefinition
00089 C
00090
00091 C
00092 C  Ausgabe der Softwareversion
00093 C
00094       subroutine ag2lev (ilevel)
00095       implicit none
00096       integer ilevel(3)
00097
00098       call tcslev (ilevel) ! level(3)= System aus TCS
00099       ilevel(1)=2022       ! Aenderungsjahr
00100       ilevel(2)= 284       ! Aenderungstag
00101       return
00102       end
00103
00104
00105
00106 C
00107 C  Setzen allgemeiner Commonvariablen
00108 C
00109       subroutine line (ipar)
00110       implicit none
00111       integer ipar
00112       include 'G2dAG2.fd'
00113
00114       cline= ipar
00115       return
00116       end
00117
00118
00119
00120       subroutine symbl (ipar)
00121       implicit none
00122       integer ipar
00123       include 'G2dAG2.fd'
00124
00125       csymbl= ipar
00126       return
00127       end
00128
00129
00130
00131       subroutine steps (ipar)
00132       implicit none
00133       integer ipar
00134       include 'G2dAG2.fd'
00135
00136       csteps= ipar
00137       return
00138       end
00139
00140
00141
00142       subroutine infin (par)
00143       implicit none
00144       real par
00145       include 'G2dAG2.fd'
00146
00147       if (par .gt. 0.) then
00148        cinfin= par
00149       end if
00150       return
00151       end
00152
00153
00154
00155       subroutine npts (ipar)
00156       implicit none
00157       integer ipar
00158       include 'G2dAG2.fd'
```

```
00159
00160       cnpts= ipar
00161       return
00162       end
00163
00164
00165
00166       subroutine stepl (ipar)
00167       implicit none
00168       integer ipar
00169       include 'G2dAG2.fd'
00170
00171       cstepl= ipar
00172       return
00173       end
00174
00175
00176
00177       subroutine sizes (par)
00178       implicit none
00179       real par
00180       include 'G2dAG2.fd'
00181
00182       csizes= par
00183       return
00184       end
00185
00186
00187
00188       subroutine sizel (par)
00189       implicit none
00190       real par
00191       include 'G2dAG2.fd'
00192
00193       csizel= par
00194       return
00195       end
00196
00197
00198
00199 C
00200 C  Setzen der achsenbezogenen Commonvariablen
00201 C
00202       subroutine xneat (ipar)
00203       implicit none
00204       integer ipar
00205       include 'G2dAG2.fd'
00206
00207       cxyneat(1) = ipar .ne. 0
00208       return
00209       end
00210
00211
00212
00213       subroutine yneat (ipar)
00214       implicit none
00215       integer ipar
00216       include 'G2dAG2.fd'
00217
00218       cxyneat(2) = ipar .ne. 0
00219       return
00220       end
00221
00222
00223
00224       subroutine xzero (ipar)
00225       implicit none
00226       integer ipar
00227       include 'G2dAG2.fd'
00228
00229       cxyzero(1) = ipar .ne. 0
00230       return
00231       end
00232
00233
00234
00235       subroutine yzero (ipar)
00236       implicit none
00237       integer ipar
00238       include 'G2dAG2.fd'
00239
00240       cxyzero(2) = ipar .ne. 0
00241       return
00242       end
00243
00244
00245
```

```
00246       subroutine xloc (ipar)
00247       implicit none
00248       integer ipar
00249       include 'G2dAG2.fd'
00250
00251       cxyloc(1)= ipar
00252       return
00253       end
00254
00255
00256
00257       subroutine yloc (ipar)
00258       implicit none
00259       integer ipar
00260       include 'G2dAG2.fd'
00261
00262       cxyloc(2)= ipar
00263       return
00264       end
00265
00266
00267
00268       subroutine xloctp (ipar)
00269       implicit none
00270       integer ipar
00271       include 'G2dAG2.fd'
00272
00273       cxyloc(1)= ipar+abs(cxysmax(2)-cxysmin(2))
00274       return
00275       end
00276
00277
00278
00279       subroutine ylocrt (ipar)
00280       implicit none
00281       integer ipar
00282       include 'G2dAG2.fd'
00283
00284       cxyloc(2)= ipar + abs(cxysmax(1)-cxysmin(1))
00285       return
00286       end
00287
00288
00289
00290       subroutine xlab (ipar)
00291       implicit none
00292       integer ipar
00293       include 'G2dAG2.fd'
00294
00295       cxylab(1)= ipar
00296       return
00297       end
00298
00299
00300
00301       subroutine ylab (ipar)
00302       implicit none
00303       integer ipar
00304       include 'G2dAG2.fd'
00305
00306       cxylab(2)= ipar
00307       return
00308       end
00309
00310
00311
00312       subroutine xden (ipar)
00313       implicit none
00314       integer ipar
00315       include 'G2dAG2.fd'
00316
00317       if ((ipar .ge. 0) .and. (ipar .le. 10)) then
00318        cxyden(1)= ipar
00319        cxytics(1)= 0
00320        cxymtcs(1)= 0
00321       end if
00322       return
00323       end
00324
00325
00326
00327       subroutine yden (ipar)
00328       implicit none
00329       integer ipar
00330       include 'G2dAG2.fd'
00331
00332       if ((ipar .ge. 0) .and. (ipar .le. 10)) then
```

```
00333         cxyden(2)= ipar
00334         cxytics(2)= 0
00335         cxymtcs(2)= 0
00336       end if
00337       return
00338       end
00339
00340
00341
00342       subroutine xtics (ipar)
00343       implicit none
00344       integer ipar
00345       include 'G2dAG2.fd'
00346
00347       cxytics(1)= abs(ipar)
00348       return
00349       end
00350
00351
00352
00353       subroutine ytics (ipar)
00354       implicit none
00355       integer ipar
00356       include 'G2dAG2.fd'
00357
00358       cxytics(2)= abs(ipar)
00359       return
00360       end
00361
00362
00363
00364       subroutine xlen (ipar)
00365       implicit none
00366       integer ipar
00367       include 'G2dAG2.fd'
00368
00369       if (ipar .ge. 0) then
00370         cxylen(1)= ipar
00371       end if
00372       return
00373       end
00374
00375
00376
00377       subroutine ylen (ipar)
00378       implicit none
00379       integer ipar
00380       include 'G2dAG2.fd'
00381
00382       if (ipar .ge. 0) then
00383         cxylen(2)= ipar
00384       end if
00385       return
00386       end
00387
00388
00389
00390       subroutine xfrm (ipar)
00391       implicit none
00392       integer ipar
00393       include 'G2dAG2.fd'
00394
00395       if ((ipar .ge. 0) .and. (ipar .le. 6)) then
00396         cxyfrm(1)= ipar
00397       end if
00398       return
00399       end
00400
00401
00402
00403       subroutine yfrm (ipar)
00404       implicit none
00405       integer ipar
00406       include 'G2dAG2.fd'
00407
00408       if ((ipar .ge. 0) .and. (ipar .le. 6)) then
00409         cxyfrm(2)= ipar
00410       end if
00411       return
00412       end
00413
00414
00415
00416       subroutine xmtcs (ipar)
00417       implicit none
00418       integer ipar
00419       include 'G2dAG2.fd'
```

```
00420
00421       cxymtcs(1)= abs(ipar)
00422       return
00423       end
00424
00425
00426
00427       subroutine ymtcs (ipar)
00428       implicit none
00429       integer ipar
00430       include 'G2dAG2.fd'
00431
00432       cxymtcs(2)= abs(ipar)
00433       return
00434       end
00435
00436
00437
00438       subroutine xmfrm (ipar)
00439       implicit none
00440       integer ipar
00441       include 'G2dAG2.fd'
00442
00443       if ((ipar .ge. 0) .and. (ipar .le. 6)) then
00444        cxymfrm(1)= ipar
00445       end if
00446       return
00447       end
00448
00449
00450
00451       subroutine ymfrm (ipar)
00452       implicit none
00453       integer ipar
00454       include 'G2dAG2.fd'
00455
00456       if ((ipar .ge. 0) .and. (ipar .le. 6)) then
00457        cxymfrm(2)= ipar
00458       end if
00459       return
00460       end
00461
00462
00463
00464       subroutine dlimx (xmin,xmax)
00465       implicit none
00466       real xmin,xmax
00467       include 'G2dAG2.fd'
00468
00469       cxydmin(1)= xmin
00470       cxydmax(1)= xmax
00471       return
00472       end
00473
00474
00475
00476       subroutine dlimy (ymin,ymax)
00477       implicit none
00478       real ymin,ymax
00479       include 'G2dAG2.fd'
00480
00481       cxydmin(2)= ymin
00482       cxydmax(2)= ymax
00483       return
00484       end
00485
00486
00487
00488       subroutine slimx (ixmin,ixmax)
00489       implicit none
00490       integer ixmin,ixmax
00491       include 'G2dAG2.fd'
00492
00493       cxysmin(1)= ixmin
00494       cxysmax(1)= ixmax
00495       return
00496       end
00497
00498
00499
00500       subroutine slimy (iymin,iymax)
00501       implicit none
00502       integer iymin,iymax
00503       include 'G2dAG2.fd'
00504
00505       cxysmin(2)= iymin
00506       cxysmax(2)= iymax
```

```
00507       return
00508       end
00509
00510
00511
00512       subroutine place (ipar)
00513       implicit none
00514       include 'G2dAG2.fd'
00515       integer ipar
00516
00517       integer postab (4,13)        ! Koordinaten des Zeichenbereiches
00518       data postab /150,900, 125,700,
00519      2             150,850, 525,700,
00520      3             150,850, 150,325,
00521      4             150,450, 525,700,
00522      5             650,950, 525,700,
00523      6             150,450, 150,325,
00524      7             650,950, 150,325,
00525      8             150,325, 525,700,
00526      9             475,650, 525,700,
00527      a             800,975, 525,700,
00528      1             150,325, 150,325,
00529      2             475,650, 150,325,
00530      3             800,975, 150,325/
00531       save postab
00532
00533       if ((ipar .ge. 1) .and. (ipar.le.13)) then
00534        cxysmin(1)= postab(1,ipar)
00535        cxysmax(1)= postab(2,ipar)
00536        cxysmin(2)= postab(3,ipar)
00537        cxysmax(2)= postab(4,ipar)
00538       end if
00539       return
00540       end
00541
00542
00543
00544       subroutine xtype (ipar)
00545       implicit none
00546       integer ipar
00547       include 'G2dAG2.fd'
00548
00549       if ((ipar .ge. 1) .and. (ipar .le. 8)) then
00550        cxytype(1)= ipar
00551       end if
00552       return
00553       end
00554
00555
00556
00557       subroutine ytype (ipar)
00558       implicit none
00559       integer ipar
00560       include 'G2dAG2.fd'
00561
00562       if ((ipar .ge. 1) .and. (ipar .le. 8)) then
00563        cxytype(2)= ipar
00564       end if
00565       return
00566       end
00567
00568
00569
00570       subroutine xwdth (ipar)
00571       implicit none
00572       integer ipar
00573       include 'G2dAG2.fd'
00574
00575       if (ipar .ge. 0) then
00576        cxywdth(1)= ipar
00577       end if
00578       return
00579       end
00580
00581
00582
00583       subroutine ywdth (ipar)
00584       implicit none
00585       integer ipar
00586       include 'G2dAG2.fd'
00587
00588       if (ipar .ge. 0) then
00589        cxywdth(2)= ipar
00590       end if
00591       return
00592       end
00593
```

```
00594
00595
00596       subroutine xetyp (ipar)
00597       implicit none
00598       integer ipar
00599       include 'G2dAG2.fd'
00600
00601       if ((ipar .ge. 0) .and. (ipar .le. 4)) then
00602        cxyetyp(1)= ipar
00603       end if
00604       return
00605       end
00606
00607
00608
00609       subroutine yetyp (ipar)
00610       implicit none
00611       integer ipar
00612       include 'G2dAG2.fd'
00613
00614       if ((ipar .ge. 0) .and. (ipar .le. 4)) then
00615        cxyetyp(2)= ipar
00616       end if
00617       return
00618       end
00619
00620
00621
00622       subroutine setwin
00623       implicit none
00624       include 'G2dAG2.fd'
00625
00626       call twindo (cxysmin(1),cxysmax(1), cxysmin(2),cxysmax(2))
00627       call dwindo (cxydmin(1),cxydmax(1), cxydmin(2),cxydmax(2))
00628       if (cxytype(1) .eq. 2) then
00629        if (cxytype(2) .eq. 2) then
00630         call logtrn (3)
00631        else
00632         call logtrn (1)
00633        end if
00634       else if (cxytype(2) .eq. 2) then
00635         call logtrn (2)
00636       else
00637        call lintrn
00638       end if
00639       return
00640       end
00641
00642
00643
00644       subroutine dinitx
00645       implicit none
00646       include 'G2dAG2.fd'
00647
00648       cxydmin(1)= 0.         ! Datenbereich
00649       cxydmax(1)= 0.
00650       cxywdth(1)= 0          ! Dezimalstellen
00651       cxydec(1)=  0          ! Dezimalstellen
00652       cxyepon(1)= 0          ! Exponent Label
00653       return
00654       end
00655
00656
00657
00658       subroutine dinity
00659       implicit none
00660       include 'G2dAG2.fd'
00661
00662       cxydmin(2)= 0.         ! Datenbereich
00663       cxydmax(2)= 0.
00664       cxywdth(2)= 0          ! Dezimalstellen
00665       cxydec(2)=  0          ! Dezimalstellen
00666       cxyepon(2)= 0          ! Exponent Label
00667       return
00668       end
00669
00670
00671
00672       subroutine hbarst (ishade,iwbar,idbar)
00673       implicit none
00674       integer ishade,iwbar,idbar
00675       include 'G2dAG2.fd'
00676
00677       cline= -3
00678       if ((ishade .ge. 0).and. (ishade .le. 15)) csymbl= ishade
00679       csizes= real(idbar)
00680       csizel= real(iwbar)
```

```
00681
00682       if (cxyfrm(2) .eq. 5) then
00683        cxyfrm(2)= 2
00684       else if (cxyfrm(2) .eq. 6) then
00685        cxyfrm(2)= 1
00686       end if
00687       return
00688       end
00689
00690
00691
00692       subroutine vbarst (ishade,iwbar,idbar)
00693       implicit none
00694       integer ishade,iwbar,idbar
00695       include 'G2dAG2.fd'
00696
00697       cline=  -2
00698       if ((ishade .ge. 0) .and. (ishade .le. 15)) csymbl= ishade
00699       csizes= real(idbar)
00700       csizel= real(iwbar)
00701       if (cxyfrm(1) .eq. 5) then
00702        cxyfrm(1)= 2
00703       else if (cxyfrm(1) .eq. 6) then
00704        cxyfrm(1)= 1
00705       end if
00706       return
00707       end
00708
00709
00710
00711 C
00712 C  Berechnung der Commonvariablen
00713 C
00714       subroutine binitt
00715       implicit none
00716       integer ih
00717       include 'G2dAG2.fd'
00718
00719       cline= 0
00720       csymbl= 0
00721       csteps= 1
00722       cinfin= 1.e30
00723       cnpts= 0
00724       cstepl= 1
00725       cnumbr= 0
00726       csizes= 1.
00727       csizel= 1.
00728
00729       cxyneat(1)= .true.
00730       cxyneat(2)= .true.
00731       cxyzero(1)= .true.
00732       cxyzero(2)= .true.
00733       cxyloc(1)= 0
00734       cxyloc(2)= 0
00735       cxylab(1)= 1
00736       cxylab(2)= 1
00737       cxyden(1)= 8
00738       cxyden(2)= 8
00739       cxytics(2)= 0
00740       cxytics(2)= 0
00741
00742       call csize (ih,cxylen(1))
00743       cxylen(2)= cxylen(1)
00744
00745       cxyfrm(1)= 5
00746       cxyfrm(2)= 5
00747       cxymtcs(1)= 0
00748       cxymtcs(2)= 0
00749       cxymfrm(1)= 2
00750       cxymfrm(2)= 2
00751       cxydec(1)= 0
00752       cxydec(2)= 0
00753       cxydmin(1)= 0.
00754       cxydmin(2)= 0.
00755       cxydmax(1)= 0.
00756       cxydmax(2)= 0.
00757
00758       cxysmin(1)= 150
00759       cxysmin(2)= 125
00760       cxysmax(1)= 900
00761       cxysmax(2)= 700
00762
00763       cxytype(1)= 1
00764       cxytype(2)= 1
00765       cxylsig(1)= 0
00766       cxylsig(2)= 0
00767       cxywdth(1)= 0
```

```
00768       cxywdth(2)= 0
00769       cxyepon(1)= 0
00770       cxyepon(2)= 0
00771       cxystep(1)= 1
00772       cxystep(2)= 1
00773       cxystag(1)= 1
00774       cxystag(2)= 1
00775       cxyetyp(1)= 0
00776       cxyetyp(2)= 0
00777       cxybeg(1)= 0
00778       cxybeg(2)= 0
00779       cxyend(1)= 0
00780       cxyend(2)= 0
00781       cxymbeg(1)= 0
00782       cxymbeg(2)= 0
00783       cxymend(1)= 0
00784       cxymend(2)= 0
00785       cxyamin(1)= 0.
00786       cxyamin(2)= 0.
00787       cxyamax(1)= 0.
00788       cxyamax(2)= 0.
00789       return
00790       end
00791
00792
00793
00794 C
00795 C  Datenanalyse
00796 C
00797
00798       subroutine check (x,y)
00799       implicit none
00800       real  x(5),y(5)
00801       include 'G2dAG2.fd'
00802
00803       external SPREAD ! External wg. Namenskonflikt FTN90-Intrinsic
00804
00805       call typck (1,x)
00806       call rgchek(1,x)
00807       call optim (1)
00808       call width (1)
00809       if (cxystag(1) .eq. 1) call spread (1)
00810       call tset (1)
00811
00812       call typck (2,y)
00813       call rgchek(2,y)
00814       call optim(2)
00815       call width(2)
00816       if (cxystag(2) .eq. 1) call spread (2)
00817       call tset (2)
00818       return
00819       end
00820
00821
00822
00823       subroutine typck (ixy, arr)
00824       implicit none
00825       integer ixy
00826       real arr(5)
00827       integer i
00828       include 'G2dAG2.fd'
00829
00830       if ((cxytype(ixy) .lt. 3) .or. (nint(arr(1)) .lt. -1 )) then
00831        if ((cnpts .ne. 0) .or. (nint(arr(1)) .ne. -2) ) return
00832        i= nint(arr(3))
00833        if ( i .eq. 1) then
00834         cxytype(ixy)= 8
00835        else if ( i .eq. 4) then
00836         cxytype(ixy)= 7
00837        else if ( i .eq. 12) then
00838         cxytype(ixy)= 6
00839        else if ( i .eq. 13) then
00840         cxytype(ixy)= 5
00841        else if ( i .eq. 52) then
00842         cxytype(ixy)= 4
00843        else if ( i .eq. 365) then
00844         cxytype(ixy)= 3
00845        end if
00846       else
00847        cxytype(ixy)= 1
00848       end if
00849       return
00850       end
00851
00852
00853
00854       subroutine rgchek (ixy,arr)
```

```
00855       implicit none
00856       integer ixy
00857       real arr(5)
00858       real amin, amax
00859       include 'G2dAG2.fd'
00860
00861       if (cxydmax(ixy) .eq. cxydmin(ixy)) then ! Bereich schon bestimmt?
00862        if (cxyzero(ixy)) then ! Nullpunktunterdrueckung?
00863         amin= cinfin
00864        else
00865         amin= 0.
00866        end if
00867        amax= -amin
00868        call mnmx (arr, amin, amax)
00869        if (amax .eq. amin) then
00870         amin= amin - 0.5
00871         amax= amax + 0.5
00872        end if
00873        cxydmin(ixy)= amin
00874        cxydmax(ixy)= amax
00875       end if
00876       return
00877       end
00878
00879
00880
00881       subroutine mnmx (arr,amin,amax)
00882       implicit none
00883       real arr(5), amin,amax, aminmax
00884       integer i, itype, nstart,nlim
00885       include 'G2dAG2.fd'
00886
00887       if (cnpts .eq. 0) then                          ! Tek Standard-Format
00888        nlim= nint(arr(1)) + 1
00889        nstart= 2
00890       else
00891        nlim= cnpts
00892        nstart= 1
00893       end if
00894       if ((arr(1) .lt. 0.) .and. (cnpts .eq. 0))  then ! Kurzformate
00895        itype= abs(arr(1))
00896        if (itype .eq. 1) then
00897         aminmax= arr(3) + (arr(2)-1.) * arr(4)
00898         amin= amin1(arr(3),aminmax,amin)
00899         amax= amax1(arr(3),aminmax,amax)
00900        else if (itype .eq. 2) then
00901         call cmnmx (arr,amin,amax)
00902        else
00903         call umnmx (arr,amin,amax)
00904        end if
00905       else                                            ! Langformate
00906        if (nstart .le. nlim) then
00907         do 100 i= nstart, nlim
00908          if (arr(i) .lt. cinfin) then
00909           if (arr(i).lt. amin) amin= arr(i)
00910           if (arr(i).gt. amax) amax= arr(i)
00911          end if
00912 100     continue
00913        end if
00914       end if
00915       return
00916       end
00917
00918
00919
00920       subroutine cmnmx (arr,amin,amax)
00921       implicit none
00922       real arr(5), amin, amax
00923       integer nTage, iStUBGC, nIntv, iadj, imin,imax
00924       integer minTg,minJr, maxTg,maxJr
00925
00926
00927       nintv= nint(arr(3))
00928       if ((nintv .eq. 52).or.(nintv .eq. 13).or.(nintv .eq. 4)) then
00929        if (nintv .eq. 52) then          ! Wochen
00930         ntage=7
00931        else if (nintv .eq. 13) then     ! 28 Tagemonat
00932         ntage= 28
00933        else if (nintv .eq. 4) then      ! Quartal
00934         ntage=91
00935        end if
00936        call iubgc (nint(arr(4)),1, istubgc)    ! Start: Jahr=arr(4), Tag=1
00937        iadj= mod(istubgc,7)
00938        if (iadj .gt. 3) iadj=iadj-7
00939        imin= istubgc-iadj + nint(arr(5))*ntage ! Min= f(Startjahr,StartIntervall)
00940        imax= imin + nint(arr(2))*ntage
00941
```

```
00942       else
00943        if (nintv .eq. 1) then ! Jahre
00944         mintg= 1
00945         maxtg= 1
00946         minjr= nint(arr(4))+1
00947         maxjr= nint(arr(4)+arr(2))
00948        else if ( nintv .eq. 12) then ! Monate
00949         call ymdyd (minjr,mintg, nint(arr(4)),nint(arr(5))+1,1)
00950         call ymdyd (maxjr,maxtg, nint(arr(4)),nint(arr(5)+arr(2)),1)
00951        else if ( nintv .eq. 365) then ! Tage
00952         minjr= nint(arr(4))
00953         mintg= nint(arr(5))
00954         maxjr= nint(arr(4))
00955         maxtg= nint(arr(5)+arr(2)) -1
00956        end if
00957        call iubgc (minjr,mintg, imin)
00958        call iubgc (maxjr,maxtg, imax)
00959       end if
00960       if (real(imax) .gt. amax) amax= real(imax)
00961       if (real(imin) .lt. amin) amin= real(imin)
00962       return
00963       end
00964
00965
00966
00967 C
00968 C  Ticmarkoptimierung
00969 C
00970
00971       subroutine optim (ixy)
00972       implicit none
00973       integer ixy
00974       include 'G2dAG2.fd'
00975
00976       if (cxytype(ixy) .eq. 2) cxylab(ixy)= 2
00977       if (cxylab(ixy) .eq. 2) cxylab(ixy)= cxytype(ixy)
00978       if (cxytype(ixy) .le. 2) then
00979        call loptim (ixy) ! Tic-Mark Optimierung fuer lineare und log. Daten
00980       else
00981        call coptim (ixy) ! Tic-Mark Optimierung fuer Kalenderdaten
00982       end if
00983       return
00984       end
00985
00986
00987
00988       subroutine loptim (ixy)
00989       implicit none
00990       integer ixy ,i, labtyp, ntics, lsig, mtcs
00991       real dataint, amin,amax, aminor,amaxor, sigfac
00992       integer idataint
00993       integer mintic
00994       integer LINWDT, LINHGT
00995       real ROUNDD, ROUNDU
00996       include 'G2dAG2.fd'
00997
00998       labtyp=abs( cxylab(ixy)) ! <0: Userlabel
00999       if (labtyp .le. 1) labtyp= cxytype(ixy) ! Default: Achsentyp = Datentyp
01000
01001       amin= cxydmin(ixy)
01002       amax= cxydmax(ixy)
01003       ntics= abs(cxytics(ixy)) ! Anzahl >=1, 0= Flag fuer autoscale
01004       mintic= 0
01005
01006       if (labtyp .eq. 2) then ! logarithmische Achsen
01007        amin= log10(max(amin,1./cinfin)) + 1.e-7  ! !> 0 => log10 definiert
01008        amax= log10(amax)
01009       end if
01010
01011       aminor= amin
01012       amaxor= amax
01013
01014       if (ntics .eq. 0) then ! = F( X-Achsenlaenge,Buchstabengroesse)
01015        if (ixy.eq.1) then
01016         i= linwdt(8) ! 100 + LINWDT(3)
01017        else
01018         i= linhgt(3) ! 50 + LINHGT(3)
01019        end if
01020        ntics= (cxysmax(ixy) - cxysmin(ixy)) / i
01021        if (ntics .lt. 1) ntics= 1
01022       end if
01023       dataint= abs(amax-amin) / real(ntics)
01024
01025 310   continue ! repeat...
01026        if (labtyp .eq. 2) dataint= roundu(dataint,1.) ! logarithmische Achsen
01027        lsig= roundd(log10(dataint),1.) ! Anzahl signifikanter Nachkommastellen
01028        sigfac=10.**(lsig)
```

```
01029        if (cxyneat(ixy)) then ! Achsenteilung aus Tabelle
01030         if(labtyp .ne. 2) then ! nicht bei log. Achsen
01031          if ((dataint/sigfac) .le. 1.) then
01032           dataint= 1. * sigfac
01033           mintic= 10
01034          else if ((dataint/sigfac) .le. 2.) then
01035           dataint= 2. * sigfac
01036           mintic= 2
01037          else if ((dataint/sigfac) .le. 2.5) then
01038           dataint= 2.5 * sigfac
01039           mintic= 5
01040           lsig=lsig-1
01041          else if ((dataint/sigfac) .le. 5.) then
01042           dataint= 5. * sigfac
01043           mintic=  5
01044          else if ((dataint/sigfac) .le. 10.) then
01045           dataint= 10. * sigfac
01046           mintic= 10
01047           lsig=lsig+1
01048          else
01049           dataint= cinfin
01050           mintic= 0
01051          end if
01052         end if ! log. Achse
01053        else ! .not. neat
01054         lsig=lsig-2
01055        end if
01056        if (lsig .ge. 0) lsig=lsig+1
01057       if (cxyneat(ixy) .or. (labtyp .eq. 2) ) then ! ... until
01058        amin= roundd(amin+.01*sigfac,dataint) !  runde auf TicIntervall
01059        amax= roundu(amax-.01*sigfac,dataint) ! .01*sigfac= Genauigkeit Plot
01060        ntics= int(abs(amax-amin)/dataint+.0001)
01061        if(cxytics(ixy) .ne. 0) then ! until: ntics nicht vorbesetzt oder = vorbesetzt
01062         if(abs(cxytics(ixy)) .lt. ntics) then
01063          dataint= dataint * 1.1
01064          amin=aminor
01065          amax=amaxor
01066          goto 310 ! noch eine Iterationsschleife
01067         else if (abs(cxytics(ixy)) .gt. ntics) then
01068          ntics= abs(cxytics(ixy))
01069          amax= amin + real(ntics) * dataint
01070         end if ! abs(cxytics(ixy)) .eq. ntics: no action
01071        end if
01072       end if
01073       cxytics(ixy)= ntics
01074
01075       if ((cxymtcs(ixy) .eq. 0) .and. (cxyden(ixy) .ge. 6)) then ! unbesetzt oder wenig TICS
01076        mtcs= mintic ! Bestimmung Minor TicMarcs
01077        if((mtcs .eq. 10) .or. (labtyp .eq. 2)) then
01078         if(cxyden(ixy) .lt. 9) mtcs=5
01079         if(cxyden(ixy) .lt. 7) mtcs=2
01080         if(labtyp .eq. 2) then ! log. Achsen
01081          idataint= nint(dataint)
01082          if (idataint .ne. 1) then ! mehrere Achsenintervalle
01083           i= 1
01084 320       continue ! repeat...
01085            mtcs= idataint/i
01086           if ((mtcs*i .ne. idataint) .and. (i .lt. (idataint-1))) then ! ...until
01087            i= i+1
01088            goto 320
01089           else if (mtcs .gt. 10 ) then
01090            mtcs= 0  ! Failure
01091           end if
01092          else ! einzelne logarithmische Dekade
01093           if ((cxysmax(ixy) - cxysmin(ixy)) .ge. 100* ntics) mtcs=-1 ! logarithm. Tics
01094           if ((cxysmax(ixy) - cxysmin(ixy)) .ge. 20* linhgt(1)) mtcs=-2 ! Label
01095          end if
01096         end if
01097        end if
01098        cxymtcs(ixy)= mtcs
01099       end if
01100
01101       cxylsig(ixy)= lsig
01102       cxyamin(ixy)= amin
01103       cxyamax(ixy)= amax
01104       if (labtyp .eq. 2) then ! logarithmische Achsen: Wiederherstellung der Originalwerte
01105        amax=10.**amax
01106        amin=10.**amin
01107       end if
01108       cxydmin(ixy)= amin
01109       cxydmax(ixy)= amax
01110       return
01111       end
01112
01113
01114
01115       subroutine coptim (ixy)
```

```
01116       implicit none
01117       integer ixy , labtyp, ntics
01118       real dataint, amin,amax, aminor,amaxor
01119       integer LINWDT
01120       real ROUNDD, ROUNDU
01121       include 'G2dAG2.fd'
01122
01123       if (cxytics(ixy) .eq. 1) cxytics(ixy)= 2 ! Minimum manuelle Ticwahl: 2
01124       labtyp=abs( cxylab(ixy)) ! <0: Userlabel
01125       if (labtyp .le. 1) labtyp= cxytype(ixy) ! Default: Achsentyp = Datentyp
01126       amin= cxydmin(ixy)
01127       amax= cxydmax(ixy)
01128       call calcon (amin,amax,labtyp,.true.) ! Konvertiere UBGC -> Labelzeiteinheit
01129       ntics= cxytics(ixy)
01130       aminor=amin
01131       amaxor=amax
01132       if (ntics .eq. 0) then ! = F( X-Achsenlaenge,Buchstabengroesse)
01133        ntics= (cxysmax(ixy) - cxysmin(ixy)) / (25 + linwdt(1))
01134        if (ntics .lt. 2) ntics= 2
01135       end if
01136       dataint= abs(amax-amin) / real(ntics)
01137
01138       if (cxyneat(ixy)) then ! Achsenteilung aus Tabelle
01139 310    continue ! repeat...
01140         if (cxytics(ixy) .eq. 0) then ! keine manuelle Belegung erfolgt
01141          if (labtyp.eq.3) then ! Labeltyp: Tage
01142           if (dataint .le. 1.) then
01143            dataint= 1.
01144           else if (dataint .le. 7.) then
01145            dataint= 7.
01146           else if (dataint .le. 14.) then
01147            dataint= 14.
01148           else if (dataint .le. 28.) then
01149            dataint= 28.
01150           else if (dataint .le. 56.) then
01151            dataint= 56.
01152           else if (dataint .le. 128.) then
01153            dataint= 128.
01154           end if ! dataint > 128 -> unveraendert
01155          else if (labtyp.eq.4) then ! Labeltyp: Wochen
01156           if (dataint .le. 1.) then
01157            dataint= 1.
01158           else if (dataint .le. 2.) then
01159            dataint= 2.
01160           else if (dataint .le. 4.) then
01161            dataint= 4.
01162           else if (dataint .le. 8.) then
01163            dataint= 8.
01164           else if (dataint .le. 16.) then
01165            dataint= 16.
01166           else if (dataint .le. 26.) then
01167            dataint= 26.
01168           else if (dataint .le. 52.) then
01169            dataint= 52.
01170           else if (dataint .le. 104.) then
01171            dataint= 104.
01172           end if ! dataint -> unveraendert
01173          else if (labtyp.eq.5) then ! Labeltyp: Kalenderabschnitte
01174           if (dataint .le. 1.) then
01175            dataint= 1.
01176           else if (dataint .le. 2.) then
01177            dataint= 2.
01178           else if (dataint .le. 13.) then
01179            dataint= 13.
01180           else if (dataint .le. 26.) then
01181            dataint= 26.
01182           else if (dataint .le. 52.) then
01183            dataint= 52.
01184           end if ! dataint -> unveraendert
01185          else if (labtyp.eq.6) then ! Labeltyp: Monate
01186           if (dataint .le. 1.) then
01187            dataint= 1.
01188           else if (dataint .le. 2.) then
01189            dataint= 2.
01190           else if (dataint .le. 3.) then
01191            dataint= 3.
01192           else if (dataint .le. 4.) then
01193            dataint= 4.
01194           else if (dataint .le. 6.) then
01195            dataint= 6.
01196           else if (dataint .le. 12.) then
01197            dataint= 12.
01198           else if (dataint .le. 24.) then
01199            dataint= 24.
01200           else if (dataint .le. 36.) then
01201            dataint= 36.
01202           end if ! dataint -> unveraendert
```

```
01203          else if (labtyp.eq.7) then ! Labeltyp: Quartale
01204           if (dataint .le. 1.) then
01205            dataint= 1.
01206           else if (dataint .le. 2.) then
01207            dataint= 2.
01208           else if (dataint .le. 4.) then
01209            dataint= 4.
01210           else if (dataint .le. 8.) then
01211            dataint= 8.
01212           else if (dataint .le. 12.) then
01213            dataint= 12.
01214           else if (dataint .le. 16.) then
01215            dataint= 16.
01216           else if (dataint .le. 24.) then
01217            dataint= 24.
01218           end if ! dataint -> unveraendert
01219          else if (labtyp.eq.8) then ! Labeltyp: Jahre
01220           if (dataint .le. 1.) then
01221            dataint= 1.
01222           else if (dataint .le. 2.) then
01223            dataint= 2.
01224           else if (dataint .le. 5.) then
01225            dataint= 5.
01226           else if (dataint .le. 10.) then
01227            dataint= 10.
01228           else if (dataint .le. 20.) then
01229            dataint= 20.
01230           else if (dataint .le. 50.) then
01231            dataint= 50.
01232           else if (dataint .le. 100.) then
01233            dataint= 100.
01234           end if ! dataint -> unveraendert
01235          end if ! labtyp 3..8
01236         end if ! manuelle Vorbesetzung
01237         amin= roundd(amin,dataint) !  runde auf TicIntervall
01238         amax= roundu(amax,dataint)
01239         ntics= ifix(abs(amax-amin)/dataint+.0001)
01240         if (ntics .eq. 0) ntics = 2
01241        if(cxytics(ixy) .ne. 0) then ! until: ntics nicht oder = vorbesetzt
01242         if(abs(cxytics(ixy)) .lt. ntics) then ! Verringere Ticanzahl
01243          dataint= dataint * 1.1
01244          amin=aminor
01245          amax=amaxor
01246          goto 310 ! noch eine Iterationsschleife
01247         else if (abs(cxytics(ixy)) .gt. ntics) then ! Vergroessere Ticanzahl
01248          ntics= abs(cxytics(ixy))
01249          amax= amin + real(ntics) * dataint
01250         end if ! abs(cxytics(ixy)) .eq. ntics: no action
01251        end if ! Ende der Schleife
01252       end if ! neat
01253       cxytics(ixy)= ntics
01254       cxylsig(ixy)= 0
01255       cxyamin(ixy)= amin
01256       cxyamax(ixy)= amax
01257       call calcon (amin,amax,labtyp,.false.) ! Labelzeiteinheit -> UBGC
01258       cxydmin(ixy)= amin
01259       cxydmax(ixy)= amax
01260       return
01261       end
01262
01263
01264
01265 C
01266 C  Kalenderroutinen
01267 C
01268
01269
01270
01271       real function calpnt (arr,i)
01272       implicit none
01273       integer i
01274       real arr(5)
01275       integer iy,idays, itmp
01276       integer icltyp, istyr, istper, iubg1, iweek1, nodays
01277       save icltyp, istyr, istper, iubg1, iweek1, nodays
01278
01279       if (i .eq. 1) then ! 1. Datenpunkt: Formatanalyse, Parameterberechnung
01280        istyr= nint(arr(4))
01281        istper= nint(arr(5))
01282        itmp= nint(arr(3)) ! Laenge Intervall in Tagen
01283        if (itmp .eq. 12) then ! Zeitintervall Monat
01284         icltyp= 2
01285        else if (itmp .eq. 365) then ! Zeitintervall Tage
01286         icltyp=3
01287         call iubgc (istyr,istper,iubg1)
01288        else if (itmp .eq. 52) then ! Zeitintervall Wochen
01289         icltyp= 4
```

```
01290         nodays= 7
01291        else if (itmp .eq. 13) then ! Zeitintervall 4 Wochen
01292         icltyp= 5
01293         nodays= 28
01294        else if (itmp .eq. 4) then  ! Zeitintervall Quartal
01295         icltyp= 6
01296         nodays= 91
01297        else ! Zeitintervall Jahre
01298         icltyp= 1
01299        end if
01300        if (icltyp .ge. 4) then
01301         call iubgc (istyr,1,iubg1)
01302         itmp= mod(iubg1+1,7)
01303         if(itmp .gt. 3) itmp= itmp-7
01304         iweek1= iubg1-itmp
01305         iubg1= iweek1+(istper-1)*nodays
01306        end if
01307       end if ! Ende Initialisierung, jetzt Berechnung
01308
01309       if (icltyp .eq. 1) then ! Zeitintervall Jahr
01310        call iubgc (istyr+i,1,iubg1)
01311        calpnt= iubg1
01312       else if (icltyp .eq. 2) then ! Zeitintervall Monat
01313        call ymdyd (iy,idays,istyr,istper+i,1)
01314        call iubgc (iy,idays,iubg1)
01315        calpnt= iubg1 ! Zeitintervall Tage
01316       else if (icltyp .eq. 3) then
01317        calpnt= iubg1+i-1
01318       else ! Zeitintervall Wochen oder 4 Wochen
01319        calpnt= iweek1+(istper-1+i)*nodays
01320       end if
01321       return
01322       end
01323
01324
01325
01326       subroutine calcon (amin,amax,labtyp,ubgc)
01327       implicit none
01328       real amin, amax
01329       integer labtyp
01330       logical ubgc
01331       integer iubg1, iubg2, iday1, iadj, id, month1,month2 , imin,imax
01332       real dimin, dimax
01333       integer iweek1
01334       real fnoday
01335       integer iy1,iy2, iy3,iy4, idays
01336       save iweek1, fnoday
01337       save iy1,iy2, iy3, iy4, idays
01338
01339       real ROUNDD, ROUNDU
01340
01341       if (labtyp .le. 3) return ! nicht Kalender, bzw.Tage: keine Transformation
01342
01343       if (ubgc) then ! Konvertierung UBGC in Labeltype
01344        if ( (labtyp .eq. 4).or.(labtyp .eq. 5).or.(labtyp .eq. 7) ) then
01345         if (labtyp .eq. 4) fnoday= 7.
01346         if (labtyp .eq. 5) fnoday= 28.
01347         if (labtyp .eq. 7) fnoday= 91.
01348         iubg1=amin
01349         iubg2=amax
01350         call oubgc (iy1,idays,iubg1) ! Wochenanfang der 1.KW Startjahr
01351         iday1=iubg1-idays+1
01352         iadj=mod(iday1+1,7)
01353         if(iadj .gt. 3) iadj=iadj-7
01354         iweek1= iday1-iadj           ! Merken in iweek1
01355         dimin= roundd(real(iubg1-iweek1),fnoday)
01356         dimin= dimin/fnoday+1.
01357         call oubgc (iy2,idays,iubg2)
01358         dimax= roundu(real(iubg2-iweek1),fnoday)
01359         dimax= dimax/fnoday
01360        else if (labtyp .eq. 6) then
01361         call oubgc (iy1,idays,nint(amin))
01362         call ydymd (iy1,idays,iy3,month1,id)
01363         dimin= month1
01364         call oubgc (iy2,idays,nint(amax))
01365         call ydymd (iy2,idays,iy4,month2,id)
01366         dimax= (iy4-iy3)*12+month2
01367         if(id .gt. 1) dimax=dimax+1.
01368        else if (labtyp .eq. 8) then
01369         call oubgc (iy1,idays,nint(amin))
01370         dimin= iy1
01371         call oubgc(iy2,idays,nint(amax))
01372         dimax= iy2
01373         if(idays .gt. 1) dimax=dimax+1.
01374        end if
01375        amin= dimin-1.
01376        amax= dimax-1.
```

```
01377        return
01378
01379       else ! Konvertierung Labeltype in UBGC
01380        amin=amin+1.
01381        amax=amax+1.
01382        if ((labtyp .eq. 4).or.(labtyp .eq. 5).or.(labtyp .eq. 7)) then
01383         amin= iweek1 + (nint(amin)-1) * nint(fnoday)
01384         amax= iweek1+(nint(amax)-1)*nint(fnoday)
01385        else if (labtyp .eq. 6)then
01386         iy4= iy3
01387         call ymdyd (iy1,idays,iy3,nint(amin),1)
01388         call iubgc (iy1,idays,imin)
01389         amin= imin
01390         call ymdyd (iy2,idays,iy4,nint(amax),1)
01391         call iubgc (iy2,idays,imax)
01392         amax= imax
01393        else if (labtyp .eq. 8) then
01394         call iubgc (nint(amin),1,imin)
01395         amin= imin
01396         call iubgc (nint(amax),1,imax)
01397         amax= imax
01398        end if
01399       endif
01400       return
01401       end
01402
01403
01404
01405       subroutine ymdyd (iJulYrOut,iJulDayOut,
01406      1                              iGregYrIn,iGregMonIn,iGregDayIn)
01407       implicit none
01408       integer iJulYrOut,iJulDayOut, iGregYrIn,iGregMonIn,iGregDayIn
01409       integer iJulYrIn,iJulDayIn, iGregYrOut,iGregMonOut,iGregDayOut
01410       integer iMon, LEAP
01411       integer iDatTab(12)
01412       save idattab
01413       data idattab /0,31,59,90,120,151,181,212,243,273,304,334/
01414
01415       ijulyrout= igregyrin
01416       imon= igregmonin
01417 100   if (imon .lt. 1) then ! while iMon .not. in [1..12]
01418        imon= imon + 12
01419        ijulyrout= ijulyrout-1
01420        goto 100
01421       else if (imon .gt. 12) then
01422        imon= imon -12
01423        ijulyrout= ijulyrout+1
01424        goto 100
01425       end if
01426       ijuldayout= igregdayin + idattab(imon)
01427       if (imon .gt.2) ijuldayout= ijuldayout + leap(ijulyrout)
01428       return
01429
01430
01431       entry ydymd(ijulyrin,ijuldayin,
01432      1                        igregyrout,igregmonout,igregdayout)
01433
01434       igregdayout= ijuldayin
01435       igregyrout= ijulyrin
01436 110   if (igregdayout .lt. 1) then ! while iGregDayOut .not. in [1..365(366)]
01437        igregyrout= igregyrout-1
01438        igregdayout= igregdayout + 365 + leap(igregyrout)
01439        goto 110
01440       else if (igregdayout .gt. 365+ leap(igregyrout)) then
01441        igregyrout= igregyrout+1
01442        igregdayout= igregdayout - 365 - leap(igregyrout)
01443        goto 110
01444       end if
01445
01446       igregmonout= int( real(igregdayout)/29.5+1.)
01447       if (igregdayout .le. idattab(igregmonout)) then
01448        if ((igregmonout .le. 2) .or.
01449      1   (igregdayout.le.(idattab(igregmonout)+leap(igregyrout)))) then
01450          igregmonout= igregmonout-1
01451        end if
01452       end if
01453       igregdayout= igregdayout- idattab(igregmonout)
01454       if (igregmonout .gt. 2) igregdayout= igregdayout -leap(igregyrout)
01455       return
01456       end
01457
01458
01459
01460       integer function  leap (iyear)
01461       implicit none
01462       integer iyear
01463       if (  (mod(iyear,4) .eq. 0) .and.
```

```
01464      1     ((mod(iyear,100).ne.0) .or. (mod(iyear,400).eq.0))  ) then
01465        leap= 1
01466       else
01467        leap= 0
01468       end if
01469       return
01470       end
01471
01472
01473
01474       subroutine iubgc(iyear,iday, iubgcO)
01475       implicit none
01476       integer iyear,iday,iubgcO
01477       integer iYr1
01478
01479       iyr1= iyear-1 ! Schaltjahreskorrektur erst nach Jahresabschluss
01480       iubgco= 365* (iyear-1901) ! Verhinderung Overflow: Offset im Faktor
01481       iubgco= iubgco + int(iyr1/4) - int(iyr1/100) + int(iyr1/400)
01482       iubgco= iubgco + iday -460 ! Bezugsdatum 1.1.1901= 365*1901 + 460 Schalttage
01483       return
01484       end
01485
01486
01487
01488       subroutine oubgc(iyear,iday,iubgcI)
01489       implicit none
01490       integer iyear,iday,iubgcI
01491       integer iYr1
01492
01493       iyear= int( (real(iubgci) + 694325.99) / 365.2425 )
01494 100   continue ! Schleife der evtl. Nachiteration
01495        iyr1= iyear-1 ! Schaltjahreskorrektur erst nach Jahresabschluss
01496        iday= iubgci + 460 - 365*(iyear-1901)
01497        iday= iday + int(iyr1/100) - int(iyr1/4) - int(iyr1/400)
01498       if (iday .lt. 1) then ! Nachiteration?
01499        iyear= iyear-1
01500        goto 100
01501       end if
01502       return
01503       end
01504
01505
01506
01507 C
01508 C  Zeichenroutinen
01509 C
01510
01511       subroutine frame
01512       implicit none
01513       include 'G2dAG2.fd'
01514
01515       call movabs (cxysmax(1),cxysmin(2))
01516       call drwabs (cxysmax(1),cxysmax(2))
01517       call drwabs (cxysmin(1),cxysmax(2))
01518       call drwabs (cxysmin(1),cxysmin(2))
01519       call drwabs (cxysmax(1),cxysmin(2))
01520       return
01521       end
01522
01523
01524
01525       subroutine dsplay (x,y)
01526       implicit none
01527       real x(5),y(5)
01528
01529       call setwin
01530       call cplot (x,y)
01531       call grid
01532       call label (1)
01533       call label (2)
01534       return
01535       end
01536
01537
01538
01539       subroutine cplot (x,y)
01540       implicit none
01541       real x(5),y(5)
01542       logical symbol
01543       integer i,i1, keyx, keyy, lines, linsav, icount, imax
01544       real xpoint(1), ypoint(1)
01545       real DATGET
01546       include 'G2dAG2.fd'
01547
01548       call keyset (x,keyx)
01549       call keyset (y,keyy)
01550       if (keyx .eq. 1) then ! standard long
```

```
01551        imax= x(1)
01552       else if ((keyx .ge. 2) .and. (keyx .le. 4)) then ! short
01553        imax= x(2)
01554       else ! nonstandard
01555        imax= cnpts
01556       end if
01557       if (keyy .eq. 1) then ! standard long
01558        if (imax .lt. y(1)) imax= y(1)
01559       else if ((keyx .ge. 2) .and. (keyx .le. 4)) then ! short
01560        if (imax .lt. y(2)) imax= y(2)
01561       else ! nonstandard
01562        if (imax .lt. cnpts) imax= cnpts
01563       end if
01564
01565       symbol= (csymbl .ne. 0) .and.(cline .ne.-2) .and.(cline .ne.-3)
01566
01567       i= 1 ! Suche Startpunkt
01568 100   continue ! repeat
01569        if (i .gt. imax) return ! kein Punkt zu zeichnen
01570        xpoint(1)= datget(x,i,keyx)
01571        ypoint(1)= datget(y,i,keyy)
01572       if ((xpoint(1) .ge. cinfin) .or. (ypoint(1) .ge. cinfin)) then ! while
01573        i= i+cstepl
01574        goto 100
01575       end if
01576
01577       call movea (xpoint(1),ypoint(1))
01578       if (cline .eq. -4) call pointa (xpoint(1),ypoint(1))
01579       if (cline .lt. -10) call uline (xpoint(1),ypoint(1),1)
01580       if (cline .eq.-2 .or. cline .eq.-3) then
01581        call bar (xpoint(1),ypoint(1),cline)
01582       end if
01583       if (symbol) call bsyms (xpoint(1),ypoint(1),csymbl)
01584
01585       if (cline .eq. -1) then
01586        lines= 2
01587       else if ((cline .eq. -2) .or. (cline .eq. -3)) then
01588        lines= 3
01589       else if (cline .eq. -4) then
01590        lines=4
01591       else if (cline .lt. -10) then
01592        lines=5
01593       else
01594        lines=1 ! bei cline = 0: dash ergibt durchgezogene Linie
01595       end if
01596
01597       i1= i+cstepl
01598       if (i1 .ge. imax) return
01599       icount= csteps
01600       linsav= lines
01601
01602       do 900 i=i1,imax,cstepl
01603        xpoint(1)= datget(x,i,keyx)
01604        ypoint(1)= datget(y,i,keyy)
01605        if ((xpoint(1) .ge. cinfin) .or. (ypoint(1) .ge. cinfin)) then
01606         if (i.gt.imax-cstepl) return ! Der letzte Punkt ist ungueltig -> done
01607         if ((cline .ne. -2) .and. (cline .ne. 3)) lines= 2
01608        else
01609         if (lines .eq. 1 ) then
01610          call dasha (xpoint(1),ypoint(1), cline) ! dashed or solid
01611         else if (lines .eq. 2 ) then
01612          call movea (xpoint(1),ypoint(1))
01613          lines=linsav ! restore after missing data
01614         else if (lines .eq. 3 ) then
01615          call bar (xpoint(1),ypoint(1),0)
01616         else if (lines .eq. 4 ) then
01617          call pointa (xpoint(1),ypoint(1))
01618         else
01619          call uline (xpoint(1),ypoint(1),i)
01620         end if
01621         if (symbol) then
01622          icount=icount-1
01623          if(icount .le. 0) then
01624           icount= csteps
01625           call bsyms (xpoint(1),ypoint(1),csymbl)
01626          end if
01627         end if
01628        end if
01629 900   continue
01630       return
01631       end
01632
01633
01634
01635       subroutine keyset (array,key)
01636       implicit none
01637       integer key
```

```
01638       integer npts
01639       real array(1)
01640       include 'G2dAG2.fd'
01641
01642       if (cnpts .ne. 0) then       ! nonstandard array
01643        key= 5
01644       else
01645        npts= nint(array(1))
01646        if (npts .ge. 0) then       ! standard long
01647         key= 1
01648        else if (npts .eq. -1) then ! short
01649         key= 2
01650        else if (npts .eq. -2) then ! short calendar
01651         key= 3
01652        else                        ! short user
01653         key= 4
01654        end if
01655       end if
01656       return
01657       end
01658
01659
01660
01661       real function datget (arr,i,key)
01662       implicit none
01663       integer i, key
01664       real calpnt, upoint
01665       real arr(5) ! Dimension 5 sonst GNU-Compilerwarnung bei dat= ...arr(5)...
01666       real dat, olddat
01667       save olddat
01668
01669       if (key.eq.1) then ! standard long
01670        dat= arr(i+1)
01671       else if (key.eq.2) then ! standard short
01672        dat= arr(3) + arr(4)*real(i-1)
01673       else if (key.eq.3) then ! short calendar
01674        dat= calpnt(arr,i)
01675       else if (key.eq.4) then ! user
01676        dat= upoint(arr,i,olddat)
01677       else if (key.eq.5) then ! non standard
01678        dat= arr(i)
01679       endif
01680       olddat= dat
01681       datget= dat
01682       return
01683       end
01684
01685
01686
01687 C  Balkendiagramme
01688
01689       subroutine bar (x,y,line)
01690       implicit none
01691       real x, y
01692       integer line
01693       integer key, ix,iy, ixl,iyl,ixh,iyh
01694       real xfac, yfac
01695       logical VerticalBar
01696       integer isymb, ihalf, lspace, minx,maxx,miny,maxy, ibegx,ibegy
01697       SAVE isymb, ihalf, lspace, minx,maxx,miny,maxy, ibegx,ibegy
01698       SAVE verticalbar
01699       include 'G2dAG2.fd'
01700
01701       if (line .ne. 0) then ! Erster Aufruf -> Parameterbestimmung
01702        verticalbar= line .ne. -3
01703        isymb= csymbl
01704        ihalf= .5 * csizel
01705        lspace= csizes
01706        if (lspace .le. 1) lspace=20 ! Default: 20 Pixel Schraffur
01707        if (ihalf .lt. 2) ihalf=20 ! Default: 40 Pixel Balkenbreite
01708        if (cxysmin(1) .le. cxysmax(1)) then
01709         minx= cxysmin(1)
01710         maxx= cxysmax(1)
01711        else
01712         minx= cxysmax(1)
01713         maxx= cxysmin(1)
01714        end if
01715        if (cxysmin(2) .le. cxysmax(2)) then
01716         miny= cxysmin(2)
01717         maxy= cxysmax(2)
01718        else
01719         miny= cxysmax(2)
01720         maxy= cxysmin(2)
01721        end if
01722
01723        call seetrn(xfac,yfac, key)
01724        if (key .eq. 2) then ! logarithmische Werte
```

```
01725         ibegx= cxysmin(1)
01726         ibegy= cxysmin(2)
01727        else
01728         call wincot (0.,0.,ibegx,ibegy)
01729        end if
01730       end if
01731
01732       call wincot (x,y,ix,iy)
01733       if (verticalbar) then ! vertikale Balken
01734        iyl= min0(ibegy,iy)
01735        iyh= max0(ibegy,iy)
01736        ixl= min0(ix-ihalf,ix+ihalf)
01737        ixh= max0(ix-ihalf,ix+ihalf)
01738       else ! horizontale Balken
01739        iyl= min0(iy-ihalf,iy+ihalf)
01740        iyh= max0(iy-ihalf,iy+ihalf)
01741        ixl= min0(ibegx,ix)
01742        ixh= max0(ibegx,ix)
01743       end if
01744       ixl=max0(ixl,minx)
01745       ixh=min0(ixh,maxx)
01746       iyl=max0(iyl,miny)
01747       iyh=min0(iyh,maxy)
01748       if ((ixh-ixl .ge. 2) .and. (iyh-iyl .ge. 2)) then ! mindestens 2x2 Pxl
01749        call filbox(ixl,iyl,ixh,iyh,isymb,lspace)
01750       end if
01751       return
01752       end
01753
01754
01755
01756       subroutine filbox (minx,miny,maxx,maxy,ishade,lspace)
01757       implicit none
01758       integer minx,miny,maxx,maxy,ishade,lspace
01759       integer iminx,imaxx,iminy,imaxy
01760       integer i, ishift, idely, iymax
01761       real ximin, ximax
01762       real savcom (60)
01763
01764       iminx= min0(minx,maxx)        ! zeichne Rechteck
01765       iminy= min0(miny,maxy)
01766       imaxx= max0(minx,maxx)
01767       imaxy= max0(miny,maxy)
01768
01769       call movabs (iminx,iminy)
01770       call drwabs (imaxx,iminy)
01771       call drwabs (imaxx,imaxy)
01772       call drwabs (iminx,imaxy)
01773       call drwabs (iminx,iminy)
01774
01775       if ((ishade .le.0) .or. (ishade .gt. 15)) return ! ohne Schraffur
01776
01777       ishift= ishade / 2
01778       if ((ishade-ishift*2) .ne. 0) then ! Bit0: horizontale Schraffur
01779        i= iminy
01780 100    continue ! repeat...
01781         i= i+lspace
01782        if (i .lt. imaxy) then
01783         call movabs (iminx,i)
01784         call drwabs (imaxx,i)
01785         goto 100 ! ... until
01786        end if
01787       end if ! horizontale Schraffur gezeichnet
01788
01789       if (mod(ishift,2) .ne. 0) then ! Bit1: vertikale Schraffur
01790        i= iminx
01791 110    continue ! repeat
01792         i= i+lspace
01793        if(i .lt. imaxx) then
01794         call movabs (i,iminy)
01795         call drwabs (i,imaxy)
01796         goto 110
01797        end if ! vertikale Schraffur gezeichnet
01798       end if
01799
01800       if (ishade .ge. 4) then ! diagonale Schraffuren
01801        ximin= real(iminx)
01802        ximax= real(imaxx)
01803        call svstat (savcom) ! verwende TCS-Clipping
01804        call lintrn
01805        call dwindo (ximin,ximax,real(iminy),real(imaxy))
01806        call twindo (iminx,imaxx,iminy,imaxy)
01807
01808        if (ishade .ge. 8) then ! Bit3: diagonal fallend
01809         idely= iminx-imaxx
01810         iymax= imaxy+imaxx-iminx
01811         i= iminy+lspace
```

```
01812 120     continue ! repeat ...
01813          call movea (ximin,real(i))
01814          call drawa (ximax,real(i+idely))
01815          i= i+lspace
01816         if (i .lt. iymax) goto 120 ! ... until
01817         ishift= ishade -8
01818        else
01819         ishift= ishade
01820        end if
01821
01822        if (ishift .ge. 4) then ! Bit2: diagonal steigend
01823         idely= imaxx-iminx
01824         iymax= real(imaxy)
01825         i= iminy - idely + lspace
01826 130     continue ! repeat...
01827          call movea (ximin,real(i))
01828          call drawa (ximax,real(i+idely))
01829          i= i+lspace
01830         if (i .lt. iymax) goto 130 ! ...until
01831        end if
01832        call restat (savcom)
01833       end if ! Diagonalen
01834       return
01835       end
01836
01837
01838
01839 C  Zeichnen von Symbolen
01840
01841       subroutine bsyms (x,y,isym)
01842       implicit none
01843       real x,y
01844       integer isym
01845       include 'G2dAG2.fd'
01846
01847       if (isym .ge. 0) then
01848        call symout (isym, csizes)
01849       else
01850        call users (x,y,isym)
01851       end if
01852       call movea (x,y)
01853       return
01854       end
01855
01856
01857
01858       subroutine symout (isym,fac)
01859       implicit none
01860       integer isym
01861       real fac
01862       integer ix,iy, ihorz,ivert
01863
01864       call seeloc (ix,iy)
01865       if (isym .gt. 127) then
01866        call softek (isym)
01867       else if (isym .ge. 33) then
01868        call csize (ihorz,ivert)
01869        ihorz= int( real(ihorz)*.3572)
01870        ivert= int( real(ivert)*.3182)
01871        call movrel (-ihorz,-ivert)
01872        call alfmod
01873        call toutpt (isym)
01874       else if (isym .le. 11) then
01875        call teksym (isym,fac)
01876       end if
01877       call movabs (ix,iy)
01878       return
01879       end
01880
01881
01882
01883       subroutine teksym (isym,amult)
01884       implicit none
01885       integer isym
01886       real amult
01887       integer ihalf, ifull
01888
01889       ihalf= nint(8.* amult)
01890       ifull=ihalf * 2
01891       if (isym .eq. 1) then ! Kreis
01892        call teksym1 (0, 360, 30, 8.*amult)
01893       else if (isym .eq. 2) then ! X
01894        call movrel (ihalf,ihalf)
01895        call drwrel (-ifull,-ifull)
01896        call movrel (0,ifull)
01897        call drwrel (ifull,-ifull)
01898       else if (isym .eq. 3) then ! Dreieck
```

```
01899         call teksym1 (90, 450, 120, 8.*amult)
01900       else if (isym .eq. 4) then ! Quadrat
01901         call teksym1 (45, 405, 90, 8.*amult)
01902       else if (isym .eq. 5) then ! Stern
01903         call teksym1 (90, 810, 144, 8.*amult)
01904       else if (isym .eq. 6) then ! Raute
01905         call teksym1 (90, 450, 90, 8.*amult)
01906       else if (isym .eq. 7) then ! vertikaler Balken
01907         call teksym1 (90, 270, 180, 8.*amult)
01908       else if (isym .eq. 8) then ! Kreuz
01909         call movrel (0,ihalf)
01910         call drwrel (0,-ifull)
01911         call movrel (-ihalf,ihalf)
01912         call drwrel (ifull,0)
01913       else if (isym .eq. 9) then ! Pfeil nach oben
01914         call drwrel (-2,-6)
01915         call drwrel (4,0)
01916         call drwrel (-2,6)
01917         call drwrel (0,-ifull)
01918       else if (isym .eq. 10) then ! Pfeil nach unten
01919         call drwrel (-2,6)
01920         call drwrel (4,0)
01921         call drwrel (-2,-6)
01922         call drwrel (0,ifull)
01923       else if (isym .eq. 11) then ! Durchstreichung
01924         call teksym1 (270, 630, 120, 8.*amult)
01925       end if
01926       return
01927       end
01928
01929
01930
01931       subroutine teksym1 (istart, iend, incr, siz)
01932       implicit none
01933       integer istart, iend, incr
01934       real siz
01935       integer i, mx,my,mix,miy
01936       real b
01937
01938       b= real(istart)*.01745
01939       mx= nint(siz*cos(b))
01940       my= nint(siz*sin(b))
01941       call movrel (mx,my)
01942       do 100 i= istart+incr, iend, incr
01943         b= real(i)*.01745
01944         mix= nint(siz*cos(b))
01945         miy= nint(siz*sin(b))
01946         call drwrel (mix-mx,miy-my)
01947         mx= mix
01948         my= miy
01949 100   continue
01950       return
01951       end
01952
01953
01954
01955 C Netz und Ticmarks
01956
01957       subroutine grid
01958       implicit none
01959       integer i, mlim
01960       real xyext,xyextm, tintvl,tmntvl
01961       include 'G2dAG2.fd'
01962
01963       if (cxyfrm(2) .ne. 0) then ! Zeichnen der y-Achse
01964         i= min0(cxysmin(1),cxysmax(1)) + cxyloc(2)
01965         call movabs (i, cxysmax(2))
01966         call drwabs (i, cxysmin(2))
01967         if (cxybeg(2) .ne. cxyend(2)) then ! Zeichnen y-Ticmarks
01968           i= cxylab(2) ! Labeltyp
01969           if (i .eq. 1) i= cxytype(2) ! =1: Typ entsprechend Daten
01970           if (i .ne. 6) then ! =6 (Monate): Tics durch GLINE zeichnen lassen
01971             if(cxytics(2) .ne. 0) then
01972               tintvl= real(cxysmax(2)-cxysmin(2)) / real( cxytics(2))
01973             end if
01974             if (cxymtcs(2) .gt. 0) tmntvl= tintvl / real(cxymtcs(2))
01975             call movabs(cxybeg(2),cxysmin(2))
01976             call drwabs(cxyend(2),cxysmin(2))
01977             xyext= real(cxysmin(2))
01978             do 100, i=1,cxytics(2)
01979               if (cxymbeg(2) .ne. cxymend(2)) then ! Zeichnen Minor Ticmarks
01980                 mlim= cxymtcs(2)-1
01981                 xyextm= xyext
01982 110             continue ! repeat...
01983                 if (mlim.gt.0) then ! ...until mlim <= 0
01984                   xyextm= xyextm+tmntvl
01985                   call movabs (cxymbeg(2), nint(xyextm))
```

```
01986             call drwabs (cxymend(2), nint(xyextm))
01987             mlim=mlim-1
01988             goto 110
01989            else if (mlim. lt. 0) then
01990             call logtix (2,xyext,tintvl,cxymbeg(2),cxymend(2))
01991            end if
01992           end if
01993           xyext= xyext+tintvl
01994           call movabs (cxybeg(2), nint(xyext))
01995           call drwabs (cxyend(2), nint(xyext))
01996 100      continue
01997         end if ! Labtyp=6: Monate
01998        end if ! Ende Zeichnen Ticmarks
01999       end if ! Ende Zeichnen der Achse
02000
02001       if (cxyfrm(1) .ne. 0) then ! Zeichnen der x-Achse
02002        i= min0(cxysmin(2),cxysmax(2)) + cxyloc(1)
02003        call movabs (cxysmin(1), i)
02004        call drwabs (cxysmax(1), i)
02005        if (cxybeg(1) .ne. cxyend(1)) then ! Zeichnen y-Ticmarks
02006         i= cxylab(1) ! Labeltyp
02007         if (i .eq. 1) i= cxytype(1) ! =1: Typ entsprechend Daten
02008         if (i .ne. 6) then ! =6 (Monate): Tics durch GLINE zeichnen lassen
02009          if(cxytics(1) .ne. 0) then
02010           tintvl= real(cxysmax(1)-cxysmin(1)) / real( cxytics(1))
02011          end if
02012          if (cxymtcs(1) .gt. 0) tmntvl= tintvl / real(cxymtcs(1))
02013          call movabs(cxysmin(1), cxybeg(1))
02014          call drwabs(cxysmin(1), cxyend(1))
02015          xyext= real(cxysmin(1))
02016          do 120, i=1,cxytics(1)
02017           if (cxymbeg(1) .ne. cxymend(1)) then ! Zeichnen Minor Ticmarks
02018            mlim= cxymtcs(1)-1
02019            xyextm= xyext
02020 130          continue ! repeat...
02021            if (mlim.gt.0) then ! ...until mlim <= 0
02022             xyextm= xyextm+tmntvl
02023             call movabs (nint(xyextm), cxymbeg(1))
02024             call drwabs (nint(xyextm), cxymend(1))
02025             mlim=mlim-1
02026             goto 130
02027            else if (mlim. lt. 0) then
02028             call logtix (1,xyext,tintvl,cxymbeg(1),cxymend(1))
02029            end if
02030           end if
02031           xyext= xyext+tintvl
02032           call movabs (nint(xyext), cxybeg(1))
02033           call drwabs (nint(xyext), cxyend(1))
02034 120      continue
02035         end if ! Labtyp=6: Monate
02036        end if ! Ende Zeichnen Ticmarks
02037       end if ! Ende Zeichnen der Achse
02038       return
02039       end
02040
02041
02042
02043       subroutine logtix (nbase,start,tintvl,mstart,mend)
02044       implicit none
02045       integer nbase,mstart,mend
02046       real start, tintvl
02047       integer i, logtic, ihorz, ivert, idx,idy
02048       character*1 loglab
02049       include 'G2dAG2.fd'
02050
02051       call csize (ihorz,ivert)
02052       do 100 i=2,9
02053        write (unit=loglab, fmt='(i1)') i ! Unicodefaehig durch Compilerfeature
02054        logtic= nint(log10(real(i))*tintvl + start)
02055        if (nbase .eq. 1) then ! x-Achse
02056         idx=  -ihorz/3
02057         if  (mstart .gt. mend) then
02058          idy= ivert
02059         else
02060          idy= -ivert
02061         end if
02062         call movabs (logtic,mend)
02063         call drwabs (logtic,mstart)
02064         if (cxymtcs(nbase) .eq. -2) then ! numerisches Ticmarklabel
02065          call movrel (idx,idy)
02066          call toutstc (loglab)
02067         end if
02068
02069        else if (nbase .eq. 2) then ! y-Achse
02070         if  (mstart .gt. mend) then
02071          idx= ihorz
02072         else
```

```
02073           idx= -ihorz
02074          end if
02075          idy=  -ivert / 3
02076          call movabs (mend,logtic)
02077          call drwabs (mstart,logtic)
02078         end if
02079
02080         if (cxymtcs(nbase) .eq. -2) then ! numerisches Ticmarklabel
02081          call movrel (idx,idy)
02082          call toutstc (loglab)
02083         end if
02084 100    continue
02085         return
02086         end
02087
02088
02089
02090         subroutine tset (nbase)
02091         implicit none
02092         integer nbase
02093         integer IOTHER
02094         integer otherbase, near, nfar, newloc, nlen
02095         include 'G2dAG2.fd'
02096
02097         otherbase= iother(nbase)
02098         near= min0(cxysmin(otherbase), cxysmax(otherbase))
02099         nfar= max0(cxysmin(otherbase), cxysmax(otherbase))
02100         newloc= near + cxyloc(nbase)
02101         if (cxyfrm(nbase) .ne. 1) then
02102          if (newloc .lt. ((nfar+near)/2)) then
02103           nlen= cxylen(nbase)
02104          else
02105           nlen= -cxylen(nbase)
02106           nfar= near
02107          end if
02108          call tset2 (newloc,nfar,nlen,cxyfrm(nbase),
02109       1                               cxybeg(nbase),cxyend(nbase))
02110         else
02111          cxybeg(nbase)= 0
02112          cxyend(nbase)= 0
02113         end if
02114
02115         if ((cxymfrm(nbase) .ne. 1) .and. (cxymtcs(nbase) .ne. 0)) then
02116          nlen= nlen / 2
02117          call tset2 (newloc,nfar,nlen,cxymfrm(nbase),
02118       1                               cxymbeg(nbase),cxymend(nbase))
02119         else
02120          cxymbeg(nbase)= 0
02121          cxymend(nbase)= 0
02122         end if
02123         return
02124         end
02125
02126
02127
02128         subroutine tset2 (newloc,nfar,nlen,nfrm,kstart,kend)
02129         implicit none
02130         integer newloc,nfar,nlen,nfrm,kstart,kend
02131
02132         if (nfrm .eq. 3 .or. nfrm .eq. 6) then
02133          kstart= newloc
02134         else
02135          kstart=newloc-nlen
02136         end if
02137         if (kstart .lt. 0) then
02138          kstart= 0
02139         else if (kend .gt. 1023) then
02140          kstart= 1023
02141         end if
02142
02143         if (nfrm .eq. 2) then
02144          kend= newloc
02145         else if (nfrm .eq. 5 .or. nfrm .eq. 6) then
02146          kend = nfar
02147         else
02148          kend=newloc+nlen
02149         end if
02150         if (kend .lt. 0) then
02151          kend= 0
02152         else if (kend .gt. 1023) then
02153          kend= 1023
02154         end if
02155         return
02156         end
02157
02158
02159
```

```
02160       subroutine monpos (nbase,iy1,dpos, spos)
02161       implicit none
02162       integer nbase, iy1, spos
02163       integer iy,idays,iubgc1
02164       real dpos
02165
02166       call ymdyd (iy,idays,iy1, nint(dpos)+1,1)
02167       call iubgc (iy,idays, iubgc1)
02168       call gline (nbase, real(iubgc1), spos)
02169       return
02170       end
02171
02172
02173
02174       subroutine gline (nbase,datapt,spos)
02175       implicit none
02176       integer nbase, spos
02177       real datapt
02178       integer i
02179       include 'G2dAG2.fd'
02180
02181       if (nbase .eq. 1) then ! x-Achsengrid
02182        call wincot (datapt,1., spos,i)
02183        if (iabs(cxyend(1)-cxybeg(1)) .ge. 2) then
02184         call movabs(spos,cxybeg(1))
02185         call drwabs(spos,cxyend(1))
02186        end if
02187       else ! y-Achsengrid
02188        call wincot (1.,datapt, i,spos)
02189        if (iabs(cxyend(2)-cxybeg(2)) .ge. 2) then
02190         call movabs(cxybeg(2),spos)
02191         call drwabs(cxyend(2),spos)
02192        end if
02193       end if
02194       return
02195       end
02196
02197
02198
02199 C Label
02200
02201       subroutine label (nbase)
02202       implicit none
02203       integer nbase
02204       logical even, stag
02205       integer i, icv, igap, iquadrant, labtyp, ilim, iposflag, ioff, iy
02206       integer ispos,isintv, iyear
02207       integer level1, level2
02208       real fnum, fac, dpos, dintv
02209       character *(255) labstr
02210       integer IOTHER
02211       include 'G2dAG2.fd'
02212
02213       labtyp= cxylab(nbase)
02214       if(labtyp .eq. 1) labtyp= cxytype(nbase) ! LabTyp=1: = dataType
02215       if (labtyp .eq. 0) return ! LabTyp=0: keine Label
02216
02217       fac= 10.**(-cxyepon(nbase))
02218
02219       dintv= real(cxystep(nbase)) / real(cxytics(nbase)) ! Zwischenergebnis
02220       isintv= nint(real(cxysmax(nbase)-cxysmin(nbase)) * dintv)
02221       dintv= (cxyamax(nbase)-cxyamin(nbase)) * dintv
02222
02223       call csize (i,icv) ! nur icv = vertikale Hoehe benoetigt
02224       igap= icv / 3
02225       if (nbase.eq.1) igap= 2*igap
02226       if (iabs(cxysmax(iother(nbase))-cxysmin(iother(nbase)))
02227      1                                    .gt. 2* cxyloc(nbase)) then
02228        iquadrant= -1 ! untere Haelfte
02229       else
02230        iquadrant= +1
02231       end if
02232       level1= min0(cxysmax(iother(nbase)),cxysmin(iother(nbase)))
02233      1                              - (igap-icv/3 ) + cxyloc(nbase)
02234      2                         + isign(igap+cxylen(nbase),iquadrant)
02235       level2= level1 + isign(icv+igap, iquadrant)
02236
02237       if (nbase .eq. 1) then ! Label links/zentriert/rechts?
02238        iposflag= 0 ! x-Achse: zentriert
02239       else
02240        iposflag= -iquadrant
02241       end if
02242
02243       stag= cxystag(nbase) .eq. 2 ! Verwendung in Schleife
02244       even= .false.
02245       ilim= cxytics(nbase) + 1
02246
```

```
02247       dpos= cxyamin(nbase)
02248       ispos= cxysmin(nbase)
02249
02250       if (iabs(labtyp) .ge. 3 .and. iabs(labtyp) .le. 8) then ! Kalenderdaten
02251        call oubgc (iyear,i,ifix(cxydmin(nbase))) ! i: Tag nicht benoetigt
02252        dpos= dpos+dintv ! 1. Tic ungelabelt
02253        ispos= ispos+isintv
02254        ilim=ilim-1
02255        if (nbase .eq. 1) iposflag= 1 ! x-Achse Kalender: rechtsbuendig
02256       end if
02257
02258       do 100 i=1,ilim, cxystep(nbase)
02259        if ((labtyp .le. 2) .or. (labtyp .ge. 8)) then
02260         fnum= dpos
02261        else ! Kalendertyp ohne Jahr
02262         if (labtyp.eq.3) then ! Tage
02263          fnum= 7.
02264         else if (labtyp.eq.4) then ! Wochen
02265          fnum= 52.
02266         else if (labtyp.eq.5) then ! Periods
02267          fnum= 13.
02268         else if (labtyp.eq.6) then ! Monate
02269          fnum= 12.
02270         else if (labtyp.eq.7) then ! Quartal
02271          fnum= 4.
02272         end if ! Jahr wird wie linear behandelt
02273         fnum= amod(dpos-1.,fnum)+1.
02274        end if
02275
02276        if (labtyp .lt. 0) then
02277         call usesetc (fnum, cxywdth(nbase), nbase, labstr)
02278        else if ((labtyp .eq. 6) .OR. (labtyp .eq. 3)) then
02279         call alfsetc (fnum, labtyp, labstr)
02280         if (cxywdth(nbase) .lt. len(labstr)) then
02281          labstr(cxywdth(nbase)+1:cxywdth(nbase)+1)= char(0)
02282         end if
02283         if (labtyp .eq. 6) call monpos (nbase,iyear,dpos,ispos)
02284        else
02285         call numsetc (fnum*fac,cxywdth(nbase),nbase,labstr)
02286        end if
02287        call justerc (labstr, iposflag, ioff)
02288
02289        if (nbase .eq. 1) then ! x-Achse
02290         iy= level1
02291         if(stag .and. even) iy= level2
02292         even= .not. even
02293         call notatec (ispos+ioff,iy, labstr)
02294        else ! y-Achse
02295         call notatec (level1+ioff,ispos-igap,labstr)
02296        end if
02297        dpos= dpos+dintv
02298        ispos= ispos+isintv
02299 100   continue ! end do
02300
02301       if ((labtyp .ne. 2) .and. (cxyetyp(2) .ge. 0)) then ! nicht logarithm.
02302        if (nbase .eq. 1) then ! x-Achse
02303         if (stag) level2= level2 + isign(icv+igap,iquadrant)
02304         i=(cxysmin(nbase)+cxysmax(nbase))/2.
02305         iy=level2
02306        else
02307         i= level1
02308         iy= max0(cxysmin(nbase),cxysmax(nbase)) +icv+igap
02309        end if
02310        call remlab (nbase,cxyloc(nbase),labtyp,i,iy)
02311       end if
02312       return
02313       end
02314
02315
02316
02317       subroutine numsetc (fnum,iwidth,nbase, outstr)
02318       implicit none
02319       real fnum
02320       integer iwidth,nbase
02321       character outstr *(*)
02322       integer iexp
02323       include 'G2dAG2.fd'
02324
02325       if (cxytype(nbase) .eq. 2) then
02326        if (fnum .gt. 0.) then
02327         iexp= fnum + .00005
02328        else if (fnum .lt. 0.) then
02329         iexp= fnum - .00005
02330        else
02331         iexp= 0
02332        end if
02333        call expoutc (nbase,iexp, outstr)
```

```
02334       else if ((cxytype(nbase).eq.1) .and. (cxydec(nbase).gt.0)) then
02335        call fformc (fnum,iwidth, cxydec(nbase), outstr)
02336       else
02337        call iformc (fnum,iwidth, outstr)
02338       end if
02339       return
02340       end
02341
02342
02343
02344       subroutine iformc (fnum,iwidth, outstr)
02345       implicit none
02346       real fnum
02347       integer iwidth
02348       character outstr *(*)
02349       character fmtstr *(11)
02350
02351       if (iwidth .le. 0) then ! iwidth=0: ohne Label
02352        outstr= char(0)
02353        return
02354       end if
02355
02356       if (iwidth .gt. 99) goto 200 ! Errorhandler
02357       write (unit=fmtstr,fmt=100, err=200) iwidth
02358       if (len(outstr) .gt. iwidth) then
02359        write (unit= outstr, fmt=fmtstr, err=200) nint(fnum),0 ! 0: End of String
02360       else
02361        write (unit= outstr, fmt=fmtstr, err=200) nint(fnum) ! evtl. ohne EoS?
02362       end if
02363
02364       return
02365
02366 200   continue ! Error Handler
02367       outstr= '???'
02368       if (iwidth.lt.len(outstr)) outstr(iwidth+1:iwidth+1)= char(0)
02369       return
02370
02371 100   format ('(SS,I' ,i2.2, ',A1)')
02372       end
02373
02374
02375
02376       subroutine fformc (fnum,iwidth,idec, outstr)
02377       implicit none
02378       real fnum
02379       integer iwidth,idec
02380       character outstr *(*)
02381       integer nDgtM
02382       real fa
02383       include 'G2dAG2.fd'
02384
02385       ndgtm= iwidth-idec
02386       if (fnum .ge. 0.) then
02387        ndgtm= ndgtm -1  ! Ziffern Mantisse
02388       else
02389        ndgtm= ndgtm-2   ! 1 Ziffer Vorzeichen
02390       end if
02391       fa= abs(fnum) ! Skalierung mindestens 2 signfikante Stellen: .1*abs(fnum)
02392
02393       if ( ((fa .lt. 10./cinfin) .or. (fa .gt. .1**idec))
02394      1                          .and.(fa .lt. 10.**ndgtm)) then
02395        call fonlyc (fnum,iwidth,idec, outstr)
02396       else
02397        call eformc (fnum,iwidth,idec, outstr)
02398       end if
02399       return
02400       end
02401
02402
02403
02404       subroutine fonlyc (fnum,iwidth,idec, outstr)
02405       implicit none
02406       real fnum
02407       integer iwidth,idec
02408       character outstr *(*)
02409       character fmtstr *(14)
02410
02411       if (iwidth .le. 0) then ! iwidth=0: ohne Label
02412        outstr= char(0)
02413        return
02414       end if
02415
02416       if ((idec .gt. iwidth-1) .or. (iwidth .gt. 99)) goto 200 ! Errorhandler
02417       write (unit=fmtstr,fmt=100, err=200) iwidth,idec
02418       if (len(outstr) .gt. iwidth) then
02419        write (unit= outstr, fmt=fmtstr, err=200) fnum,0 ! 0: End of String
02420       else
```

```
02421        write (unit= outstr, fmt=fmtstr, err=200) fnum ! evtl. ohne EoS?
02422       end if
02423       return
02424
02425 200   continue ! Error Handler
02426       outstr= '???'
02427       if (iwidth.lt.len(outstr)) outstr(iwidth+1:iwidth+1)= char(0)
02428       return
02429
02430 100   format ('(SS,F' ,i2.2,'.', i2.2,',A1)')
02431       end
02432
02433
02434
02435       subroutine eformc (fnum,iwidth,idec, outstr)
02436       implicit none
02437       real fnum
02438       integer iwidth,idec
02439       character outstr *(*)
02440       integer iexpon
02441       character fmtstr *(18)
02442
02443       if (iwidth .le. 0) then ! iwidth=0: ohne Label
02444        outstr= char(0)
02445        return
02446       end if
02447
02448       call esplit (fnum,iwidth,idec,iexpon)
02449       if ((idec .gt. iwidth-7) .or. (iwidth .gt. 99)) goto 200 ! Errorhandler
02450       write (unit=fmtstr,fmt=100, err=200) iwidth-idec-6,iwidth,iwidth-7
02451       if (len(outstr) .gt. iwidth) then
02452        write (unit= outstr, fmt=fmtstr, err=200) fnum,0 ! 0: End of String
02453       else
02454        write (unit= outstr, fmt=fmtstr, err=200) fnum ! evtl. ohne EoS?
02455       end if
02456       return
02457
02458 200   continue ! Error Handler
02459       outstr= '???'
02460       if (iwidth.lt.len(outstr)) outstr(iwidth+1:iwidth+1)= char(0)
02461       return
02462
02463 100   format ('(SS,' ,i2.2,'P,E' ,i2.2,'.', i2.2,',A1)')
02464       end
02465
02466
02467
02468       subroutine esplit (fnum,iwidth,idec,iexpon)
02469       implicit none
02470       real fnum
02471       integer iwidth,idec,iexpon
02472       real fabs
02473       include 'G2dAG2.fd'
02474
02475       fabs= abs(fnum)
02476       if (fabs .ge. 1.) then
02477        iexpon= ifix( alog10(fabs)+1.000005) - iwidth+idec+6 ! 6: Vorz.-Pkt-Exp(4)
02478       else if (fabs .ge. 10./cinfin) then
02479        iexpon= alog10(fabs)
02480       else
02481        iexpon= -alog10(cinfin)
02482       end if
02483       return
02484       end
02485
02486
02487
02488       subroutine expoutc (nbase,iexp, outstr)
02489       implicit none
02490       integer nbase,iexp, i, iL, nexp
02491       character outstr *(*), tmpstr *(4)
02492       include 'G2dAG2.fd'
02493
02494       il= len(outstr)
02495       nexp= abs(iexp)
02496
02497       if ( (cxyetyp(nbase).eq.2) .and. (il.gt. 5)
02498      1             .and. (mod(nexp,3) .eq. 0)
02499      2             .and. (iexp.ge.1)  .and. (iexp.le.9) ) then ! MMMs
02500         do 20 i=3,nexp,3
02501          outstr(i/3:i/3)= 'M'
02502 20      continue
02503         outstr(nexp/3+1:)= char(39) // 'S' // char(0)
02504
02505       else if ( (cxyetyp(nbase).eq.3) .and. (il.gt.17)
02506      1                  .and. (iexp.ge.1) .and. (iexp.le.6)) then ! TENS
02507         if (nexp .eq. 1) then
```

```
02508         outstr= 'TENS' // char(0)
02509        else if (nexp .eq. 2) then
02510         outstr= 'HUNDREDS' // char(0)
02511        else if (nexp .eq. 3) then
02512         outstr= 'THOUSANDS' // char(0)
02513        else if (nexp .eq. 4) then
02514         outstr= 'TEN THOUSANDS' // char(0)
02515        else if (nexp .eq. 5) then
02516         outstr= 'HUNDRED THOUSANDS' // char(0)
02517        else if (nexp .eq. 6) then
02518         outstr= 'MILLIONS' // char(0)
02519        end if
02520       else if( (cxyetyp(nbase).eq.4) ! 10000
02521      1    .and. (iexp.ge.1)  .and. (iexp.le.9)
02522      2                   .and. (il.ge.nexp+2)) then
02523        do 30 i=2,nexp+1
02524         outstr(i:i)= '0'
02525   30    continue
02526        outstr(1:1)= '1'
02527        outstr(nexp+2:)= char(0)
02528
02529       else if (il .gt. 7) then ! Default: Superscript EXP
02530        if (iexp .ne. 1) then
02531         if (nexp .lt. 10) then
02532          i=1
02533         else
02534          i=2
02535         end if
02536         if (iexp .lt. 0) then
02537          i= i+1
02538         end if
02539         call iformc (real(iexp), i, tmpstr)
02540        else
02541         tmpstr= char(0) ! 10 wird ohne Exponenten 1 ausgegeben
02542        end if
02543        if (iexp .ne. 0) then
02544         if (cxytype(nbase) .ne. 2) then
02545          outstr(1:1)= 'x'
02546          i= 2
02547         else
02548          i= 1
02549         end if
02550         outstr(i:)= '10' // char(1) ! Index UP
02551         outstr(i+3:)= tmpstr ! char(0) wird bei IFORMC angehaengt
02552        else
02553         outstr(1:)= '1' // char(0) ! 1 wird nicht als 10**0 ausgegeben
02554        end if
02555       else ! outstr zu kurz
02556        outstr= '???'
02557       end if
02558
02559       return
02560       end
02561
02562
02563
02564       subroutine alfsetc (fnum, labtyp, string)
02565       implicit none
02566       integer inum, labtyp
02567       real fnum
02568       character *(*) string
02569
02570       inum= fnum + .001 ! truncate real to integer
02571       if (labtyp .eq. 3) then ! Tage
02572        if ((inum .eq. 0) .or. (inum .eq. 7)) then
02573         string= 'MONDAY' // char(0)
02574        else if (inum .eq. 1) then
02575         string= 'TUESDAY' // char(0)
02576        else if (inum .eq. 2) then
02577         string= 'WEDNESDAY' // char(0)
02578        else if (inum .eq. 3) then
02579         string= 'THURSDAY' // char(0)
02580        else if (inum .eq. 4) then
02581         string= 'FRIDAY' // char(0)
02582        else if (inum .eq. 5) then
02583         string= 'SATURDAY' // char(0)
02584        else if (inum .eq. 6) then
02585         string= 'SUNDAY' // char(0)
02586        end if
02587       else if (labtyp .eq. 6) then ! Monate
02588        if (inum .eq. 1) then
02589         string= 'JANUARY' // char(0)
02590        else if (inum .eq. 2) then
02591         string= 'FEBRUARY' // char(0)
02592        else if (inum .eq. 3) then
02593         string= 'MARCH' // char(0)
02594        else if (inum .eq. 4) then
```

```
02595         string= 'APRIL' // char(0)
02596        else if (inum .eq. 5) then
02597         string= 'MAY' // char(0)
02598        else if (inum .eq. 6) then
02599         string= 'JUNE' // char(0)
02600        else if (inum .eq. 7) then
02601         string= 'JULY' // char(0)
02602        else if (inum .eq. 8) then
02603         string= 'AUGUST' // char(0)
02604        else if (inum .eq. 9) then
02605         string= 'SEPTEMBER' // char(0)
02606        else if (inum .eq. 10) then
02607         string= 'OCTOBER' // char(0)
02608        else if (inum .eq. 11) then
02609         string= 'NOVEMBER' // char(0)
02610        else if (inum .eq. 12) then
02611         string= 'DECEMBER' // char(0)
02612        end if
02613       end if
02614       return
02615       end
02616
02617
02618
02619       subroutine notatec (ix,iy, string)
02620       implicit none
02621       integer ix, iy
02622       character *(*) string
02623       integer i, iv, is
02624       integer ISTRINGLEN
02625
02626       call csize(i,iv)        ! nur iv benoetigt
02627       call movabs(ix,iy)
02628
02629       is= 1
02630       do 100 i=1, istringlen(string)
02631        if (string(i:i) .lt. char(31) ) then
02632         if (i.gt.is) call toutstc (string(is:i-is))
02633         if (string(i:i) .eq. char(1)) call movrel (0, iv/2)  ! Hochindex
02634         if (string(i:i) .eq. char(2)) call movrel (0, -iv/2) ! Index
02635         is= i+1
02636        end if
02637 100   continue
02638       if (is .le. istringlen(string)) call toutstc (string(is:))
02639       return
02640       end
02641
02642
02643
02644       subroutine vlablc (string)
02645 C
02646 C  Sollte in das TCS verlagert werden, um vertikale Schrift zu erzeugen
02647 C
02648       implicit none
02649       character string*(*)
02650       integer i, icy, ix,iy
02651       integer ISTRINGLEN
02652
02653       if (istringlen(string) .le. 0) return
02654       call csize (i,icy)
02655       call seeloc (ix,iy)
02656       do 100 i=1,istringlen(string)
02657        iy= iy-icy
02658        if (iy .lt. 0) return
02659        call movabs (ix,iy)
02660        call toutpt (ichar(string(i:i)))
02661 100   continue
02662       return
02663       end
02664
02665
02666
02667       subroutine justerc (string, iPosFlag, iOff)
02668       implicit none
02669       integer iPosFlag, iOff
02670       character string*(*)
02671       integer i, iLen, nCtrl
02672       integer ISTRINGLEN, LINWDT
02673
02674       ilen= istringlen(string)
02675       nctrl= 0    ! Zaehlen der Ctrlcharacter
02676       do 100 i=1, ilen
02677        if (string(i:i) .lt. char(31) ) nctrl= nctrl+1
02678 100   continue
02679
02680       if (iposflag .lt. 0) then ! linksbuendig
02681        ioff= 0
```

```
02682       else ! rechtsbuendig und zentriert
02683        ioff= -linwdt((ilen-nctrl)*8-2)/8       ! rechtsbuendig
02684        if (iposflag.eq.0) ioff= ioff / 2        ! zentriert
02685       end if
02686
02687       return
02688       end
02689
02690
02691
02692       subroutine width (nbase)
02693       implicit none
02694       integer nbase
02695       integer labtyp
02696       include 'G2dAG2.fd'
02697
02698       labtyp= cxylab(nbase)
02699       if(labtyp .eq. 1) labtyp= cxytype(nbase) ! LabTyp=1: = dataType
02700
02701       if ((cxywdth(nbase).ne.0) .and. (labtyp.ne.1)) return ! Manuelle Vorgabe nichtlinear
02702
02703       if (labtyp.le.1) then ! lineare Achsen und anwenderdefinierte Label
02704        call lwidth (nbase)
02705
02706       else if (labtyp .eq. 2) then ! logarithmische Achsen
02707        if (cxyetyp(nbase) .le. 1) then ! 10 mit Exponent
02708         cxywdth(nbase)= 6
02709        else if (cxyetyp(nbase) .eq. 2) then ! M, MM...
02710         cxywdth(nbase)= int(alog10(abs(cxydmax(nbase)))/3. ) + 6
02711        else if (cxyetyp(nbase) .eq. 3) then ! Ausgeschriebene Worte
02712         cxywdth(nbase)= 20
02713         cxystep(nbase)= 1
02714         cxystag(nbase)= 2
02715        else if (cxyetyp(nbase) .eq. 4) then ! 1 mit 0
02716         cxywdth(nbase)= max(abs(alog10(abs(cxydmin(nbase)))),
02717      1                      abs(alog10(abs(cxydmin(nbase)))) ) + 2
02718        end if
02719
02720       else if (labtyp .gt. 2) then ! Kalenderachsen
02721        if ((labtyp .eq. 3) .or. (labtyp .eq. 6)) then ! Tage oder Monate
02722         cxywdth(nbase)= 9
02723        else
02724         cxywdth(nbase)= 4
02725        end if
02726       end if
02727
02728       return
02729       end
02730
02731
02732
02733       subroutine lwidth (nbase)
02734       implicit none
02735       integer nbase
02736       integer iadj, most, least, isign,iwidth, idelta, ndec, iexp
02737       real xmax
02738       real ROUNDD
02739       include 'G2dAG2.fd'
02740
02741       iadj= 0
02742       xmax= amax1(abs(cxydmin(nbase)),abs(cxydmax(nbase)))
02743       if (xmax .gt. 1.) then
02744        most= int(alog10(xmax) + 1.00005) ! Position Most Significant Digit
02745        iadj= 1
02746       else if (xmax .eq. 1.) then
02747        most= 0
02748       else
02749        most= int(alog10(xmax) - 0.00005)
02750       end if
02751
02752       ndec= cxydec(nbase)
02753       if (cxydec(nbase) .ne. 0) then ! Anzahl Dezimalstellen vorgegeben
02754        least= -ndec ! Entspricht Position LeastSignificant Digit
02755       else
02756        least= cxylsig(nbase)
02757       end if
02758
02759       if (cxydmin(nbase) .lt. 0.) then
02760        isign=1    ! 1 Buchstabe Vorzeichen
02761       else
02762        isign=0
02763       end if
02764
02765       if ((most .lt. 0) .or. (least .ge. 0)) then
02766        iwidth= max0(1,most)- min0(0,least) + isign
02767        if (most .lt. 0) iwidth= iwidth+1 ! 1 Dezimalpunkt
02768        if ((iwidth .gt. 5 ) .and. (cxyetyp(nbase) .ge. 0)) then
```

```
02769          if (cxyetyp(nbase).eq.2) then
02770           iexp= int( roundd(real(most-iadj),3.))
02771          else
02772           iexp= int( roundd(real(most-iadj),1.))
02773          end if
02774          iwidth= most-least+isign+ 2
02775          ndec= max0(0,iexp-least+iadj)
02776         else
02777          ndec= max(0,-least)
02778          iexp= 0
02779         end if
02780        else
02781         iexp= 0
02782         ndec= max(0,-least)
02783         iwidth= most-least+isign+1
02784         if (most .eq. 0) iwidth= iwidth+1 ! Einbezug fuehrende Null
02785        end if
02786
02787        if ((cxywdth(nbase) .ne. 0).and.(cxywdth(nbase).lt. iwidth)) then
02788         idelta= iwidth - cxywdth(nbase) - ndec
02789         if ((ndec .gt. 0) .and. (idelta .lt. 1) ) then
02790          ndec= max0(0,-idelta)
02791          iwidth= cxywdth(nbase)
02792         else
02793          iexp= iexp+idelta
02794          if(ndec .gt. 0) iexp=iexp-1
02795          iwidth= cxywdth(nbase)
02796          ndec=0
02797         end if
02798        end if
02799
02800        cxywdth(nbase)= iwidth
02801        cxydec(nbase)= ndec
02802        cxyepon(nbase)= iexp
02803        return
02804        end
02805
02806
02807
02808        subroutine remlab (nbase,iloc,labtyp,ix,iy)
02809        implicit none
02810        integer nbase, iloc, labtyp, ix, iy
02811        integer iyear1,iday1, iyear2,iday2
02812        integer iyear,imon,iday, ioff, iposflag
02813        character label *(25)
02814        include 'G2dAG2.fd'
02815
02816        if (iabs(labtyp) .eq. 1) then ! lineare Daten
02817         if (cxyepon(nbase) .eq. 0) return ! kein Exponent
02818         call expoutc (nbase,cxyepon(nbase), label)
02819        else ! Kalenderdaten
02820         if ((labtyp .ge. 4) .and. (labtyp.ne.6)) then ! Wochen, Quartale, Jahre
02821          ioff= 4 ! Überlappung der Jahre vermeiden
02822         else
02823          ioff= 0
02824         end if
02825         call oubgc (iyear1,iday1, nint(cxydmin(nbase))+ioff)
02826         call oubgc (iyear2,iday2, nint(cxydmax(nbase))-ioff)
02827         if (iday2 .le. 1) iyear2=iyear2-1
02828         iday2=iday2-1
02829         call ydymd(iyear1,iday1,iyear,imon,iday)
02830
02831         if (iabs(labtyp).eq. 3) then
02832          call iformc (real(iday), 2, label(1:2))
02833          label(3:3)= ' ' ! 'dd '
02834          call alfsetc (real(imon), 6, label(4:6)) ! labtyp 6= Monate, Laenge 3
02835          label(7:7)= ' ' ! 'dd mmm '
02836          call iformc (real(iyear), 4, label(7:10)) ! 'dd mm yyyy'
02837          label(11:11)= char(0) ! evtl. Labelende
02838          if (iyear1 .lt. iyear2) then ! bei Bedarf Start und Endjahr
02839           label(11:11)= '-' ! 'dd mm yyyy-'
02840           call ydymd(iyear2,iday2,iyear,imon,iday)
02841           call iformc (real(iday), 2, label(12:13)) ! 'dd'
02842           label(14:14)= ' ' ! 'dd mm yyyy-dd '
02843           call alfsetc (real(imon), 6, label(15:17)) ! 'dd mmm'
02844           label(18:18)= ' ' ! 'dd mm yyyy-dd mmm '
02845           call iformc (real(iyear), 4, label(19:22)) ! 'dd mm yyyy-'
02846           label(23:23)= char(0)
02847          end if
02848         else
02849          call iformc (real(iyear), 4, label(1:4)) ! 'yyyy'
02850          label(5:5)= char(0)
02851          if (iyear1 .lt. iyear2) then ! bei Bedarf Start und Endjahr
02852           label(5:5)= '-' ! 'yyyy-'
02853           call iformc (real(iyear2), 4, label(6:9)) ! 'yyyy-yyyy'
02854           label(10:10)= char(0)
02855          end if
```

```
02856        end if
02857       end if
02858
02859       if ((nbase.eq.1) .or. (iloc.eq.1)) then ! X-Achse oder y Zentriert
02860        iposflag= 0
02861       else
02862        iposflag= isign(1,1-iloc)
02863       end if
02864       call justerc (label, iposflag, ioff)
02865       call notatec (ix+ioff, iy,label)
02866       return
02867       end
02868
02869
02870
02871       subroutine spread (nbase)
02872       implicit none
02873       integer nbase
02874       integer ih, labtyp, iwidth, iMaxWid
02875       integer LINWDT
02876       include 'G2dAG2.fd'
02877
02878       if (cxystag(nbase) .ne. 1) return
02879
02880       labtyp= cxylab(nbase)
02881       if ((labtyp .eq. 1) .or. (labtyp .eq. 0)) labtyp= cxytype(nbase)
02882
02883 100   continue ! outer loop
02884        if (nbase .eq. 1) then ! x-Achse
02885         iwidth= linwdt(cxywdth(nbase))
02886        else
02887         call csize(ih, iwidth)
02888        end if
02889
02890        imaxwid= iabs(cxysmax(nbase)-cxysmin(nbase))- 2*iwidth
02891        imaxwid= imaxwid* cxystep(nbase)* cxystag(nbase) / cxytics(nbase)
02892
02893        cxystep(nbase)= 1
02894        cxystag(nbase)= 1
02895
02896        if (iwidth .lt. imaxwid) return ! exit loop
02897
02898        if (nbase .eq. 1) then ! x-Achse
02899         cxystag(nbase)= 2
02900        else
02901         cxystep(nbase)= cxystep(nbase) + 1
02902        end if
02903
02904 110    continue ! inner loop
02905         if(iwidth .lt. imaxwid) return ! exit loop
02906         if(cxystep(nbase) .gt. cxytics(nbase)) return ! exit loop
02907        if (labtyp .ne. 3 .and. labtyp .ne. 6) then ! cycle inner loop
02908         cxystep(nbase)= cxystep(nbase)+1
02909         goto 110
02910       else ! cycle outer loop
02911        if (cxywdth(nbase) .eq. 3) return
02912        cxywdth(nbase)=3
02913        goto 100
02914       end if ! cycle until force exit
02915       end
02916
02917
02918
02919 C
02920 C  Tabellensuche und Rundungen
02921 C
02922
02923       real function findge (val,tab,in)
02924       implicit none
02925       integer in
02926       real val, tab(1)
02927
02928 100   if (tab(in) .lt. val) goto 110 ! while
02929        in= in-1
02930        goto 100
02931 110   continue ! endwhile
02932
02933 120   continue ! repeat
02934        in= in+1
02935       if (tab(in) .lt. val) goto 120 ! end repeat
02936       findge= tab(in)
02937       return
02938       end
02939
02940
02941
02942       real function findle (val,tab,in)
```

```
02943       implicit none
02944       integer in
02945       real val, tab(1)
02946       real valeps
02947
02948       valeps= val+ 1.e-7 ! Vergleich um 0 ermoeglichen (Rechengenauigkeit!)
02949
02950 100   if (tab(in) .le. valeps) goto 110 ! while
02951        in= in-1
02952        goto 100
02953 110   continue ! endwhile
02954
02955 120   continue ! repeat
02956        in= in+1
02957       if (tab(in) .lt. valeps) goto 120 ! end repeat
02958       findle= tab(in-1)
02959       return
02960       end
02961
02962
02963
02964       integer function locge (ival,itab,iN)
02965       implicit none
02966       integer ival, itab(1), in
02967
02968 100   if (itab(in) .lt. ival) goto 110 ! while
02969        in= in-1
02970        goto 100
02971 110   continue ! endwhile
02972
02973 120   continue ! repeat
02974        in= in+1
02975       if (itab(in) .lt. ival) goto 120 ! end repeat
02976       locge= itab(in)
02977       return
02978       end
02979
02980
02981
02982       integer function locle (ival,itab,iN)
02983       implicit none
02984       integer ival, itab(1), in
02985
02986 100   if (itab(in) .le. ival) goto 110 ! while
02987        in= in-1
02988        goto 100
02989 110   continue ! endwhile
02990
02991 120   continue ! repeat
02992        in= in+1
02993       if (itab(in) .le. ival) goto 120 ! end repeat
02994       locle= itab(in-1)
02995       return
02996       end
02997
02998
02999
03000       real function roundd (value,finterval)
03001       implicit none
03002       real value,finterval
03003       integer ifrac
03004       real frac
03005
03006       frac= value/finterval
03007       ifrac= int(frac)
03008       if (real(ifrac) .gt. frac) ifrac= ifrac-1 ! Abrunden bei frac neg.
03009       roundd = real(ifrac) * finterval
03010       if (roundd .gt. value) roundd= value
03011       return
03012       end
03013
03014
03015
03016       real function roundu (value,finterval)
03017       implicit none
03018       real value,finterval
03019       integer ifrac
03020       real frac
03021
03022       frac= value/finterval
03023       ifrac= int(frac)
03024       if (real(ifrac) .lt. frac) ifrac= ifrac+1 ! Aufrunden bei frac pos.
03025       roundu = real(ifrac) * finterval
03026       if (roundu .lt. value) roundu= value
03027       return
03028       end
03029
```

```
03030
03031
03032 C
03033 C  Generelle Manipulationen der Commonvariablen
03034 C
03035       subroutine savcom (Array)
03036       implicit none
03037       integer array(1)
03038       include 'G2dAG2.fd'
03039
03040       integer i
03041       integer arr(1)
03042       equivalence(arr(1),cline)
03043       do 10 i=1,g2dag2l
03044        array(i)= arr(i)
03045 10    continue
03046       return
03047       end
03048
03049
03050
03051       subroutine rescom (Array)
03052       implicit none
03053       integer array(1)
03054       include 'G2dAG2.fd'
03055
03056       integer i
03057       integer arr(1)
03058       equivalence(arr(1),cline)
03059       do 10 i=1,g2dag2l
03060        arr(i)= array(i)
03061 10    continue
03062       return
03063       end
03064
03065
03066
03067       integer function iother (ipar)
03068       implicit none
03069       integer ipar
03070
03071       if (mod(ipar,2) .eq. 1) then ! ungerader Parameter=x-Achse
03072        iother= ipar+1
03073       else
03074        iother= ipar-1
03075       end if
03076       return
03077       end
```

6.3 AG2Holerith.for File Reference

Graph2D: deprecated AG2 routines.

Functions/Subroutines

- subroutine notate (ix, iy, lenchr, iarray)
- subroutine alfset (fnum, kwidth, labtyp, ilabel)
- subroutine numset (fnum, iwidth, nbase, ilabel, ifill)
- subroutine expout (nbase, iexp, ilabel, nchars, ifill)
- subroutine hstrin (iString)
- subroutine hlabel (iLen, iString)
- subroutine vstrin (iarray)
- subroutine vlabel (iLen, iString)
- subroutine juster (iLen, iString, iposflag, ifill, lenchr, ioff)
- subroutine eform (fnum, iwidth, idec, ilabel, ifill)
- subroutine fform (fnum, iwidth, idec, ilabel, ifill)
- subroutine fonly (fnum, iwidth, idec, ilabel, ifill)
- subroutine iform (fnum, iwidth, ilabel, ifill)
- integer function ibasec (iPar)

- integer function ibasex (ipar)
- integer function ibasey (ipar)
- real function comget (iPar)
- subroutine comset (iPar, val)
- subroutine comdmp

6.3.1 Detailed Description

Graph2D: deprecated AG2 routines.

Version

2.2

Author

(C) 2022 Dr.-Ing. Klaus Friedewald

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Compatibility routines dealing with holerith characters and direct manipulation of common variables.

Definition in file AG2Holerith.for.

6.3.2 Function/Subroutine Documentation

6.3.2.1 alfset()

```
subroutine alfset (
             real fnum,
             integer kwidth,
             integer labtyp,
             integer, dimension(kwidth) ilabel )
```

Definition at line 45 of file AG2Holerith.for.

6.3.2.2 comdmp()

```
subroutine comdmp
```

Definition at line 328 of file AG2Holerith.for.

6.3.2.3 comget()

```
real function comget (
             integer iPar )
```

Definition at line 271 of file AG2Holerith.for.

6.3.2.4 comset()

```
subroutine comset (
             integer iPar,
             real val )
```

Definition at line 299 of file AG2Holerith.for.

6.3.2.5 eform()

```
subroutine eform (
             real fnum,
             integer iwidth,
             integer idec,
             integer, dimension(iwidth) ilabel,
             integer ifill )
```

Definition at line 173 of file AG2Holerith.for.

6.3.2.6 expout()

```
subroutine expout (
             integer nbase,
             integer iexp,
             integer, dimension(nchars) ilabel,
             integer nchars,
             integer ifill )
```

Definition at line 90 of file AG2Holerith.for.

6.3.2.7 fform()

```
subroutine fform (
             real fnum,
             integer iwidth,
             integer idec,
             integer, dimension(255) ilabel,
             integer ifill )
```

Definition at line 189 of file AG2Holerith.for.

6.3.2.8 fonly()

```
subroutine fonly (
             real fnum,
             integer iwidth,
             integer idec,
             integer, dimension(iwidth) ilabel,
             integer ifill )
```

Definition at line 205 of file AG2Holerith.for.

6.3.2.9 hlabel()

```
subroutine hlabel (
             integer iLen,
             integer, dimension(ilen) iString )
```

Definition at line 121 of file AG2Holerith.for.

6.3.2.10 hstrin()

```
subroutine hstrin (
             integer, dimension(2) iString )
```

Definition at line 112 of file AG2Holerith.for.

6.3.2.11 ibasec()

```
integer function ibasec (
             integer iPar )
```

Definition at line 241 of file AG2Holerith.for.

6.3.2.12 ibasex()

```
integer function ibasex (
             integer ipar )
```

Definition at line 251 of file AG2Holerith.for.

6.3.2.13 ibasey()

```
integer function ibasey (
             integer ipar )
```

Definition at line 261 of file AG2Holerith.for.

6.3.2.14 iform()

```
subroutine iform (
             real fnum,
             integer iwidth,
             integer, dimension(iwidth) ilabel,
             integer ifill )
```

Definition at line 221 of file AG2Holerith.for.

6.3.2.15 juster()

```
subroutine juster (
             integer iLen,
             integer, dimension(ilen) iString,
             integer iposflag,
             integer ifill,
             integer lenchr,
             integer ioff )
```

Definition at line 154 of file AG2Holerith.for.

6.3.2.16 notate()

```
subroutine notate (
             integer ix,
             integer iy,
             integer lenchr,
             integer, dimension(lenchr) iarray )
```

Definition at line 30 of file AG2Holerith.for.

6.3.2.17 numset()

```
subroutine numset (
             real fnum,
             integer iwidth,
             integer nbase,
             integer, dimension(iwidth) ilabel,
             integer ifill )
```

Definition at line 67 of file AG2Holerith.for.

6.3.2.18 vlabel()

```
subroutine vlabel (
             integer iLen,
             integer, dimension(ilen) iString )
```

Definition at line 139 of file AG2Holerith.for.

6.3.2.19 vstrin()

```
subroutine vstrin (
             integer, dimension(2) iarray )
```

Definition at line 130 of file AG2Holerith.for.

6.4 AG2Holerith.for

```
00001 C> \file       AG2Holerith.for
00002 C> \version    2.2
00003 C> \author     (C) 2022 Dr.-Ing. Klaus Friedewald
00004 C> \copyright  GNU LESSER GENERAL PUBLIC LICENSE Version 3
00005 C> \~german
00006 C> \brief   Graph2D: obsolete AG2 Routinen
00007 C> \~english
00008 C> \brief   Graph2D: deprecated AG2 routines
00009 C> \~
00010 C>
00011 C> \~german
00012 C>     Unterprogramme zur Behandlung von Holerithvariablen und direkter
00013 C>     Manipulation des Commonblocks
00014 C>
00015 C> \~english
00016 C>     Compatibility routines dealing with holerith characters
00017 C>     and direct manipulation of common variables.
00018 C>
00019 C
00020 C
00021 C  Tektronix Advanced Graphics 2 - Version 2.x
00022 C
00023 C     Optionale Unterprogramme
00024 C
00025
00026 C
00027 C Stringfunktionen fuer Holerithvariablen
00028 C
00029
00030       subroutine notate (ix,iy,lenchr,iarray)
00031       implicit none
```

```
00032       integer ix,iy,lenchr, iarray(lenchr)
00033       integer i
00034       character *(255) buf
00035
00036       do 100 i=1,lenchr
00037        buf(i:i)= char(iarray(i))
00038 100   continue
00039       call notatec (ix,iy,buf(1:lenchr))
00040       return
00041       end
00042
00043
00044
00045       subroutine alfset (fnum,kwidth,labtyp,ilabel)
00046       implicit none
00047       integer kwidth,labtyp, ilabel(kwidth)
00048       real fnum
00049       integer i, buflen
00050       character *(255) buf
00051       integer ISTRINGLEN
00052
00053       call alfsetc (fnum, labtyp, buf)
00054       buflen= istringlen(buf)
00055       do 100 i=1,kwidth
00056        if (i .le. buflen) then
00057         ilabel(i)= ichar(buf(i:i))
00058        else
00059         ilabel(i)= ichar(' ')
00060        end if
00061 100   continue
00062       return
00063       end
00064
00065
00066
00067       subroutine numset (fnum,iwidth,nbase,ilabel,ifill)
00068       implicit none
00069       integer iwidth,nbase,ilabel(iwidth),ifill
00070       real fnum
00071       integer i, iLeadFill
00072       character *(255) buf
00073       integer ISTRINGLEN
00074
00075       call numsetc (fnum,iwidth,nbase, buf)
00076       ileadfill= max(0,iwidth-istringlen(buf))
00077       do 100 i=1,iwidth
00078        ilabel(ileadfill+i)= ichar(buf(i:i))
00079 100   continue
00080       i=1 ! iLabel ist rechtsjustiert!
00081       if (i.gt.ileadfill) goto 110 ! while
00082        ilabel(i)= ifill
00083        i= i+1
00084 110   continue ! endwhile
00085       return
00086       end
00087
00088
00089
00090       subroutine expout (nbase,iexp,ilabel,nchars,ifill)
00091       implicit none
00092       integer nbase,iexp, nchars, ilabel(nchars), ifill
00093       integer i, iLeadFill
00094       character *(255) buf
00095       integer ISTRINGLEN
00096
00097       call expoutc (nbase,iexp, buf(1:nchars))
00098       ileadfill= max(0,nchars-istringlen(buf))
00099       do 100 i=1,nchars
00100        ilabel(ileadfill+i)= ichar(buf(i:i))
00101 100   continue
00102       i=1 ! iLabel ist rechtsjustiert!
00103       if (i.gt.ileadfill) goto 110 ! while
00104        ilabel(i)= ifill
00105        i= i+1
00106 110   continue ! endwhile
00107       return
00108       end
00109
00110
00111
00112       subroutine hstrin (iString)
00113       implicit none
00114       integer iString(2)
00115       call anstr (istring(1),istring(2))
00116       return
00117       end
00118
```

```
00119
00120
00121       subroutine hlabel (iLen, iString)
00122       implicit none
00123       integer iLen, iString(iLen)
00124       call anstr (ilen, istring)
00125       return
00126       end
00127
00128
00129
00130       subroutine vstrin (iarray)
00131       implicit none
00132       integer iarray(2)
00133       call vlabel (iarray(1),iarray(2))
00134       return
00135       end
00136
00137
00138
00139       subroutine vlabel (iLen,iString)
00140       implicit none
00141       integer iLen, iString(iLen)
00142       integer i
00143       character *(255) buf
00144       integer ISTRINGLEN
00145       do 100 i=1, ilen
00146        buf(i:i)= char(istring(i))
00147 100   continue
00148       call vlablc (buf(:ilen))
00149       return
00150       end
00151
00152
00153
00154       subroutine juster (iLen,iString,iposflag,ifill,lenchr, ioff)
00155       implicit none
00156       integer iLen,iString(iLen), iposflag,ifill, lenchr, ioff
00157       integer i
00158       character *(255) buf
00159
00160       lenchr= 0
00161       do 100 i=1, ilen
00162        if ( (i .gt. 1) .or. (istring(i) .ne. ifill) ) then ! Ueberlese Startfillchars
00163         lenchr= lenchr+1
00164         buf(lenchr:lenchr)= char(abs(istring(i))) ! Tek Index -1,-2 -> char(1),char(2)
00165        end if
00166 100   continue
00167       call justerc (buf, iposflag, ioff)
00168       return
00169       end
00170
00171
00172
00173       subroutine eform (fnum,iwidth,idec,ilabel,ifill)
00174       implicit none
00175       integer iwidth,idec, ilabel(iwidth), ifill
00176       real fnum
00177       integer i
00178       character *(255) buf
00179
00180       call eformc (fnum,iwidth,idec, buf)
00181       do 100 i=1,iwidth
00182        ilabel(i)= ichar(buf(i:i))
00183 100   continue
00184       return
00185       end
00186
00187
00188
00189       subroutine fform (fnum,iwidth,idec,ilabel,ifill)
00190       implicit none
00191       integer iwidth,idec, ilabel(255), ifill
00192       real fnum
00193       integer i
00194       character *(255) buf
00195
00196       call fformc (fnum,iwidth,idec, buf)
00197       do 100 i=1,iwidth
00198        ilabel(i)= ichar(buf(i:i))
00199 100   continue
00200       return
00201       end
00202
00203
00204
00205       subroutine fonly (fnum,iwidth,idec,ilabel,ifill)
```

```
00206       implicit none
00207       integer iwidth,idec, ilabel(iwidth), ifill
00208       real fnum
00209       integer i
00210       character *(255) buf
00211
00212       call fonlyc (fnum,iwidth,idec, buf)
00213       do 100 i=1,iwidth
00214        ilabel(i)= ichar(buf(i:i))
00215 100   continue
00216       return
00217       end
00218
00219
00220
00221       subroutine iform (fnum,iwidth,ilabel,ifill)
00222       implicit none
00223       integer iwidth,idec, ilabel(iwidth), ifill
00224       real fnum
00225       integer i
00226       character *(255) buf
00227
00228       call iformc (fnum,iwidth,idec, buf)
00229       do 100 i=1,iwidth
00230        ilabel(i)= ichar(buf(i:i))
00231 100   continue
00232       return
00233       end
00234
00235
00236
00237 C
00238 C  Direkte Manipulation des Commonblocks
00239 C
00240
00241       integer function ibasec (iPar)
00242       implicit none
00243       integer ipar
00244
00245       ibasec= -1-ipar
00246       return
00247       end
00248
00249
00250
00251       integer function ibasex (ipar)
00252       implicit none
00253       integer ipar
00254
00255       ibasex= 1 + 2*ipar
00256       return
00257       end
00258
00259
00260
00261       integer function ibasey (ipar)
00262       implicit none
00263       integer ipar
00264
00265       ibasey= 2 + 2*ipar
00266       return
00267       end
00268
00269
00270
00271       real function comget (ipar)
00272       implicit none
00273       integer ipar
00274       include 'G2dAG2.fd'
00275
00276       integer iarr(1), iarr2(1)
00277       real arr(1), arr2(1)
00278       equivalence(iarr(1),cline), (iarr2(1),cxyneat)
00279       equivalence(arr(1),cline), (arr2(1),cxyneat)
00280
00281       if ((ipar.lt.0) .and. (ipar.ge. -9))then
00282        if ((ipar .eq. -4) .or. (ipar .le. -8)) then
00283         comget= arr(-ipar)
00284        else
00285         comget= real(iarr(-ipar))
00286        end if
00287       else if ((ipar.gt.0) .and. (ipar.le.56)) then
00288        if ((ipar.le.22) .or. ((ipar .ge. 27).and.(ipar.le.52))) then
00289         comget= real(iarr2(ipar))
00290        else
00291         comget= arr2(ipar)
00292        end if
```

```
00293       end if
00294       return
00295       end
00296
00297
00298
00299       subroutine comset (iPar,val)
00300       implicit none
00301       integer iPar
00302       real val
00303       include 'G2dAG2.fd'
00304
00305       integer iarr(1), iarr2(1)
00306       real arr(1), arr2(1)
00307       equivalence(iarr(1),cline), (iarr2(1),cxyneat)
00308       equivalence(arr(1),cline), (arr2(1),cxyneat)
00309
00310       if ((ipar.lt.0) .and. (ipar.ge. -9))then
00311        if ((ipar.eq.-4) .or. (ipar .le. -8)) then
00312         arr(-ipar)= val
00313        else
00314         iarr(-ipar)= int(val)
00315        end if
00316       else if ((ipar.gt.0) .and. (ipar.le.56)) then
00317        if ((ipar.le.22) .or. ((ipar .ge. 27).and.(ipar.le.52))) then
00318         iarr2(ipar)= int(val)
00319        else
00320         arr2(ipar)= val
00321        end if
00322       end if
00323       return
00324       end
00325
00326
00327
00328       subroutine comdmp
00329       implicit none
00330       integer i
00331       character *80 buf
00332       include 'G2dAG2.fd'
00333
00334       call erase
00335       call home
00336
00337       write (unit= buf,fmt=600, err=200) (cxyneat(i),i=1,2), cline
00338 600   format (1x,' 0:  cxneat(1)=',l14,', (2)=',l14,',   cline=',i14)
00339       call toutstc (buf)
00340       call newlin
00341       write (unit= buf,fmt=601, err=200) (cxyzero(i),i=1,2), csymbl
00342 601   format (1x,' 1: cxyzero(1)=',l14,', (2)=',l14,',  csymbl=',i14)
00343       call toutstc (buf)
00344       call newlin
00345       write (unit= buf,fmt=602, err=200) (cxyloc(i),i=1,2), csteps
00346 602   format (1x,' 2:  cxyloc(1)=',i14,', (2)=',i14,',  csteps=',i14)
00347       call toutstc (buf)
00348       call newlin
00349       write (unit= buf,fmt=603, err=200) (cxylab(i),i=1,2), cinfin
00350 603   format (1x,' 3:  cxylab(1)=',i14,', (2)=',i14,',  cinfin=',e14.7)
00351       call toutstc (buf)
00352       call newlin
00353       write (unit= buf,fmt=604, err=200) (cxyden(i),i=1,2), cnpts
00354 604   format (1x,' 4:  cxyden(1)=',i14,', (2)=',i14,',   cnpts=',i14)
00355       call toutstc (buf)
00356       call newlin
00357       write (unit= buf,fmt=605, err=200) (cxytics(i),i=1,2), cstepl
00358 605   format (1x,' 5: cxytics(1)=',i14,', (2)=',i14,',  cstepl=',i14)
00359       call toutstc (buf)
00360       call newlin
00361       write (unit= buf,fmt=606, err=200) (cxylen(i),i=1,2), cnumbr
00362 606   format (1x,' 6:  cxylen(1)=',i14,', (2)=',i14,',  cnumbr=',i14)
00363       call toutstc (buf)
00364       call newlin
00365       write (unit= buf,fmt=607, err=200) (cxyfrm(i),i=1,2), csizes
00366 607   format (1x,' 7:  cxyfrm(1)=',i14,', (2)=',i14,',  csizes=',e14.7)
00367       call toutstc (buf)
00368       call newlin
00369       write (unit= buf,fmt=608, err=200) (cxymtcs(i),i=1,2), csizel
00370 608   format (1x,' 8: cxymtcs(1)=',i14,', (2)=',i14,',  csizel=',e14.7)
00371       call toutstc (buf)
00372       call newlin
00373       write (unit= buf,fmt=609, err=200) (cxymfrm(i),i=1,2)
00374 609   format (1x,' 9: cxymfrm(1)=',i14,', (2)=',i14)
00375       call toutstc (buf)
00376       call newlin
00377       write (unit= buf,fmt=610, err=200) (cxydec(i),i=1,2)
00378 610   format (1x,'10:  cxydec(1)=',i14,', (2)=',i14)
00379       call toutstc (buf)
```

```
00380       call newlin
00381       write (unit= buf,fmt=611, err=200) (cxydmin(i),i=1,2)
00382 611   format (1x,'11: cxydmin(1)=',e14.7,', (2)=',e14.7)
00383       call toutstc (buf)
00384       call newlin
00385       write (unit= buf,fmt=612, err=200) (cxydmax(i),i=1,2)
00386 612   format (1x,'12: cxydmax(1)=',e14.7,', (2)=',e14.7)
00387       call toutstc (buf)
00388       call newlin
00389       write (unit= buf,fmt=613, err=200) (cxysmin(i),i=1,2)
00390 613   format (1x,'13: cxysmin(1)=',i14,', (2)=',i14)
00391       call toutstc (buf)
00392       call newlin
00393       write (unit= buf,fmt=614, err=200) (cxysmax(i),i=1,2)
00394 614   format (1x,'14: cxysmax(1)=',i14,', (2)=',i14)
00395       call toutstc (buf)
00396       call newlin
00397       write (unit= buf,fmt=615, err=200) (cxytype(i),i=1,2)
00398 615   format (1x,'15: cxytype(1)=',i14,', (2)=',i14)
00399       call toutstc (buf)
00400       call newlin
00401       write (unit= buf,fmt=616, err=200) (cxylsig(i),i=1,2)
00402 616   format (1x,'16: cxylsig(1)=',i14,', (2)=',i14)
00403       call toutstc (buf)
00404       call newlin
00405       write (unit= buf,fmt=617, err=200) (cxywdth(i),i=1,2)
00406 617   format (1x,'17: cxywdth(1)=',i14,', (2)=',i14)
00407       call toutstc (buf)
00408       call newlin
00409       write (unit= buf,fmt=618, err=200) (cxyepon(i),i=1,2)
00410 618   format (1x,'18: cxyepon(1)=',i14,', (2)=',i14)
00411       call toutstc (buf)
00412       call newlin
00413       write (unit= buf,fmt=619, err=200) (cxystep(i),i=1,2)
00414 619   format (1x,'19: cxystep(1)=',i14,', (2)=',i14)
00415       call toutstc (buf)
00416       call newlin
00417       write (unit= buf,fmt=620, err=200) (cxystag(i),i=1,2)
00418 620   format (1x,'20: cxystag(1)=',i14,', (2)=',i14)
00419       call toutstc (buf)
00420       call newlin
00421       write (unit= buf,fmt=621, err=200) (cxyetyp(i),i=1,2)
00422 621   format (1x,'21: cxyetyp(1)=',i14,', (2)=',i14)
00423       call toutstc (buf)
00424       call newlin
00425       write (unit= buf,fmt=622, err=200) (cxybeg(i),i=1,2)
00426 622   format (1x,'22:  cxybeg(1)=',i14,', (2)=',i14)
00427       call toutstc (buf)
00428       call newlin
00429       write (unit= buf,fmt=623, err=200) (cxyend(i),i=1,2)
00430 623   format (1x,'23:  cxyend(1)=',i14,', (2)=',i14)
00431       call toutstc (buf)
00432       call newlin
00433       write (unit= buf,fmt=624, err=200) (cxymbeg(i),i=1,2)
00434 624   format (1x,'24: cxymbeg(1)=',i14,', (2)=',i14)
00435       call toutstc (buf)
00436       call newlin
00437       write (unit= buf,fmt=625, err=200) (cxymend(i),i=1,2)
00438 625   format (1x,'25: cxymend(1)=',i14,', (2)=',i14)
00439       call toutstc (buf)
00440       call newlin
00441       write (unit= buf,fmt=626, err=200) (cxyamin(i),i=1,2)
00442 626   format (1x,'26: cxyamin(1)=',e14.7,', (2)=',e14.7)
00443       call toutstc (buf)
00444       call newlin
00445       write (unit= buf,fmt=627, err=200) (cxyamax(i),i=1,2)
00446 627   format (1x,'27: cxyamax(1)=',e14.7,', (2)=',e14.7)
00447       call toutstc (buf)
00448
00449       call graphicerror (11,char(0))
00450       call erase
00451
00452 200   continue
00453       return
00454       end
```

6.5 AG2uline.for File Reference

Graph2D: Dummy User Routine.

Functions/Subroutines

- subroutine uline (x, y, i)

6.5.1 Detailed Description

Graph2D: Dummy User Routine.

Definition in file AG2uline.for.

6.5.2 Function/Subroutine Documentation

6.5.2.1 uline()

```
subroutine uline (
                  x,
                  y,
                  i )
```

Definition at line 10 of file AG2uline.for.

6.6 AG2uline.for

```
00001 C> \file    AG2uline.for
00002 C> \brief   Graph2D: Dummy User Routine
00003 C
00004 C  Tektronix Advanced Graphics 2 - Version 2.0
00005 C
00006 C     User Subroutinen
00007 C
00008
00009
00010       subroutine uline (x,y,i)
00011       return
00012       end
00013
```

6.7 AG2umnmx.for File Reference

Graph2D: Dummy User Routine.

Functions/Subroutines

- subroutine umnmx (array, amin, amax)

6.7.1 Detailed Description

Graph2D: Dummy User Routine.

Definition in file AG2umnmx.for.

6.7.2 Function/Subroutine Documentation

6.7.2.1 umnmx()

```
subroutine umnmx (
              array,
              amin,
              amax )
```

Definition at line 9 of file AG2umnmx.for.

6.8 AG2umnmx.for

```
00001 C> \file    AG2umnmx.for
00002 C> \brief   Graph2D: Dummy User Routine
00003 C
00004 C  Tektronix Advanced Graphics 2 - Version 2.0
00005 C
00006 C     User Subroutinen
00007 C
00008
00009       subroutine umnmx (array,amin,amax)
00010       return
00011       end
00012
```

6.9 AG2upoint.for File Reference

Graph2D: Dummy User Routine.

Functions/Subroutines

- real function upoint (arr, ii, oldone)

6.9.1 Detailed Description

Graph2D: Dummy User Routine.

Definition in file AG2upoint.for.

6.9.2 Function/Subroutine Documentation

6.9.2.1 upoint()

```
real function upoint (
                arr,
                ii,
                oldone )
```

Definition at line 9 of file AG2upoint.for.

6.10 AG2upoint.for

```
00001 C> \file    AG2upoint.for
00002 C> \brief   Graph2D: Dummy User Routine
00003 C
00004 C  Tektronix Advanced Graphics 2 - Version 2.0
00005 C
00006 C     User Subroutinen
00007 C
00008
00009       real function upoint (arr,ii,oldone)
00010       upoint=0.
00011       return
00012       end
```

6.11 AG2users.for File Reference

Graph2D: Dummy User Routine.

Functions/Subroutines

- subroutine users (x, y, i)

6.11.1 Detailed Description

Graph2D: Dummy User Routine.

Definition in file AG2users.for.

6.11.2 Function/Subroutine Documentation

6.11.2.1 users()

```
subroutine users (
                x,
                y,
                i )
```

Definition at line 9 of file AG2users.for.

6.12 AG2users.for

```
00001 C> \file    AG2users.for
00002 C> \brief   Graph2D: Dummy User Routine
00003 C
00004 C  Tektronix Advanced Graphics 2 - Version 2.0
00005 C
00006 C     User Subroutinen
00007 C
00008
00009       subroutine users (x,y,i)
00010       return
00011       end
```

6.13 AG2useset.for File Reference

Graph2D: Dummy User Routine.

Functions/Subroutines

- subroutine useset (fnum, iwidth, nbase, labeli)

6.13.1 Detailed Description

Graph2D: Dummy User Routine.

Definition in file AG2useset.for.

6.13.2 Function/Subroutine Documentation

6.13.2.1 useset()

```
subroutine useset (
             real fnum,
             integer iwidth,
             integer nbase,
             integer, dimension(1) labeli )
```

Definition at line 9 of file AG2useset.for.

6.14 AG2useset.for

```
00001 C> \file    AG2useset.for
00002 C> \brief   Graph2D: Dummy User Routine
00003 C
00004 C  Tektronix Advanced Graphics 2 - Version 2.0
00005 C
00006 C     User Subroutinen
00007 C
00008
00009       subroutine useset (fnum,iwidth,nbase,labeli)
00010       implicit none
00011       real fnum
00012       integer iwidth, nbase
00013       integer labeli(1)
00014       integer i
00015
00016       do 100 i=1, iwidth
00017        labeli(i)= 32 ! Blank
00018 100   continue
00019       return
00020       end
00021
```

6.15 AG2usesetC.for File Reference

Graph2D: Dummy User Routine.

Functions/Subroutines

- subroutine usesetc (fnum, iwidth, nbase, labstr)

6.15.1 Detailed Description

Graph2D: Dummy User Routine.

Definition in file AG2usesetC.for.

6.15.2 Function/Subroutine Documentation

6.15.2.1 usesetc()

```
subroutine usesetc (
             real fnum,
             integer iwidth,
             integer nbase,
             character *(*) labstr )
```

Definition at line 9 of file AG2usesetC.for.

6.16 AG2usesetC.for

```
00001 C> \file    AG2usesetC.for
00002 C> \brief   Graph2D: Dummy User Routine
00003 C
00004 C  Tektronix Advanced Graphics 2 - Version 2.0
00005 C
00006 C     User Subroutinen
00007 C
00008
00009       subroutine usesetc (fnum,iwidth, nbase, labstr)
00010       implicit none
00011       real fnum
00012       integer iwidth, nbase
00013       character *(*) labstr
00014       integer labeli(20)
00015       integer i, i1, iw, ISTRINGLEN
00016
00017       iw= min(20, iwidth, istringlen(labstr))
00018       call useset (fnum,iw,nbase,labeli)
00019
00020       i1= 0
00021       do 100 i=1,iw
00022        i1= i1+1
00023        labstr(i1:i1)= char(labeli(i))
00024 100   continue
00025       if (i1 .lt. iw) labstr(i1+1:i1+1)= char(0)
00026       return
00027       end
00028
```

6.17 AG2UsrSoftek.for File Reference

Graph2D: Dummy User Routine.

Functions/Subroutines

- subroutine softek (isym)

6.17.1 Detailed Description

Graph2D: Dummy User Routine.

Definition in file AG2UsrSoftek.for.

6.17.2 Function/Subroutine Documentation

6.17.2.1 softek()

```
subroutine softek (
              isym )
```

Definition at line 9 of file AG2UsrSoftek.for.

6.18 AG2UsrSoftek.for

```
00001 C> \file    AG2UsrSoftek.for
00002 C> \brief   Graph2D: Dummy User Routine
00003 C
00004 C  Tektronix Advanced Graphics 2 - Version 2.0
00005 C
00006 C     User Subroutinen
00007 C
00008
00009       subroutine softek (isym)
00010       return
00011       end
```

6.19 CreateMainWindow.c File Reference

MS Windows Port: Init FTN77 Main

```
#include <windows.h>
#include <tchar.h>
#include "TCSdWINc.h"
```

Macros

- #define WIN32_LEAN_AND_MEAN
- #define WINMAIN_ICON _T("WinMainIcon")
- #define WINMAIN_DEFWINCLASS _T("WinMainFTN77")

Functions

- void CreateMainWindow_IfNecessary (HINSTANCE *hMainProgInst, HWND *hMainProgWindow, LPTSTR szWinName)

6.19.1 Detailed Description

MS Windows Port: Init FTN77 Main

Version

1.2

Author

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Only if necessary: creates a main window

Note

The calling Fortranprogram has to allocate appropriate variables to receive pointers, q.v. TCSinitt.for

Definition in file CreateMainWindow.c.

6.19.2 Macro Definition Documentation

6.19.2.1 WIN32_LEAN_AND_MEAN

```
#define WIN32_LEAN_AND_MEAN
```

Definition at line 25 of file CreateMainWindow.c.

6.19.2.2 WINMAIN_DEFWINCLASS

```
#define WINMAIN_DEFWINCLASS _T("WinMainFTN77")
```

Definition at line 36 of file CreateMainWindow.c.

6.19.2.3 WINMAIN_ICON

```
#define WINMAIN_ICON _T("WinMainIcon")
```

Definition at line 35 of file CreateMainWindow.c.

6.19.3 Function Documentation

6.19.3.1 CreateMainWindow_IfNecessary()

```
void CreateMainWindow_IfNecessary (
            HINSTANCE * hMainProgInst,
            HWND * hMainProgWindow,
            LPTSTR szWinName )
```

In case that the compiler has not created a window for the main program, this subroutine creates and shows a new main window. The class will be named according to the constant WINMAIN_DEFWINCLASS.
The window icon can be defined as WinMainIcon by a resource file.

Parameters

in	*hMainProgInst*	Main instance
in,out	*hMainProgWindow*	Main window
in	*szWinName*	Window name in case a main window does not exist

Definition at line 70 of file CreateMainWindow.c.

6.20 CreateMainWindow.c

```
00001 /** ****************************************************************************
00002 \file       CreateMainWindow.c
00003 \brief      MS Windows Port: Init FTN77 Main
00004 \version    1.2
00005 \author     (C) 2022 Dr.-Ing. Klaus Friedewald
00006 \copyright  GNU LESSER GENERAL PUBLIC LICENSE Version 3
00007 \~german
00008          Erzeugt nur bei Bedarf ein Fenster für das Hauptprogramm
00009 \note
00010          Die Pointervariablen muessen vom aufrufenden Fortranprogramm
00011          ausreichend groß dimensioniert werden, s. TCSinitt.for
00012 \~english
00013          Only if necessary: creates a main window
00014 \note
00015          The calling Fortranprogram has to allocate appropriate variables
00016          to receive pointers, q.v. TCSinitt.for
00017 \~
00018
00019 ******************************************************************************* */
00020
00021 #if defined(__WATCOMC__) && defined(__WINDOWS__)
00022  #define NULL 0           // nur win16: Ueberlagern #define NULL ( (void *) 0)
00023 #endif                    // aus aus stddef.h, string.h...
00024
00025 #define WIN32_LEAN_AND_MEAN
00026 #include <windows.h>
00027
00028 #include <tchar.h>
00029 #include "TCSdWINc.h"   // Unterstuetzung 16/32bit Kompatibilitaet
00030
00031 #if defined(__WATCOMC__) && defined(__SW_BW)
00032  #include <wdefwin.h>   // Compilerswitch -bw: Watcom Default Window System
00033 #endif
00034
00035 #define WINMAIN_ICON         _T("WinMainIcon")
00036 #define WINMAIN_DEFWINCLASS  _T("WinMainFTN77")
00037
00038 /** ****************************************************************************
00039
00040 \~german
00041 \brief Initialisierung der FTN77 Hauptprogramme
00042
00043   Unterprogramm zur Initialisierung von Windows. Erzeugt und zeigt(!) ein
00044   Fenster für das Hauptprogramm, falls noch keine Windows-Initialisierung
00045   anderweitig (z.B. durch den Compiler) vorgenommen wurde. Die Klasse wird
00046   entsprechend der Konstante WINMAIN_DEFWINCLASS benannt.
00047
00048   Das Icon kann über ein Resourcefile als WinMainIcon definiert werden.
00049
00050 \param[in] hMainProgInst Instanz des Hauptprogrammes
00051 \param[in,out] hMainProgWindow Fenster des Hauptprogrammes
```

```
00052 \param[in] szWinName Fenstername des evtl. erzeugten Fensters
00053 \~english
00054
00055   In case that the compiler has not created a window for the main program,
00056   this subroutine creates and shows a new main window. The class will be
00057   named according to the constant WINMAIN_DEFWINCLASS.
00058
00059   The window icon can be defined as WinMainIcon by a resource file.
00060
00061 \param[in] hMainProgInst Main instance
00062 \param[in,out] hMainProgWindow Main window
00063 \param[in] szWinName Window name in case a main window does not exist
00064 \~
00065
00066
00067 ****************************************************************************** */
00068
00069
00070 void CreateMainWindow_IfNecessary (HINSTANCE * hMainProgInst,
00071                                    HWND * hMainProgWindow, LPTSTR szWinName)
00072
00073 {
00074
00075 TCHAR           szClassName [] = WINMAIN_DEFWINCLASS; /* Class Name */
00076 static WNDCLASS wincl;       /* SAVE Data structure for the windowclass */
00077 #if defined(__WIN32__) || defined(_WIN32)
00078  DWORD           ErrorCode;
00079  LPVOID          lpMsgBuf;
00080 #endif
00081
00082
00083     if (*hMainProgWindow == NULL ) { // Hauptprogramm ohne (bekanntes) Fenster
00084
00085      /* Create MainWindow */
00086
00087      wincl.hInstance = *hMainProgInst;
00088      wincl.lpszClassName = szClassName;
00089      wincl.lpfnWndProc = DefWindowProc;      /* keine eigene Windowsroutine */
00090      wincl.style =  CS_DBLCLKS;              /* Catch double-clicks */
00091
00092      wincl.hIcon = LoadIcon (*hMainProgInst, WINMAIN_ICON);
00093      wincl.hCursor = NULL;
00094      wincl.lpszMenuName = NULL;    // No menu
00095      wincl.cbClsExtra = 0;         // No extra bytes after the window class
00096      wincl.cbWndExtra = 0;         // structure or the window instance
00097      wincl.hbrBackground = (HBRUSH) COLOR_BACKGROUND;
00098
00099      /* Register the window class. Fail: most probable UNICODE on win98 */
00100      if (!RegisterClass (&wincl)) {
00101       #if defined(__WIN32__) || defined(_WIN32)
00102        ErrorCode= GetLastError(); // win32-Funktion
00103 //     if (ErrorCode == ERROR_CLASS_ALREADY_EXISTS) {
00104 //      Hier bei Bedarf Fehlerbehandlung einführen
00105 //     } else {
00106        FormatMessage(
00107         FORMAT_MESSAGE_ALLOCATE_BUFFER | FORMAT_MESSAGE_FROM_SYSTEM,
00108         NULL,
00109         ErrorCode,
00110         MAKELANGID(LANG_NEUTRAL, SUBLANG_DEFAULT), // Default language
00111         (LPTSTR) &lpMsgBuf,
00112         0,
00113         NULL
00114        );
00115        MessageBox (NULL, lpMsgBuf,_T("Error in CreateMainWindow"), MB_ICONSTOP);
00116        LocalFree( lpMsgBuf ); // Free the buffer
00117 //     } // Ende der Fehlerbehandlung
00118       #else // rudimentaere Fehlerbehandlung 16bit Windows
00119        MessageBox (NULL, _T("Window Class not registered"),
00120                          _T("Error in CreateMainWindow"), MB_ICONSTOP);
00121       #endif
00122       return;
00123      }
00124
00125      /* The class is registered, let's create the program */
00126      *hMainProgWindow = CreateWindow (
00127        szClassName,                 // Classname
00128        szWinName,                   // Title Text
00129        WS_POPUPWINDOW | WS_DISABLED, // disabled -> Prozessverwaisung verhindern
00130        CW_USEDEFAULT,               // Windows decides the position
00131        CW_USEDEFAULT,               // of the Window
00132        0,                           // The programs width
00133        0,                           // and height in pixels
00134        HWND_DESKTOP,                // Parent: desktop
00135        NULL,                        // No menu
00136        *hMainProgInst,              // Program Instance handler
00137        NULL                         // No Window Creation data
00138      );
```

```
00139       ShowWindow (*hMainProgWindow, SW_SHOW);
00140      } else {    // Mainwindow bereits vorhanden
00141       #if defined(__WATCOMC__) && defined(__SW_BW)
00142        _dwSetAppTitle (szWinName);    // Fenstername Watcom Default Window
00143       #endif
00144      }
00145 }
00146
```

6.21 G2dAG2.fd File Reference

Graph2D: AG2 Common Block G2dAG2.

6.21.1 Detailed Description

Graph2D: AG2 Common Block G2dAG2.

Version

2.0

Author

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Definition in file G2dAG2.fd.

6.22 G2dAG2.fd

```
00001 C> \file       G2dAG2.fd
00002 C> \brief      Graph2D: AG2 Common Block G2dAG2
00003 C> \version    2.0
00004 C> \author     (C) 2022 Dr.-Ing. Klaus Friedewald
00005 C> \copyright  GNU LESSER GENERAL PUBLIC LICENSE Version 3
00006 C
00007 C  Da die folgende Definition kein Bestandteil eines Moduls
00008 C  ist versagt der DOXYGEN-Parser bei der Kombination von
00009 C  COMMON und integer. Workaraound: \\cond ... \\endcond
00010 C> \cond
00011
00012 C Common Block G2dAG2, Version 2.0 für AG2
00013 C     Die Funktion der Variablen entspricht dem Tektronix AG2 User-Manual,
00014 C     jedoch sind die achsenbezogenen Variablen in einem Feld zusammenge-
00015 C     fasst. Die x-Achse wird durch Index=1, y durch Index=2 beschrieben.
00016 C
00017       integer     cline,csymbl,csteps ! ibase+ 0..2
00018       real        cinfin ! 3
00019       integer     cnpts,cstepl,cnumbr ! 4..6
00020       real        csizes,csizel ! 7,8
00021
00022       logical     cxyneat(2),cxyzero(2) ! nbase+ 0, 1
00023       integer     cxyloc(2),cxylab(2),cxyden(2),cxytics(2) ! nbase+ 2..5
00024       integer     cxylen(2),cxyfrm(2),cxymtcs(2),cxymfrm(2),cxydec(2) ! 6..10
00025       real        cxydmin(2),cxydmax(2) ! 11,12
00026       integer     cxysmin(2),cxysmax(2),cxytype(2) ! 13..15
00027       integer     cxylsig(2),cxywdth(2),cxyepon(2) ! 16..18
00028       integer     cxystep(2),cxystag(2),cxyetyp(2) ! 19..21
00029       integer     cxybeg(2),cxyend(2),cxymbeg(2),cxymend(2) ! 22..25
00030       real        cxyamin(2),cxyamax(2) ! 26,27
00031
00032       common /g2dag2/
00033 C     & extent,cvectr,xvectr,yvectr,
00034 C     & xtentc,xtentx,xtenty,
00035 C
00036      & cline,csymbl,csteps,
00037      & cinfin,
00038      & cnpts,cstepl,cnumbr,csizes,csizel,
00039 C
00040      & cxyneat,cxyzero,cxyloc,cxylab,cxyden,cxytics,
00041      & cxylen,cxyfrm,cxymtcs,cxymfrm,cxydec,
00042      & cxydmin,cxydmax,cxysmin,cxysmax,cxytype,
```

```
00043      & cxylsig,cxywdth,cxyepon,cxystep,cxystag,cxyetyp,
00044      & cxybeg,cxyend,cxymbeg,cxymend,cxyamin,cxyamax
00045 C
00046 C     & reserv(8)
00047       save /g2dag2/
00048
00049       integer G2dAG2L         ! Benoetigt von SAVCOM, RESCOM
00050       parameter(g2dag2l=65)   ! integer, real und logical gleich lang!
00051 C> \endcond
```

6.23 GetHDC.for File Reference

Utility: Restore Hardcopies.

Functions/Subroutines

- logical function gethdc (Filnam)

6.23.1 Detailed Description

Utility: Restore Hardcopies.

Version

1.0

Author

(C) 2023 Dr.-Ing. Klaus Friedewald

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Read and plot hardcopies
Temporary input unit: 41. If already used, an other channel will be searched.
Definition in file GetHDC.for.

6.23.2 Function/Subroutine Documentation

6.23.2.1 gethdc()

```
logical function gethdc (
             character *(*) Filnam )
```

Parameters

FilNam	Hardcopyfie

Returns

(optional) .true. -> Error

Definition at line 15 of file GetHDC.for.

6.24 GetHDC.for

```
00001 C> \file       GetHDC.for
00002 C> \brief      Utility: Restore Hardcopies
00003 C> \version    1.0
```

```
00004 C> \author     (C) 2023 Dr.-Ing. Klaus Friedewald
00005 C> \copyright  GNU LESSER GENERAL PUBLIC LICENSE Version 3
00006 C> \~german
00007 C> Einlesen und Zeichnen von Hardcopydateien\n
00008 C> Verwendete temporaeres Ein/Ausgabeunit: 41. Falls bereits belegt, wird ein freier Kanal gesucht
00009 C> \~english
00010 C> Read and plot hardcopies\n
00011 C> Temporary input unit: 41. If already used, an other channel will be searched.
00012 C> \~
00013 C
00014
00015       logical function gethdc (Filnam)
00016 C> \param FilNam: Hardcopyfie
00017 C> \result (optional) .true. -> Error
00018       implicit none
00019       integer tcs_messagelen, iunit
00020       parameter(tcs_messagelen=132)
00021       character *(*) filnam
00022       logical iunitused
00023       character *(TCS_MESSAGELEN+1) txtstring
00024
00025       integer ios, idash, iprntlen, iactlen
00026       integer action, i1, i2
00027
00028       iunit= 40
00029       gethdc= .true.
00030
00031  5    continue ! repeat
00032         iunit= iunit+1
00033         inquire (unit=iunit, opened= iunitused)
00034       if (iunitused) goto 5
00035
00036       open (iunit,file=filnam,status='old',iostat=ios,form='formatted')
00037       if (ios.ne.0) then
00038         call graphicerror (6, ' ')
00039         return
00040       end if
00041
00042  10   continue ! repeat
00043         read (iunit, fmt='(i2,1x,i4,1x,i3)', iostat=ios)action, i1, i2
00044         if (ios.gt.0) then ! Error, not EOF
00045          call graphicerror (8, ' ')
00046          return
00047         end if
00048         if (action.eq.1) then ! XACTION_INITT
00049           call defaultcolour()
00050           call erase ()
00051         else if (action.eq.2) then ! XACTION_ERASE
00052           call erase ()
00053         else if (action.eq.3) then ! XACTION_MOVABS
00054           call movabs (i1,i2)
00055         else if (action.eq.4) then ! XACTION_DRWABS
00056           call drwabs (i1,i2)
00057         else if (action.eq.5) then ! XACTION_DSHSTYLE
00058           idash= i1
00059         else if (action.eq.6) then ! XACTION_DSHABS
00060           call dshabs (i1,i2,idash)
00061         else if (action.eq.7) then ! XACTION_PNTABS
00062           call pntabs (i1,i2)
00063         else if (action.eq.8) then ! XACTION_GTEXT
00064           iprntlen= i1
00065           if (iprntlen.gt.tcs_messagelen) iprntlen= tcs_messagelen
00066           txtstring(1:1)= char(i2)
00067           if (iprntlen.eq.1) then
00068             txtstring= txtstring(1:1) // char(0)
00069             call toutstc (txtstring)
00070           else
00071             iactlen= 1
00072           end if
00073         else if (action.eq.9) then ! XACTION_ASCII
00074           if (iactlen.lt.iprntlen) then
00075             iactlen= iactlen+1
00076             txtstring(iactlen:iactlen)= char(i1)
00077           end if
00078           if (iactlen.lt.iprntlen) then
00079             iactlen= iactlen+1
00080             txtstring(iactlen:iactlen)= char(i2)
00081           end if
00082           if (iactlen.ge.iprntlen) then
00083             txtstring(iactlen+1:iactlen+1) = char(0)
00084             call toutstc (txtstring)
00085           end if
00086         else if (action.eq.10) then ! XACTION_BCKCOL
00087           call bckcol(i1)
00088         else if (action.eq.11) then ! XACTION_LINCOL
00089           call lincol (i1)
00090         else if (action.eq.12) then ! XACTION_TXTCOL
```

```
00091           call txtcol (i1)
00092         else if (action.eq.13) then ! XACTION_FONTATTR
00093           if (i1.eq.0) call italir()
00094           if (i1.eq.1) call italic()
00095           if (i2.eq.0) call nrmsiz()
00096           if (i2.eq.1) call dblsiz()
00097         else if (action.eq.14) then ! XACTION_NOOP
00098           continue
00099         else ! unknown
00100           continue
00101         end if
00102       if (ios.eq.0) goto 10 ! until EOF
00103
00104       close (iunit)
00105       gethdc= .false.
00106       return
00107
00108  99       continue ! Error Exit
00109           call graphicerror (8, ' ')
00110       return
00111       end
```

6.25 GetMainInstance.c File Reference

MS Windows Port: Get Main Window and Instance.

```
#include <windows.h>
#include <tchar.h>
```

Macros

- #define WIN32_LEAN_AND_MEAN

Functions

- void GetMainInstAndWin (HINSTANCE *hMainProgInst, HWND *hMainProgWindow)

  Determination of instance and window of FTN77 main programs.
- void SaveMainInstAndWin (HINSTANCE *hMainProgInst, HWND *hMainProgWindow)

  Update the global variables containing instance and window of main.

6.25.1 Detailed Description

MS Windows Port: Get Main Window and Instance.

Version

1.5

Author

(C) 2022 Dr.-Ing. Klaus Friedewald

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Get Instance and Window of the FTN77 Main Program
Definition in file GetMainInstance.c.

6.25.2 Macro Definition Documentation

6.25.2.1 WIN32_LEAN_AND_MEAN

```
#define WIN32_LEAN_AND_MEAN
```

Definition at line 22 of file GetMainInstance.c.

6.25.3 Function Documentation

6.25.3.1 GetMainInstAndWin()

```
void GetMainInstAndWin (
            HINSTANCE * hMainProgInst,
            HWND * hMainProgWindow )
```

Determination of instance and window of FTN77 main programs.

This routine has to be linked to the main program under all circumstances. In case of beeing part of a DLL, the instance handle of the DLL would be returned! The routine is fortran-callable.

Parameters

out	*hMainProgInst*	instance of main
out	*hMainProgWindow*	window of main

Definition at line 118 of file GetMainInstance.c.

6.25.3.2 SaveMainInstAndWin()

```
void SaveMainInstAndWin (
            HINSTANCE * hMainProgInst,
            HWND * hMainProgWindow )
```

Update the global variables containing instance and window of main.

Necessary after invoking CreateMainWindow_IfNecessary, where a new window handle could be created. The creation of a new window could be done by a DLL-based routine.

Parameters

in	*hMainProgInst*	instance of main
in	*hMainProgWindow*	window of main

Definition at line 182 of file GetMainInstance.c.

6.26 GetMainInstance.c

```
00001 /** ****************************************************************************
00002 \file       GetMainInstance.c
00003 \brief      MS Windows Port: Get Main Window and Instance
00004 \version    1.5
00005 \author     (C) 2022 Dr.-Ing. Klaus Friedewald
00006 \copyright  GNU LESSER GENERAL PUBLIC LICENSE Version 3
00007 \~german
00008          Ermittlung Instanz und Fenster der FTN77 Hauptprogramme
00009 \~english
00010          Get Instance and Window of the FTN77 Main Program
00011 \~
00012
00013 ******************************************************************************* */
00014
00015
00016 #if defined(__WATCOMC__) && defined(__WINDOWS__)
00017  #define NULL 0           // nur win16: Ueberlagern #define NULL ( (void *) 0)
00018 #endif                    // aus aus stddef.h, string.h...
00019
00020
00021
00022 #define WIN32_LEAN_AND_MEAN
00023 #include <windows.h>
00024 #include <tchar.h>
00025
00026
00027
00028 /*
```

```
00029 -------------------------- Externe Bezüge ------------------------------
00030 */
00031
00032 #ifdef __WATCOMC__      // Bis 11.0c: WATCOM Fortran Default Window System 10.0
00033  #if (__WATCOMC__ == 1100) // Source OpenWatcom 0.8, bld\clib\defwin\c bzw. \h
00034   extern HWND _MainWindow; // winglob.c, wmain.c, winmain.c, win.h
00035   #define EXTERN_WINDOW _MainWindow
00036   #undef EXTERN_INSTANCE
00037  #elif (__WATCOMC__ >= 1200)                // Open Watcom 1.0 bis 1.9:
00038   #if (!defined(__WIN32__) && !defined(_WIN32))         // 16bit-Windows
00039    #ifndef __SW_BW
00040     #error 16bit Windows requieres Default Window System, use the /bw switch
00041    #else
00042     extern HWND _MainWindow;      // Open Watcom Default Window System 1.0
00043     #define EXTERN_WINDOW _MainWindow
00044     #undef EXTERN_INSTANCE
00045    #endif
00046   #else              // 32bit-Windows: Default Window System deaktiviert
00047    #if defined (__SW_BW)
00048     #pragma message ("OpenWatcom >=1.0: Default Window System disabled!")
00049     #undefine __SW_BW
00050    #endif
00051    HWND _TCSMainWindow= NULL;
00052    #define EXTERN_WINDOW _TCSMainWindow
00053    #undef EXTERN_INSTANCE
00054   #endif
00055   #if (__WATCOMC__ > 1300)
00056    #pragma message ("New Compiler. Check if _MainWindow is defined")
00057    #pragma message (" (in bld\clib\defwin\c\winglob.c to compile for win16)")
00058    #pragma message (" Status V2.0 (__WATCOMC__ = 1300): unmodified since 3 years")
00059   #endif
00060  #else
00061   #pragma message ("Untested Compiler.") // Alte kommerzielle Compilerversionen
00062   HWND _TCSMainWindow= NULL;    // Ohne Default Window System?
00063   #define EXTERN_WINDOW _TCSMainWindow
00064   #undef EXTERN_INSTANCE
00065  #endif
00066  #pragma aux GetMainInstAndWin "^";     // fuer DLL: Fenster muss im Haupt-
00067  #pragma aux SaveMainInstAndWin "^";    // programm gespeichert werden
00068 #endif
00069
00070 #ifdef __GNUC__               // MinGW und GNU:
00071  #if __GNUC__<4 // bis GCC 4.0 Verwendung von g77, ab 4.0 gfortran
00072   extern HINSTANCE _MainInst; // Symbole werden durch das (selbstgeschriebene)
00073   extern HWND _MainWindow;    // WinMain.c erzeugt und belegt
00074  #else // gfortran: Init WinMain durch Constructor, nicht libfrtbegin
00075   static HINSTANCE _MainInst; // Falls von mehreren Bibliotheken(TekLib,ProcInp)
00076   static HWND _MainWindow;    // verwendet wird nur 1 Instanz gelinkt
00077  #endif
00078  #define EXTERN_INSTANCE _MainInst
00079  #define EXTERN_WINDOW _MainWindow
00080  #define GetMainInstAndWin getmaininstandwin_
00081  #define SaveMainInstAndWin savemaininstandwin_
00082 #endif
00083
00084 #ifdef _MSC_VER         // Microsoft Visual Cpp 6.0, ungeprueft da ohne FTN
00085  extern HINSTANCE hInst;
00086  #define EXTERN_INSTANCE hInst
00087  #define EXTERN_WINDOW HWND_DESKTOP
00088 #endif
00089
00090
00091
00092 /** ****************************************************************************
00093
00094  \~german
00095  \brief  Ermittlung Instanz und Fenster der FTN77 Hauptprogramme
00096
00097   Es muss in jedem Fall zu dem Hauptprogramm gelinkt werden und darf sich
00098   nicht in einer DLL befinden, da sonst die Instanz der DLL ermittelt wird!
00099   Das Unterprogramm ist von Fortran aufrufbar.
00100
00101   \param[out] hMainProgInst Instanz des Hauptprogrammes
00102   \param[out] hMainProgWindow Fenster des Hauptprogrammes
00103          Ermittlung Instanz und Fenster der FTN77 Hauptprogramme
00104  \~english
00105  \brief  Determination of instance and window of FTN77 main programs
00106
00107   This routine has to be linked to the main program under all circumstances.
00108   In case of beeing part of a DLL, the instance handle of the DLL would be returned!
00109   The routine is fortran-callable.
00110
00111   \param[out] hMainProgInst instance of main
00112   \param[out] hMainProgWindow window of main
00113  \~
00114
00115 ****************************************************************************** **/
```

```
00116
00117
00118 void GetMainInstAndWin (HINSTANCE * hMainProgInst, HWND * hMainProgWindow)
00119
00120 {
00121     #if defined EXTERN_WINDOW
00122      *hMainProgWindow= EXTERN_WINDOW;
00123     #else
00124      *hMainProgWindow= NULL;  // wird bei Bedarf spaeter erzeugt
00125     #endif
00126
00127     #if defined EXTERN_INSTANCE
00128      *hMainProgInst= EXTERN_INSTANCE;
00129     #else
00130      *hMainProgInst= NULL;
00131     #endif
00132
00133     if (*hMainProgInst == NULL) {
00134      #if defined EXTERN_WINDOW
00135       if (EXTERN_WINDOW != NULL ) { // Hauptprogramm besitzt (bekanntes) Fenster
00136        #if defined __WATCOMC__      // Watcom Default Window System 16/32 bit
00137         #if (!defined(__WIN32__) && !defined(_WIN32))
00138          *hMainProgInst= (HINSTANCE)GetWindowWord(EXTERN_WINDOW, GWW_HINSTANCE);
00139         #else                        // Watcom ohne 64bit Windows
00140          *hMainProgInst= (HINSTANCE)GetWindowLong(EXTERN_WINDOW, GWL_HINSTANCE);
00141         #endif
00142        #else                        // alle anderen Compiler ohne 16bit Windows
00143         #if (!defined(_WIN64))      // 32 bit
00144          *hMainProgInst= (HINSTANCE)GetWindowLong(EXTERN_WINDOW, GWL_HINSTANCE);
00145         #else                        // 64 bit
00146         *hMainProgInst= (HINSTANCE)GetWindowLongPtr(EXTERN_WINDOW, GWLP_HINSTANCE);
00147         #endif
00148        #endif
00149       } else { // kein offenes Fenster, z.B. Watcom-Consolenanwendung
00150        *hMainProgInst= GetModuleHandle (NULL);
00151       }
00152      #else      // kein Fenster ermittelbar
00153       *hMainProgInst= GetModuleHandle (NULL);
00154      #endif
00155     }
00156 }
00157
00158 /** ****************************************************************************
00159
00160  \~german
00161  \brief Aktualisierung globalen Speichervariablen Hauptinstanz und Hauptfenster.
00162
00163  Notwendig nach Aufruf von CreateMainWindow_IfNecessary, da dort evtl. ein neues
00164  Fensterhandle erzeugt wird. Da sich das Unterprogramm im Modul des Hauptprogrammes
00165  befindet, kann das Erzeugen des Fensters auch durch eine DLL erfolgen.
00166
00167  \param[in] hMainProgInst Instanzenhandle
00168  \param[in] hMainProgWindow Fensterhandle
00169  \~english
00170  \brief  Update the global variables containing instance and window of main
00171
00172   Necessary after invoking CreateMainWindow_IfNecessary, where a new window handle
00173   could be created. The creation of a new window could be done by a DLL-based routine.
00174
00175   \param[in] hMainProgInst instance of main
00176   \param[in] hMainProgWindow window of main
00177  \~
00178
00179 ******************************************************************************** **/
00180
00181
00182 void SaveMainInstAndWin (HINSTANCE * hMainProgInst, HWND * hMainProgWindow)
00183
00184 {
00185     #if defined EXTERN_INSTANCE
00186      EXTERN_INSTANCE= *hMainProgInst;
00187     #endif
00188
00189     #if defined EXTERN_WINDOW
00190      EXTERN_WINDOW= *hMainProgWindow;
00191     #endif
00192 }
```

6.27 Mainpage.dox File Reference

6.28 Strings.for File Reference

TCS: String functions.

Functions/Subroutines

- subroutine substitute (Source, Destination, Old1, New1)
- integer function istringlen (String)
- character ∗(∗) function printstring (String)
- integer function itrimlen (string)

6.28.1 Detailed Description

TCS: String functions.

Version

1.26

Author

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Fortran utility functions for string processing
Definition in file Strings.for.

6.28.2 Function/Subroutine Documentation

6.28.2.1 istringlen()

```
integer function istringlen (
             character ∗(∗) String )
```

Definition at line 94 of file Strings.for.

6.28.2.2 itrimlen()

```
integer function itrimlen (
             character ∗(∗) string )
```

Definition at line 133 of file Strings.for.

6.28.2.3 printstring()

```
character∗(∗) function printstring (
             character, dimension(∗) String )
```

Definition at line 114 of file Strings.for.

6.28.2.4 substitute()

```
subroutine substitute (
             character *(*) Source,
             character *(*) Destination,
             character *(*) Old1,
             character *(*) New1 )
```

Definition at line 30 of file Strings.for.

6.29 Strings.for

```
00001 C> \file       Strings.for
00002 C> \brief      TCS: String functions
00003 C> \version    1.26
00004 C> \author     (C) 2022 Dr.-Ing. Klaus Friedewald
00005 C> \copyright  GNU LESSER GENERAL PUBLIC LICENSE Version 3
00006 C> \~german
00007 C> Hilfsfunktionen zur Fortran Stringverarbeitung
00008 C> \~english
00009 C> Fortran utility functions for string processing
00010 C> \~
00011 C>
00012 C
00013 Ccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccc
00014 C
00015 C  Unterprogramme zur Behandlung von Fortran-Strings.
00016 C  Die Stringenden werden entweder durch CHAR(0) markiert oder
00017 C  ueber die Deklaration ermittelt.
00018 C
00019 C     9.11.88     K. Friedewald
00020 C
00021 C  Ergaenzungen:
00022 C     iTrimLen
00023 C
00024 C     7.12.01     K. Friedewald
00025 C
00026 C  Version: 1.26
00027 C
00028 Ccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccc
00029
00030       subroutine substitute (Source, Destination, Old1, New1)
00031 C
00032 C  Durchsucht SOURCE nach den Substrings OLD, ersetzt sie durch NEW
00033 C  und uebergibt das Ergebniss in DESTINATION. Wenn New=CHAR(0), werden
00034 C  die vorkommenden OLD nur geloescht.
00035 C
00036 C  Stringenden koennen durch CHAR(0) markiert werden.
00037 C
00038       implicit none
00039       integer iNext, iNext2, TempLen
00040       integer iStringLen
00041       character *(*) Source, Destination, Old1, New1
00042       character*255 temp, old, new
00043
00044       if (istringlen(old1).le.0) return
00045       if (istringlen(source) .le. 0) then
00046        destination= char(0)
00047        return
00048       end if
00049
00050       old= old1 // char(0)          ! old evtl. = Destination
00051       new= new1 // char(0)          ! => retten!
00052
00053       temp= source(1:istringlen(source)) // char(0) ! evtl. Ueberlappung!
00054       destination= temp
00055       inext= index( destination(:istringlen(destination)),
00056      1                                      old(:istringlen(old)) )
00057       do while (inext.gt.0)
00058        if (inext.eq.1) then
00059         temp= destination
00060         if (new.eq.char(0)) then
00061          destination= temp(istringlen(old)+1:)
00062         else
00063          destination= new(:istringlen(new)) // temp(istringlen(old)+1:)
00064         end if
00065        else
00066         temp= destination(1:inext-1)
00067         templen= inext-1
00068         if (new.ne.char(0)) then
00069          temp= temp(1:templen)//new
00070          templen= templen+istringlen(new)
00071         end if
```

```
00072         if (inext+istringlen(old).lt.len(destination)) then
00073          temp= temp(1:templen)//destination(inext+istringlen(old):)
00074         end if
00075         destination= temp
00076        end if
00077        inext2= inext+istringlen(new)
00078        if (inext2.lt.len(destination)) then
00079         inext2= index(destination(inext2:), old(:istringlen(old)) )
00080        else
00081         inext2=0
00082        end if
00083        if (inext2.gt.0) then
00084         inext= inext+istringlen(new)+inext2-1
00085        else
00086         inext=0
00087        end if
00088       end do
00089       return
00090       end
00091
00092
00093
00094       function istringlen (String)
00095 C
00096 C Ermittelt die Stringlänge bei durch char(0) abgeschlossenen STRINGs.
00097 C Falls kein char(0) vorhanden ist, wird die Gesamtlänge übergeben.
00098 C
00099       implicit none
00100       character *(*) string
00101       integer istringlen, i
00102
00103       i= index(string,char(0))-1
00104       if (i.ge.0) then
00105        istringlen=i
00106       else
00107        istringlen= len(string)
00108       end if
00109       return
00110       end
00111
00112
00113
00114       character*(*) function printstring (String)
00115 C
00116 C  Kopiert STRING in einen variabel langen PRINTSTRING. Hierdurch wird
00117 C  der Ausdruck von Nullstrings (Fortran-Fehler!) vermieden.
00118 C
00119       implicit none
00120       character string *(*)
00121       integer istringlen
00122
00123       if (istringlen(string).gt.0) then
00124        printstring= string(1:istringlen(string))
00125       else
00126        printstring= ' '
00127       end if
00128       return
00129       end
00130
00131
00132
00133       integer function itrimlen (string)
00134 C
00135 C  Bestimmt die Länge des Strings ohne angehängte Leerzeichen.
00136 C  Bei Bedarf wird ein Char(0) angehaengt. Es darf in Ftn77 nie ein
00137 C  Nullstring erzeugt werden, da sonst die RTL-Library abstuerzt. Deswegen
00138 C  ist der kleinste erzeugte String ein Blank ' '.
00139 C
00140       implicit none
00141       character *(*) string
00142       integer i, istringlen
00143
00144       i=istringlen(string) +1
00145
00146  10   continue
00147        i= i-1
00148        if (i.ge.1) then
00149         if (string(i:i).eq.' ') goto 10
00150       end if
00151       itrimlen=i
00152       if ((i.lt.len(string)).and.(len(string).gt.1)) then
00153        string(i+1:i+1)= char(0) ! .gt.1: Achtung, nie Nullstring erzeugen!
00154       end if
00155       return
00156       end
00157
```

6.30 TCS.for File Reference

TCS: Tektronix Plot 10 Emulation.

Functions/Subroutines

- subroutine vcursr (IC, X, Y)
- subroutine drawr (X, Y)
- subroutine mover (X, Y)
- subroutine pointr (X, Y)
- subroutine dashr (X, Y, iL)
- subroutine rel2ab (Xrel, Yrel, Xabs, Yabs)
- subroutine drawa (X, Y)
- subroutine movea (X, Y)
- subroutine pointa (X, Y)
- subroutine dasha (X, Y, iL)
- subroutine wincot (X, Y, IX, IY)
- subroutine revcot (IX, IY, X, Y)
- subroutine anstr (NChar, IStrin)
- subroutine ancho (ichar)
- subroutine newlin
- subroutine cartn
- subroutine linef
- subroutine baksp
- subroutine newpag
- function linhgt (Numlin)
- function linwdt (NumChr)
- subroutine lintrn
- subroutine logtrn (IMODE)
- subroutine twindo (IX1, IX2, IY1, IY2)
- subroutine swindo (IX, LX, IY, LY)
- subroutine dwindo (X1, X2, Y1, Y2)
- subroutine vwindo (X, XL, Y, YL)
- subroutine rescal
- subroutine rrotat (Grad)
- subroutine rscale (Faktor)
- subroutine home
- subroutine setmrg (Mlinks, Mrecht)
- subroutine seetrm (IBaud, Iterm, ICSize, MaxScr)
- subroutine seetrn (xf, yf, key)
- logical function genflg (ITEM)

6.30.1 Detailed Description

TCS: Tektronix Plot 10 Emulation.

Version

4.0

Author

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System independent subroutines
Definition in file TCS.for.

6.30.2 Function/Subroutine Documentation

6.30.2.1 ancho()

```
subroutine ancho (
              ichar )
```

Definition at line 315 of file TCS.for.

6.30.2.2 anstr()

```
subroutine anstr (
              NChar,
             dimension(1) IStrin )
```

Definition at line 305 of file TCS.for.

6.30.2.3 baksp()

```
subroutine baksp
```

Definition at line 360 of file TCS.for.

6.30.2.4 cartn()

```
subroutine cartn
```

Definition at line 341 of file TCS.for.

6.30.2.5 dasha()

```
subroutine dasha (
              X,
              Y,
              iL )
```

Definition at line 266 of file TCS.for.

6.30.2.6 dashr()

```
subroutine dashr (
              X,
              Y,
              iL )
```

Definition at line 212 of file TCS.for.

6.30.2.7 drawa()

```
subroutine drawa (
              X,
              Y )
```

Definition at line 233 of file TCS.for.

6.30.2.8 drawr()

```
subroutine drawr (
              X,
              Y )
```

Definition at line 188 of file TCS.for.

6.30.2.9 dwindo()

```
subroutine dwindo (
              X1,
              X2,
              Y1,
              Y2 )
```

Definition at line 438 of file TCS.for.

6.30.2.10 genflg()

```
logical function genflg (
              ITEM )
```

Definition at line 534 of file TCS.for.

6.30.2.11 home()

```
subroutine home
```

Definition at line 494 of file TCS.for.

6.30.2.12 linef()

```
subroutine linef
```

Definition at line 350 of file TCS.for.

6.30.2.13 linhgt()

```
function linhgt (
              Numlin )
```

Definition at line 376 of file TCS.for.

6.30.2.14 lintrn()

```
subroutine lintrn
```

Definition at line 394 of file TCS.for.

6.30.2.15 linwdt()

```
function linwdt (
              NumChr )
```

Definition at line 384 of file TCS.for.

6.30.2.16 logtrn()

```
subroutine logtrn (
              IMODE )
```

Definition at line 404 of file TCS.for.

6.30.2.17 movea()

```
subroutine movea (
              X,
              Y )
```

Definition at line 244 of file TCS.for.

6.30.2.18 mover()

```
subroutine mover (
              X,
              Y )
```

Definition at line 196 of file TCS.for.

6.30.2.19 newlin()

```
subroutine newlin
```

Definition at line 333 of file TCS.for.

6.30.2.20 newpag()

```
subroutine newpag
```

Definition at line 368 of file TCS.for.

6.30.2.21 pointa()

```
subroutine pointa (
              X,
              Y )
```

Definition at line 255 of file TCS.for.

6.30.2.22 pointr()

```
subroutine pointr (
              X,
              Y )
```

Definition at line 204 of file TCS.for.

6.30.2.23 rel2ab()

```
subroutine rel2ab (
              Xrel,
              Yrel,
              Xabs,
              Yabs )
```

Definition at line 220 of file TCS.for.

6.30.2.24 rescal()

```
subroutine rescal
```

Definition at line 457 of file TCS.for.

6.30.2.25 revcot()

```
subroutine revcot (
              IX,
              IY,
              X,
              Y )
```

Definition at line 290 of file TCS.for.

6.30.2.26 rrotat()

```
subroutine rrotat (
              Grad )
```

Definition at line 477 of file TCS.for.

6.30.2.27 rscale()

```
subroutine rscale (
              Faktor )
```

Definition at line 486 of file TCS.for.

6.30.2.28 seetrm()

```
subroutine seetrm (
              IBaud,
              Iterm,
              ICSize,
              MaxScr )
```

Definition at line 512 of file TCS.for.

6.30.2.29 seetrn()

```
subroutine seetrn (
              xf,
              yf,
              key )
```

Definition at line 523 of file TCS.for.

6.30.2.30 setmrg()

```
subroutine setmrg (
              Mlinks,
              Mrecht )
```

Definition at line 503 of file TCS.for.

6.30.2.31 swindo()

```
subroutine swindo (
               IX,
               LX,
               IY,
               LY )
```

Definition at line 426 of file TCS.for.

6.30.2.32 twindo()

```
subroutine twindo (
               IX1,
               IX2,
               IY1,
               IY2 )
```

Definition at line 419 of file TCS.for.

6.30.2.33 vcursr()

```
subroutine vcursr (
               IC,
               X,
               Y )
```

Definition at line 178 of file TCS.for.

6.30.2.34 vwindo()

```
subroutine vwindo (
               X,
               XL,
               Y,
               YL )
```

Definition at line 445 of file TCS.for.

6.30.2.35 wincot()

```
subroutine wincot (
               X,
               Y,
               IX,
               IY )
```

Definition at line 277 of file TCS.for.

6.31 TCS.for

```
00001 C> \file       TCS.for
00002 C> \brief      TCS: Tektronix Plot 10 Emulation
00003 C> \version    4.0
00004 C> \author     (C) 2022 Dr.-Ing. Klaus Friedewald
00005 C> \copyright  GNU LESSER GENERAL PUBLIC LICENSE Version 3
00006 C> \~german
00007 C> Systemübergreifende TCS-Routinen
00008 C> \~english
00009 C> System independent subroutines
00010 C> \~
00011 C
00012 C CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC   Changelog   CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC
00013 C
```

```
C      27.11.20 Version 4.0:
C               Einheitliche Version CPM/DOS/Windows/SDL2
C
C      17.08.20 Version 3.2
C               Harmonisierung der Verwendung des Commonblocks TKTRNX
C               Variable KHOMEY wird jetzt (analog alter DOS-Version) verwendet.
C               Da KHOMEY nicht in der CP/M Version vorhanden ist, muss ab dieser
C               Version fuer eine Complilation unter CP/M die entsprechende Zeile
C               in der SUBROUTINE HOME geändert werden.
C
C      13.11.17 Version 3.1
C               Anpassung an OpenWatcom 2.0
C               Bugfix: Unterscheidung Aufrufe ueber windowsx.h (win16) und GDI (win32)
C                - SelectPen -> SelectObject
C                - DeletePen -> DeleteObject
C                - DeleteBrush -> DeleteObject
C                - GetStockBrush -> GetStockObject
C                - DeleteRgn -> DeleteObject
C                - SelectFont -> SelectObject
C                - DeleteFont -> DeleteObject
C
C      27.03.13 Version 3.0
C               Anpassung an Windows 7 und OpenWatcom 1.9
C               Anpassung an gfortran anstelle von g77 der GCC
C
C      22.12.05 Version 2.19
C               Elimination berechnetes GOTO in LOGTRN
C
C      18.10.05 Version 2.18
C               Anpassung der Windowsversionen zur gemeinsamen Verwendung SDL2:
C                 TCSdrWIN.for
C                 TCSdWINc.h
C                 - Überfuehrung der Deklaration aus TCSdWIN.c nach *.h:
C                   GraphicError und CreateMainWindow_IfNecessary
C                 - Definition der Fehlernummern als Konstante statt enum
C               Abhaengigkeit Watcom-Defaultwindowsystem eliminiert
C               - TCSdWINc.c: Kein Abbruch bei OpenWatcom > 1.3 und
C                 definiertem Symbol trace_calls
C
C      26.10.04 Version 2.17
C               Bugfix Windows-System: Größe und Defaultposition des Status-
C                fensters wird bei der Erzeugung berechnet -> 1. RESTORE nach
C                Verkleinern des Graphikfensters entspricht dem vorherigen
C                Bild. 2. Angleichung des Verhaltens von 16- und 32bit Windows
C               Bei Definition des Symbols STAT_WINDOW_PRIVATE erhält das
C                Statusfenster einen privaten Devicekontext.
C               Zusammenfuehrung Initialisierung der Windows-Library und
C                Windows-DLL -> zusaetzliche Sourcefiles
C                TCSinitt.for, CreateMainWindow.c, GetMainInstance.c
C
C      23.06.04 Version 2.16:
C               Anpassungen an GNU-Compiler fuer Win32. Zusätzliches Sourcefile
C                fuer die GNU-Version: WinMain.c
C               CSIZE in Windows-Version: Korrektur Rundungsfehler
C
C      08.06.04 Version 2.15:
C               Umbenennung lib$movc3 in lib_movc3 (entsprechend ANSI-Fortran)
C               Modul STRINGS.FOR: Version 1.24
C
C      27.06.03 Version 2.14:
C               Verarbeitung Steuerzeichen in ANCHO
C
C      21.10.02 Version 2.13:
C               Einheitliche Version CPM/DOS/Windows
C
CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC
C
C  Grundversion fuer C128 / Version 1.0:
C
C      Zugehoerige Module:
C              TKTRNX.FOR    Common-Block TKTRNX
C              TCSBASIC.ASM  Low-Level Routinen in Bank 0, C128 spezifisch
C              TCSDRIVR.ASM  Treiber fuer TCSBASIC
C              TCSGIN.ASM    Treiber des Gin-Cursors
C
C      20.4.88         Dr.-Ing. K. Friedewald
C                      4000 Duesseldorf 1
C                      Gerresheimerstr. 84
C
C      21.10.02 Version 2.13:
C               Vereinheitlichung CPM/DOS/Windowsversion
C               Zusätzliches Modul: TCSdrCPM.FOR: früher Teil von TCS.FOR
C               Ausschließliche Verwendung von durch grosses "C" eingeleiteten
C                Kommentaren zur Kompatibilität mit FORTRAN 4
C               Umbenennung des Includefiles in Tktrnx.fd. So kann unter CP/M
C                das als Teil des Filenamens interpretierte "/" der INCLUDE-
C                Anweisung entsprechend der 8.3 Filenamen umgesetzt werden.
```

```
C               Implementierung Unterprogramm TCSLEV
C               Bugfix: Kommentar in Tktrnx.fd wurde falsch gekennzeichnet
C                       (c statt C) -> SVSTAT und RESTAT fehlerhaft, da nicht
C                       erkannte Kommentare zusaetzliche Variablen erzeugten.
C
C      TBD: Implementierung vertikale Auflösung von 400 Pixeln
C
CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC
C
C  Anpassung an DOS:
C
C      Änderungen gegenüber CP/M-Version:
C               SEELOC, DCURSR, SVSTAT, RESTAT, CSIZE in TCSdrDOS.FOR
C      Bugfix:  DASHA, DASHR - Korrektur Parameterliste
C               SEETRM - ibaud statt ibaudr
C
C      Zugehörige Module:
C               TKTRNX.FOR    Common-Block TKTRNX
C               TCSdrDOS.FOR  Bildschirmtreiber
C               TCSdDOSa.ASM  Betriebssystemspezifische Low-Level Routinen
C               HDCOPY.FOR    Hardcopyroutine
C               STRINGS.FOR   Hilfsroutinen zur Stringverarbeitung
C               OUTTEXT.FOR   nur für WATCOM-Compiler
C
C      25.10.01 Version 2.00:  Dr.-Ing. K. Friedewald
C
C      07.02.02 Version 2.10:
C               Implementierung multilinguale Fehlermeldungen
C
C      11.10.02 Version 2.12:
C               Vereinheitlichung DOS/Windowsversion
C
CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC
C
C  Anpassungen an Microsoft-Windows:
C
C      Änderungen gegenüber DOS-Version:
C               INITT befinden sich jetzt in TCSdrWIN.FOR bzw. TCSinitt.FOR
C
C      Zugehörige Module:
C               TKTRNX.FOR    Common-Block TKTRNX
C               TKTRNX.h      Common-Block TKTRNX für Zugriff durch C
C               TCSdrWIN.FOR  Bildschirmtreiber
C               TCSdWINc.c    Windowspezifische API-Routinen
C               TCSdWINc.h    Compiler- und systemspezifische Deklarationen
C               STRINGS.FOR   Hilfsroutinen zur Stringverarbeitung
C
C      27.10.01 Version 2.11: Dr.-Ing. K. Friedewald
C
C      11.10.02 Version 2.12:
C               Vereinheitlichung DOS/Windowsversion
C
C
CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC
C
C  Anpassungen an SDL2:
C
C      Änderungen gegenüber Windows-Version:
C               Fehlerausgabe in den Windows-Debug-Channel (bzw. *ix Fehlerkanal)
C               Statusfenster analog DOS nur einzeilig ohne Scrollmöglichkeit
C
C      Zugehörige Module:
C               TKTRNX.FOR    identisch mit Windows-Version
C               TKTRNX.h      identisch mit Windows-Version
C               TCSdrSDL.FOR  SDL2-spezifische API-Routinen
C               TCSdSDLc.c    SDL2-spezifische API-Routinen
C               TCSdSDLc.h    Compiler- und systemspezifische Deklarationen
C               STRINGS.FOR   identisch mit Windows-Version
C
C      27.11.20 Version 4.00: Dr.-Ing. K. Friedewald
C


C
C Graphic Input
C

      subroutine vcursr (IC,X,Y)
      call dcursr (ic,ix,iy)
      call revcot (ix,iy,x,y)
      return
      end

C
C  Virtuelle Graphik, relativ
C

```

```
00188       subroutine drawr (X,Y)
00189       call rel2ab (x,y,xabs,yabs)
00190       call drawa (xabs,yabs)
00191       return
00192       end
00193
00194
00195
00196       subroutine mover (X,Y)
00197       call rel2ab (x,y,xabs,yabs)
00198       call movea (xabs,yabs)
00199       return
00200       end
00201
00202
00203
00204       subroutine pointr (X,Y)
00205       call rel2ab (x,y,xabs,yabs)
00206       call pointa (xabs,yabs)
00207       return
00208       end
00209
00210
00211
00212       subroutine dashr (X,Y, iL)
00213       call rel2ab (x,y,xabs,yabs)
00214       call dasha (xabs,yabs, il)
00215       return
00216       end
00217
00218
00219
00220       subroutine rel2ab (Xrel, Yrel, Xabs, Yabs)
00221       include 'Tktrnx.fd'
00222       call seeloc (ix,iy)
00223       call revcot (ix,iy,xabs,yabs)
00224       xabs= (( xrel*trcosf - yrel*trsinf)*trscal)+xabs
00225       yabs= (( xrel*trsinf + yrel*trcosf)*trscal)+yabs
00226       return
00227       end
00228
00229 C
00230 C  Virtuelles Zeichnen, absolut
00231 C
00232
00233       subroutine drawa (X,Y)
00234       include 'Tktrnx.fd'
00235       call wincot (x,y,ix,iy)
00236       call swind1 (kminsx,kminsy,kmaxsx,kmaxsy)
00237       call drwabs (ix,iy)
00238       call swind1 (0,0,1023,780)
00239       return
00240       end
00241
00242
00243
00244       subroutine movea (X,Y)
00245       include 'Tktrnx.fd'
00246       call wincot (x,y,ix,iy)
00247       call swind1 (kminsx,kminsy,kmaxsx,kmaxsy)
00248       call movabs (ix,iy)
00249       call swind1 (0,0,1023,780)
00250       return
00251       end
00252
00253
00254
00255       subroutine pointa (X,Y)
00256       include 'Tktrnx.fd'
00257       call wincot (x,y,ix,iy)
00258       call swind1 (kminsx,kminsy,kmaxsx,kmaxsy)
00259       call pntabs (ix,iy)
00260       call swind1 (0,0,1023,780)
00261       return
00262       end
00263
00264
00265
00266       subroutine dasha (X,Y, iL)
00267       include 'Tktrnx.fd'
00268       call wincot (x,y,ix,iy)
00269       call swind1 (kminsx,kminsy,kmaxsx,kmaxsy)
00270       call dshabs (ix,iy, il)
00271       call swind1 (0,0,1023,780)
00272       return
00273       end
00274
```

```
00275
00276
00277       subroutine wincot (X,Y,IX,IY)
00278       include 'Tktrnx.fd'
00279       dx= x-tminvx
00280       dy= y-tminvy
00281       if ((xlog.lt.255.).and.(x.gt.0.)) dx= alog(x)-xlog
00282       if ((ylog.lt.255.).and.(y.gt.0.)) dy= alog(y)-ylog
00283       ix= ifix(dx*xfac+.5)+kminsx
00284       iy= ifix(dy*yfac+.5)+kminsy
00285       return
00286       end
00287
00288
00289
00290       subroutine revcot (IX,IY,X,Y)
00291       include 'Tktrnx.fd'
00292       dx= float(ix-kminsx) / xfac
00293       dy= float(iy-kminsy) / yfac
00294       x= dx + tminvx
00295       y= dy + tminvy
00296       if (xlog.lt.255.) x= 2.718282**(dx+xlog)
00297       if (ylog.lt.255.) y= 2.718282**(dy+ylog)
00298       return
00299       end
00300
00301 C
00302 C  Alphanumerische Ausgabe
00303 C
00304
00305       subroutine anstr (NChar, IStrin)
00306       dimension istrin(1)
00307       do 10 i=1,nchar
00308        call ancho (istrin(i))
00309 10    continue
00310       return
00311       end
00312
00313
00314
00315       subroutine ancho (ichar)
00316       include 'Tktrnx.fd'
00317
00318       if (ichar.gt.31) goto 10
00319       if (ichar.eq.7) call bell
00320       if (ichar.eq.10) call linef
00321       if (ichar.eq.13) call cartn
00322       return
00323
00324  10   call seeloc (ix,k)
00325       call csize (ixlen,k)
00326       if (ix.gt.krmrgn-ixlen) call newlin
00327       call toutpt (ichar)
00328       return
00329       end
00330
00331
00332
00333       subroutine newlin
00334       call cartn
00335       call linef
00336       return
00337       end
00338
00339
00340
00341       subroutine cartn
00342       include 'Tktrnx.fd'
00343       call seeloc (ix,iy)
00344       call movabs (klmrgn,iy)
00345       return
00346       end
00347
00348
00349
00350       subroutine linef
00351       call seeloc (j,iy)
00352       call csize (j,iylen)
00353       if (iy.lt.iylen) call home
00354       call movrel (0,-iylen)
00355       return
00356       end
00357
00358
00359
00360       subroutine baksp
00361       call csize (ix,iy)
```

```
00362       call movrel (-ix,0)
00363       return
00364       end
00365
00366
00367
00368       subroutine newpag
00369       call erase
00370       call home
00371       return
00372       end
00373
00374
00375
00376       function linhgt (Numlin)
00377       call csize (ix,iy)
00378       linhgt= numlin*iy
00379       return
00380       end
00381
00382
00383
00384       function linwdt (NumChr)
00385       call csize (ix,iy)
00386       linwdt= numchr*ix
00387       return
00388       end
00389
00390 C
00391 C  Initialisierungsroutinen
00392 C
00393
00394       subroutine lintrn
00395       include 'Tktrnx.fd'
00396       xlog= 255.
00397       ylog= 255.
00398       call rescal
00399       return
00400       end
00401
00402
00403
00404       subroutine logtrn (IMODE)
00405       include 'Tktrnx.fd'
00406       call lintrn
00407       if ((imode .eq. 1) .or. (imode .eq. 3)) then
00408        xlog= 0.
00409       end if
00410       if ((imode .eq. 2) .or. (imode .eq. 3)) then
00411        ylog= 0.
00412       end if
00413       call rescal
00414       return
00415       end
00416
00417
00418
00419       subroutine twindo (IX1,IX2,IY1,IY2)
00420       call swindo (ix1,ix2-ix1,iy1,iy2-iy1)
00421       return
00422       end
00423
00424
00425
00426       subroutine swindo (IX,LX,IY,LY)
00427       include 'Tktrnx.fd'
00428       kminsx= ix
00429       kmaxsx= ix+lx
00430       kminsy= iy
00431       kmaxsy= iy+ly
00432       call rescal
00433       return
00434       end
00435
00436
00437
00438       subroutine dwindo (X1,X2,Y1,Y2)
00439       call vwindo (x1,x2-x1,y1,y2-y1)
00440       return
00441       end
00442
00443
00444
00445       subroutine vwindo (X,XL,Y,YL)
00446       include 'Tktrnx.fd'
00447       tminvx= x
00448       tmaxvx= x+xl
```

```
00449       tminvy= y
00450       tmaxvy= y+yl
00451       call rescal
00452       return
00453       end
00454
00455
00456
00457       subroutine rescal
00458       include 'Tktrnx.fd'
00459       xfac= 0.
00460       yfac= 0.
00461       if ((tmaxvx.eq.tminvx) .or. (tmaxvy.eq.tminvy)) return
00462       dx= tmaxvx-tminvx
00463       dy= tmaxvy-tminvy
00464       if ((xlog.eq.255.).or.(amin1(tminvx,tmaxvx).le.0.)) goto 10
00465        xlog= alog(tminvx)
00466        dx= alog(tmaxvx)-xlog
00467 10    if ((ylog.eq.255.).or.(amin1(tminvy,tmaxvy).le.0.)) goto 20
00468        ylog= alog(tminvy)
00469        dy= alog(tmaxvy)-ylog
00470 20    xfac= float(kmaxsx-kminsx) / dx
00471       yfac= float(kmaxsy-kminsy) / dy
00472       return
00473       end
00474
00475
00476
00477       subroutine rrotat (Grad)
00478       include 'Tktrnx.fd'
00479       trsinf= sin(grad/57.29578)
00480       trcosf= cos(grad/57.29578)
00481       return
00482       end
00483
00484
00485
00486       subroutine rscale (Faktor)
00487       include 'Tktrnx.fd'
00488       trscal= faktor
00489       return
00490       end
00491
00492
00493
00494       subroutine home
00495       include 'Tktrnx.fd'
00496 C      call movabs(klmrgn,750) Fuer CP/M (kein khomey verfuegbar, -> !=750)
00497       call movabs(klmrgn,khomey)
00498       return
00499       end
00500
00501
00502
00503       subroutine setmrg (Mlinks, Mrecht)
00504       include 'Tktrnx.fd'
00505       klmrgn= mlinks
00506       krmrgn= mrecht
00507       return
00508       end
00509
00510
00511
00512       subroutine seetrm (IBaud,Iterm,ICSize,MaxScr)
00513       include 'Tktrnx.fd'
00514       ibaud= 0
00515       iterm= 1
00516       icsize= 1
00517       maxscr= 1023
00518       return
00519       end
00520
00521
00522
00523       subroutine seetrn (xf,yf,key)
00524       include 'Tktrnx.fd'
00525       xf= xfac
00526       yf= yfac
00527       key= 1
00528       if ((xlog.lt.255.).or.(ylog.lt.255.)) key=2
00529       return
00530       end
00531
00532
00533
00534       logical function genflg (ITEM)
00535       genflg= item.eq.0
```

```
00536       return
00537       end
00538
```

6.32 TCSdrWIN.for File Reference

MS Windows Port: High-Level Driver.

Functions/Subroutines

- subroutine tcslev (LEVEL)
- subroutine svstat (Array)
- subroutine restat (Array)
- subroutine movrel (iX, iY)
- subroutine pntrel (iX, iY)
- subroutine drwrel (iX, iY)
- subroutine dshrel (iX, iY, iMask)
- subroutine seeloc (IX, IY)
- subroutine toutpt (iChr)
- subroutine toutst (nChr, iChrArr)
- subroutine toutstc (String)
- subroutine statst (String)
- subroutine anmode

6.32.1 Detailed Description

MS Windows Port: High-Level Driver.

Version

(2022, 88,x)

Author

(C) 2022 Dr.-Ing. Klaus Friedewald

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MS Windows specific subroutines

Note

```
Supplement to Tektronix:
 subroutine TOUTSTC (String): Print Fortran-String
 subroutine LINCOL (iCol): Set line color (iCol=0..15)
 subroutine TXTCOL (iCol): Set text color
 subroutine BCKCOL (iCol): Set background color (shows after ERASE)
 subroutine DefaultColour: Reset default colors
```

Definition in file TCSdrWIN.for.

6.32.2 Function/Subroutine Documentation

6.32.2.1 anmode()

```
subroutine anmode
```

Definition at line 268 of file TCSdrWIN.for.

6.32.2.2 drwrel()

```
subroutine drwrel (
              iX,
              iY )
```

Definition at line 191 of file TCSdrWIN.for.

6.32.2.3 dshrel()

```
subroutine dshrel (
              iX,
              iY,
              iMask )
```

Definition at line 201 of file TCSdrWIN.for.

6.32.2.4 movrel()

```
subroutine movrel (
              iX,
              iY )
```

Definition at line 171 of file TCSdrWIN.for.

6.32.2.5 pntrel()

```
subroutine pntrel (
              iX,
              iY )
```

Definition at line 181 of file TCSdrWIN.for.

6.32.2.6 restat()

```
subroutine restat (
            integer, dimension(1) Array )
```

Definition at line 153 of file TCSdrWIN.for.

6.32.2.7 seeloc()

```
subroutine seeloc (
              IX,
              IY )
```

Definition at line 213 of file TCSdrWIN.for.

6.32.2.8 statst()

```
subroutine statst (
            character *(*) String )
```

Definition at line 255 of file TCSdrWIN.for.

6.32.2.9 svstat()

```
subroutine svstat (
            integer, dimension(1) Array )
```

Definition at line 140 of file TCSdrWIN.for.

6.32.2.10 tcslev()

```
subroutine tcslev (
             integer, dimension(3) LEVEL )
```

Definition at line 123 of file TCSdrWIN.for.

6.32.2.11 toutpt()

```
subroutine toutpt (
              iChr )
```

Definition at line 228 of file TCSdrWIN.for.

6.32.2.12 toutst()

```
subroutine toutst (
              nChr,
             integer, dimension (1) iChrArr )
```

Definition at line 236 of file TCSdrWIN.for.

6.32.2.13 toutstc()

```
subroutine toutstc (
             character *(*) String )
```

Definition at line 247 of file TCSdrWIN.for.

6.33 TCSdrWIN.for

```
00001 C> \file       TCSdrWIN.for
00002 C> \brief      MS Windows Port: High-Level Driver
00003 C> \version    (2022, 88,x)
00004 C> \author     (C) 2022 Dr.-Ing. Klaus Friedewald
00005 C> \copyright  GNU LESSER GENERAL PUBLIC LICENSE Version 3
00006 C>
00007 C> \~german
00008 C> MS Windows-spezifische TCS-Routinen
00009 C> \note \verbatim
00010 C>    Erweiterungen gegenüber Tektronix:
00011 C>     subroutine TOUTSTC (String): Ausgabe Fortran-String
00012 C>     subroutine LINCOL (iCol): Setzen Linienfarbe (iCol=0..15)
00013 C>     subroutine TXTCOL (iCol): Setzen Textfarbe
00014 C>     subroutine BCKCOL (iCol): Hintergrundfarbe (nach ERASE sichtbar)
00015 C>     subroutine DefaultColour: Wiederherstellung Defaultfarben
00016 C> \endverbatim
00017 C>
00018 C>
00019 C> \~english
00020 C> MS Windows specific subroutines
00021 C> \note \verbatim
00022 C>    Supplement to Tektronix:
00023 C>     subroutine TOUTSTC (String): Print Fortran-String
00024 C>     subroutine LINCOL (iCol): Set line color (iCol=0..15)
00025 C>     subroutine TXTCOL (iCol): Set text color
00026 C>     subroutine BCKCOL (iCol): Set background color (shows after ERASE)
00027 C>     subroutine DefaultColour: Reset default colors
00028 C> \endverbatim
00029 C> \~
00030 C>
00031 C
00032 C
00033 C  TCS Graphik Grundfunktionen für Windows
00034 C
00035 C     Version 1.95 bzw. (2022,88,x)
00036 C     - Anpassung 64bit Windows 10 und kleinere Bugfixes
00037 C
00038 C     Version 1.94 bzw. (2021,123,x)
00039 C     - Ergaenzung englische Dokumentation
```

```
00040 C
00041 C     Version 1.93 bzw. (2020,332,x)
00042 C     - Fehlerbehandlung analog SDL-Version
00043 C
00044 C     Version 1.92 bzw. (2020,230,x)
00045 C     - Harmonisierung Commonblock TKTRNX
00046 C     - Verwendung von khorsz, kversz, khomey in Abhängigkeit vom Zeichensatz
00047 C
00048 C     Version 1.91 bzw. (2017,317,x)
00049 C     - Bugfix
00050 C
00051 C     Version 1.9
00052 C     - Anpassung Windows7
00053 C
00054 C     Version 1.8 bzw. (2008,134,x)
00055 C     - Hardcopy fuer Journal=3 in Form von Postscriptfiles. TBD.
00056 C     - Ergaenzung Journal=3: Implementation Schriftarten.
00057 C     - DRWABS bei Journal=3: Der Endpunkt wird erst beim Neuzeichnen ge-
00058 C       setzt, im Journal steht nur die Linie mit Endpunkt. Vorteil: UNIX
00059 C       muss den Endpunkt so nicht zweimal setzen.
00060 C     - Fehlermeldungen der Listenverwaltung fuer Journal=3 erfolgen durch
00061 C       GraphError bzw. Unterprogramm TCSJouListError.
00062 C     - Bugfix TCSdWINc.h: Eintrag von TCSLEV3 in C++ Klassendefinition.
00063 C     - Bugfix OUTGTEXT: Prüfung auf freien Platz erfolgt mit gesamtem String.
00064 C
00065 C     Version 1.7 bzw. (2005,291,x)
00066 C     - Einfuehrung des Windows-unabhaengigen Journals zur Vorbereitung
00067 C       der X11-Version. Wahl des Journaltyps (Metafile oder Liste) durch
00068 C       bedingte Kompilation, gesteuert von der Konstante JOURNALTYP
00069 C       im File TCSdWINc.c
00070 C     - Bugfix GraphicError: ErrSeverity=0 entspricht jetzt NO ACTION.
00071 C     - Das System wird nicht mehr durch Fortran-Pragmas in TCSLEV, sondern
00072 C       durch das neue Unterprogramm TCSLEV3 in TCSdWINc.c ermittelt.
00073 C
00074 C     Version 1.6 bzw. (2004,302,x)
00075 C     - Auslagern der Subroutine INITT in ein eigenes File. So kann sicher-
00076 C       gestellt werden, dass sich INITT stets im *.exe des Hauptprogrammes
00077 C       und nicht in einer DLL befindet und eine Ermittlung der Programm-
00078 C       instanz und nicht der DLL-Instanz erfolgt.
00079 C     - Sources der LIB- und DLL-Version zusammengefasst
00080 C
00081 C     Version 1.5 bzw. (2004,167,x)
00082 C     - Anpassung TCSLEV: 5= Alternative Win32-Version für GCC
00083 C
00084 C     Version 1.4 bzw. (2004, 22,x)
00085 C     - Bugfix OUTGTEXT: Bei c-Strings auch char(0) als Stringende erkennen
00086 C     - Bugfix INITT1: Wiederherstellung Charakterdefinitionsblock nach
00087 C       Erzeugung des Statusfensterfonts -> Buchstabengroesse bei ITALIC,
00088 C       ITALIR, DBLSIZ, NRMSIZ wird jetzt richtig gesetzt.
00089 C     - Verschieben und Scrollen Statusfenster auch bei Eingabe möglich
00090 C
00091 C     Version 1.3 bzw. (2003, 78,x)
00092 C     - Falls die eigene Applikation in einem anderen Fenster aktiv ist, setzt
00093 C       TINPUT den Fokus wieder in dieses Fenster zurück
00094 C     - Icon für das Graphikfenster
00095 C     - Instanzermittlung ueber Programmnamen fuer die DLL-Version
00096 C
00097 C     Version 1.2 bzw. (2003, 36,x)
00098 C     - Ergänzung lib$movc3 zur Kompatibilität DOS
00099 C     - Verwirrendes Bildschirmverhalten bei sehr langsamen Rechnern nach Erase
00100 C       -> Einfügen UpdateWindow
00101 C
00102 C     Version 1.1 bzw. (2002,292,x)
00103 C     - Umbenennung TKTRNX.FOR in TKTRNX.FD zur Kompatibilität CP/M
00104 C
00105 C     Version 1.0
00106 C     - Erweiterungen gegenüber Tektronix:
00107 C           subroutine TOUTSTC (String): Ausgabe Fortran-String
00108 C           subroutine STATST (String) : Ausgabe String in Statusfenster
00109 C           subroutine LINCOL (iCol): Setzen Linienfarbe (iCol=0..15)
00110 C           subroutine TXTCOL (iCol): Setzen Textfarbe
00111 C           subroutine BCKCOL (iCol): Hintergrundfarbe (nach ERASE sichtbar)
00112 C           subroutine DefaultColour: Wiederherstellung Defaultfarben
00113 C
00114 C
00115 C     27.09.02         Dr.-Ing. K. Friedewald
00116 C
00117
00118
00119
00120 C
00121 C  Ausgabe der Softwareversion
00122 C
00123       subroutine tcslev(LEVEL)
00124       integer LEVEL(3)
00125       level(1)=2022     ! Aenderungsjahr
00126       level(2)=  88     ! Aenderungstag
```

```
00127 C Kennzeichnung des Systems, wird im systemabhaengigem Code gesetzt
00128 C     3=Watcom && MS-Win16  4=Watcom && MS-Win32  5=GNU-Win32  7=GNU-Win64
00129       call tcslev3 (level(3))
00130
00131       return
00132       end
00133
00134
00135
00136 C
00137 C  Abspeichern Terminal Status Area (wie DOS)
00138 C
00139
00140       subroutine svstat (Array)
00141       integer array(1)
00142       include 'TKTRNX.FD'
00143       integer arr(1)
00144       equivalence(arr(1),khomey)
00145       do 10 i=1,itktrnxl
00146        array(i)= arr(i)
00147 10    continue
00148       return
00149       end
00150
00151
00152
00153       subroutine restat (Array)
00154       integer array(1)
00155       include 'TKTRNX.FD'
00156       integer arr(1)
00157       equivalence(arr(1),khomey)
00158       do 10 i=1,itktrnxl
00159        arr(i)= array(i)
00160 10    continue
00161       call movabs (kbeamx, kbeamy)
00162       return
00163       end
00164
00165
00166
00167 C
00168 C  Relative Zeichenbefehle (wie DOS)
00169 C
00170
00171       subroutine movrel (iX, iY)
00172       include 'TKTRNX.FD'
00173       ixx= kbeamx + ix
00174       iyy= kbeamy + iy
00175       call movabs (ixx, iyy)
00176       return
00177       end
00178
00179
00180
00181       subroutine pntrel (iX, iY)
00182       include 'TKTRNX.FD'
00183       ixx= kbeamx + ix
00184       iyy= kbeamy + iy
00185       call pntabs (ixx, iyy)
00186       return
00187       end
00188
00189
00190
00191       subroutine drwrel (iX, iY)
00192       include 'TKTRNX.FD'
00193       ixx= kbeamx + ix
00194       iyy= kbeamy + iy
00195       call drwabs (ixx, iyy)
00196       return
00197       end
00198
00199
00200
00201       subroutine dshrel (iX, iY, iMask)
00202       include 'TKTRNX.FD'
00203       ixx= kbeamx + ix
00204       iyy= kbeamy + iy
00205       call dshabs (ixx, iyy, imask)
00206       return
00207       end
00208
00209 C
00210 C   Ersatz SEELOC der CP/M-Version, SEELOC1 unnötig (wie DOS)
00211 C
00212
00213       subroutine seeloc (IX,IY)
```

```
00214       include 'TKTRNX.FD'
00215       ix= kbeamx
00216       iy= kbeamy
00217       return
00218       end
00219
00220
00221
00222 C
00223 C  Textausgabe, geändert zu DOS-Version
00224 C
00225
00226
00227
00228       subroutine toutpt (iChr)
00229       include 'TKTRNX.FD'
00230       call outgtext (char(ichr))
00231       return
00232       end
00233
00234
00235
00236       subroutine toutst (nChr, iChrArr)
00237       integer iChrArr (1)
00238       if (nchr.eq.0) return
00239       do 10 i=1,nchr
00240        call toutpt (ichrarr(i))
00241 10    continue
00242       return
00243       end
00244
00245
00246
00247       subroutine toutstc (String)
00248       character *(*) String
00249       call outgtext (string)
00250       return
00251       end
00252
00253
00254
00255       subroutine statst (String)
00256       character *(*) String
00257       call outtext (string)
00258       return
00259       end
00260
00261
00262
00263
00264 C
00265 C  Dummyroutinen (WINLBL keine Dummyroutine, ALPHA zusätzlich)
00266 C
00267
00268       subroutine    anmode
00269       entry         alfmod
00270       entry         pclipt
00271       entry         iowait
00272       entry         alpha
00273       return
00274       end
```

6.34 TCSdWINc.c File Reference

MS Windows Port: Low-Level Driver.

```
#include <windows.h>
#include <windowsx.h>
#include <stdlib.h>
#include <string.h>
#include <stdio.h>
#include <tchar.h>
#include "TCSdWINc.h"
#include "TKTRNX.h"
```

Macros

- #define JOURNALTYP 1

- #define INIFILEXT _TEXT(".INI")
- #define WIN32_LEAN_AND_MEAN
- #define MAX_PENSTYLE_INDEX 3
- #define MAX_COLOR_INDEX 15
- #define TMPSTRLEN TCS_WINDOW_NAMELEN
- #define TMPSTRLREN TCS_WINDOW_NAMELEN

Typedefs

- typedef TCHAR StatLine[STAT_MAXCOLUMNS+1]
- typedef TCHAR ErrMsg[STAT_MAXCOLUMNS]

Functions

- void CreateMainWindow_IfNecessary (HINSTANCE *hMainProgInst, HWND *hMainProgWindow, LPTSTR szWinName)
- void TCSGraphicError (int iErr, const char *msg)
- bool PointInWindow (FTNINT ix1, FTNINT iy1)
- bool ClipLineStart (FTNINT ix1, FTNINT iy1, FTNINT ix2, FTNINT iy2, FTNINT *isx, FTNINT *isy)
- void TCSWndProc_OnPaint (HWND hWindow)
- void TCSWndProc_OnSize (HWND hWindow, UINT message, WPARAM width, LPARAM height)
- void TCSWndProc_OnRbuttondown (HWND hWindow, BOOL DoubleClick, int MouseX, int MouseY, UINT ShftCtrlKeyMask)
- bool TCSWndProc_OnErasebkgnd (HWND hWindow, HDC hDC)
- bool TCSWndProc_OnCopyClipboard ()
- LRESULT CALLBACK EXPORT16 TCSWndProc (HWND hWindow, UINT Message, WPARAM wParam, L↩ PARAM lParam)
- void TCSstatWndProc_OnPaint (HWND hWindow)
- void TCSstatWndProc_OnKillfocus (HWND hWindow, HWND hNewWindow)
- void TCSstatWndProc_OnGetminmaxinfo (HWND hWindow, MINMAXINFO FAR *lpMinMaxInfo)
- void TCSstatWndProc_OnVScroll (HWND hWindow, HWND hNewWindow, WPARAM wParam, LPARAM lParam)
- LRESULT CALLBACK EXPORT16 TCSstatWndProc (HWND hWindow, UINT Message, WPARAM wParam, LPARAM lParam)
- void TCSdrWIN__ tcslev3 (FTNINT *SysLev)
- void PresetProgPar ()
- void CustomizeProgPar ()
- void TCSdrWIN__ winlbl (FTNSTRPAR *PloWinNam, FTNSTRPAR *StatWinNam, FTNSTRPAR *IniFilNam FTNSTRPAR_TAIL(IniFilNam))
- void TCSdrWIN__ initt1 (HINSTANCE *hParentInstance, HWND *hParentWindow)
- void TCSdrWIN__ finitt ()
- void TCSdrWIN__ swind1 (FTNINT *ix1, FTNINT *iy1, FTNINT *ix2, FTNINT *iy2)
- void TCSdrWIN__ erase (void)
- void TCSdrWIN__ movabs (FTNINT *ix, FTNINT *iy)
- void TCSdrWIN__ drwabs (FTNINT *ix, FTNINT *iy)
- void TCSdrWIN__ dshabs (FTNINT *ix, FTNINT *iy, FTNINT *iMask)
- void TCSdrWIN__ pntabs (FTNINT *ix, FTNINT *iy)
- void TCSdrWIN__ bckcol (FTNINT *iCol)
- void TCSdrWIN__ lincol (FTNINT *iCol)
- void TCSdrWIN__ txtcol (FTNINT *iCol)
- void TCSdrWIN__ DefaultColour (void)
- void TCSdrWIN__ outgtext (FTNSTRPAR *ftn_string FTNSTRPAR_TAIL(ftn_string))
- void TCSdrWIN__ italic (void)
- void TCSdrWIN__ italir (void)
- void TCSdrWIN__ dblsiz (void)

- void TCSdrWIN__ nrmsiz (void)
- void TCSdrWIN__ csize (FTNINT *ix, FTNINT *iy)
- void TCSdrWIN__ tinput (FTNINT *ic)
- void TCSdrWIN__ dcursr (FTNINT *ic, FTNINT *ix, FTNINT *iy)
- void TCSdrWIN__ bell (void)
- void TCSdrWIN__ outtext (FTNSTRPAR *ftn_string FTNSTRPAR_TAIL(ftn_string))
- void TCSdrWIN__ GraphicError (FTNINT *iErr, FTNSTRPAR *ftn_string, FTNINT *iL FTNSTRPAR_TA↩ IL(ftn_string))
- void TCSdrWIN__ hdcopy (void)
- void TCSdrWIN__ lib_movc3 (FTNINT *len, FTNSTRPAR *sou, FTNSTRPAR *dst FTNSTRPAR_TAIL(sou) FTNSTRPAR_TAIL(dst))

Variables

- static RECT TCSrect = {0,0, HiRes(TEK_XMAX),HiRes(TEK_YMAX)}
- static bool TCSinitialized = false
- static bool ClippingNotActive = true
- static bool TCSStatWindowAutomatic = true
- static HINSTANCE hTCSInst = NULL
- static HWND hTCSWindow = NULL
- static HWND hTCSstatWindow = NULL
- static HWND hOwnerWindow = NULL
- static HDC hTCSWindowDC
- static HDC hTCSMetaFileDC
- static LOGFONT TCSFontdefinition
- static HFONT hTCSFont
- static HFONT hTCSSysFont
- static HPEN hTCSPen
- static HCURSOR hGinCurs
- static HCURSOR hMouseCurs
- static TCHAR szTCSWindowName [TCS_WINDOW_NAMELEN] = ""
- static TCHAR szTCSstatWindowName [TCS_WINDOW_NAMELEN] = ""
- static TCHAR szTCSMainWindowName [TCS_WINDOW_NAMELEN] = TCS_MAINWINDOW_NAME
- static TCHAR szTCSIniFile [TCS_FILE_NAMELEN] = TCS_INIFILE_NAME INIFILEXT
- static TCHAR szTCSIconFile [TCS_FILE_NAMELEN] = TCS_ICONFILE_NAME
- static TCHAR szTCSMenuCopyText [TCS_MENUENTRY_LEN] = TCS_INIDEF_COPMEN
- static TCHAR szTCSHardcopyFile [TCS_FILE_NAMELEN] = TCS_HDCFILE_NAME
- static TCHAR szTCSGraphicFont [TCS_FILE_NAMELEN] = TCS_INIDEF_FONT
- static TCHAR szTCSSysFont [TCS_FILE_NAMELEN] = TCS_INIDEF_SYSFONT
- static TCHAR szTCSsect0 [TCS_FILE_NAMELEN] = TCS_INISECT0
- static StatLine TCSstatTextBuf [STAT_MAXROWS]
- static int TCSwindowIniXrelpos = TCS_INIDEF_WINPOSX
- static int TCSwindowIniYrelpos = TCS_INIDEF_WINPOSY
- static int TCSwindowIniXrelsiz = TCS_INIDEF_WINSIZX
- static int TCSwindowIniYrelsiz = TCS_INIDEF_WINSIZY
- static int TCSstatWindowIniXrelpos = TCS_INIDEF_STATPOSX
- static int TCSstatWindowIniYrelpos = TCS_INIDEF_STATPOSY
- static int TCSstatWindowIniXrelsiz = TCS_INIDEF_STATSIZX
- static int TCSstatWindowIniYrelsiz = TCS_INIDEF_STATSIZY
- static int TCSstatScrollY
- static int TCSstatOrgY
- static int TCSstatCursorPosY
- static int TCSstatRow
- static int TextLineHeight
- static int TCSCharHeight

- static int TCSBackgroundColour
- static int TCSDefaultLinCol = TCS_INIDEF_LINCOL
- static int TCSDefaultTxtCol = TCS_INIDEF_TXTCOL
- static int TCSDefaultBckCol = TCS_INIDEF_BCKCOL
- static int iHardcopyCount =1
- static POINT TCSGinCurPos = { TEK_XMAX / 2, TEK_YMAX / 2}
- static ErrMsg szTCSErrorMsg [(int) MSG_MAXERRNO+1]
- static int TCSErrorLev [(int) MSG_MAXERRNO+1]
- static DWORD dwPenStyle [ ]
- static DWORD dwColorTable [ ]

6.34.1 Detailed Description

MS Windows Port: Low-Level Driver.

Version

1.96

Author

(C) 2022 Dr.-Ing. Klaus Friedewald

Copyright

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system-specific subroutines of the teklib-library

Note

```
TCSdWINc.c    : Routines programmed in C.

TCSdrWIN.cpp  : Implementation of class TCSdrWIN.
                The file is identical to TCSdrWIN.c
```

Definition in file TCSdWINc.c.

6.34.2 Macro Definition Documentation

6.34.2.1 INIFILEXT

```
#define INIFILEXT _TEXT(".INI")
```

Definition at line 243 of file TCSdWINc.c.

6.34.2.2 JOURNALTYP

```
#define JOURNALTYP 1
```

Definition at line 230 of file TCSdWINc.c.

6.34.2.3 MAX_COLOR_INDEX

```
#define MAX_COLOR_INDEX 15
```

Definition at line 521 of file TCSdWINc.c.

6.34.2.4 MAX_PENSTYLE_INDEX

```
#define MAX_PENSTYLE_INDEX 3
```
Definition at line 498 of file TCSdWINc.c.

6.34.2.5 TMPSTRLEN

```
#define TMPSTRLEN TCS_WINDOW_NAMELEN
```

6.34.2.6 TMPSTRLREN

```
#define TMPSTRLREN TCS_WINDOW_NAMELEN
```

6.34.2.7 WIN32_LEAN_AND_MEAN

```
#define WIN32_LEAN_AND_MEAN
```
Definition at line 269 of file TCSdWINc.c.

6.34.3 Typedef Documentation

6.34.3.1 ErrMsg

```
typedef TCHAR ErrMsg[STAT_MAXCOLUMNS]
```
Definition at line 440 of file TCSdWINc.c.

6.34.3.2 StatLine

```
typedef TCHAR StatLine[STAT_MAXCOLUMNS+1]
```
Definition at line 412 of file TCSdWINc.c.

6.34.4 Function Documentation

6.34.4.1 bckcol()

```
void TCSdrWIN__ bckcol (
            FTNINT * iCol )
```
Definition at line 2993 of file TCSdWINc.c.

6.34.4.2 bell()

```
void TCSdrWIN__ bell (
            void  )
```
Definition at line 3706 of file TCSdWINc.c.

6.34.4.3 ClipLineStart()

```
bool ClipLineStart (
            FTNINT ix1,
            FTNINT iy1,
            FTNINT ix2,
```

```
            FTNINT iy2,
            FTNINT * isx,
            FTNINT * isy )
```

Definition at line 742 of file TCSdWINc.c.

6.34.4.4 CreateMainWindow_IfNecessary()

```
void CreateMainWindow_IfNecessary (
            HINSTANCE * hMainProgInst,
            HWND * hMainProgWindow,
            LPTSTR szWinName )
```

In case that the compiler has not created a window for the main program, this subroutine creates and shows a new main window. The class will be named according to the constant WINMAIN_DEFWINCLASS.
The window icon can be defined as WinMainIcon by a resource file.

Parameters

in	*hMainProgInst*	Main instance
in,out	*hMainProgWindow*	Main window
in	*szWinName*	Window name in case a main window does not exist

Definition at line 70 of file CreateMainWindow.c.

6.34.4.5 csize()

```
void TCSdrWIN__ csize (
            FTNINT * ix,
            FTNINT * iy )
```

Definition at line 3360 of file TCSdWINc.c.

6.34.4.6 CustomizeProgPar()

```
void CustomizeProgPar ( )
```

Definition at line 1791 of file TCSdWINc.c.

6.34.4.7 dblsiz()

```
void TCSdrWIN__ dblsiz (
            void  )
```

Definition at line 3280 of file TCSdWINc.c.

6.34.4.8 dcursr()

```
void TCSdrWIN__ dcursr (
            FTNINT * ic,
            FTNINT * ix,
            FTNINT * iy )
```

Definition at line 3545 of file TCSdWINc.c.

6.34.4.9 DefaultColour()

```
void TCSdrWIN__ DefaultColour (
            void  )
```

Definition at line 3079 of file TCSdWINc.c.

6.34.4.10 drwabs()

```
void TCSdrWIN__ drwabs (
            FTNINT * ix,
            FTNINT * iy )
```

Definition at line 2815 of file TCSdWINc.c.

6.34.4.11 dshabs()

```
void TCSdrWIN__ dshabs (
            FTNINT * ix,
            FTNINT * iy,
            FTNINT * iMask )
```

Definition at line 2869 of file TCSdWINc.c.

6.34.4.12 erase()

```
void TCSdrWIN__ erase (
            void  )
```

Definition at line 2649 of file TCSdWINc.c.

6.34.4.13 finitt()

```
void TCSdrWIN__ finitt ( )
```

Definition at line 2574 of file TCSdWINc.c.

6.34.4.14 GraphicError()

```
void TCSdrWIN__ GraphicError (
            FTNINT * iErr,
            FTNSTRPAR * ftn_string,
            FTNINT *iL  FTNSTRPAR_TAILftn_string )
```

Definition at line 3744 of file TCSdWINc.c.

6.34.4.15 hdcopy()

```
void TCSdrWIN__ hdcopy (
            void  )
```

Definition at line 3758 of file TCSdWINc.c.

6.34.4.16 initt1()

```
void TCSdrWIN__ initt1 (
            HINSTANCE * hParentInstance,
            HWND * hParentWindow )
```

Definition at line 1989 of file TCSdWINc.c.

6.34.4.17 italic()

```
void TCSdrWIN__ italic (
            void  )
```

Definition at line 3204 of file TCSdWINc.c.

6.34.4.18 italir()

```
void TCSdrWIN__ italir (
            void  )
```

Definition at line 3242 of file TCSdWINc.c.

6.34.4.19 lib_movc3()

```
void TCSdrWIN__ lib_movc3 (
            FTNINT * len,
            FTNSTRPAR * sou,
            FTNSTRPAR *dst  FTNSTRPAR_TAILsou) FTNSTRPAR_TAIL(dst )
```

Definition at line 4034 of file TCSdWINc.c.

6.34.4.20 lincol()

```
void TCSdrWIN__ lincol (
            FTNINT * iCol )
```

Definition at line 3014 of file TCSdWINc.c.

6.34.4.21 movabs()

```
void TCSdrWIN__ movabs (
            FTNINT * ix,
            FTNINT * iy )
```

Definition at line 2787 of file TCSdWINc.c.

6.34.4.22 nrmsiz()

```
void TCSdrWIN__ nrmsiz (
            void  )
```

Definition at line 3320 of file TCSdWINc.c.

6.34.4.23 outgtext()

```
void TCSdrWIN__ outgtext (
            FTNSTRPAR *ftn_string  FTNSTRPAR_TAILftn_string )
```

Definition at line 3098 of file TCSdWINc.c.

6.34.4.24 outtext()

```
void TCSdrWIN__ outtext (
            FTNSTRPAR *ftn_string  FTNSTRPAR_TAILftn_string )
```

Definition at line 3714 of file TCSdWINc.c.

6.34.4.25 pntabs()

```
void TCSdrWIN__ pntabs (
            FTNINT * ix,
            FTNINT * iy )
```

Definition at line 2964 of file TCSdWINc.c.

6.34.4.26 PointInWindow()

```
bool PointInWindow (
            FTNINT ix1,
            FTNINT iy1 )
```

Definition at line 733 of file TCSdWINc.c.

6.34.4.27 PresetProgPar()

```
void PresetProgPar ( )
```

Definition at line 1762 of file TCSdWINc.c.

6.34.4.28 swind1()

```
void TCSdrWIN__ swind1 (
            FTNINT * ix1,
            FTNINT * iy1,
            FTNINT * ix2,
            FTNINT * iy2 )
```

Definition at line 2640 of file TCSdWINc.c.

6.34.4.29 TCSGraphicError()

```
void TCSGraphicError (
            int iErr,
            const char * msg )
```

Definition at line 531 of file TCSdWINc.c.

6.34.4.30 tcslev3()

```
void TCSdrWIN__ tcslev3 (
            FTNINT * SysLev )
```

Definition at line 1725 of file TCSdWINc.c.

6.34.4.31 TCSstatWndProc()

```
LRESULT CALLBACK EXPORT16 TCSstatWndProc (
            HWND hWindow,
            UINT Message,
            WPARAM wParam,
            LPARAM lParam )
```

Definition at line 1674 of file TCSdWINc.c.

6.34.4.32 TCSstatWndProc_OnGetminmaxinfo()

```
void TCSstatWndProc_OnGetminmaxinfo (
             HWND hWindow,
             MINMAXINFO FAR * lpMinMaxInfo )
```

Definition at line 1615 of file TCSdWINc.c.

6.34.4.33 TCSstatWndProc_OnKillfocus()

```
void TCSstatWndProc_OnKillfocus (
             HWND hWindow,
             HWND hNewWindow )
```

Definition at line 1608 of file TCSdWINc.c.

6.34.4.34 TCSstatWndProc_OnPaint()

```
void TCSstatWndProc_OnPaint (
             HWND hWindow )
```

Definition at line 1587 of file TCSdWINc.c.

6.34.4.35 TCSstatWndProc_OnVScroll()

```
void TCSstatWndProc_OnVScroll (
             HWND hWindow,
             HWND hNewWindow,
             WPARAM wParam,
             LPARAM lParam )
```

Definition at line 1638 of file TCSdWINc.c.

6.34.4.36 TCSWndProc()

```
LRESULT CALLBACK EXPORT16 TCSWndProc (
             HWND hWindow,
             UINT Message,
             WPARAM wParam,
             LPARAM lParam )
```

Definition at line 1548 of file TCSdWINc.c.

6.34.4.37 TCSWndProc_OnCopyClipboard()

```
bool TCSWndProc_OnCopyClipboard ( )
```

Definition at line 1422 of file TCSdWINc.c.

6.34.4.38 TCSWndProc_OnErasebkgnd()

```
bool TCSWndProc_OnErasebkgnd (
             HWND hWindow,
             HDC hDC )
```

Definition at line 1401 of file TCSdWINc.c.

6.34.4.39 TCSWndProc_OnPaint()

```
void TCSWndProc_OnPaint (
            HWND hWindow )
```

Definition at line 1131 of file TCSdWINc.c.

6.34.4.40 TCSWndProc_OnRbuttondown()

```
void TCSWndProc_OnRbuttondown (
            HWND hWindow,
            BOOL DoubleClick,
            int MouseX,
            int MouseY,
            UINT ShftCtrlKeyMask )
```

Definition at line 1392 of file TCSdWINc.c.

6.34.4.41 TCSWndProc_OnSize()

```
void TCSWndProc_OnSize (
            HWND hWindow,
            UINT message,
            WPARAM width,
            LPARAM height )
```

Definition at line 1376 of file TCSdWINc.c.

6.34.4.42 tinput()

```
void TCSdrWIN__ tinput (
            FTNINT * ic )
```

Definition at line 3414 of file TCSdWINc.c.

6.34.4.43 txtcol()

```
void TCSdrWIN__ txtcol (
            FTNINT * iCol )
```

Definition at line 3056 of file TCSdWINc.c.

6.34.4.44 winlbl()

```
void TCSdrWIN__ winlbl (
            FTNSTRPAR * PloWinNam,
            FTNSTRPAR * StatWinNam,
            FTNSTRPAR *IniFilNam  FTNSTRPAR_TAILIniFilNam )
```

Definition at line 1882 of file TCSdWINc.c.

6.34.5 Variable Documentation

6.34.5.1 ClippingNotActive

```
bool ClippingNotActive = true  [static]
```

Definition at line 362 of file TCSdWINc.c.

6.34.5.2 dwColorTable

```
DWORD dwColorTable[]  [static]
```

Initial value:

```
= {
                          RGB (240,240,240),
                          RGB (  0,  0,  0),
                          RGB (240, 80, 80),
                          RGB ( 80,240, 80),
                          RGB ( 80,240,240),
                          RGB ( 80, 80,240),
                          RGB (240,240, 80),
                          RGB (160,160,160),
                          RGB (240, 80,240),
                          RGB (160,  0,  0),
                          RGB (  0,160,  0),
                          RGB (  0,  0,160),
                          RGB (  0,160,160),
                          RGB (160, 80,  0),
                          RGB ( 80, 80, 80),
                          RGB (160,  0,160)
                         }
```

Definition at line 503 of file TCSdWINc.c.

6.34.5.3 dwPenStyle

```
DWORD dwPenStyle[]  [static]
```

Initial value:

```
= {
                          PS_SOLID,
                          PS_DOT,
                          PS_DASHDOT,
                          PS_DASH
                         }
```

Definition at line 492 of file TCSdWINc.c.

6.34.5.4 hGinCurs

```
HCURSOR hGinCurs  [static]
```

Definition at line 397 of file TCSdWINc.c.

6.34.5.5 hMouseCurs

```
HCURSOR hMouseCurs  [static]
```

Definition at line 398 of file TCSdWINc.c.

6.34.5.6 hOwnerWindow

```
HWND hOwnerWindow = NULL  [static]
```

Definition at line 369 of file TCSdWINc.c.

6.34.5.7 hTCSFont

```
HFONT hTCSFont  [static]
```

Definition at line 392 of file TCSdWINc.c.

6.34.5.8 hTCSInst

```
HINSTANCE hTCSInst = NULL  [static]
```

Definition at line 365 of file TCSdWINc.c.

6.34.5.9 hTCSMetaFileDC

```
HDC hTCSMetaFileDC  [static]
```
Definition at line 374 of file TCSdWINc.c.

6.34.5.10 hTCSPen

```
HPEN hTCSPen  [static]
```
Definition at line 395 of file TCSdWINc.c.

6.34.5.11 hTCSstatWindow

```
HWND hTCSstatWindow = NULL  [static]
```
Definition at line 368 of file TCSdWINc.c.

6.34.5.12 hTCSSysFont

```
HFONT hTCSSysFont  [static]
```
Definition at line 393 of file TCSdWINc.c.

6.34.5.13 hTCSWindow

```
HWND hTCSWindow = NULL  [static]
```
Definition at line 367 of file TCSdWINc.c.

6.34.5.14 hTCSWindowDC

```
HDC hTCSWindowDC  [static]
```
Definition at line 371 of file TCSdWINc.c.

6.34.5.15 iHardcopyCount

```
int iHardcopyCount =1  [static]
```
Definition at line 433 of file TCSdWINc.c.

6.34.5.16 szTCSErrorMsg

```
ErrMsg szTCSErrorMsg[(int) MSG_MAXERRNO+1]  [static]
```
Initial value:
```
=
                {_T("Element 0 unused"),_T("DOS"),_T("DOS"),_T("DOS"),
                 _T("DOS"),_T("DOS"),
                TCS_INIDEF_HDCOPN,
                TCS_INIDEF_HDCWRT,
                TCS_INIDEF_HDCINT,
                TCS_INIDEF_USR,
                TCS_INIDEF_HDCACT,
                TCS_INIDEF_USRWRN,
                TCS_INIDEF_EXIT,
                TCS_INIDEF_COPMEM,
                TCS_INIDEF_COPLCK,
                TCS_INIDEF_JOUCREATE,
                TCS_INIDEF_JOUENTRY,
                TCS_INIDEF_JOUADD,
                TCS_INIDEF_JOUCLR,
                TCS_INIDEF_JOUUNKWN,
                TCS_INIDEF_XMLPARSER,
                TCS_INIDEF_XMLOPEN,
                _T("SDL"),
                TCS_INIDEF_USR2,
```

```
                TCS_INIDEF_INI2,
                _T("Maxerr only for internal Use") }
```

Definition at line 441 of file TCSdWINc.c.

6.34.5.17 szTCSGraphicFont

```
TCHAR szTCSGraphicFont[TCS_FILE_NAMELEN] = TCS_INIDEF_FONT  [static]
```

Definition at line 407 of file TCSdWINc.c.

6.34.5.18 szTCSHardcopyFile

```
TCHAR szTCSHardcopyFile[TCS_FILE_NAMELEN] = TCS_HDCFILE_NAME  [static]
```

Definition at line 406 of file TCSdWINc.c.

6.34.5.19 szTCSIconFile

```
TCHAR szTCSIconFile[TCS_FILE_NAMELEN] = TCS_ICONFILE_NAME  [static]
```

Definition at line 404 of file TCSdWINc.c.

6.34.5.20 szTCSIniFile

```
TCHAR szTCSIniFile[TCS_FILE_NAMELEN] = TCS_INIFILE_NAME INIFILEXT  [static]
```

Definition at line 403 of file TCSdWINc.c.

6.34.5.21 szTCSMainWindowName

```
TCHAR szTCSMainWindowName[TCS_WINDOW_NAMELEN] = TCS_MAINWINDOW_NAME  [static]
```

Definition at line 402 of file TCSdWINc.c.

6.34.5.22 szTCSMenuCopyText

```
TCHAR szTCSMenuCopyText[TCS_MENUENTRY_LEN] = TCS_INIDEF_COPMEN  [static]
```

Definition at line 405 of file TCSdWINc.c.

6.34.5.23 szTCSsect0

```
TCHAR szTCSsect0[TCS_FILE_NAMELEN] = TCS_INISECT0  [static]
```

Definition at line 409 of file TCSdWINc.c.

6.34.5.24 szTCSstatWindowName

```
TCHAR szTCSstatWindowName[TCS_WINDOW_NAMELEN] = ""  [static]
```

Definition at line 401 of file TCSdWINc.c.

6.34.5.25 szTCSSysFont

```
TCHAR szTCSSysFont[TCS_FILE_NAMELEN] = TCS_INIDEF_SYSFONT  [static]
```

Definition at line 408 of file TCSdWINc.c.

6.34.5.26 szTCSWindowName

```
TCHAR szTCSWindowName[TCS_WINDOW_NAMELEN] = ""  [static]
```
Definition at line 400 of file TCSdWINc.c.

6.34.5.27 TCSBackgroundColour

```
int TCSBackgroundColour  [static]
```
Definition at line 429 of file TCSdWINc.c.

6.34.5.28 TCSCharHeight

```
int TCSCharHeight  [static]
```
Definition at line 428 of file TCSdWINc.c.

6.34.5.29 TCSDefaultBckCol

```
int TCSDefaultBckCol = TCS_INIDEF_BCKCOL  [static]
```
Definition at line 432 of file TCSdWINc.c.

6.34.5.30 TCSDefaultLinCol

```
int TCSDefaultLinCol = TCS_INIDEF_LINCOL  [static]
```
Definition at line 430 of file TCSdWINc.c.

6.34.5.31 TCSDefaultTxtCol

```
int TCSDefaultTxtCol = TCS_INIDEF_TXTCOL  [static]
```
Definition at line 431 of file TCSdWINc.c.

6.34.5.32 TCSErrorLev

```
int TCSErrorLev[(int) MSG_MAXERRNO+1]  [static]
```
Initial value:
```
=
                {10,10,10,10,10,10,
                TCS_INIDEF_HDCOPNL,
                TCS_INIDEF_HDCWRTL,
                TCS_INIDEF_HDCINTL,
                TCS_INIDEF_USRL,
                TCS_INIDEF_HDCACTL,
                TCS_INIDEF_USRWRNL,
                TCS_INIDEF_EXITL,
                TCS_INIDEF_COPMEML,
                TCS_INIDEF_COPLCKL,
                TCS_INIDEF_JOUCREATEL,
                TCS_INIDEF_JOUENTRYL,
                TCS_INIDEF_JOUADDL,
                TCS_INIDEF_JOUCLRL,
                TCS_INIDEF_JOUUNKWNL,
                TCS_INIDEF_XMLPARSERL,
                TCS_INIDEF_XMLOPENL,
                10,
                TCS_INIDEF_USR2L,
                TCS_INIDEF_INI2L,
                10}
```
Definition at line 465 of file TCSdWINc.c.

6.34.5.33 TCSFontdefinition

```
LOGFONT TCSFontdefinition  [static]
```
Definition at line 390 of file TCSdWINc.c.

6.34.5.34 TCSGinCurPos

```
POINT TCSGinCurPos = { TEK_XMAX / 2, TEK_YMAX / 2}  [static]
```
Definition at line 435 of file TCSdWINc.c.

6.34.5.35 TCSinitialized

```
bool TCSinitialized = false  [static]
```
Definition at line 361 of file TCSdWINc.c.

6.34.5.36 TCSrect

```
RECT TCSrect = {0,0, HiRes(TEK_XMAX),HiRes(TEK_YMAX)}  [static]
```
Definition at line 359 of file TCSdWINc.c.

6.34.5.37 TCSstatCursorPosY

```
int TCSstatCursorPosY  [static]
```
Definition at line 425 of file TCSdWINc.c.

6.34.5.38 TCSstatOrgY

```
int TCSstatOrgY  [static]
```
Definition at line 424 of file TCSdWINc.c.

6.34.5.39 TCSstatRow

```
int TCSstatRow  [static]
```
Definition at line 426 of file TCSdWINc.c.

6.34.5.40 TCSstatScrollY

```
int TCSstatScrollY  [static]
```
Definition at line 423 of file TCSdWINc.c.

6.34.5.41 TCSstatTextBuf

```
StatLine TCSstatTextBuf[STAT_MAXROWS]  [static]
```
Definition at line 413 of file TCSdWINc.c.

6.34.5.42 TCSStatWindowAutomatic

```
bool TCSStatWindowAutomatic = true  [static]
```
Definition at line 363 of file TCSdWINc.c.

6.34.5.43 TCSstatWindowIniXrelpos

```
int TCSstatWindowIniXrelpos = TCS_INIDEF_STATPOSX  [static]
```
Definition at line 419 of file TCSdWINc.c.

6.34.5.44 TCSstatWindowIniXrelsiz

```
int TCSstatWindowIniXrelsiz = TCS_INIDEF_STATSIZX  [static]
```
Definition at line 421 of file TCSdWINc.c.

6.34.5.45 TCSstatWindowIniYrelpos

```
int TCSstatWindowIniYrelpos = TCS_INIDEF_STATPOSY  [static]
```
Definition at line 420 of file TCSdWINc.c.

6.34.5.46 TCSstatWindowIniYrelsiz

```
int TCSstatWindowIniYrelsiz = TCS_INIDEF_STATSIZY  [static]
```
Definition at line 422 of file TCSdWINc.c.

6.34.5.47 TCSwindowIniXrelpos

```
int TCSwindowIniXrelpos = TCS_INIDEF_WINPOSX  [static]
```
Definition at line 415 of file TCSdWINc.c.

6.34.5.48 TCSwindowIniXrelsiz

```
int TCSwindowIniXrelsiz = TCS_INIDEF_WINSIZX  [static]
```
Definition at line 417 of file TCSdWINc.c.

6.34.5.49 TCSwindowIniYrelpos

```
int TCSwindowIniYrelpos = TCS_INIDEF_WINPOSY  [static]
```
Definition at line 416 of file TCSdWINc.c.

6.34.5.50 TCSwindowIniYrelsiz

```
int TCSwindowIniYrelsiz = TCS_INIDEF_WINSIZY  [static]
```
Definition at line 418 of file TCSdWINc.c.

6.34.5.51 TextLineHeight

```
int TextLineHeight  [static]
```
Definition at line 427 of file TCSdWINc.c.

6.35 TCSdWINc.c

```
00001 /** ****************************************************************************
00002 \file       TCSdWINc.c
00003 \brief      MS Windows Port: Low-Level Driver
00004 \version    1.96
00005 \author     (C) 2022 Dr.-Ing. Klaus Friedewald
00006 \copyright  GNU LESSER GENERAL PUBLIC LICENSE Version 3
```

```
00007 \~german
00008          Systemnahe Graphikroutinen für das Tektronix Graphiksystem
00009 \note \verbatim
00010   TCSdWINc.c    : In C programmierte Routinen
00011
00012   TCSdrWIN.cpp  : Implementierung der Klasse TCSdrWIN.
00013                   Das File ist identisch mit TCSdrWIN.c.
00014 \endverbatim
00015 \~english
00016          system-specific subroutines of the teklib-library
00017 \note \verbatim
00018   TCSdWINc.c    : Routines programmed in C.
00019
00020   TCSdrWIN.cpp  : Implementation of class TCSdrWIN.
00021                   The file is identical to TCSdrWIN.c
00022  \endverbatim
00023 \~
00024 ************************************************************************** */
00025
00026 /*
00027         Anmerkungen:
00028           1. Die Systemmeldungen erfolgen in einem eigenen, im Regelfall
00029              unsichtbaren, Fenster. Durch Drücken der rechten Maustaste
00030              im Graphikfenster kann es sichtbar gemacht werden, durch
00031              Setzen des Fokus auf das Graphikfenster verschwindet es wieder.
00032              Bei aktiviertem GIN-Cursor kann die Umschaltung über der Titel-
00033              zeile erfolgen.
00034           2. Die Art der Protokollierung zum Neuzeichnen eines Fensters wird
00035              durch die Konstante JOURNALTYP gesteuert:
00036              --- JOURNALTYP 1 ---
00037              Die Zeichenbefehle werden mithilfe eines Metafiles im Speicher
00038              aufgezeichnet. Das Abspielen eines Metafiles in ein anderes führt
00039              bei Windows bis 3.0 einschließlich zum Systemabsturz! Ab Windows
00040              3.1 aufwärts ist das Problem behoben. Mögliche Abhilfe bei Windows
00041              3.0: Verwendung von Festplatten-basierten Metafiles.
00042              (lt. MS-SDK Dokumentation).
00043              --- JOURNALTYP 2: ---
00044              Anstelle eines Windows-Metafiles (*.wmf) wird ein extended
00045              Metafile (*.emf) verwendet. Funktion wurde im Hinblick auf das
00046              64bit-Windows entwickelt, für 32bit Windows entsteht im Vergleich
00047              zum Journaltyp 1 lediglich ein Performancenachteil.
00048              Anmerkung: MS-WORD besitzt Filter sowohl für *.wmf als auch *.emf
00049                         Dateien. Jedoch ist der *.emf-Filter bis WORD 2000 SP1
00050                         fehlerhaft (Buchstaben des stehen evtl. auf dem Kopf)
00051                         In Windows XP wird nach jedem Neuskalieren das *.emf
00052                         Metafile immer größer. Hierdurch dauert das Neuzeich-
00053                         nen unakzeptabel lange. Dieses Problem tritt bei
00054                         Windows 2000 nicht auf
00055                         -> JOURNALFILE 1 bei 32-bit Windows Default.
00056              --- JOURNALTYP 3: ---
00057              Die Zeichenbefehle werden in einer Liste aufgezeichnet. Ein
00058              einzelner Befehl hat den Aufbau
00059              struct xaction_typ {
00060                         FTNINT action
00061                         FTNINT i1
00062                         FTNINT i2
00063                                 } XACTION;
00064              Die TCS-Befehle im einzelnen:
00065                     erase ()
00066                      XACTION.action= XACTION_ERASE;
00067                     movabs (ix,iy)
00068                      XACTION.action= XACTION_MOVABS;
00069                      XACTION.i1= ix;
00070                      XACTION.i2= ix;
00071                     drwabs (ix.iy)
00072                      XACTION.action= XACTION_DRWABS;
00073                      XACTION.i1= ix;
00074                      XACTION.i2= ix;
00075                     dshabs (ix,iy,iDash)
00076                      XACTION.action= XACTION_DSHSTYLE;
00077                      XACTION.i1= iDash;
00078                      XACTION.action= XACTION_DSHABS;
00079                      XACTION.i1= ix;
00080                      XACTION.i2= ix;
00081                     pntabs (ix,iy)
00082                      XACTION.action= XACTION_PNTABS;
00083                      XACTION.i1= ix;
00084                      XACTION.i2= ix;
00085                     outgtext (string) - Graphiktext
00086                      XACTION.action= XACTION_GTEXT;
00087                      XACTION.i1= iChar;
00088                      XACTION.i2= iASCII_1;
00089                      XACTION.action= XACTION_ASCII;
00090                      XACTION.i1= iASCII_2;
00091                      XACTION.i2= iASCII_3;
00092                      ...
00093                      XACTION.action= XACTION_ASCII;
```

```
00094                    XACTION.i1= iASCII_iChar;
00095                   italic ()
00096                    XACTION.action= XACTION_FONTATTR;
00097                    XACTION.i1= 1; // Attribut 1
00098                    XACTION.i2= 1; // true
00099                   italir ()
00100                    XACTION.action= XACTION_FONTATTR;
00101                    XACTION.i1= 1; // Attribut 1
00102                    XACTION.i2= 0; // false
00103                   dblsiz ()
00104                    XACTION.action= XACTION_FONTATTR;
00105                    XACTION.i1= 2; // Attribut 2
00106                    XACTION.i2= 1; // true
00107                   nrmsiz ()
00108                    XACTION.action= XACTION_FONTATTR;
00109                    XACTION.i1= 2; // Attribut 2
00110                    XACTION.i2= 0; // false
00111
00112                   bckcol (iCol) - keine Zeichenarbeit, nur Commonblock
00113                   lincol (iCol)
00114                   txtcol (iCol)
00115                   DefaultColour () - keine Zeichenarbeit, nur Commonblock
00116
00117            3. Clipping: Windows erwartet die Angabe der Clipping-region in
00118               Devicekoordinaten, daher wird die Clipping-Region bei Vergrößern
00119               und Verzerren des Fensters nicht angepasst. Abhilfe: Implementa-
00120               tion einer eigen Clippingroutine, gesteuert über den Tektronix-
00121               Commonblock. Die (funktionierende) Definition der Clippingregion
00122               bei Ausgabe in die Zwischenablage wird so überflüssig.
00123            4. Linestyle in der Regel nur durchgezogen (wird auch durch LINCOL
00124               zurückgesetzt) -> Merken nicht nötig. Die aktuelle Farbe muß
00125               jedoch für DASH gemerkt werden!!!
00126            5. Übergabe der Windows-Instanz:
00127               A.  Subroutine INITT (iDummy) ruft GetMainInstAndWin auf und
00128                   speichert Instanz und Windowhandle durch SaveMainInstAndWin.
00129               B.  Übergabe des Instanz-Handlers als Parameter von INITT1 (hInst)
00130                   Der Aufruf von INITT1 kann auch mehrmals erfolgen, d.h. möglich
00131                   ist ein Aufruf von INITT1 durch ein C-Hauptprogramm und ein
00132                   erneuter INITT1-Aufruf durch FORTRAN-Unterprogramm. Hier gilt
00133                   dann der erste Aufruf, also die durch C übergebene Instanz.
00134               C.  Zur Vereinfachung der Programmentwicklung mit MS-Visual C++
00135                   wird bei INITT1(0) und Kompilierung durch den MS-Compiler
00136                   die Standardvariable hInst des Visual Studio verwendet.
00137            6. Initialisierung erfolgt in dem File GRAPH2D.INI
00138               Default: im Windows-Directory (c:\WINNT)
00139            7. Abweichend zur DOS-Version entspricht der Farbindex 0 weiss
00140               (Hintergrund) und der Index 1 schwarz.
00141            8. Bei Kompilierung als Konsolenanwendung oder als Window-Anwendung
00142               ohne Default-Windowsystem Fehler möglich. Debuggen durch
00143               Definition von "extended_error_handling".
00144               Ursache: fehlendes Fenster für das Hauptprogramm, Fehler ist
00145               jetzt behoben.
00146            9. Bei Watcom-Compiler den C-Teil ohne Optimierung compilieren!!!
00147           10. Getestete Compiler: WATCOM 11.0c, OpenWatcom 1.0 - 2.0.
00148               Bei neuen Compilern erst mit #define trace_calls übersetzen.
00149               Prüfen, ob __MainWindow definiert!
00150           11. Anpassungen an GNU-Compiler. Anstelle des Watcom-Defaultwindow-
00151               systems wird die eigene Routine WinMain.c verwendet.
00152           12. Auf Wunsch kann das Statusfenster einen privaten Device-Kontext
00153               erhalten: Definition des Symbols STAT_WINDOW_PRIVATE
00154           13. Bei mehreren Fenstern des Hauptprogrammes kann durch <Alt><F6>
00155               zwischen den einzelnen Fenstern umgeschaltet werden.
00156           14. Fuer die 16bit-Version ist das Watcom Default Window System
00157               notwendig. Bei 32bit ist ab der OpenWatcom Version 1.0 das
00158               Defaultsystem deaktiviert.
00159           15. Skalierung des Tektronix-Bildschirmkoordinatensystems (1023/780)
00160               ist bei Bildschirmen höherer Auflösung nicht ausreichend. Falls
00161               Anzahl der Bildschirmpixel in x-Richtung größer als 1024*Pixfac
00162               ist, hinterläßt der Rahmen eines über das Graphikfenster gezogenes
00163               Fensters horizontale und vertikale dünne Linien, die nach Mini-
00164               mierung und Neuzeichnen des Graphikfensters verschwinden.
00165               Vorsicht: PixFac *1024 darf bis einschließlich Windows95 nicht
00166               den 2-Byte int  Zahlenbereich (-32768...+32767) überschreiten!!!
00167               Bei PixFac=100 kann derzeit kein Refresh des Bildschirms durchge-
00168               fuehrt werden, nach erstem Zeichnen der Linie ((0,0)->(1023,780))
00169               erfolgt kein Neuzeichnen. Nicht nur einzige (?!) Ursache ist die
00170               Verwendung der 16bit GDI Befehle um METAFILE.
00171               Falls PixFac nicht definiert wird, erfolgt keine zusaetzliche
00172               Koordinatentransformation -> Performancegewinn bei alten Systemen.
00173           16. Im Falle von JOURNALTYP=3 darf der Fehler JOUUNKWN nur als
00174               Warnung definiert werden (G2dJouEntryUnknwnL= 1), da sonst inner-
00175               halb von TINPUT ein rekursiver Aufruf von TCSWndProc_OnPaint
00176               ueber GraphicError erfolgt!
00177               Dieser Punkt ist ab Version 1.93 mit der Verlagerung der Routine
00178               GraphicError in den c-Teil behoben.
00179           17. Die Defaultwerte des *.ini-Files müssen fuer die Initialisierung
00180               durch die Registry und/oder XML-Files auch bei der Variablen-
```

```
00181              definition angegeben werden, da GetPrivateProfileString nicht
00182              mehr in jedem Fall aufgerufen wird und somit Variablen evtl.
00183              nicht mehr vorbelegt sein koennen.
00184          18. Die Steuerung der Initialisierungmethode erfolgt ueber die File-
00185              extension des Initialisierungfiles.
00186              *.INI: Windows Initialisierungsfile
00187              *.REG: 32bit-Windows Registry
00188              *.XML: XML-Dateien
00189              Der Default (steuerbar durch das Extensiontoken .%) wird durch
00190               #define INIFILEXT _TEXT(".REG")         // win32: Registry
00191              bestimmt.
00192              Durch die Definition der Konstanten REGSUPPORT bzw. XMLSUPPORT
00193              wird der entsprechende Programmteil eingebunden.
00194          19. Aufgrund eines Bugs in der 32-bit Version von win7 darf eine
00195              Tastaturabfrage nicht ohne Filter efolgen, also nicht
00196               GetMessage (&msg, NULL, 0, 0);
00197              sondern
00198               GetMessage (&msg, NULL, WM_NULL, WM_USER);
00199              oder
00200               GetMessage (&msg, hWIND, 0, 0);
00201              Die früheren Versionen bis XP und auch die 64bit Version von Win7
00202              sind hiervon nicht betroffen.
00203          20. XML-Dateien verwenden i.d.R. UTF-8 Codierungen, deswegen erfolgt
00204              bei _UNICODE keine Einbindung des XML-Parsers.
00205          21. Journalfile Typ 3: Die verwendete Listenbibliothek verträgt sich
00206              nicht mit den Makros LoRes und HiRes. Deswegen darf dann PixFac
00207              nicht definiert werden.
00208
00209 */
00210
00211
00212 // #define UNICODE   // fuer Windows-Headerfiles -> jedoch Watcom FTN77 nicht
00213 // #define _UNICODE  // fuer C-Runtime Headerfiles  UNICODEfähig !?!
00214
00215
00216 /*
00217 -------------------- Konfiguration des Zielystems ----------------------
00218 */
00219
00220 // #define PixFac  30               // s. Kommentar 15, 21
00221 // #define STAT_WINDOW_PRIVATE      // s. Kommentar 12
00222 // #define REGSUPPORT               // s. Kommentar 18
00223 // #define XMLSUPPORT               // s. Kommentar 18
00224 // #define INIFILEXT _TEXT(".XML")  // s. Kommentar 18
00225 // #define JOURNALTYP 3             // s. Kommentar 2, 21
00226
00227 #if !defined(JOURNALTYP) // Defaultwerte, falls nicht oben definiert
00228  #if !defined(__WIN32__) && !defined(_WIN32)
00229   /* Defaultvorgabe 16bit: langsame CPU, Aufloesung <= 1024x780 Pxl */
00230   #define JOURNALTYP 1       // s. Kommentar 2, nur *.wmf implementiert
00231   #undef PixFac              // s. Kommentar 15, LoRes
00232   #undef STAT_WINDOW_PRIVATE // s. Kommentar 12
00233  #else
00234   // Default 32bit: kein extended Metafile, Auflösung <= 30*1024 x 30*780 Pxl
00235   #define JOURNALTYP 1       // *.emf hoeherer Overhead -> unnoetig
00236   #define PixFac  30         // Koordinatentransformation hochauflösende CRT's
00237   #undef STAT_WINDOW_PRIVATE // s. Kommentar 12
00238  #endif
00239 #endif
00240
00241 #if !defined(INIFILEXT)
00242  #if !defined(__WIN32__) && !defined(_WIN32)
00243   #define INIFILEXT _TEXT(".INI") // s. Kommentar 18, win16: *.ini Dateien
00244   #undef REGSUPPORT              // Keine vollwertige Registry, nur win.ini
00245   #undef XMLSUPPORT              // Programmgroesse verringern
00246  #else
00247   #define INIFILEXT _TEXT(".REG") // win32: Registry
00248   #define REGSUPPORT
00249   #if (defined(__WIN64__) || defined(_WIN64))
00250    #define XMLSUPPORT
00251   #else
00252    #undef XMLSUPPORT
00253   #endif
00254  #endif
00255 #endif
00256
00257 #if (JOURNALTYP == 3)
00258  #undef PixFac                  // s. Kommentar 21
00259 #endif
00260
00261 #if defined(UNICODE) || defined(_UNICODE)
00262  #undef XMLSUPPORT              // s. Kommentar 20
00263 #endif
00264
00265 /*
00266 -------------------- Headerfiles ----------------------------------------
00267 */
```

```
00268
00269 #define WIN32_LEAN_AND_MEAN
00270 #include <windows.h>   // Muss unbedingt vor den Standard C-Headern stehen, da
00271 #include <windowsx.h>  // hier NULL fuer 16bit Windows als 0 definiert wird
00272
00273 #include <stdlib.h>
00274 #include <string.h>
00275 #include <stdio.h>
00276 #include <tchar.h>     // Public Domain ueber MINGW-Package, nicht nur MS
00277
00278 #if defined(__WATCOMC__) && defined(__SW_BW)
00279  #include <wdefwin.h>   // Compilerswitch -bw: Watcom Default Window System
00280 #endif
00281
00282 #ifdef XMLSUPPORT
00283  #include  "mxml.h"
00284 #endif
00285
00286 #if (JOURNALTYP == 3)
00287  #include "sglib.h"
00288 #endif
00289
00290 #include "TCSdWINc.h"
00291 #include "TKTRNX.h"
00292
00293 /*
00294 -------------------- Debug Compiler Switches --------------------------
00295 */
00296
00297 // #define extended_error_handling
00298 #if !defined(__WIN32__) && !defined(_WIN32)
00299   #undef extended_error_handling
00300 #endif
00301
00302 // #define trace_calls
00303 /* Debug-Messageboxen / Compilermessages, nach include definieren! */
00304
00305 #ifdef trace_calls
00306
00307  #ifdef __WATCOMC__
00308   #if (__WATCOMC__ == 1100)
00309    #pragma message ( "Symbol __WATCOMC__ defined to 1100 (Version 11.0c)")
00310   #elif (__WATCOMC__ >= 1200)
00311    #pragma message ( "Symbol __WATCOMC__ defined (OpenWatcom Version >= 1.0)")
00312   #else
00313    /* Andere Versionen noch nicht getestet! */
00314    #pragma message ( "Untested Version: Symbol __WATCOMC__ defined to :")
00315    #pragma message (__WATCOMC__) // Erzwingen Fehler zur Erweiterung
00316   #endif
00317   #if !defined(__WIN32__) && !defined(_WIN32)
00318    #pragma message ( "16 bit Windows" )
00319   #else
00320    #pragma message ( "32 bit Windows" )
00321   #endif
00322  #endif
00323
00324  #ifdef _MSC_VER
00325   #pragma message ( "Symbol _MSC_VER defined" )
00326   #if !defined(__WIN32__) && !defined(_WIN32)
00327    #pragma message ( "16 bit Windows" )
00328   #else
00329    #pragma message ( "32 bit Windows" )
00330   #endif
00331  #endif
00332
00333  #ifdef __GNUC__
00334   #warning "GNU-Compiler"
00335   #if !defined(__WIN32__) && !defined(_WIN32)
00336    #warning "16 bit Windows"
00337   #elif !defined(__WIN64__) && !defined(_WIN64)
00338    #warning "32 bit Windows"
00339   #else
00340    #warning "64 bit Windows"
00341   #endif
00342  #endif
00343
00344 #endif
00345
00346 /*
00347 -------------- Compilerunabhaengige externe Bezüge ---------------------
00348 */
00349
00350
00351 extern void CreateMainWindow_IfNecessary (HINSTANCE * hMainProgInst,
00352                                           HWND * hMainProgWindow, LPTSTR szWinName);
00353
00354
```

```
00355 /*
00356 ------------------------ Globale Variablen ----------------------------
00357 */
00358
00359 static  RECT    TCSrect = {0,0, HiRes(TEK_XMAX),HiRes(TEK_YMAX)}; // Plotbereich
00360
00361 static  bool    TCSinitialized = false,
00362                 ClippingNotActive = true,
00363                 TCSStatWindowAutomatic = true;
00364
00365 static  HINSTANCE hTCSInst = NULL;
00366
00367 static  HWND    hTCSWindow = NULL,
00368                 hTCSstatWindow = NULL,
00369                 hOwnerWindow = NULL;
00370
00371 static  HDC     hTCSWindowDC;     // privater DC, gilt ganze Fensterlebensdauer
00372
00373 #if (JOURNALTYP == 1)
00374  static  HDC    hTCSMetaFileDC;   // Metafile als Recorder für WM_PAINT
00375 #elif (JOURNALTYP == 2)
00376  static  HDC    hTCSMetaFileDC;   // extended Metafile als Recorder WM_PAINT
00377 #elif (JOURNALTYP == 3)
00378  struct xJournalEntry_typ {struct xJournalEntry_typ * previous;
00379                            struct xJournalEntry_typ * next;
00380                            FTNINT action; FTNINT i1; FTNINT i2;};
00381  static struct xJournalEntry_typ* hTCSJournal = NULL;
00382                                   // Journal zum Neuzeichnen des Fensters
00383 #endif
00384
00385 #ifdef STAT_WINDOW_PRIVATE
00386  static HDC     hTCSstatWindowDC;
00387 #endif
00388
00389
00390 static  LOGFONT TCSFontdefinition;
00391
00392 static  HFONT   hTCSFont,
00393                 hTCSSysFont;
00394
00395 static  HPEN    hTCSPen;
00396
00397 static  HCURSOR hGinCurs,
00398                 hMouseCurs;
00399
00400 static  TCHAR   szTCSWindowName[TCS_WINDOW_NAMELEN] = "", // Default TCS_WINDOW_NAME erst in ??
      gesetzt
00401                 szTCSstatWindowName[TCS_WINDOW_NAMELEN] = "", // TCS_STATWINDOW_NAME,
00402                 szTCSMainWindowName[TCS_WINDOW_NAMELEN] = TCS_MAINWINDOW_NAME,
00403                 szTCSIniFile[TCS_FILE_NAMELEN] = TCS_INIFILE_NAME INIFILEXT,
00404                 szTCSIconFile[TCS_FILE_NAMELEN] = TCS_ICONFILE_NAME,
00405                 szTCSMenuCopyText[TCS_MENUENTRY_LEN] = TCS_INIDEF_COPMEN,
00406                 szTCSHardcopyFile[TCS_FILE_NAMELEN] = TCS_HDCFILE_NAME,
00407                 szTCSGraphicFont[TCS_FILE_NAMELEN] = TCS_INIDEF_FONT,
00408                 szTCSSysFont[TCS_FILE_NAMELEN] = TCS_INIDEF_SYSFONT,
00409                 szTCSsect0[TCS_FILE_NAMELEN] = TCS_INISECT0;
00410
00411
00412 typedef TCHAR   StatLine[STAT_MAXCOLUMNS+1];
00413 static  StatLine TCSstatTextBuf[STAT_MAXROWS];
00414
00415 static  int     TCSwindowIniXrelpos = TCS_INIDEF_WINPOSX, // rel. Bildschirmpos.
00416                 TCSwindowIniYrelpos = TCS_INIDEF_WINPOSY, // bei Init in %
00417                 TCSwindowIniXrelsiz = TCS_INIDEF_WINSIZX,
00418                 TCSwindowIniYrelsiz = TCS_INIDEF_WINSIZY,
00419                 TCSstatWindowIniXrelpos = TCS_INIDEF_STATPOSX, // dito
00420                 TCSstatWindowIniYrelpos = TCS_INIDEF_STATPOSY, // Statusfenster
00421                 TCSstatWindowIniXrelsiz = TCS_INIDEF_STATSIZX,
00422                 TCSstatWindowIniYrelsiz = TCS_INIDEF_STATSIZY,
00423                 TCSstatScrollY, // Position des sichtbaren Scrollbereichs
00424                 TCSstatOrgY,    // Ursprung des log. Koordinatensystems
00425                 TCSstatCursorPosY,
00426                 TCSstatRow,
00427                 TextLineHeight,
00428                 TCSCharHeight,
00429                 TCSBackgroundColour,
00430                 TCSDefaultLinCol = TCS_INIDEF_LINCOL,
00431                 TCSDefaultTxtCol = TCS_INIDEF_TXTCOL,
00432                 TCSDefaultBckCol = TCS_INIDEF_BCKCOL,
00433                 iHardcopyCount =1;  // Zähler zur Erzeugung Filenamen
00434
00435 static  POINT   TCSGinCurPos = { TEK_XMAX / 2, TEK_YMAX / 2};
00436
00437
00438 /* Zuordnung Fehlernummern zu Meldungen,  */
00439
00440 typedef TCHAR   ErrMsg[STAT_MAXCOLUMNS];
```

```
00441 static  ErrMsg  szTCSErrorMsg[(int) MSG_MAXERRNO+1] =
00442                 {_T("Element 0 unused"),_T("DOS"),_T("DOS"),_T("DOS"),
00443                  _T("DOS"),_T("DOS"),   // Errno 0..5
00444                 TCS_INIDEF_HDCOPN,      // Errno 6
00445                 TCS_INIDEF_HDCWRT,      // Errno 7
00446                 TCS_INIDEF_HDCINT,      // Errno 8
00447                 TCS_INIDEF_USR,         // Errno 9
00448                 TCS_INIDEF_HDCACT,      // Errno 10
00449                 TCS_INIDEF_USRWRN,      // Errno 11
00450                 TCS_INIDEF_EXIT,        // Errno 12
00451                 TCS_INIDEF_COPMEM,      // Errno 13
00452                 TCS_INIDEF_COPLCK,      // Errno 14
00453                 TCS_INIDEF_JOUCREATE,   // Errno 15
00454                 TCS_INIDEF_JOUENTRY,    // Errno 16
00455                 TCS_INIDEF_JOUADD,      // Errno 17
00456                 TCS_INIDEF_JOUCLR,      // Errno 18
00457                 TCS_INIDEF_JOUUNKWN,    // Errno 19
00458                 TCS_INIDEF_XMLPARSER,   // Errno 20
00459                 TCS_INIDEF_XMLOPEN,     // Errno 21
00460                 _T("SDL"),
00461                 TCS_INIDEF_USR2,        // Errno 23
00462                 TCS_INIDEF_INI2,        // Errno 24
00463                 _T("Maxerr only for internal Use") };
00464
00465 static  int     TCSErrorLev[(int) MSG_MAXERRNO+1] =
00466                 {10,10,10,10,10,10,
00467                 TCS_INIDEF_HDCOPNL,     // Errno 6
00468                 TCS_INIDEF_HDCWRTL,     // Errno 7
00469                 TCS_INIDEF_HDCINTL,     // Errno 8
00470                 TCS_INIDEF_USRL,        // Errno 9
00471                 TCS_INIDEF_HDCACTL,     // Errno 10
00472                 TCS_INIDEF_USRWRNL,     // Errno 11
00473                 TCS_INIDEF_EXITL,       // Errno 12
00474                 TCS_INIDEF_COPMEML,     // Errno 13
00475                 TCS_INIDEF_COPLCKL,     // Errno 14
00476                 TCS_INIDEF_JOUCREATEL,  // Errno 15
00477                 TCS_INIDEF_JOUENTRYL,   // Errno 16
00478                 TCS_INIDEF_JOUADDL,     // Errno 17
00479                 TCS_INIDEF_JOUCLRL,     // Errno 18
00480                 TCS_INIDEF_JOUUNKWNL,   // Errno 19
00481                 TCS_INIDEF_XMLPARSERL,  // Errno 20
00482                 TCS_INIDEF_XMLOPENL,    // Errno 21
00483                 10,
00484                 TCS_INIDEF_USR2L,       // Errno 23
00485                 TCS_INIDEF_INI2L,       // Errno 24
00486                 10};
00487
00488
00489
00490 /* Zuordnung der Linienarten zu Liniennummern */
00491
00492 static  DWORD dwPenStyle[] = {
00493                              PS_SOLID,   /* iMask= 0 */
00494                              PS_DOT,     /* iMask= 1 */
00495                              PS_DASHDOT, /* iMask= 2 */
00496                              PS_DASH     /* iMask= 3 */
00497                             };
00498 #define MAX_PENSTYLE_INDEX 3
00499
00500
00501 /* Zuordnung der Farbennummern zur VGA-Palette */
00502
00503 static  DWORD dwColorTable[] = {
00504                               RGB (240,240,240), /* iCol= 00: weiss (DOS: 01) */
00505                               RGB (  0,  0,  0), /* iCol= 01: schwarz(DOS:00) */
00506                               RGB (240, 80, 80), /* iCol= 02: rot             */
00507                               RGB ( 80,240, 80), /* iCol= 03: gruen           */
00508                               RGB ( 80,240,240), /* iCol= 04: blau            */
00509                               RGB ( 80, 80,240), /* iCol= 05: lila            */
00510                               RGB (240,240, 80), /* iCol= 06: gelb            */
00511                               RGB (160,160,160), /* iCol= 07: grau            */
00512                               RGB (240, 80,240), /* iCol= 08: violett         */
00513                               RGB (160,  0,  0), /* iCol= 09: mattrot         */
00514                               RGB (  0,160,  0), /* iCol= 10: mattgruen       */
00515                               RGB (  0,  0,160), /* iCol= 11: mattblau        */
00516                               RGB (  0,160,160), /* iCol= 12: mattlila        */
00517                               RGB (160, 80,  0), /* iCol= 13: orange          */
00518                               RGB ( 80, 80, 80), /* iCol= 14: mattgrau        */
00519                               RGB (160,  0,160)  /* iCol= 15: mattviolett     */
00520                              };
00521 #define MAX_COLOR_INDEX 15
00522
00523
00524
00525 /*
00526 ---------------------- Globale Unterprogramme ------------------------
00527 */
```

```
00528
00529
00530
00531 void TCSGraphicError (int iErr, const char* msg)
00532 {
00533 char cBuf[TCS_MESSAGELEN];
00534 FTNINT i; // Dummyparameter
00535 FTNSTRDESC  ftnstrg;
00536
00537     snprintf( cBuf, TCS_MESSAGELEN, szTCSErrorMsg[iErr], msg );
00538     if ((iErr == WRN_JOUUNKWN) || // Rekursion von TCSWndProc_OnPaint vermeiden
00539         (iErr == ERR_XMLOPEN)          ) { // System noch nicht initialisiert
00540      MessageBox (NULL, _T(cBuf), szTCSWindowName, MB_ICONINFORMATION);
00541     } else { // ab jetzt mit bell, outtext...
00542      InvalidateRect (hTCSWindow, NULL, true); /* ,ClientArea, EraseFlag */
00543      UpdateWindow (hTCSWindow); /* Notwendig bei OnPaint mit Journaltyp=3 */
00544      bell (); // -> MessgageBeep / winuser.h, ohne Initialisierung verwendbar
00545      ftnstrg.addr= cBuf; ftnstrg.len= strlen (cBuf);
00546      TCSdrWIN__ outtext (CALLFTNSTRA(ftnstrg) CALLFTNSTRL(ftnstrg));
00547      if (TCSErrorLev[iErr] >1) {
00548       if (TCSErrorLev[iErr] < 10) {
00549        if (TCSErrorLev[iErr] == 5) {
00550         tinput (&i); // Press Any Key
00551        }
00552        if (TCSErrorLev[iErr]==8) {
00553         MessageBox (NULL, _T(cBuf), szTCSWindowName, MB_ICONINFORMATION);
00554        }
00555       } else {
00556        if (TCSErrorLev[iErr] == 10) {
00557         tinput (&i); // Press Any Key
00558        }
00559        if (TCSErrorLev[iErr]==12) {
00560          MessageBox (NULL, _T(cBuf), szTCSWindowName, MB_ICONSTOP);
00561        }
00562        if (iErr != ERR_EXIT) { // Error-Level von finitt durch XML veraenderbar
00563          TCSErrorLev[ERR_EXIT] = 10; // Hier: Fehler mit Programmabbruch
00564          finitt ();                  // Erzwungenes Beenden durch finitt
00565        }
00566       }
00567      }
00568     }
00569 }
00570
00571
00572
00573 // ------------- Unterprogramme fuer die Event Handler  ----------------
00574
00575
00576
00577
00578 // ------------- Unterprogramme für die Userroutinen -------------------
00579
00580
00581 #if defined(REGSUPPORT)
00582  void StoreIni (TCHAR * szSection, TCHAR * szField, TCHAR * szValue)
00583  {
00584
00585     if (_tcsicmp (szSection,TCS_INISECT1) == 0 ) { // Section1: Names ---------
00586      if (_tcsicmp (szField,TCS_INIVAR_WINNAM) == 0 ) {
00587       if (_tcslen(szTCSWindowName)==0) _tcsncpy(szTCSWindowName,
00588                                                 szValue,TCS_WINDOW_NAMELEN-1);
00589      } else if (_tcsicmp (szField,TCS_INIVAR_STATNAM) == 0 ) {
00590       if (_tcslen(szTCSstatWindowName)==0) _tcsncpy(szTCSstatWindowName,
00591                                                 szValue,TCS_WINDOW_NAMELEN-1);
00592      } else if (_tcsicmp (szField,TCS_INIVAR_MAINWINNAM) == 0 ) {
00593       _tcsncpy(szTCSMainWindowName, szValue,TCS_WINDOW_NAMELEN-1);
00594      } else if (_tcsicmp (szField,TCS_INIVAR_HDCNAM) == 0 ) {
00595       _tcsncpy(szTCSHardcopyFile, szValue,TCS_FILE_NAMELEN-1);
00596      }
00597
00598     } else if (_tcsicmp (szSection,TCS_INISECT2) == 0 ) { // Section2: Layout -
00599      if (_tcsicmp (szField,TCS_INIVAR_COPMEN) == 0 ) {
00600       _tcsncpy(szTCSMenuCopyText, szValue,TCS_MENUENTRY_LEN-1);
00601      } else if (_tcsicmp (szField,TCS_INIVAR_FONT) == 0 ) {
00602       _tcsncpy(szTCSGraphicFont, szValue,TCS_FILE_NAMELEN-1);
00603      } else if (_tcsicmp (szField,TCS_INIVAR_SYSFONT) == 0 ) {
00604       _tcsncpy(szTCSSysFont, szValue,TCS_FILE_NAMELEN-1);
00605      } else if (_tcsicmp (szField,TCS_INIVAR_ICONNAM) == 0 ) {
00606       _tcsncpy(szTCSIconFile, szValue,TCS_FILE_NAMELEN-1);
00607
00608      } else if (_tcsicmp (szField,TCS_INIVAR_WINPOSX) == 0 ) {
00609       TCSwindowIniXrelpos= * (int*) szValue;
00610      } else if (_tcsicmp (szField,TCS_INIVAR_WINPOSY) == 0 ) {
00611       TCSwindowIniYrelpos= * (int*) szValue;
00612      } else if (_tcsicmp (szField,TCS_INIVAR_WINSIZX) == 0 ) {
00613       TCSwindowIniXrelsiz= * (int*) szValue;
00614      } else if (_tcsicmp (szField,TCS_INIVAR_WINSIZY) == 0 ) {
```

```
00615       TCSwindowIniYrelsiz= * (int*) szValue;
00616
00617      } else if (_tcsicmp (szField,TCS_INIVAR_STATPOSX) == 0 ) {
00618       TCSstatWindowIniXrelpos= * (int*) szValue;
00619      } else if (_tcsicmp (szField,TCS_INIVAR_STATPOSY) == 0 ) {
00620       TCSstatWindowIniYrelpos= * (int*) szValue;
00621      } else if (_tcsicmp (szField,TCS_INIVAR_STATSIZX) == 0 ) {
00622       TCSstatWindowIniXrelsiz= * (int*) szValue;
00623      } else if (_tcsicmp (szField,TCS_INIVAR_STATSIZY) == 0 ) {
00624       TCSstatWindowIniYrelsiz= * (int*) szValue;
00625
00626      } else if (_tcsicmp (szField,TCS_INIVAR_LINCOL) == 0 ) {
00627       TCSDefaultLinCol= * (int*) szValue;
00628      } else if (_tcsicmp (szField,TCS_INIVAR_TXTCOL) == 0 ) {
00629       TCSDefaultTxtCol= * (int*) szValue;
00630      } else if (_tcsicmp (szField,TCS_INIVAR_BCKCOL) == 0 ) {
00631       TCSDefaultBckCol= * (int*) szValue;
00632      }
00633
00634     } else if (_tcsicmp (szSection,TCS_INISECT3) == 0 ) { // Section3: Messages
00635      if (_tcsicmp (szField,TCS_INIVAR_HDCOPN) == 0 ) {
00636       _tcsncpy(szTCSErrorMsg[WRN_HDCFILOPN], szValue,STAT_MAXCOLUMNS-1);
00637      } else if (_tcsicmp (szField,TCS_INIVAR_HDCOPNL) == 0 ) {
00638       TCSErrorLev[WRN_HDCFILOPN]= * (int*) szValue;
00639
00640      } else if (_tcsicmp (szField,TCS_INIVAR_HDCWRT) == 0 ) {
00641       _tcsncpy(szTCSErrorMsg[WRN_HDCFILWRT], szValue,STAT_MAXCOLUMNS-1);
00642      } else if (_tcsicmp (szField,TCS_INIVAR_HDCWRTL) == 0 ) {
00643       TCSErrorLev[WRN_HDCFILWRT]= * (int*) szValue;
00644
00645      } else if (_tcsicmp (szField,TCS_INIVAR_HDCINT) == 0 ) {
00646       _tcsncpy(szTCSErrorMsg[WRN_HDCINTERN], szValue,STAT_MAXCOLUMNS-1);
00647      } else if (_tcsicmp (szField,TCS_INIVAR_HDCINTL) == 0 ) {
00648       TCSErrorLev[WRN_HDCINTERN]= * (int*) szValue;
00649
00650      } else if (_tcsicmp (szField,TCS_INIVAR_USR) == 0 ) {
00651       _tcsncpy(szTCSErrorMsg[MSG_USR], szValue,STAT_MAXCOLUMNS-1);
00652      } else if (_tcsicmp (szField,TCS_INIVAR_USRL) == 0 ) {
00653       TCSErrorLev[MSG_USR]= * (int*) szValue;
00654
00655      } else if (_tcsicmp (szField,TCS_INIVAR_HDCACT) == 0 ) {
00656       _tcsncpy(szTCSErrorMsg[MSG_HDCACT], szValue,STAT_MAXCOLUMNS-1);
00657      } else if (_tcsicmp (szField,TCS_INIVAR_HDCACTL) == 0 ) {
00658       TCSErrorLev[MSG_HDCACT]= * (int*) szValue;
00659
00660      } else if (_tcsicmp (szField,TCS_INIVAR_USRWRN) == 0 ) {
00661       _tcsncpy(szTCSErrorMsg[WRN_USRPRESSANY], szValue,STAT_MAXCOLUMNS-1);
00662      } else if (_tcsicmp (szField,TCS_INIVAR_USRWRNL) == 0 ) {
00663       TCSErrorLev[WRN_USRPRESSANY]= * (int*) szValue;
00664
00665      } else if (_tcsicmp (szField,TCS_INIVAR_EXIT) == 0 ) {
00666       _tcsncpy(szTCSErrorMsg[ERR_EXIT], szValue,STAT_MAXCOLUMNS-1);
00667      } else if (_tcsicmp (szField,TCS_INIVAR_EXITL) == 0 ) {
00668       TCSErrorLev[ERR_EXIT]= * (int*) szValue;
00669
00670      } else if (_tcsicmp (szField,TCS_INIVAR_COPMEM) == 0 ) {
00671       _tcsncpy(szTCSErrorMsg[WRN_COPYNOMEM], szValue,STAT_MAXCOLUMNS-1);
00672      } else if (_tcsicmp (szField,TCS_INIVAR_COPMEML) == 0 ) {
00673       TCSErrorLev[WRN_COPYNOMEM]= * (int*) szValue;
00674
00675      } else if (_tcsicmp (szField,TCS_INIVAR_COPLCK) == 0 ) {
00676       _tcsncpy(szTCSErrorMsg[WRN_COPYLOCK], szValue,STAT_MAXCOLUMNS-1);
00677      } else if (_tcsicmp (szField,TCS_INIVAR_COPLCKL) == 0 ) {
00678       TCSErrorLev[WRN_COPYLOCK]= * (int*) szValue;
00679
00680      } else if (_tcsicmp (szField,TCS_INIVAR_JOUCREATE) == 0 ) {
00681       _tcsncpy(szTCSErrorMsg[WRN_JOUCREATE], szValue,STAT_MAXCOLUMNS-1);
00682      } else if (_tcsicmp (szField,TCS_INIVAR_JOUCREATEL) == 0 ) {
00683       TCSErrorLev[WRN_JOUCREATE]= * (int*) szValue;
00684
00685      } else if (_tcsicmp (szField,TCS_INIVAR_JOUENTRY) == 0 ) {
00686       _tcsncpy(szTCSErrorMsg[WRN_JOUENTRY], szValue,STAT_MAXCOLUMNS-1);
00687      } else if (_tcsicmp (szField,TCS_INIVAR_JOUENTRYL) == 0 ) {
00688       TCSErrorLev[WRN_JOUENTRY]= * (int*) szValue;
00689
00690      } else if (_tcsicmp (szField,TCS_INIVAR_JOUADD) == 0 ) {
00691       _tcsncpy(szTCSErrorMsg[WRN_JOUADD], szValue,STAT_MAXCOLUMNS-1);
00692      } else if (_tcsicmp (szField,TCS_INIVAR_JOUADDL) == 0 ) {
00693       TCSErrorLev[WRN_JOUADD]= * (int*) szValue;
00694
00695      } else if (_tcsicmp (szField,TCS_INIVAR_JOUCLR) == 0 ) {
00696       _tcsncpy(szTCSErrorMsg[WRN_JOUCLR], szValue,STAT_MAXCOLUMNS-1);
00697      } else if (_tcsicmp (szField,TCS_INIVAR_JOUCLRL) == 0 ) {
00698       TCSErrorLev[WRN_JOUCLR]= * (int*) szValue;
00699
00700      } else if (_tcsicmp (szField,TCS_INIVAR_JOUUNKWN) == 0 ) {
00701       _tcsncpy(szTCSErrorMsg[WRN_JOUUNKWN], szValue,STAT_MAXCOLUMNS-1);
```

```
00702       } else if (_tcsicmp (szField,TCS_INIVAR_JOUUNKWNL) == 0 ) {
00703        TCSErrorLev[WRN_JOUUNKWN]= * (int*) szValue;
00704
00705       } else if (_tcsicmp (szField,TCS_INIVAR_XMLPARSER) == 0 ) {
00706        _tcsncpy(szTCSErrorMsg[ERR_XMLPARSER], szValue,STAT_MAXCOLUMNS-1);
00707       } else if (_tcsicmp (szField,TCS_INIVAR_XMLPARSERL) == 0 ) {
00708        TCSErrorLev[ERR_XMLPARSER]= * (int*) szValue;
00709
00710       } else if (_tcsicmp (szField,ERR_XMLOPEN) == 0 ) {
00711        _tcsncpy(szTCSErrorMsg[ERR_XMLOPEN], szValue,STAT_MAXCOLUMNS-1);
00712       } else if (_tcsicmp (szField,TCS_INIVAR_XMLOPENL) == 0 ) {
00713        TCSErrorLev[ERR_XMLOPEN]= * (int*) szValue;
00714
00715       } else if (_tcsicmp (szField,TCS_INIVAR_USR2) == 0 ) {
00716        _tcsncpy(szTCSErrorMsg[MSG_USR2], szValue,STAT_MAXCOLUMNS-1);
00717       } else if (_tcsicmp (szField,TCS_INIVAR_USR2L) == 0 ) {
00718        TCSErrorLev[MSG_USR2]= * (int*) szValue;
00719
00720       } else if (_tcsicmp (szField,TCS_INIVAR_INI2) == 0 ) {
00721        _tcsncpy(szTCSErrorMsg[WRN_INI2], szValue,STAT_MAXCOLUMNS-1);
00722       } else if (_tcsicmp (szField,TCS_INIVAR_INI2L) == 0 ) {
00723        TCSErrorLev[WRN_INI2]= * (int*) szValue;
00724
00725       }
00726
00727     } // End case section
00728
00729  }
00730 #endif
00731
00732
00733 bool PointInWindow (FTNINT ix1, FTNINT iy1)
00734 {
00735     if (ClippingNotActive ) return true;
00736     return ( (TKTRNX.kminsx <= ix1) && (TKTRNX.kmaxsx >= ix1) &&
00737                     (TKTRNX.kminsy <= iy1) && (TKTRNX.kmaxsy >= iy1));
00738 }
00739
00740
00741
00742 bool ClipLineStart (FTNINT ix1, FTNINT iy1, FTNINT ix2, FTNINT iy2,
00743                                                 FTNINT *isx, FTNINT *isy)
00744 /* ClipLineStart=true: isx,isy Startpunkt; =false: Linie nicht zeichnen */
00745 {
00746     if (ClippingNotActive) {
00747      *isx= ix1; *isy= iy1;
00748      return true;
00749     }
00750
00751     if (ix1 < TKTRNX.kminsx) { /* Start links vom Fenster */
00752      if (ix2 < TKTRNX.kminsx) return false;
00753      *isy= iy1+((TKTRNX.kminsx-ix1) * (iy2-iy1)) / (ix2-ix1);
00754      if ((TKTRNX.kminsy <= *isy) && (TKTRNX.kmaxsy >= *isy)) {
00755       *isx= TKTRNX.kminsx;
00756       return true;
00757      }
00758      if (iy1 == iy2) return false;
00759      if (((ix2-ix1)*(iy2-iy1)) >= 0) { /* Steigung positiv */
00760       *isx= ix1+ ((TKTRNX.kminsy-iy1)*(ix2-ix1))/(iy2-iy1);
00761       *isy= TKTRNX.kminsy;
00762      } else {
00763       *isx= ix1+ ((TKTRNX.kmaxsy-iy1)*(ix2-ix1))/(iy2-iy1);
00764       *isy= TKTRNX.kmaxsy;
00765      }
00766      if ((*isx > TKTRNX.kmaxsx) || (*isx < TKTRNX.kminsx)) return false;
00767      return true;
00768
00769     } else if (ix1 > TKTRNX.kmaxsx) { /* Start rechts vom Fenster */
00770      if (ix2 > TKTRNX.kmaxsx) return false;
00771      *isy= iy1+((TKTRNX.kmaxsx-ix1) * (iy2-iy1)) / (ix2-ix1);
00772      if ((TKTRNX.kminsy <= *isy) && (TKTRNX.kmaxsy >= *isy)) {
00773       *isx= TKTRNX.kmaxsx;
00774       return true;
00775      }
00776      if (iy1 == iy2) return false;
00777      if (((ix2-ix1)*(iy2-iy1)) >= 0) { /* Steigung positiv */
00778       *isx= ix1+ ((TKTRNX.kmaxsy-iy1)*(ix2-ix1))/(iy2-iy1);
00779       *isy= TKTRNX.kmaxsy;
00780      } else {
00781       *isx= ix1+ ((TKTRNX.kminsy-iy1)*(ix2-ix1))/(iy2-iy1);
00782       *isy= TKTRNX.kminsy;
00783      }
00784      if ((*isx > TKTRNX.kmaxsx) || (*isx < TKTRNX.kminsx)) return false;
00785      return true;
00786
00787     } else if (iy1 < TKTRNX.kminsy) { /* Start unter dem Fenster */
00788      if (iy2 < TKTRNX.kminsy) return false;
```

```
00789      *isx= ix1+ ((TKTRNX.kminsy-iy1)*(ix2-ix1))/(iy2-iy1);
00790      if ((*isx > TKTRNX.kmaxsx) || (*isx < TKTRNX.kminsx)) return false;
00791      *isy= TKTRNX.kminsy;
00792      return true;
00793
00794     } else if (iy1 > TKTRNX.kmaxsy) { /* Start ueber dem Fenster */
00795      if (iy2 > TKTRNX.kmaxsy) return false;
00796      *isx= ix1+ ((TKTRNX.kmaxsy-iy1)*(ix2-ix1))/(iy2-iy1);
00797      if ((*isx > TKTRNX.kmaxsx) || (*isx < TKTRNX.kminsx)) return false;
00798      *isy= TKTRNX.kmaxsy;
00799      return true;
00800
00801     }
00802     *isx= ix1;                          /* Startpunkt liegt im Fenster */
00803     *isy= iy1;
00804     return true;
00805 }
00806
00807
00808
00809 /*
00810 ------------------- Event Handler zum Parsen von XML-Dateien ----------
00811 */
00812
00813 #if defined(XMLSUPPORT)
00814
00815 void sax_callback (mxml_node_t *node, mxml_sax_event_t event, void *usr)
00816 {
00817 char * StorePtr;
00818
00819     switch (event) {
00820      case MXML_SAX_ELEMENT_OPEN: {
00821       switch (*(int*)usr ) {
00822        case -1: { // Statemachine: noch keine aktive Sektion
00823         if (strcmp(mxmlGetElement(node),szTCSsect0) == 0) {
00824          *(int*)usr= 0;  // Parsing active
00825          mxmlElementSetAttr (node,"typ","none");
00826         }
00827         break;
00828        }
00829        case 0: {
00830         if ((strcmp(mxmlGetElement(node),TCS_INISECT1) == 0)  ) {
00831          *(int*)usr= 1; // State: TCS_INISECT1
00832         } else if ((strcmp(mxmlGetElement(node),TCS_INISECT2) == 0)  ) {
00833          *(int*)usr= 2; // State: TCS_INISECT2
00834         } else if ((strcmp(mxmlGetElement(node),TCS_INISECT3) == 0)  ) {
00835          *(int*)usr= 3; // State: TCS_INISECT3
00836         }
00837         mxmlElementSetAttr (node,"typ","none");
00838         break;
00839        }
00840
00841        case 1: { // Section = Names
00842         if ((strcmp(mxmlGetElement(node),TCS_INIVAR_WINNAM) == 0)  ) {
00843          mxmlElementSetAttr (node,"typ","opaque");
00844          mxmlElementSetAttrf(node,"store","%p",&szTCSWindowName);
00845         } else if ((strcmp(mxmlGetElement(node),TCS_INIVAR_STATNAM) == 0)  ) {
00846          mxmlElementSetAttr (node,"typ","opaque");
00847          mxmlElementSetAttrf(node,"store","%p",&szTCSstatWindowName);
00848         } else if ((strcmp(mxmlGetElement(node),TCS_INIVAR_MAINWINNAM) == 0)  ) {
00849          mxmlElementSetAttr (node,"typ","opaque");
00850          mxmlElementSetAttrf(node,"store","%p",&szTCSMainWindowName);
00851         } else if ((strcmp(mxmlGetElement(node),TCS_INIVAR_HDCNAM) == 0)  ) {
00852          mxmlElementSetAttr (node,"typ","opaque");
00853          mxmlElementSetAttrf(node,"store","%p",&szTCSHardcopyFile);
00854         }
00855         break;
00856        }
00857
00858        case 2: { // Section = Layout
00859         if ((strcmp(mxmlGetElement(node),TCS_INIVAR_COPMEN) == 0)  ) {
00860          mxmlElementSetAttr (node,"typ","opaque");
00861          mxmlElementSetAttrf(node,"store","%p",&szTCSMenuCopyText);
00862         } else if ((strcmp(mxmlGetElement(node),TCS_INIVAR_FONT) == 0)  ) {
00863          mxmlElementSetAttr (node,"typ","opaque");
00864          mxmlElementSetAttrf(node,"store","%p",&szTCSGraphicFont);
00865         } else if ((strcmp(mxmlGetElement(node),TCS_INIVAR_SYSFONT) == 0)  ) {
00866          mxmlElementSetAttr (node,"typ","opaque");
00867          mxmlElementSetAttrf(node,"store","%p",&szTCSSysFont);
00868         } else if ((strcmp(mxmlGetElement(node),TCS_INIVAR_ICONNAM) == 0)  ) {
00869          mxmlElementSetAttr (node,"typ","opaque");
00870          mxmlElementSetAttrf(node,"store","%p",&szTCSIconFile);
00871
00872         } else if ((strcmp(mxmlGetElement(node),TCS_INIVAR_WINPOSX) == 0)  ) {
00873          mxmlElementSetAttr (node,"typ","integer");
00874          mxmlElementSetAttrf(node,"store","%p",&TCSwindowIniXrelpos);
00875         } else if ((strcmp(mxmlGetElement(node),TCS_INIVAR_WINPOSY) == 0)  ) {
```

```
00876          mxmlElementSetAttr (node,"typ","integer");
00877          mxmlElementSetAttrf(node,"store","%p",&TCSwindowIniYrelpos);
00878         } else if ((strcmp(mxmlGetElement(node),TCS_INIVAR_WINSIZX) == 0)  ) {
00879          mxmlElementSetAttr (node,"typ","integer");
00880          mxmlElementSetAttrf(node,"store","%p",&TCSwindowIniXrelsiz);
00881         } else if ((strcmp(mxmlGetElement(node),TCS_INIVAR_WINSIZY) == 0)  ) {
00882          mxmlElementSetAttr (node,"typ","integer");
00883          mxmlElementSetAttrf(node,"store","%p",&TCSwindowIniYrelsiz);
00884
00885         } else if ((strcmp(mxmlGetElement(node),TCS_INIVAR_STATPOSX) == 0)  ) {
00886          mxmlElementSetAttr (node,"typ","integer");
00887          mxmlElementSetAttrf(node,"store","%p",&TCSstatWindowIniXrelpos);
00888         } else if ((strcmp(mxmlGetElement(node),TCS_INIVAR_STATPOSY) == 0)  ) {
00889          mxmlElementSetAttr (node,"typ","integer");
00890          mxmlElementSetAttrf(node,"store","%p",&TCSstatWindowIniYrelpos);
00891         } else if ((strcmp(mxmlGetElement(node),TCS_INIVAR_STATSIZX) == 0)  ) {
00892          mxmlElementSetAttr (node,"typ","integer");
00893          mxmlElementSetAttrf(node,"store","%p",&TCSstatWindowIniXrelsiz);
00894         } else if ((strcmp(mxmlGetElement(node),TCS_INIVAR_STATSIZY) == 0)  ) {
00895          mxmlElementSetAttr (node,"typ","integer");
00896          mxmlElementSetAttrf(node,"store","%p",&TCSstatWindowIniYrelsiz);
00897
00898         } else if ((strcmp(mxmlGetElement(node),TCS_INIVAR_LINCOL) == 0)  ) {
00899          mxmlElementSetAttr (node,"typ","integer");
00900          mxmlElementSetAttrf(node,"store","%p",&TCSDefaultLinCol);
00901         } else if ((strcmp(mxmlGetElement(node),TCS_INIVAR_TXTCOL) == 0)  ) {
00902          mxmlElementSetAttr (node,"typ","integer");
00903          mxmlElementSetAttrf(node,"store","%p",&TCSDefaultTxtCol);
00904         } else if ((strcmp(mxmlGetElement(node),TCS_INIVAR_BCKCOL) == 0)  ) {
00905          mxmlElementSetAttr (node,"typ","integer");
00906          mxmlElementSetAttrf(node,"store","%p",&TCSDefaultBckCol);
00907         }
00908         break;
00909        }
00910
00911        case 3: { // Section = Messages
00912         if ((strcmp(mxmlGetElement(node),TCS_INIVAR_HDCOPN) == 0)  ) {
00913          mxmlElementSetAttr (node,"typ","opaque");
00914          mxmlElementSetAttrf(node,"store","%p",&szTCSErrorMsg[WRN_HDCFILOPN]);
00915         } else if ((strcmp(mxmlGetElement(node),TCS_INIVAR_HDCOPNL) == 0)  ) {
00916          mxmlElementSetAttr (node,"typ","integer");
00917          mxmlElementSetAttrf(node,"store","%p",&TCSErrorLev[WRN_HDCFILOPN]);
00918
00919         } else if ((strcmp(mxmlGetElement(node),TCS_INIVAR_HDCWRT) == 0)  ) {
00920          mxmlElementSetAttr (node,"typ","opaque");
00921          mxmlElementSetAttrf(node,"store","%p",&szTCSErrorMsg[WRN_HDCFILWRT]);
00922         } else if ((strcmp(mxmlGetElement(node),TCS_INIVAR_HDCWRTL) == 0)  ) {
00923          mxmlElementSetAttr (node,"typ","integer");
00924          mxmlElementSetAttrf(node,"store","%p",&TCSErrorLev[WRN_HDCFILWRT]);
00925
00926         } else if ((strcmp(mxmlGetElement(node),TCS_INIVAR_HDCINT) == 0)  ) {
00927          mxmlElementSetAttr (node,"typ","opaque");
00928          mxmlElementSetAttrf(node,"store","%p",&szTCSErrorMsg[WRN_HDCINTERN]);
00929         } else if ((strcmp(mxmlGetElement(node),TCS_INIVAR_HDCINTL) == 0)  ) {
00930          mxmlElementSetAttr (node,"typ","integer");
00931          mxmlElementSetAttrf(node,"store","%p",&TCSErrorLev[WRN_HDCINTERN]);
00932
00933         } else if ((strcmp(mxmlGetElement(node),TCS_INIVAR_USR) == 0)  ) {
00934          mxmlElementSetAttr (node,"typ","opaque");
00935          mxmlElementSetAttrf(node,"store","%p",&szTCSErrorMsg[MSG_USR]);
00936         } else if ((strcmp(mxmlGetElement(node),TCS_INIVAR_USRL) == 0)  ) {
00937          mxmlElementSetAttr (node,"typ","integer");
00938          mxmlElementSetAttrf(node,"store","%p",&TCSErrorLev[MSG_USR]);
00939
00940         } else if ((strcmp(mxmlGetElement(node),TCS_INIVAR_HDCACT) == 0)  ) {
00941          mxmlElementSetAttr (node,"typ","opaque");
00942          mxmlElementSetAttrf(node,"store","%p",&szTCSErrorMsg[MSG_HDCACT]);
00943         } else if ((strcmp(mxmlGetElement(node),TCS_INIVAR_HDCACTL) == 0)  ) {
00944          mxmlElementSetAttr (node,"typ","integer");
00945          mxmlElementSetAttrf(node,"store","%p",&TCSErrorLev[MSG_HDCACT]);
00946
00947         } else if ((strcmp(mxmlGetElement(node),TCS_INIVAR_USRWRN) == 0)  ) {
00948          mxmlElementSetAttr (node,"typ","opaque");
00949          mxmlElementSetAttrf(node,"store","%p",&szTCSErrorMsg[WRN_USRPRESSANY]);
00950         } else if ((strcmp(mxmlGetElement(node),TCS_INIVAR_USRWRNL) == 0)  ) {
00951          mxmlElementSetAttr (node,"typ","integer");
00952          mxmlElementSetAttrf(node,"store","%p",&TCSErrorLev[WRN_USRPRESSANY]);
00953
00954         } else if ((strcmp(mxmlGetElement(node),TCS_INIVAR_EXIT) == 0)  ) {
00955          mxmlElementSetAttr (node,"typ","opaque");
00956          mxmlElementSetAttrf(node,"store","%p",&szTCSErrorMsg[ERR_EXIT]);
00957         } else if ((strcmp(mxmlGetElement(node),TCS_INIVAR_EXITL) == 0)  ) {
00958          mxmlElementSetAttr (node,"typ","integer");
00959          mxmlElementSetAttrf(node,"store","%p",&TCSErrorLev[ERR_EXIT]);
00960
00961         } else if ((strcmp(mxmlGetElement(node),TCS_INIVAR_COPMEM) == 0)  ) {
00962          mxmlElementSetAttr (node,"typ","opaque");
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00963          mxmlElementSetAttrf(node,"store","%p",&szTCSErrorMsg[WRN_COPYNOMEM]);
00964         } else if ((strcmp(mxmlGetElement(node),TCS_INIVAR_COPMEML) == 0)  ) {
00965          mxmlElementSetAttr (node,"typ","integer");
00966          mxmlElementSetAttrf(node,"store","%p",&TCSErrorLev[WRN_COPYNOMEM]);
00967
00968         } else if ((strcmp(mxmlGetElement(node),TCS_INIVAR_COPLCK) == 0)  ) {
00969          mxmlElementSetAttr (node,"typ","opaque");
00970          mxmlElementSetAttrf(node,"store","%p",&szTCSErrorMsg[WRN_COPYLOCK]);
00971         } else if ((strcmp(mxmlGetElement(node),TCS_INIVAR_COPLCKL) == 0)  ) {
00972          mxmlElementSetAttr (node,"typ","integer");
00973          mxmlElementSetAttrf(node,"store","%p",&TCSErrorLev[WRN_COPYLOCK]);
00974
00975         } else if ((strcmp(mxmlGetElement(node),TCS_INIVAR_JOUCREATE) == 0)  ) {
00976          mxmlElementSetAttr (node,"typ","opaque");
00977          mxmlElementSetAttrf(node,"store","%p",&szTCSErrorMsg[WRN_JOUCREATE]);
00978         } else if ((strcmp(mxmlGetElement(node),TCS_INIVAR_JOUCREATEL) == 0)  ) {
00979          mxmlElementSetAttr (node,"typ","integer");
00980          mxmlElementSetAttrf(node,"store","%p",&TCSErrorLev[WRN_JOUCREATE]);
00981
00982         } else if ((strcmp(mxmlGetElement(node),TCS_INIVAR_JOUENTRY) == 0)  ) {
00983          mxmlElementSetAttr (node,"typ","opaque");
00984          mxmlElementSetAttrf(node,"store","%p",&szTCSErrorMsg[WRN_JOUENTRY]);
00985         } else if ((strcmp(mxmlGetElement(node),TCS_INIVAR_JOUENTRYL) == 0)  ) {
00986          mxmlElementSetAttr (node,"typ","integer");
00987          mxmlElementSetAttrf(node,"store","%p",&TCSErrorLev[WRN_JOUENTRY]);
00988
00989         } else if ((strcmp(mxmlGetElement(node),TCS_INIVAR_JOUADD) == 0)  ) {
00990          mxmlElementSetAttr (node,"typ","opaque");
00991          mxmlElementSetAttrf(node,"store","%p",&szTCSErrorMsg[WRN_JOUADD]);
00992         } else if ((strcmp(mxmlGetElement(node),TCS_INIVAR_JOUADDL) == 0)  ) {
00993          mxmlElementSetAttr (node,"typ","integer");
00994          mxmlElementSetAttrf(node,"store","%p",&TCSErrorLev[WRN_JOUADD]);
00995
00996         } else if ((strcmp(mxmlGetElement(node),TCS_INIVAR_JOUCLR) == 0)  ) {
00997          mxmlElementSetAttr (node,"typ","opaque");
00998          mxmlElementSetAttrf(node,"store","%p",&szTCSErrorMsg[WRN_JOUCLR]);
00999         } else if ((strcmp(mxmlGetElement(node),TCS_INIVAR_JOUCLRL) == 0)  ) {
01000          mxmlElementSetAttr (node,"typ","integer");
01001          mxmlElementSetAttrf(node,"store","%p",&TCSErrorLev[WRN_JOUCLR]);
01002
01003         } else if ((strcmp(mxmlGetElement(node),TCS_INIVAR_JOUUNKWN) == 0)  ) {
01004          mxmlElementSetAttr (node,"typ","opaque");
01005          mxmlElementSetAttrf(node,"store","%p",&szTCSErrorMsg[WRN_JOUUNKWN]);
01006         } else if ((strcmp(mxmlGetElement(node),TCS_INIVAR_JOUUNKWNL) == 0)  ) {
01007          mxmlElementSetAttr (node,"typ","integer");
01008          mxmlElementSetAttrf(node,"store","%p",&TCSErrorLev[WRN_JOUUNKWN]);
01009
01010         } else if ((strcmp(mxmlGetElement(node),TCS_INIVAR_XMLPARSER) == 0)  ) {
01011          mxmlElementSetAttr (node,"typ","opaque");
01012          mxmlElementSetAttrf(node,"store","%p",&szTCSErrorMsg[ERR_XMLPARSER]);
01013         } else if ((strcmp(mxmlGetElement(node),TCS_INIVAR_XMLPARSERL) == 0)  ) {
01014          mxmlElementSetAttr (node,"typ","integer");
01015          mxmlElementSetAttrf(node,"store","%p",&TCSErrorLev[ERR_XMLPARSER]);
01016
01017         } else if ((strcmp(mxmlGetElement(node),TCS_INIVAR_XMLOPEN) == 0)  ) {
01018          mxmlElementSetAttr (node,"typ","opaque");
01019          mxmlElementSetAttrf(node,"store","%p",&szTCSErrorMsg[ERR_XMLOPEN]);
01020         } else if ((strcmp(mxmlGetElement(node),TCS_INIVAR_XMLOPENL) == 0)  ) {
01021          mxmlElementSetAttr (node,"typ","integer");
01022          mxmlElementSetAttrf(node,"store","%p",&TCSErrorLev[ERR_XMLOPEN]);
01023
01024         } else if ((strcmp(mxmlGetElement(node),TCS_INIVAR_USR2) == 0)  ) {
01025          mxmlElementSetAttr (node,"typ","opaque");
01026          mxmlElementSetAttrf(node,"store","%p",&szTCSErrorMsg[MSG_USR2]);
01027         } else if ((strcmp(mxmlGetElement(node),TCS_INIVAR_USR2L) == 0)  ) {
01028          mxmlElementSetAttr (node,"typ","integer");
01029          mxmlElementSetAttrf(node,"store","%p",&TCSErrorLev[MSG_USR2]);
01030
01031         } else if ((strcmp(mxmlGetElement(node),TCS_INIVAR_INI2) == 0)  ) {
01032          mxmlElementSetAttr (node,"typ","opaque");
01033          mxmlElementSetAttrf(node,"store","%p",&szTCSErrorMsg[WRN_INI2]);
01034         } else if ((strcmp(mxmlGetElement(node),TCS_INIVAR_INI2L) == 0)  ) {
01035          mxmlElementSetAttr (node,"typ","integer");
01036          mxmlElementSetAttrf(node,"store","%p",&TCSErrorLev[WRN_INI2]);
01037
01038         }
01039         break;
01040        }
01041
01042       }
01043       break;
01044      }
01045
01046      case MXML_SAX_DATA: {
01047       switch (mxmlGetType(node)) {
01048        case MXML_INTEGER: {
01049         sscanf (mxmlElementGetAttr(mxmlGetParent(node), "store"),"%p",&StorePtr);
```

```
01050          (*(int*)StorePtr)= mxmlGetInteger(node);
01051          break;
01052         }
01053         case MXML_REAL: {
01054          sscanf (mxmlElementGetAttr(mxmlGetParent(node), "store"),"%p",&StorePtr);
01055          (*(float*)StorePtr)= mxmlGetReal(node);
01056          break;
01057         }
01058         case MXML_TEXT: {
01059          sscanf (mxmlElementGetAttr(mxmlGetParent(node), "store"),"%p",&StorePtr);
01060          strcpy (StorePtr, mxmlGetText(node, NULL));
01061          break;
01062         }
01063         case MXML_OPAQUE: {
01064          sscanf (mxmlElementGetAttr(mxmlGetParent(node), "store"),"%p",&StorePtr);
01065          strcpy (StorePtr, mxmlGetOpaque(node));
01066          break;
01067         }
01068        }
01069        break;
01070       }
01071
01072       case MXML_SAX_ELEMENT_CLOSE: {
01073        if ((*(int*)usr==0) && (strcmp(mxmlGetElement(node),szTCSsect0)==0)) {
01074         *(int*)usr= -1; // State: idle
01075        } else if (
01076               ((*(int*)usr==1) && (strcmp(mxmlGetElement(node),TCS_INISECT1)==0))
01077            || ((*(int*)usr==2) && (strcmp(mxmlGetElement(node),TCS_INISECT2)==0))
01078            || ((*(int*)usr==3) && (strcmp(mxmlGetElement(node),TCS_INISECT3)==0))
01079            ) {
01080         *(int*)usr= 0; // State: Parsing active
01081        }
01082        break;
01083       }
01084      }
01085 }
01086
01087
01088 /* ------------------------------------------------------------------------ */
01089
01090
01091 mxml_type_t      sax_type_callback(mxml_node_t  *node)
01092 {
01093 const char *type;
01094
01095     if ((type = mxmlElementGetAttr(node, "typ")) == NULL) type = "none";
01096     if (!strcmp(type, "integer"))
01097      return (MXML_INTEGER);
01098     else if (!strcmp(type, "opaque") || !strcmp(type, "pre"))
01099      return (MXML_OPAQUE);
01100     else if (!strcmp(type, "real"))
01101      return (MXML_REAL);
01102     else if (!strcmp(type, "text"))
01103      return (MXML_TEXT);
01104     else
01105      return (MXML_IGNORE);
01106 }
01107
01108 /* ------------------------------------------------------------------------ */
01109
01110
01111 mxml_error_cb_t sax_error_callback (char *mssg)
01112 {
01113     TCSGraphicError (ERR_XMLPARSER, mssg);
01114     return;
01115 }
01116
01117 /* ------------------------------------------------------------------------ */
01118
01119 #endif   // Ende XML-Unterstützung
01120
01121
01122
01123
01124 /*
01125 ------------------- Event Handler Graphikfenster -----------------------
01126 */
01127
01128
01129
01130
01131 void TCSWndProc_OnPaint (HWND hWindow)
01132 {
01133 PAINTSTRUCT ps;
01134 #if (JOURNALTYP == 1)
01135  HMETAFILE hmf;
01136  HDC hTCSMetaFileDC1;
```

```
01137 #elif (JOURNALTYP == 2)
01138  HENHMETAFILE hmf;
01139  ENHMETAHEADER emh ;
01140  HDC hTCSMetaFileDC1;
01141  RECT   crtrect;
01142 #elif (JOURNALTYP == 3)
01143  struct xJournalEntry_typ    * xJournalEntry;
01144  HPEN   hPenDash, hPenOld;
01145  HFONT  hOldFont;
01146  int    iMaskIndex;
01147  int    iGraphTextLen, iGraphTextLenAkt;
01148  TCHAR  GraphTextBuf[STAT_MAXCOLUMNS+1];
01149 #endif
01150
01151
01152     BeginPaint (hWindow, &ps);
01153
01154 #if (JOURNALTYP == 1)
01155     hmf = CloseMetaFile (hTCSMetaFileDC);
01156     PlayMetaFile (hTCSWindowDC, hmf);           /* Wiederherstellung Anzeige */
01157
01158     hTCSMetaFileDC1  = CreateMetaFile (NULL);   /* 16bit Windows Metafile */
01159     PlayMetaFile (hTCSMetaFileDC1, hmf);        /* für neues Journalfile */
01160     DeleteMetaFile (hmf);                       /* alter Status Bildschirm */
01161     hTCSMetaFileDC = hTCSMetaFileDC1;           /* bereit zum Weiterzeichnen */
01162
01163 #elif (JOURNALTYP == 2)
01164     hmf = CloseEnhMetaFile (hTCSMetaFileDC);
01165     GetEnhMetaFileHeader (hmf, sizeof (emh), &emh) ;
01166     GetClientRect(hTCSWindow, &crtrect); // Zeichenbereich CRT in Pixeln
01167
01168     SetViewportExtEx (hTCSWindowDC, crtrect.right-crtrect.left,
01169                       crtrect.bottom-crtrect.top, NULL); // Zeichne EMF 1:1
01170     SetViewportOrgEx (hTCSWindowDC, crtrect.left, crtrect.bottom, NULL);
01171     SetWindowExtEx (hTCSWindowDC, TCSrect.right, TCSrect.bottom, NULL);
01172     SetWindowOrgEx (hTCSWindowDC, TCSrect.left, TCSrect.bottom, NULL);
01173
01174     PlayEnhMetaFile (hTCSWindowDC, hmf, &TCSrect); // Wiederherstellung Anzeige
01175
01176     SetViewportExtEx (hTCSWindowDC, crtrect.right-crtrect.left,
01177                       crtrect.top-crtrect.bottom, NULL); // Skaliere auf TEK
01178     SetViewportOrgEx (hTCSWindowDC, crtrect.left, crtrect.top, NULL);
01179     SetWindowExtEx (hTCSWindowDC, TCSrect.right, TCSrect.bottom, NULL);
01180     SetWindowOrgEx (hTCSWindowDC, TCSrect.left, TCSrect.bottom, NULL);
01181
01182
01183     hTCSMetaFileDC1  = CreateEnhMetaFile (hTCSWindowDC, NULL, &emh.rclFrame,
01184                       _T("TCS for Windows\0Journalfile created by OnPaint\0"));
01185
01186     SetMapMode (hTCSMetaFileDC1, MM_ANISOTROPIC);
01187     SetViewportExtEx (hTCSMetaFileDC1, TCSrect.right, TCSrect.bottom, NULL);
01188     SetViewportOrgEx (hTCSMetaFileDC1, TCSrect.left, TCSrect.bottom, NULL);
01189     SetWindowExtEx (hTCSMetaFileDC1, TCSrect.right, TCSrect.bottom, NULL);
01190     SetWindowOrgEx (hTCSMetaFileDC1, TCSrect.left, TCSrect.bottom, NULL);
01191
01192     PlayEnhMetaFile (hTCSMetaFileDC1, hmf, &TCSrect); // neues Journal
01193
01194     DeleteEnhMetaFile (hmf);                    // Bildschirminhalt restauriert
01195     hTCSMetaFileDC = hTCSMetaFileDC1;           // bereit zum Weiterzeichnen
01196     SetViewportExtEx (hTCSMetaFileDC, TCSrect.right, -TCSrect.bottom, NULL);
01197     SetViewportOrgEx (hTCSMetaFileDC, TCSrect.left, TCSrect.top, NULL);
01198     SetWindowExtEx (hTCSMetaFileDC, TCSrect.right, TCSrect.bottom, NULL);
01199     SetWindowOrgEx (hTCSMetaFileDC, TCSrect.left, TCSrect.bottom, NULL);
01200
01201     #if !defined(__WIN32__) && !defined(_WIN32)
01202      SelectFont (hTCSMetaFileDC, hTCSFont);      // Aktuellen Zeichenstatus an
01203     #else
01204      SelectObject (hTCSMetaFileDC, hTCSFont);      // Aktuellen Zeichenstatus an
01205     #endif
01206     SetBkMode (hTCSMetaFileDC, TRANSPARENT );   // Metafile weitergegeben !
01207     SetTextAlign (hTCSMetaFileDC, TA_LEFT | TA_BOTTOM | TA_UPDATECP); // CP
01208     SetTextColor (hTCSMetaFileDC, dwColorTable[TKTRNX.iTxtCol]);
01209     #if !defined(__WIN32__) && !defined(_WIN32)
01210      SelectPen (hTCSMetaFileDC, hTCSPen); // 16bit: Makro aus windowsx.h
01211     #else
01212      SelectObject (hTCSMetaFileDC, hTCSPen); // 32bit: GDI Standardaufruf
01213     #endif
01214
01215 #elif (JOURNALTYP == 3)
01216 //      if (hTCSJournal != NULL) {
01217     SGLIB_DL_LIST_GET_LAST(struct xJournalEntry_typ, hTCSJournal, previous, next, xJournalEntry)
01218     while (xJournalEntry != NULL) {
01219      switch (xJournalEntry->action) {
01220       case XACTION_INITT: {
01221        TKTRNX.iLinCol= TCSDefaultLinCol;
01222        TKTRNX.iTxtCol= TCSDefaultTxtCol;
01223        TKTRNX.iBckCol= TCSDefaultBckCol;
```

```
01224         initt2(); // HOME, Font, Scale...
01225        } // weiter mit Erase
01226        case XACTION_ERASE: {
01227         SetWindowExtEx (hTCSWindowDC, TCSrect.right, TCSrect.bottom, NULL);
01228         SetWindowOrgEx (hTCSWindowDC, TCSrect.left, TCSrect.bottom, NULL);
01229         SetBkMode (hTCSWindowDC, TRANSPARENT );
01230         SetTextAlign (hTCSWindowDC, TA_LEFT | TA_BOTTOM | TA_UPDATECP);
01231         SetTextColor (hTCSWindowDC, dwColorTable[TKTRNX.iTxtCol]);
01232         #if !defined(__WIN32__) && !defined(_WIN32)
01233          SelectPen (hTCSWindowDC, hTCSPen); // 16bit: Makro aus windowsx.h
01234         #else
01235          SelectObject (hTCSWindowDC, hTCSPen); // 32bit: GDI Standardaufruf
01236         #endif
01237         break;
01238        }
01239        case XACTION_MOVABS: {
01240         MoveToEx (hTCSWindowDC, HiRes(xJournalEntry->i1),
01241                                              HiRes(xJournalEntry->i2), NULL);
01242         TKTRNX.kBeamX= xJournalEntry->i1;
01243         TKTRNX.kBeamY= xJournalEntry->i2;
01244         break;
01245        }
01246        case XACTION_DRWABS: {
01247         LineTo (hTCSWindowDC, HiRes(xJournalEntry->i1),
01248                     HiRes(xJournalEntry->i2) ); // Endpunkt nicht mitgezeichnet!
01249         SetPixel (hTCSWindowDC,HiRes(xJournalEntry->i1),
01250                         HiRes(xJournalEntry->i2), dwColorTable[TKTRNX.iLinCol]);
01251         TKTRNX.kBeamX= xJournalEntry->i1;
01252         TKTRNX.kBeamY= xJournalEntry->i2;
01253         break;
01254        }
01255        case XACTION_DSHSTYLE: {
01256         iMaskIndex= xJournalEntry->i1;
01257         break;
01258        }
01259        case XACTION_DSHABS: {
01260         hPenDash= CreatePen (dwPenStyle[iMaskIndex], 0,
01261                                               dwColorTable[TKTRNX.iLinCol]);
01262         #if !defined(__WIN32__) && !defined(_WIN32)
01263          SelectPen (hTCSWindowDC, hPenDash); // 16bit: Makro aus windowsx.h
01264         #else
01265          SelectObject (hTCSWindowDC, hPenDash); // 32bit: GDI Standardaufruf
01266         #endif
01267         LineTo (hTCSWindowDC, HiRes(xJournalEntry->i1),
01268                                               HiRes(xJournalEntry->i2) );
01269         #if !defined(__WIN32__) && !defined(_WIN32)
01270          SelectPen (hTCSWindowDC, hTCSPen); // 16bit: Makro aus windowsx.h
01271          DeletePen (hPenDash);
01272         #else
01273          SelectObject (hTCSWindowDC, hTCSPen); // 32bit: GDI Standardaufruf
01274          DeleteObject (hPenDash);
01275         #endif
01276         TKTRNX.kBeamX= xJournalEntry->i1;
01277         TKTRNX.kBeamY= xJournalEntry->i2;
01278         break;
01279        }
01280        case XACTION_PNTABS: {
01281         SetPixel (hTCSWindowDC,HiRes(xJournalEntry->i1),
01282                     HiRes(xJournalEntry->i2), dwColorTable[TKTRNX.iLinCol]);
01283         TKTRNX.kBeamX= xJournalEntry->i1;
01284         TKTRNX.kBeamY= xJournalEntry->i2;
01285         break;
01286        }
01287        case XACTION_BCKCOL: {
01288         TKTRNX.iBckCol= xJournalEntry->i1;
01289         break;
01290        }
01291        case XACTION_LINCOL: {
01292         hTCSPen= CreatePen (PS_SOLID, 0, dwColorTable[xJournalEntry->i1]);
01293         #if !defined(__WIN32__) && !defined(_WIN32)
01294          hPenOld= SelectPen (hTCSWindowDC, hTCSPen);// 16bit: Makro aus windowsx.h
01295          DeletePen (hPenOld);
01296         #else
01297          hPenOld= SelectObject (hTCSWindowDC, hTCSPen); // 32bit: GDI Standardaufruf
01298          DeleteObject (hPenOld);
01299         #endif
01300         TKTRNX.iLinCol= xJournalEntry->i1;
01301         break;
01302        }
01303        case XACTION_TXTCOL: {
01304         SetTextColor (hTCSWindowDC, dwColorTable[xJournalEntry->i1]);
01305         TKTRNX.iTxtCol= xJournalEntry->i1;
01306         break;
01307        }
01308        case XACTION_FONTATTR: {
01309         TKTRNX.kitalc= xJournalEntry->i1;
01310         TCSFontdefinition.lfItalic= (TKTRNX.kitalc > 0);
```

```
01311         hTCSFont= CreateFontIndirect (&TCSFontdefinition);
01312         #if !defined(__WIN32__) && !defined(_WIN32)
01313          hOldFont= SelectFont (hTCSWindowDC, hTCSFont);
01314          DeleteFont (hOldFont);
01315         #else
01316          hOldFont= SelectObject (hTCSWindowDC, hTCSFont);
01317          DeleteObject (hOldFont);
01318         #endif
01319
01320         if (TKTRNX.ksizef != xJournalEntry->i2) {
01321          TKTRNX.ksizef= xJournalEntry->i2;
01322          TCSFontdefinition.lfHeight= (1+TKTRNX.ksizef)*TCSCharHeight;
01323          TCSFontdefinition.lfWidth= 0;
01324          hTCSFont= CreateFontIndirect (&TCSFontdefinition);
01325          #if !defined(__WIN32__) && !defined(_WIN32)
01326           hOldFont= SelectFont (hTCSWindowDC, hTCSFont);
01327           DeleteFont (hOldFont);
01328          #else
01329           hOldFont= SelectObject (hTCSWindowDC, hTCSFont);
01330           DeleteObject (hOldFont);
01331          #endif
01332          TKTRNX.khomey = TEK_YMAX - 1.5f*(1+TKTRNX.ksizef)*TCS_REL_CHR_HEIGHT;
01333         }
01334         break;
01335        }
01336        case XACTION_GTEXT: {
01337         iGraphTextLenAkt= 0;
01338         iGraphTextLen= (int) xJournalEntry->i1;
01339         if (iGraphTextLen > STAT_MAXCOLUMNS) iGraphTextLen= STAT_MAXCOLUMNS;
01340         if (iGraphTextLen == 0) break;
01341         GraphTextBuf[iGraphTextLenAkt++]= (TCHAR) xJournalEntry->i2;
01342         if (iGraphTextLen == 1) {
01343          GraphTextBuf[iGraphTextLenAkt]= (FTNCHAR) 0;
01344          TextOut (hTCSWindowDC, 0,0,GraphTextBuf, iGraphTextLen);
01345         }
01346         break;
01347        }
01348        case XACTION_ASCII: {
01349         if (iGraphTextLenAkt < iGraphTextLen) {
01350          GraphTextBuf[iGraphTextLenAkt++]= (TCHAR) xJournalEntry->i1;
01351          if (iGraphTextLenAkt < iGraphTextLen)
01352           GraphTextBuf[iGraphTextLenAkt++]= (TCHAR) xJournalEntry->i2;
01353          if (iGraphTextLenAkt >= iGraphTextLen)
01354           TextOut (hTCSWindowDC, 0,0,GraphTextBuf, iGraphTextLen);
01355         }
01356         break;
01357        }
01358        case XACTION_NOOP: {
01359         break;
01360        }
01361        default: {
01362         TCSGraphicError (WRN_JOUUNKWN,"");
01363         break;
01364        }
01365       }
01366       xJournalEntry= xJournalEntry -> previous;
01367      }
01368 //       }
01369 #endif
01370
01371      EndPaint( hWindow, &ps );
01372 }
01373
01374
01375
01376 void TCSWndProc_OnSize (HWND hWindow, UINT message, WPARAM width, LPARAM height)
01377 {
01378      switch (message) {
01379       case SIZE_MINIMIZED:   /* Minimierung -> keine Aktion notwendig */
01380        break;
01381       case SIZE_RESTORED:    /*(Erst- oder Neu)Skalierung des Fensters */
01382       case SIZE_MAXIMIZED:       /* sichtbar: 0<=ix<=1023 / 0<=iy<=780 */
01383        SetMapMode (hTCSWindowDC, MM_ANISOTROPIC);
01384        SetViewportExtEx (hTCSWindowDC, width, -height, NULL);
01385        SetViewportOrgEx (hTCSWindowDC, 0, 0, NULL);
01386        /* Bei erneuter Änderung des Viewport geht die Auflösung verloren! */
01387      }
01388 }
01389
01390
01391
01392 void TCSWndProc_OnRbuttondown (HWND hWindow, BOOL DoubleClick, int MouseX,
01393                                int MouseY, UINT ShftCtrlKeyMask)
01394 {
01395      ShowWindow (hTCSstatWindow, SW_SHOW);
01396      UpdateWindow(hTCSstatWindow);
01397 }
```

```
01398
01399
01400
01401 bool TCSWndProc_OnErasebkgnd (HWND hWindow, HDC hDC)
01402 {
01403 RECT ClientArea;
01404 HBRUSH hBack;
01405
01406     GetClientRect (hWindow, &ClientArea);
01407     DPtoLP (hDC, (LPPOINT)&ClientArea.left,2);
01408
01409     hBack= CreateSolidBrush (dwColorTable[TCSBackgroundColour]);
01410     FillRect(hTCSWindowDC, &ClientArea, hBack);
01411     #if !defined(__WIN32__) && !defined(_WIN32)
01412      DeleteBrush (hBack);
01413     #else
01414      DeleteObject (hBack);
01415     #endif
01416
01417     return false;
01418 }
01419
01420
01421
01422 bool TCSWndProc_OnCopyClipboard ()
01423 {
01424 #if (JOURNALTYP == 1)
01425  FTNINT iErr;
01426  HMETAFILE hmf;
01427  HDC hTCSNewMetaFileDC;
01428  HGLOBAL hGlobalMem;
01429  LPMETAFILEPICT lpMfp;
01430  HRGN    hWindowRegion;
01431 #elif (JOURNALTYP == 2)
01432  FTNINT iErr;
01433  HENHMETAFILE hmf, hmf1;
01434  ENHMETAHEADER emh ;
01435  HDC hTCSMetaFileDC1;
01436 #endif
01437
01438
01439 #if (JOURNALTYP == 1)
01440     hmf = CloseMetaFile (hTCSMetaFileDC);       /* Metafile für WM_PAINT */
01441
01442     hGlobalMem= GlobalAlloc(GMEM_MOVEABLE | GMEM_SHARE, sizeof(METAFILEPICT));
01443     if (hGlobalMem == NULL) {
01444      iErr= WRN_COPYNOMEM;
01445      #ifndef __cplusplus
01446       TCSGraphicError (iErr,"");
01447      #endif
01448      return false;                      /* Error: OutOfMemory -> ret */
01449     }
01450     lpMfp= (LPMETAFILEPICT) GlobalLock (hGlobalMem);
01451
01452     lpMfp->mm= MM_ANISOTROPIC;
01453     lpMfp->xExt= 0;             /* Keine Defaultgröße vorgeben */
01454     lpMfp->yExt= 0;             /* sonst in MM_HIMETRIC Device-Einheiten! */
01455
01456     hTCSNewMetaFileDC  = CreateMetaFile (NULL);
01457
01458     ScaleViewportExtEx (hTCSNewMetaFileDC, 1,1,-1,1,NULL);   // für Clipboard
01459
01460     hWindowRegion= CreateRectRgn(TCSrect.left, TCSrect.top, TCSrect.right,TCSrect.bottom); //
       rechts,oben
01461     SelectClipRgn (hTCSNewMetaFileDC, hWindowRegion); // nicht eingeschlossen
01462     #if !defined(__WIN32__) && !defined(_WIN32)
01463      DeleteRgn (hWindowRegion); // Resource freigeben
01464     #else
01465      DeleteObject (hWindowRegion);
01466     #endif
01467
01468     PlayMetaFile (hTCSNewMetaFileDC, hmf);
01469
01470     lpMfp->hMF= CloseMetaFile (hTCSNewMetaFileDC);
01471
01472     GlobalUnlock(hGlobalMem);
01473
01474     hTCSNewMetaFileDC  = CreateMetaFile (NULL); /* 16bit Windows Metafile */
01475     PlayMetaFile (hTCSNewMetaFileDC, hmf);      /* für neues Journalfile */
01476     DeleteMetaFile (hmf);                       /* alter Status Bildschirm */
01477     hTCSMetaFileDC = hTCSNewMetaFileDC;         /* bereit Weiterzeichnen */
01478
01479     if (!OpenClipboard (hTCSWindow)) {          /* Error: Clipboard locked */
01480      GlobalFree (hGlobalMem);
01481      iErr= WRN_COPYLOCK;
01482      #ifndef __cplusplus
01483       TCSGraphicError (iErr,"");
```

```
01484       #endif
01485       return false;
01486      }
01487      EmptyClipboard ();
01488      SetClipboardData (CF_METAFILEPICT, hGlobalMem);
01489      CloseClipboard ();  /* Jetzt GlobalFree() NICHT mehr aufrufen */
01490
01491 #elif (JOURNALTYP == 2)
01492      hmf = CloseEnhMetaFile (hTCSMetaFileDC);     /* Metafile für WM_PAINT */
01493      hmf1 = CopyEnhMetaFile (hmf, NULL) ;
01494      if (!OpenClipboard (hTCSWindow)) {           /* Error: Clipboard locked */
01495       iErr= WRN_COPYLOCK;
01496       #ifndef __cplusplus
01497        TCSGraphicError (iErr,"");
01498       #endif
01499       return false;
01500      }
01501      EmptyClipboard () ;
01502      SetClipboardData (CF_ENHMETAFILE, hmf1) ;
01503      CloseClipboard () ;
01504
01505      GetEnhMetaFileHeader (hmf, sizeof (emh), &emh) ;
01506      hTCSMetaFileDC1  = CreateEnhMetaFile (hTCSWindowDC, NULL, &emh.rclFrame,
01507                    _T("TCS for Windows\0Journalfile created by CopyClipboard\0"));
01508      SetMapMode (hTCSMetaFileDC1, MM_ANISOTROPIC);
01509      SetViewportExtEx (hTCSMetaFileDC1, TCSrect.right, TCSrect.bottom, NULL);
01510      SetViewportOrgEx (hTCSMetaFileDC1, TCSrect.left, TCSrect.bottom, NULL);
01511      SetWindowExtEx (hTCSMetaFileDC1, TCSrect.right, TCSrect.bottom, NULL);
01512      SetWindowOrgEx (hTCSMetaFileDC1, TCSrect.left, TCSrect.bottom, NULL);
01513
01514      SetBkMode (hTCSMetaFileDC, TRANSPARENT );
01515      SetTextAlign (hTCSMetaFileDC, TA_LEFT | TA_BOTTOM | TA_UPDATECP);
01516
01517      PlayEnhMetaFile (hTCSMetaFileDC1, hmf, &TCSrect); // neues Journal
01518
01519      DeleteEnhMetaFile (hmf);                       // alter Status Bildschirm
01520      hTCSMetaFileDC = hTCSMetaFileDC1;             // bereit zum Weiterzeichnen
01521
01522      SetViewportExtEx (hTCSMetaFileDC, TCSrect.right, -TCSrect.bottom, NULL);
01523      SetViewportOrgEx (hTCSMetaFileDC, TCSrect.left, TCSrect.top, NULL);
01524      SetWindowExtEx (hTCSMetaFileDC, TCSrect.right, TCSrect.bottom, NULL);
01525      SetWindowOrgEx (hTCSMetaFileDC, TCSrect.left, TCSrect.bottom, NULL);
01526
01527      #if !defined(__WIN32__) && !defined(_WIN32)
01528       SelectFont (hTCSMetaFileDC, hTCSFont);       // Aktuellen Zeichenstatus an
01529      #else
01530       SelectObject (hTCSMetaFileDC, hTCSFont);      // Aktuellen Zeichenstatus an
01531      #endif
01532      SetBkMode (hTCSMetaFileDC, TRANSPARENT );   // Metafile weitergegeben !
01533      SetTextAlign (hTCSMetaFileDC, TA_LEFT | TA_BOTTOM | TA_UPDATECP); // CP
01534      SetTextColor (hTCSMetaFileDC, dwColorTable[TKTRNX.iTxtCol]);
01535      #if !defined(__WIN32__) && !defined(_WIN32)
01536       SelectPen (hTCSMetaFileDC, hTCSPen); // 16bit: Makro aus windowsx.h
01537      #else
01538       SelectObject (hTCSMetaFileDC, hTCSPen); // 32bit: GDI Standardaufruf
01539      #endif
01540
01541 #endif
01542
01543      return true;
01544 }
01545
01546
01547
01548 LRESULT CALLBACK EXPORT16 TCSWndProc(HWND hWindow, UINT Message,
01549                                WPARAM wParam, LPARAM lParam)
01550 {
01551      switch( Message ) {
01552       HANDLE_MSG(hWindow, WM_PAINT, TCSWndProc_OnPaint);
01553       HANDLE_MSG(hWindow, WM_RBUTTONDOWN, TCSWndProc_OnRbuttondown);
01554       HANDLE_MSG(hWindow, WM_SIZE, TCSWndProc_OnSize);
01555       HANDLE_MSG(hWindow, WM_ERASEBKGND, TCSWndProc_OnErasebkgnd);
01556       case WM_SYSCOMMAND:
01557        if (wParam == TCS_WM_COPY) {
01558         #ifdef trace_calls
01559          MessageBox(NULL, "WM_SYSCOMMAND (TCS_WM_COPY)",
01560                         "Internal Information GRAPH2D - TCSwindowProc",
01561                          MB_OK | MB_ICONINFORMATION);
01562         #endif
01563         TCSWndProc_OnCopyClipboard ();
01564         break;
01565        } else {
01566         return DefWindowProc( hWindow, Message, wParam, lParam );
01567        }
01568       case WM_CLOSE: // Schliessen des Graphikfensters nicht zulassen! Meldung
01569        break;        // kann trotz Menuesperre über <ALT><F4> erzeugt werden
01570       case WM_ACTIVATEAPP: // Neuzeichnen wg. Fensterminimierung fremde Appl.
```

```
01571       UpdateWindow (hWindow);
01572       return 0;
01573      default:
01574       return DefWindowProc( hWindow, Message, wParam, lParam );
01575     }
01576     return 0;
01577 }
01578
01579
01580
01581 /*
01582 ------------------- Event Handler Statusfenster ------------------------
01583 */
01584
01585
01586
01587 void TCSstatWndProc_OnPaint (HWND hWindow)
01588 {
01589 int i;
01590 PAINTSTRUCT ps;
01591
01592     BeginPaint (hWindow, &ps);
01593     #if !defined(__WIN32__) && !defined(_WIN32)
01594      SelectFont (ps.hdc, hTCSSysFont);      // Aktuellen Zeichenstatus an
01595     #else
01596      SelectObject (ps.hdc, hTCSSysFont);      // Aktuellen Zeichenstatus an
01597     #endif
01598     SetMapMode (ps.hdc, MM_TEXT);
01599     SetWindowOrgEx (ps.hdc, 0,TCSstatOrgY*TextLineHeight, NULL);
01600     for (i=0; i <= TCSstatRow; i++ )
01601      TextOut (ps.hdc, 0, i*TextLineHeight, TCSstatTextBuf[i],
01602                                          _tcslen (TCSstatTextBuf[i]));
01603     EndPaint( hWindow, &ps );
01604 }
01605
01606
01607
01608 void TCSstatWndProc_OnKillfocus (HWND hWindow, HWND hNewWindow)
01609 {
01610     if (TCSStatWindowAutomatic) ShowWindow (hWindow, SW_HIDE);
01611 }
01612
01613
01614
01615 void TCSstatWndProc_OnGetminmaxinfo (HWND hWindow, MINMAXINFO FAR* lpMinMaxInfo)
01616 /* Beschränkung User-erzeugbare Fenstergröße */
01617 {
01618     lpMinMaxInfo -> ptMaxSize.x = GetSystemMetrics (SM_CXMAXIMIZED);
01619     lpMinMaxInfo -> ptMaxSize.y = (int) (TCS_REL_CHR_SPACE*TextLineHeight) +
01620                                 STAT_MINLINES*GetSystemMetrics (SM_CYMINTRACK);
01621     lpMinMaxInfo -> ptMaxPosition.x = 0;
01622     #if !defined(__WIN32__) && !defined(_WIN32)
01623      lpMinMaxInfo -> ptMaxPosition.y = GetSystemMetrics (SM_CYFULLSCREEN) -
01624                                 STAT_MINLINES*GetSystemMetrics (SM_CYMINTRACK);
01625     #else
01626      lpMinMaxInfo -> ptMaxPosition.y = GetSystemMetrics (SM_CYMAXIMIZED) -
01627                                 (lpMinMaxInfo -> ptMaxSize.y);
01628     #endif
01629     lpMinMaxInfo -> ptMinTrackSize.x = GetSystemMetrics (SM_CXMINTRACK);
01630     lpMinMaxInfo -> ptMinTrackSize.y = GetSystemMetrics (SM_CYMINTRACK);
01631     lpMinMaxInfo -> ptMaxTrackSize.x = GetSystemMetrics (SM_CXMAXIMIZED);
01632     lpMinMaxInfo -> ptMaxTrackSize.y = STAT_ADDLINES*TextLineHeight+
01633                                 (lpMinMaxInfo -> ptMaxSize.y);
01634 }
01635
01636
01637
01638 void TCSstatWndProc_OnVScroll (HWND hWindow, HWND hNewWindow, WPARAM wParam,
01639                                                               LPARAM lParam)
01640 {
01641     switch (wParam) {
01642      case SB_LINEUP:
01643       TCSstatScrollY --;
01644       if (TCSstatScrollY < 0) TCSstatScrollY=0;
01645       break;
01646      case SB_LINEDOWN:
01647       TCSstatScrollY ++;
01648       if (TCSstatScrollY >= STAT_MAXROWS) TCSstatScrollY=STAT_MAXROWS-1;
01649       break;
01650      case SB_PAGEUP:
01651       TCSstatScrollY -= STAT_PAGESIZ;
01652       if (TCSstatScrollY < 0) TCSstatScrollY=0;
01653       break;
01654      case SB_PAGEDOWN:
01655       TCSstatScrollY += STAT_PAGESIZ;
01656       if (TCSstatScrollY >= STAT_MAXROWS) TCSstatScrollY=STAT_MAXROWS-1;
01657       break;
```

```
01658       case SB_THUMBPOSITION:
01659        TCSstatScrollY= (int) lParam;
01660        if (TCSstatScrollY < 0) TCSstatScrollY=0;
01661        if (TCSstatScrollY >= STAT_MAXROWS) TCSstatScrollY=STAT_MAXROWS-1;
01662        InvalidateRect (hWindow, NULL, true); /* ,ClientArea, EraseFlag */
01663        UpdateWindow (hWindow);               /* zwingend notwendig für Win16 */
01664        break;
01665      }
01666      ScrollWindow (hWindow, 0, (TCSstatOrgY-TCSstatScrollY)*TextLineHeight,
01667                                                                  NULL, NULL);
01668      SetScrollPos (hWindow, SB_VERT, TCSstatScrollY, true);
01669      TCSstatOrgY= TCSstatScrollY;
01670  }
01671
01672
01673
01674  LRESULT CALLBACK EXPORT16 TCSstatWndProc(HWND hWindow, UINT Message,
01675                              WPARAM wParam, LPARAM lParam)
01676  {
01677      switch( Message ) {
01678       HANDLE_MSG(hWindow, WM_PAINT, TCSstatWndProc_OnPaint);
01679       HANDLE_MSG(hWindow, WM_KILLFOCUS, TCSstatWndProc_OnKillfocus);
01680       HANDLE_MSG(hWindow, WM_GETMINMAXINFO, TCSstatWndProc_OnGetminmaxinfo);
01681       HANDLE_MSG(hWindow, WM_VSCROLL, TCSstatWndProc_OnVScroll);
01682       default:
01683        return DefWindowProc( hWindow, Message, wParam, lParam );
01684      }
01685      return 0;
01686  }
01687
01688
01689
01690
01691  /*
01692  --------------- Konstruktion/Destruktion fuer C++ ----------------------
01693  */
01694
01695  #ifdef __cplusplus
01696
01697  TCSdrWIN__ TCSdrWIN()
01698  {
01699          #ifdef trace_calls
01700           MessageBox(0, "Constructor", "TCSdrWIN", MB_OK | MB_ICONINFORMATION);
01701          #endif
01702          // initt; // Doppelaufruf Userroutine. Vorsicht WINLBL nach INITT!
01703  }
01704
01705
01706
01707  TCSdrWIN__ ~TCSdrWIN()
01708  {
01709          #if defined trace_calls
01710           MessageBox(0, "Destructor", "TCSdrWIN", MB_OK | MB_ICONINFORMATION);
01711          #endif
01712          // finitt; // Userroutine, Aufruf unbedingt notwendig!
01713  }
01714
01715  #endif /* cplusplus */
01716
01717
01718
01719  /*
01720  ---------------------- Userroutinen: Initialisierung -------------------
01721  */
01722
01723
01724
01725  extern void TCSdrWIN__ tcslev3 (FTNINT *SysLev)
01726
01727  {
01728      *SysLev= TCSLEV3SYS;
01729  }
01730
01731
01732
01733  #ifdef XMLSUPPORT
01734
01735  void XMLreadProgPar (const char * filname)
01736  {
01737  int ParserState;
01738  FILE *fp;
01739  mxml_node_t *tree;
01740
01741      fp = fopen(filname, "r");
01742      if (fp == NULL) {
01743       TCSGraphicError (ERR_XMLOPEN, filname);
01744      } else {
```

```
01745       ParserState= -1; // State= idle
01746       mxmlSetErrorCallback ((mxml_error_cb_t)sax_error_callback);
01747       tree = mxmlSAXLoadFile(NULL, fp, sax_type_callback, sax_callback, &ParserState);
01748       fclose(fp);
01749     }
01750 }
01751
01752 #endif    // Ende XML-Unterstützung
01753
01754
01755
01756 /*
01757 Defaultwerte sind bereits durch Compiler initialisiert worden. Hier werden nur
01758 die Parameter wiederhergestellt, die fuer einen erneuten Aufruf von initt nach
01759 finitt sinnvoll sind.
01760 */
01761
01762 void PresetProgPar ()
01763 {
01764     TCSDefaultLinCol= TCS_INIDEF_LINCOL;
01765     TCSDefaultTxtCol= TCS_INIDEF_TXTCOL;
01766     TCSDefaultBckCol= TCS_INIDEF_BCKCOL;
01767
01768     TCSwindowIniXrelpos= TCS_INIDEF_WINPOSX;
01769     TCSwindowIniYrelpos= TCS_INIDEF_WINPOSY;
01770     TCSwindowIniXrelsiz= TCS_INIDEF_WINSIZX;
01771     TCSwindowIniYrelsiz= TCS_INIDEF_WINSIZY;
01772
01773     TCSstatWindowIniXrelpos= TCS_INIDEF_STATPOSX;
01774     TCSstatWindowIniYrelpos= TCS_INIDEF_STATPOSY;
01775     TCSstatWindowIniXrelsiz= TCS_INIDEF_STATSIZX;
01776     TCSstatWindowIniYrelsiz= TCS_INIDEF_STATSIZY;
01777
01778     // Fensternamen werden nur durch winlbl vorher veraendert
01779
01780     // Hardcopyname und Zaehlerstand bleibt!
01781
01782     // Fehlermeldungen werden bei der Variablendefinition durch den Compiler initialisiert
01783 }
01784
01785
01786
01787 /*
01788 Anpassung der Dateinamen an die Laufzeitumgebung
01789 */
01790
01791 void CustomizeProgPar ()
01792 {
01793 // Absicherung der Definition der Programmparameter
01794 #if (TCS_WINDOW_NAMELEN <= TCS_FILE_NAMELEN)
01795  #define TMPSTRLEN TCS_FILE_NAMELEN
01796 #else
01797  #define TMPSTRLEN TCS_WINDOW_NAMELEN
01798 #endif
01799
01800 int         iL;
01801 char        szTmpString[TMPSTRLEN];
01802 FTNSTRDESC  ftn_WorkString, o, n;
01803
01804 szTmpString[0]= '\0';
01805 n.addr= szTmpString; // Token bei Fonts werden geloescht
01806 n.len= TMPSTRLEN;
01807
01808 #ifdef XMLSUPPORT // Angabe von Dateinamen fuer Fonts bei Windows nicht moeglich
01809     o.addr= PROGDIRTOKEN; // Token %: loeschen
01810     o.len= strlen (o.addr);
01811     ftn_WorkString.len= TCS_FILE_NAMELEN; // Font Graphikfenster
01812     ftn_WorkString.addr= szTCSGraphicFont;
01813     o.addr= PROGDIRTOKEN; // Substring %: loeschen
01814     o.len= strlen (o.addr);
01815     SUBSTITUTE( CALLFTNSTRA(ftn_WorkString),
01816                 CALLFTNSTRA(ftn_WorkString), CALLFTNSTRA(o), CALLFTNSTRA(n)
01817                 CALLFTNSTRL(ftn_WorkString)
01818                 CALLFTNSTRL(ftn_WorkString) CALLFTNSTRL(o) CALLFTNSTRL(n) );
01819
01820     ftn_WorkString.addr= szTCSSysFont; // Font Statusfenster
01821     SUBSTITUTE( CALLFTNSTRA(ftn_WorkString),
01822                 CALLFTNSTRA(ftn_WorkString), CALLFTNSTRA(o), CALLFTNSTRA(n)
01823                 CALLFTNSTRL(ftn_WorkString)
01824                 CALLFTNSTRL(ftn_WorkString) CALLFTNSTRL(o) CALLFTNSTRL(n) );
01825
01826
01827     o.addr= INIFILEXTTOKEN; // Token .% loeschen
01828     o.len= strlen (o.addr); // Font Statusfenster
01829     SUBSTITUTE( CALLFTNSTRA(ftn_WorkString),
01830                 CALLFTNSTRA(ftn_WorkString), CALLFTNSTRA(o), CALLFTNSTRA(n)
01831                 CALLFTNSTRL(ftn_WorkString)
```

```
01832                 CALLFTNSTRL(ftn_WorkString) CALLFTNSTRL(o) CALLFTNSTRL(n) );
01833
01834     ftn_WorkString.addr= szTCSGraphicFont; // Font Graphikfenster
01835     SUBSTITUTE( CALLFTNSTRA(ftn_WorkString),
01836                 CALLFTNSTRA(ftn_WorkString), CALLFTNSTRA(o), CALLFTNSTRA(n)
01837                 CALLFTNSTRL(ftn_WorkString)
01838                 CALLFTNSTRL(ftn_WorkString) CALLFTNSTRL(o) CALLFTNSTRL(n) );
01839 #endif // Ende XML-Unterstützung, in *.INI und Registry keine Verwendung Token
01840
01841     if (strlen(szTCSWindowName) == 0) { // '/0' durch WINLBL -> Default
01842         strncpy(szTCSWindowName, TCS_WINDOW_NAME, TCS_WINDOW_NAMELEN);
01843     }
01844     if (strlen(szTCSstatWindowName) == 0) {
01845         strncpy(szTCSstatWindowName, TCS_STATWINDOW_NAME, TCS_WINDOW_NAMELEN);
01846     }
01847
01848     o.addr= PROGDIRTOKEN; // Substring %: vollstaendiger Programmname
01849     o.len= strlen (o.addr);
01850     #if !defined(__WIN32__) && !defined(_WIN32)   /* nicht bei DLL möglich */
01851      #if defined __WATCOMC__
01852       iL= 0;            /* Argument 0= Voller Programmname mit Directory */
01853       iL= igetarg ((FTNINT *) &iL, &n);
01854      #else
01855       #error "Kompilation für 16bit Windows nur mit Watcom-Compiler möglich"
01856      #endif
01857     #else   /* alternativ nur Win32: hInst=NULL: prozesserzeugende Instanz */
01858      iL= GetModuleFileName(NULL, n.addr, n.len);
01859     #endif
01860     if (iL <= 0) {
01861      n.addr[0]= (FTNCHAR) 0; /* kein Programmnamen bekannt */
01862     }
01863     ftn_WorkString.len= TCS_WINDOW_NAMELEN; // Ersatz %: im Graphikfenster
01864     ftn_WorkString.addr= szTCSWindowName;
01865     SUBSTITUTE( CALLFTNSTRA(ftn_WorkString),
01866                 CALLFTNSTRA(ftn_WorkString), CALLFTNSTRA(o), CALLFTNSTRA(n)
01867                 CALLFTNSTRL(ftn_WorkString)
01868                 CALLFTNSTRL(ftn_WorkString) CALLFTNSTRL(o) CALLFTNSTRL(n) );
01869    ftn_WorkString.addr= szTCSstatWindowName; // Ersatz %: im Statusfenster
01870    SUBSTITUTE( CALLFTNSTRA(ftn_WorkString),
01871                 CALLFTNSTRA(ftn_WorkString), CALLFTNSTRA(o), CALLFTNSTRA(n)
01872                 CALLFTNSTRL(ftn_WorkString)
01873                 CALLFTNSTRL(ftn_WorkString) CALLFTNSTRL(o) CALLFTNSTRL(n) );
01874
01875 // Absicherung TMPSTRLEN nicht mehr benoetigt
01876 #undef TMPSTRLEN
01877 }
01878
01879
01880
01881
01882 extern void TCSdrWIN__ winlbl (FTNSTRPAR * PloWinNam, FTNSTRPAR * StatWinNam,
01883                                FTNSTRPAR *IniFilNam
01884                                FTNSTRPAR_TAIL(PloWinNam)
01885                                FTNSTRPAR_TAIL(StatWinNam)
01886                                FTNSTRPAR_TAIL(IniFilNam)      )
01887
01888 {
01889
01890 #if (TCS_WINDOW_NAMELEN <= TCS_FILE_NAMELEN)
01891  #define TMPSTRLREN TCS_FILE_NAMELEN
01892 #else
01893  #define TMPSTRLREN TCS_WINDOW_NAMELEN
01894 #endif
01895
01896 FTNCHARLEN  i, iL;
01897 FTNCHAR     szTmpString[TMPSTRLREN], szTmpString1[TMPSTRLREN];
01898 FTNCHAR *   iAt;
01899 FTNSTRDESC  o, n, ftn_WorkString;
01900
01901
01902     iL= min(FTNSTRPARL(PloWinNam), TMPSTRLREN-1);    // Name des Grahikfensters
01903     _tcsncpy(szTmpString, FTNSTRPARA(PloWinNam),iL);
01904     szTmpString[iL]= (FTNCHAR) 0; // Fortranstring evtl. ohne \0
01905     iL= min (_tcslen (szTmpString), TCS_WINDOW_NAMELEN-1);
01906     if (iL > 0) {
01907      _tcsncpy( szTCSWindowName, szTmpString, iL);
01908      szTCSWindowName[iL]= (FTNCHAR) 0;
01909     }
01910
01911     iL= min(FTNSTRPARL(StatWinNam), TMPSTRLREN-1);   // Name des Statusfensters
01912     _tcsncpy(szTmpString, FTNSTRPARA(StatWinNam), iL);
01913     szTmpString[iL]= (FTNCHAR) 0; // Fortranstring evtl. ohne \0
01914     iL= min (_tcslen (szTmpString), TCS_WINDOW_NAMELEN-1);
01915     if (iL > 0) {
01916      _tcsncpy( szTCSstatWindowName, szTmpString, iL);
01917      szTCSstatWindowName[iL]= (FTNCHAR) 0;
01918     }
```

```
01919
01920     iL= min(FTNSTRPARL(IniFilNam), TMPSTRLREN-1); // Name Initialisierungsdatei
01921     _tcsncpy(szTmpString, FTNSTRPARA(IniFilNam), iL);
01922     szTmpString[iL]= (FTNCHAR) 0; // Fortranstring evtl. ohne \0
01923
01924     iL= min (_tcslen (szTmpString), TCS_FILE_NAMELEN-1);
01925
01926     if (iL > 0) {
01927      _tcsncpy( szTCSIniFile, szTmpString, iL);
01928      szTCSIniFile[iL]= (FTNCHAR) 0;
01929
01930      iAt= _tcsstr (szTCSIniFile, _T("@")); // Section Level0?
01931      if (iAt != 0) {
01932       _tcsncpy(szTCSsect0, &iAt[1], iL); // Abspeichern
01933       iAt[0]= (FTNCHAR) 0; // Abschneiden von @Section0 in szTCSIniFile
01934      }
01935
01936      ftn_WorkString.len= TCS_FILE_NAMELEN;
01937      ftn_WorkString.addr= szTCSIniFile;
01938
01939      n.len= _tcslen (INIFILEXT);
01940      n.addr= INIFILEXT;
01941      o.len= _tcslen (INIFILEXTTOKEN);
01942      o.addr= INIFILEXTTOKEN;
01943      SUBSTITUTE( CALLFTNSTRA(ftn_WorkString),
01944                  CALLFTNSTRA(ftn_WorkString), CALLFTNSTRA(o), CALLFTNSTRA(n)
01945                  CALLFTNSTRL(ftn_WorkString)
01946                  CALLFTNSTRL(ftn_WorkString) CALLFTNSTRL(o) CALLFTNSTRL(n) );
01947
01948      n.len= TCS_FILE_NAMELEN;
01949      n.addr= (FTNCHAR *) &szTmpString1;
01950      o.len= _tcslen (PROGDIRTOKEN);
01951      o.addr= PROGDIRTOKEN;
01952
01953      _tcsncpy (szTmpString1, szTCSIniFile, TCS_FILE_NAMELEN);
01954      _tcsrev (szTmpString1); // Abfrage Ende des Strings, Extension rueckwaerts!
01955
01956      if (_tcsnicmp (szTmpString1, _T("GER."),4) == 0) { // Filename endet .REG?
01957       n.addr[0]= (FTNCHAR) 0; /* keine Directory sinnvoll -> Token loeschen */
01958      } else {
01959       #if !defined(__WIN32__) && !defined(_WIN32)   /* nicht bei DLL möglich */
01960        #if defined __WATCOMC__
01961         iL= 0;            /* Argument 0= Voller Programmname mit Directory */
01962         iL= igetarg ((FTNINT *) &iL, &n);
01963        #else
01964         #error "Kompilation für 16bit Windows nur mit Watcom-Compiler möglich"
01965        #endif
01966       #else   /* alternativ nur Win32: hInst=NULL: prozesserzeugende Instanz */
01967        iL= GetModuleFileName(NULL, n.addr, n.len);
01968       #endif
01969       if (iL>0) {
01970        for (i=iL-1;(n.addr[i]!= (FTNCHAR) '\\' ) || (i==0); i--);
01971        i++;
01972        if (i < n.len) n.addr[i]= (FTNCHAR) 0; /* jetzt: Programmname entfernt */
01973       } else {
01974        n.addr[0]= (FTNCHAR) 0; /* keine Directory bekannt */
01975       }
01976      }
01977      SUBSTITUTE( CALLFTNSTRA(ftn_WorkString),
01978                  CALLFTNSTRA(ftn_WorkString), CALLFTNSTRA(o), CALLFTNSTRA(n)
01979                  CALLFTNSTRL(ftn_WorkString)
01980                  CALLFTNSTRL(ftn_WorkString) CALLFTNSTRL(o) CALLFTNSTRL(n) );
01981
01982     }
01983
01984 #undef TMPSTRLREN
01985 }
01986
01987
01988
01989 extern void TCSdrWIN__ initt1 (HINSTANCE *hParentInstance, HWND *hParentWindow)
01990 {
01991 int         nCmdShow, iX,iY, iSizeX, iSizeY;
01992 DWORD       FirstShow;
01993 WNDCLASS    TCSWndClass;
01994 HMENU       SysMenu;
01995 TCHAR       szTmpString[TCS_FILE_NAMELEN];
01996 TEXTMETRIC  lpTM;
01997
01998 #if defined(__WIN32__) || defined(_WIN32) || defined (REGSUPPORT)
01999  DWORD       retValue;
02000  LPVOID      lpMsgBuf;
02001 #endif
02002
02003 #if defined(REGSUPPORT)
02004  HKEY hSysrootKey, hRootKey,hSectionKey;
02005  TCHAR szRootKey[TCS_FILE_NAMELEN]= _T("Software\\"); // +IniFilename ohne Ext.
```

```
02006  TCHAR szSectionKey[TCS_FILE_NAMELEN];
02007  TCHAR szTmpString2[TCS_FILE_NAMELEN];
02008  DWORD dwSectionKeyLen;
02009  DWORD TmpStringLen, TmpStringLen2;
02010  DWORD i, j;
02011  DWORD retValue2;
02012 #endif
02013
02014 #if (JOURNALTYP == 2)
02015  RECT   screenrect;
02016  int iWidthMM, iHeightMM, iWidthPixel, iHeightPixel;
02017 #elif (JOURNALTYP == 3)
02018  struct xJournalEntry_typ * xJournalEntry;
02019 #endif
02020
02021
02022     if (TCSinitialized) return;   /* Bereits initialisiert */
02023     TCSinitialized= true;
02024
02025     PresetProgPar (); // Nach 2.Aufruf: nur Farben keine Namen wiederherstellen
02026
02027     if ( _tcslen (szTCSIniFile) <= 4) { // Extension muss angegeben werden!
02028      _tcsncpy (szTCSIniFile, _T("TooShortInitfilename"), TCS_FILE_NAMELEN);
02029     }
02030
02031     _tcsncpy (szTmpString, szTCSIniFile, TCS_FILE_NAMELEN);
02032     _tcsrev (szTmpString); // Abfrage Ende des Strings, Extension rueckwaerts!
02033
02034     /*
02035         Falls Extension des Ini-Files .XML: XML-Parser
02036     */
02037 #if defined(XMLSUPPORT)
02038     if (_tcsnicmp (szTmpString, _T("LMX."),4) == 0) { // Filename endet .XML?
02039      XMLreadProgPar (szTCSIniFile);
02040     } else  // endif Initialisierung ueber *.xml
02041 #endif
02042
02043
02044     /*
02045         Falls Extension des Ini-Files .REG: Auswertung der Registry
02046     */
02047 #if defined(REGSUPPORT)
02048     if (_tcsnicmp (szTmpString, _T("GER."),4) == 0) { // Filename endet .REG?
02049      _tcsncat (szRootKey, szTCSIniFile, _tcslen (szTCSIniFile)-4);
02050      for (hSysrootKey= HKEY_LOCAL_MACHINE; hSysrootKey!= NULL; ) {
02051       if (!RegOpenKeyEx( hSysrootKey, szRootKey, 0, KEY_READ, &hRootKey)) {
02052        szSectionKey[0]= (FTNCHAR) 0; // 1. Durchlauf ohne Section
02053        for (i = 0, retValue= false; !retValue; i++) {
02054         if (!RegOpenKeyEx( hRootKey, szSectionKey, 0, KEY_READ, &hSectionKey)) {
02055          for (j = 0, retValue2 = false; !retValue2; j++) {
02056           TmpStringLen= TCS_FILE_NAMELEN;          // Codewort
02057           TmpStringLen2= TCS_FILE_NAMELEN;         // Wert des Codewortes
02058           retValue2= RegEnumValue(hSectionKey, j, szTmpString, &TmpStringLen,
02059                                   NULL, NULL, (LPBYTE) szTmpString2, &TmpStringLen2);
02060           if (!retValue2) StoreIni (szSectionKey,szTmpString, szTmpString2);
02061          }
02062          RegCloseKey(hSectionKey);
02063         }
02064         dwSectionKeyLen= TCS_FILE_NAMELEN;
02065         retValue= RegEnumKeyEx(hRootKey, i, szSectionKey, &dwSectionKeyLen,
02066                                                  NULL,  NULL, NULL, NULL);
02067        }
02068        RegCloseKey(hRootKey);
02069       }
02070       if (hSysrootKey == HKEY_LOCAL_MACHINE) {
02071        hSysrootKey= HKEY_CURRENT_USER;
02072       } else if (hSysrootKey == HKEY_CURRENT_USER) {
02073        hSysrootKey= NULL;
02074       }
02075      } // 2x: HKEY_LOCAL_MACHINE, HKEY_CURRENT_USER (ueberschreibt LOCAL_MACH.)
02076     } else  // endif Registryinitialisierung
02077 #endif
02078
02079     /*
02080         Falls Extension des Ini-Files .INI: Auswertung der Initialisierungsdatei
02081     */
02082
02083     if (_tcsnicmp (szTmpString, _T("INI."),4) == 0) { // Filename endet .INI?
02084      if (_tcslen(szTCSWindowName)==0)
02085       GetPrivateProfileString(TCS_INISECT1,TCS_INIVAR_WINNAM,
02086       TCS_WINDOW_NAME, szTCSWindowName, TCS_WINDOW_NAMELEN, szTCSIniFile);
02087      if (_tcslen(szTCSstatWindowName)==0)
02088       GetPrivateProfileString(TCS_INISECT1,TCS_INIVAR_STATNAM,
02089       TCS_STATWINDOW_NAME,szTCSstatWindowName,TCS_WINDOW_NAMELEN,szTCSIniFile);
02090
02091      GetPrivateProfileString(TCS_INISECT1,TCS_INIVAR_MAINWINNAM,
02092       TCS_MAINWINDOW_NAME,szTCSMainWindowName,TCS_WINDOW_NAMELEN,szTCSIniFile);
```

```
02093
02094       GetPrivateProfileString(TCS_INISECT1,TCS_INIVAR_HDCNAM, TCS_HDCFILE_NAME,
02095                               szTCSHardcopyFile,TCS_FILE_NAMELEN,szTCSIniFile);
02096
02097
02098       GetPrivateProfileString (TCS_INISECT2,TCS_INIVAR_COPMEN,TCS_INIDEF_COPMEN,
02099                               szTCSMenuCopyText, STAT_MAXCOLUMNS, szTCSIniFile);
02100       GetPrivateProfileString (TCS_INISECT2,TCS_INIVAR_FONT,TCS_INIDEF_FONT,
02101                               szTCSGraphicFont, TCS_FILE_NAMELEN, szTCSIniFile);
02102       GetPrivateProfileString (TCS_INISECT2,TCS_INIVAR_SYSFONT,TCS_INIDEF_SYSFONT,
02103                               szTCSSysFont, TCS_FILE_NAMELEN, szTCSIniFile);
02104       GetPrivateProfileString(TCS_INISECT2,TCS_INIVAR_ICONNAM, TCS_ICONFILE_NAME,
02105                               szTCSIconFile,TCS_FILE_NAMELEN,szTCSIniFile);
02106
02107       TCSwindowIniXrelpos= GetPrivateProfileInt (TCS_INISECT2,
02108                           TCS_INIVAR_WINPOSX, TCS_INIDEF_WINPOSX, szTCSIniFile);
02109       TCSwindowIniYrelpos= GetPrivateProfileInt (TCS_INISECT2,
02110                           TCS_INIVAR_WINPOSY, TCS_INIDEF_WINPOSY, szTCSIniFile);
02111       TCSwindowIniXrelsiz= GetPrivateProfileInt (TCS_INISECT2,
02112                           TCS_INIVAR_WINSIZX, TCS_INIDEF_WINSIZX, szTCSIniFile);
02113       TCSwindowIniYrelsiz= GetPrivateProfileInt (TCS_INISECT2,
02114                           TCS_INIVAR_WINSIZY, TCS_INIDEF_WINSIZY, szTCSIniFile);
02115
02116       TCSstatWindowIniXrelpos= GetPrivateProfileInt (TCS_INISECT2,
02117                           TCS_INIVAR_STATPOSX, TCS_INIDEF_STATPOSX, szTCSIniFile);
02118       TCSstatWindowIniYrelpos= GetPrivateProfileInt (TCS_INISECT2,
02119                           TCS_INIVAR_STATPOSY, TCS_INIDEF_STATPOSY, szTCSIniFile);
02120       TCSstatWindowIniXrelsiz= GetPrivateProfileInt (TCS_INISECT2,
02121                           TCS_INIVAR_STATSIZX, TCS_INIDEF_STATSIZX, szTCSIniFile);
02122       TCSstatWindowIniYrelsiz= GetPrivateProfileInt (TCS_INISECT2,
02123                           TCS_INIVAR_STATSIZY, TCS_INIDEF_STATSIZY, szTCSIniFile);
02124
02125       TCSDefaultLinCol= GetPrivateProfileInt (TCS_INISECT2,
02126                           TCS_INIVAR_LINCOL,TCS_INIDEF_LINCOL, szTCSIniFile);
02127       TCSDefaultTxtCol= GetPrivateProfileInt (TCS_INISECT2,
02128                           TCS_INIVAR_TXTCOL,TCS_INIDEF_TXTCOL, szTCSIniFile);
02129       TCSDefaultBckCol= GetPrivateProfileInt (TCS_INISECT2,
02130                           TCS_INIVAR_BCKCOL,TCS_INIDEF_BCKCOL, szTCSIniFile);
02131
02132
02133       GetPrivateProfileString (TCS_INISECT3,TCS_INIVAR_HDCOPN,TCS_INIDEF_HDCOPN,
02134                   szTCSErrorMsg[WRN_HDCFILOPN], STAT_MAXCOLUMNS, szTCSIniFile);
02135       TCSErrorLev[WRN_HDCFILOPN]= GetPrivateProfileInt (TCS_INISECT3,
02136                       TCS_INIVAR_HDCOPNL,TCS_INIDEF_HDCOPNL, szTCSIniFile);
02137
02138       GetPrivateProfileString (TCS_INISECT3,TCS_INIVAR_HDCWRT,TCS_INIDEF_HDCWRT,
02139                  szTCSErrorMsg[WRN_HDCFILWRT], STAT_MAXCOLUMNS, szTCSIniFile);
02140       TCSErrorLev[WRN_HDCFILWRT]= GetPrivateProfileInt (TCS_INISECT3,
02141                       TCS_INIVAR_HDCWRTL,TCS_INIDEF_HDCWRTL, szTCSIniFile);
02142
02143       GetPrivateProfileString (TCS_INISECT3,TCS_INIVAR_HDCINT,TCS_INIDEF_HDCINT,
02144                  szTCSErrorMsg[WRN_HDCINTERN], STAT_MAXCOLUMNS, szTCSIniFile);
02145       TCSErrorLev[WRN_HDCFILWRT]= GetPrivateProfileInt (TCS_INISECT3,
02146                       TCS_INIVAR_HDCINTL,TCS_INIDEF_HDCINTL, szTCSIniFile);
02147
02148       GetPrivateProfileString (TCS_INISECT3, TCS_INIVAR_USR,TCS_INIDEF_USR,
02149                       szTCSErrorMsg[MSG_USR], STAT_MAXCOLUMNS, szTCSIniFile);
02150       TCSErrorLev[MSG_USR]= GetPrivateProfileInt (TCS_INISECT3, TCS_INIVAR_USRL,
02151                       TCS_INIDEF_USRL, szTCSIniFile);
02152
02153       GetPrivateProfileString (TCS_INISECT3, TCS_INIVAR_HDCACT,TCS_INIDEF_HDCACT,
02154                       szTCSErrorMsg[MSG_HDCACT], STAT_MAXCOLUMNS, szTCSIniFile);
02155       TCSErrorLev[MSG_HDCACT]= GetPrivateProfileInt (TCS_INISECT3,
02156                       TCS_INIVAR_HDCACTL,TCS_INIDEF_HDCACTL, szTCSIniFile);
02157
02158       GetPrivateProfileString (TCS_INISECT3,TCS_INIVAR_USRWRN,TCS_INIDEF_USRWRN,
02159                   szTCSErrorMsg[WRN_USRPRESSANY],STAT_MAXCOLUMNS,szTCSIniFile);
02160       TCSErrorLev[WRN_USRPRESSANY]= GetPrivateProfileInt (TCS_INISECT3,
02161                       TCS_INIVAR_USRWRNL,TCS_INIDEF_USRWRNL, szTCSIniFile);
02162
02163       GetPrivateProfileString (TCS_INISECT3, TCS_INIVAR_EXIT,TCS_INIDEF_EXIT,
02164                       szTCSErrorMsg[ERR_EXIT], STAT_MAXCOLUMNS, szTCSIniFile);
02165       TCSErrorLev[ERR_EXIT]= GetPrivateProfileInt (TCS_INISECT3,
02166                       TCS_INIVAR_EXITL,TCS_INIDEF_EXITL, szTCSIniFile);
02167
02168       GetPrivateProfileString (TCS_INISECT3,TCS_INIVAR_COPMEM,TCS_INIDEF_COPMEM,
02169                  szTCSErrorMsg[WRN_COPYNOMEM], STAT_MAXCOLUMNS, szTCSIniFile);
02170       TCSErrorLev[WRN_COPYNOMEM]= GetPrivateProfileInt (TCS_INISECT3,
02171                       TCS_INIVAR_COPMEML,TCS_INIDEF_COPMEML, szTCSIniFile);
02172
02173       GetPrivateProfileString (TCS_INISECT3,TCS_INIVAR_COPLCK,TCS_INIDEF_COPLCK,
02174                    szTCSErrorMsg[WRN_COPYLOCK], STAT_MAXCOLUMNS, szTCSIniFile);
02175       TCSErrorLev[WRN_COPYLOCK]= GetPrivateProfileInt (TCS_INISECT3,
02176                       TCS_INIVAR_COPLCKL,TCS_INIDEF_COPLCKL, szTCSIniFile);
02177
02178       GetPrivateProfileString (TCS_INISECT3,TCS_INIVAR_JOUCREATE,TCS_INIDEF_JOUCREATE,
02179                     szTCSErrorMsg[WRN_JOUCREATE], STAT_MAXCOLUMNS, szTCSIniFile);
```

```
02180       TCSErrorLev[WRN_JOUCREATE]= GetPrivateProfileInt (TCS_INISECT3,
02181                       TCS_INIVAR_JOUCREATEL,TCS_INIDEF_JOUCREATEL, szTCSIniFile);
02182
02183       GetPrivateProfileString (TCS_INISECT3,TCS_INIVAR_JOUENTRY,TCS_INIDEF_JOUENTRY,
02184                     szTCSErrorMsg[WRN_JOUENTRY], STAT_MAXCOLUMNS, szTCSIniFile);
02185       TCSErrorLev[WRN_JOUENTRY]= GetPrivateProfileInt (TCS_INISECT3,
02186                       TCS_INIVAR_JOUENTRYL,TCS_INIDEF_JOUENTRYL, szTCSIniFile);
02187
02188       GetPrivateProfileString (TCS_INISECT3,TCS_INIVAR_JOUADD,TCS_INIDEF_JOUADD,
02189                     szTCSErrorMsg[WRN_JOUADD], STAT_MAXCOLUMNS, szTCSIniFile);
02190       TCSErrorLev[WRN_JOUADD]= GetPrivateProfileInt (TCS_INISECT3,
02191                       TCS_INIVAR_JOUADDL,TCS_INIDEF_JOUADDL, szTCSIniFile);
02192
02193       GetPrivateProfileString (TCS_INISECT3,TCS_INIVAR_JOUCLR,TCS_INIDEF_JOUCLR,
02194                     szTCSErrorMsg[WRN_JOUCLR], STAT_MAXCOLUMNS, szTCSIniFile);
02195       TCSErrorLev[WRN_JOUCLR]= GetPrivateProfileInt (TCS_INISECT3,
02196                       TCS_INIVAR_JOUCLRL,TCS_INIDEF_JOUCLRL, szTCSIniFile);
02197
02198       GetPrivateProfileString (TCS_INISECT3,TCS_INIVAR_JOUUNKWN,TCS_INIDEF_JOUUNKWN,
02199                     szTCSErrorMsg[WRN_JOUUNKWN], STAT_MAXCOLUMNS, szTCSIniFile);
02200       TCSErrorLev[WRN_JOUUNKWN]= GetPrivateProfileInt (TCS_INISECT3,
02201                       TCS_INIVAR_JOUUNKWNL,TCS_INIDEF_JOUUNKWNL, szTCSIniFile);
02202
02203
02204       GetPrivateProfileString (TCS_INISECT3,TCS_INIVAR_XMLPARSER,TCS_INIDEF_XMLPARSER,
02205                     szTCSErrorMsg[ERR_XMLPARSER], STAT_MAXCOLUMNS, szTCSIniFile);
02206       TCSErrorLev[WRN_JOUUNKWN]= GetPrivateProfileInt (TCS_INISECT3,
02207                       TCS_INIVAR_XMLPARSERL,TCS_INIDEF_XMLPARSERL, szTCSIniFile);
02208
02209       GetPrivateProfileString (TCS_INISECT3,TCS_INIVAR_XMLOPEN,TCS_INIDEF_XMLOPEN,
02210                     szTCSErrorMsg[ERR_XMLOPEN], STAT_MAXCOLUMNS, szTCSIniFile);
02211       TCSErrorLev[WRN_JOUUNKWN]= GetPrivateProfileInt (TCS_INISECT3,
02212                       TCS_INIVAR_XMLOPENL,TCS_INIDEF_XMLOPENL, szTCSIniFile);
02213
02214       GetPrivateProfileString (TCS_INISECT3,TCS_INIVAR_USR2,TCS_INIDEF_USR2,
02215                     szTCSErrorMsg[MSG_USR2], STAT_MAXCOLUMNS, szTCSIniFile);
02216       TCSErrorLev[WRN_JOUUNKWN]= GetPrivateProfileInt (TCS_INISECT3,
02217                       TCS_INIVAR_USR2L,TCS_INIDEF_USR2L, szTCSIniFile);
02218
02219       GetPrivateProfileString (TCS_INISECT3,TCS_INIVAR_INI2,TCS_INIDEF_INI2,
02220                     szTCSErrorMsg[WRN_INI2], STAT_MAXCOLUMNS, szTCSIniFile);
02221       TCSErrorLev[WRN_JOUUNKWN]= GetPrivateProfileInt (TCS_INISECT3,
02222                       TCS_INIVAR_INI2L,TCS_INIDEF_INI2L, szTCSIniFile);
02223
02224     } // endif Initialisierung ueber *.ini
02225
02226
02227     CustomizeProgPar (); // Ersatz %: durch Programmverzeichnis
02228
02229     /*
02230     Übernahme der durch den Nutzer angepassten Initialisierungsdaten
02231     */
02232
02233     TKTRNX.iLinCol= TCSDefaultLinCol;
02234     TKTRNX.iTxtCol= TCSDefaultTxtCol;
02235     TKTRNX.iBckCol= TCSDefaultBckCol;
02236
02237     /*
02238         Ermittlung der Instanz des Processes
02239     */
02240
02241     hTCSInst= *hParentInstance; // In Hauptprogramm durch INITT ermittelt
02242     hOwnerWindow= *hParentWindow;
02243
02244     if (_tcscmp(szTCSMainWindowName,_T("%:")) == 0) {
02245      _tcsncpy( szTCSMainWindowName,GetCommandLine(), STAT_MAXCOLUMNS);
02246     }
02247
02248     CreateMainWindow_IfNecessary (&hTCSInst,&hOwnerWindow,szTCSMainWindowName);
02249
02250     *hParentWindow= hOwnerWindow;   // Publizieren evtl. neues Handle DLL->Main
02251
02252     /*
02253         Ermittlung allgemeiner systemspezifischer Parameter
02254     */
02255
02256     TextLineHeight= GetSystemMetrics (SM_CYMENU); /* Höhe Menüeintrag */
02257     TCSCharHeight= (int)(TCS_REL_CHR_HEIGHT* (float)(HiRes(TextLineHeight)));
02258
02259     TCSBackgroundColour= TKTRNX.iBckCol;
02260
02261     TKTRNX.kStCol = STAT_MAXCOLUMNS;
02262     TKTRNX.iMouse = 3; /* werden z.Zt. bei DCURSR () ausgewertet */
02263
02264     /*
02265         Erzeugung des Graphikfensters
02266     */
```

```
02267
02268     TCSWndClass.style          = CS_OWNDC | CS_HREDRAW | CS_VREDRAW;
02269     TCSWndClass.lpfnWndProc    = TCSWndProc;
02270     TCSWndClass.cbClsExtra     = 0;
02271     TCSWndClass.cbWndExtra     = 0;
02272     TCSWndClass.hInstance      = hTCSInst;
02273
02274     #if (defined(__WIN32__) || defined(_WIN32))
02275      if (_tcslen (szTCSIconFile) != 0) {
02276       TCSWndClass.hIcon         = LoadImage (NULL, szTCSIconFile,
02277                                         IMAGE_ICON,0,0,LR_LOADFROMFILE);
02278      } else {
02279       TCSWndClass.hIcon         = LoadIcon (hTCSInst, TCS_WINDOW_ICON);
02280                                 /* Falls Icon nicht definiert->LoadIcon=NULL */
02281      }
02282     #else
02283      TCSWndClass.hIcon         = LoadIcon (hTCSInst, TCS_WINDOW_ICON);
02284     #endif
02285
02286     TCSWndClass.hCursor        = LoadCursor(NULL, IDC_ARROW);
02287     TCSWndClass.hbrBackground  = NULL; /* Erase-Handler, Brush unnötig */
02288     TCSWndClass.lpszMenuName   = NULL;
02289     TCSWndClass.lpszClassName  = TCS_WINDOWCLASS;
02290
02291      /* Register the window class. Fail: most probable UNICODE on win98 */
02292     if (!RegisterClass (&TCSWndClass)) {
02293      #if defined(__WIN32__) || defined(_WIN32)
02294       retValue= GetLastError(); // win32-Funktion
02295 //    if (retValue == ERROR_CLASS_ALREADY_EXISTS) {
02296 //     Hier bei Bedarf Fehlerbehandlung einführen
02297 //    } else {
02298       FormatMessage(
02299         FORMAT_MESSAGE_ALLOCATE_BUFFER | FORMAT_MESSAGE_FROM_SYSTEM,
02300         NULL,
02301         retValue,
02302         MAKELANGID(LANG_NEUTRAL, SUBLANG_DEFAULT), // Default language
02303         (LPTSTR) &lpMsgBuf,
02304         0,
02305         NULL
02306       );
02307       MessageBox (NULL, lpMsgBuf, szTCSWindowName, MB_ICONSTOP);
02308       LocalFree( lpMsgBuf ); // Free the buffer
02309 //    } // Ende der Fehlerbehandlung
02310      #else // rudimentaere Fehlerbehandlung 16bit Windows
02311       MessageBox (NULL, _T("Window Class not registered"),
02312                                     szTCSWindowName, MB_ICONSTOP);
02313      #endif
02314      return;
02315     }
02316
02317     if ((TCSwindowIniXrelsiz < 100) || (TCSwindowIniYrelsiz < 100) ) {
02318      nCmdShow= SW_SHOWNORMAL; /* Achtung, int = 2Byte bei WIN16!!! */
02319      iX= (int) ( ( (long int) TCSwindowIniXrelpos *
02320                  (long int) GetSystemMetrics (SM_CXMAXIMIZED)) / 100);
02321      iY= (int) ( ( (long int) TCSwindowIniYrelpos *
02322                  (long int) GetSystemMetrics (SM_CYMAXIMIZED)) / 100);
02323      iSizeX= (int) ( ( (long int) TCSwindowIniXrelsiz *
02324                  (long int) GetSystemMetrics (SM_CXMAXIMIZED)) / 100);
02325      iSizeY= (int) ( ( (long int) TCSwindowIniYrelsiz *
02326                  (long int) GetSystemMetrics (SM_CYMAXIMIZED)) / 100);
02327     } else {
02328      nCmdShow= SW_SHOWMAXIMIZED;
02329      iX= 0;
02330      iY= 0;
02331      iSizeX= GetSystemMetrics (SM_CXMAXIMIZED);
02332      iSizeY= GetSystemMetrics (SM_CYMAXIMIZED);
02333     }
02334
02335     hTCSWindow = CreateWindow(TCS_WINDOWCLASS, szTCSWindowName,
02336                       WS_OVERLAPPEDWINDOW,
02337                       iX, iY,
02338                       iSizeX, iSizeY,
02339                       hOwnerWindow,
02340                       (HMENU) NULL,
02341                       (HINSTANCE) hTCSInst, (LPSTR) NULL);
02342
02343     if (hTCSWindow == NULL) return;
02344
02345     hTCSWindowDC = GetDC (hTCSWindow);
02346
02347     SetWindowExtEx (hTCSWindowDC, TCSrect.right, TCSrect.bottom, NULL);
02348     SetWindowOrgEx (hTCSWindowDC, TCSrect.left, TCSrect.bottom, NULL);
02349
02350 #if (JOURNALTYP == 1)
02351     hTCSMetaFileDC = CreateMetaFile (NULL); /* Memory-based 16bit Metafile */
02352     SetWindowExtEx (hTCSMetaFileDC, TCSrect.right, TCSrect.bottom, NULL);
02353     SetWindowOrgEx (hTCSMetaFileDC, TCSrect.left, TCSrect.bottom, NULL);
```

```
02354     MoveToEx (hTCSMetaFileDC, 0, 0, NULL);  /* Cursorposition Neuzeichnen */
02355
02356 #elif (JOURNALTYP == 2)
02357     iWidthMM = GetDeviceCaps(hTCSWindowDC, HORZSIZE); // Bildschirmgroesse(mm)
02358     iHeightMM = GetDeviceCaps(hTCSWindowDC, VERTSIZE);
02359     iWidthPixel = GetDeviceCaps(hTCSWindowDC, HORZRES); // Bildschirm (Pixel)
02360     iHeightPixel = GetDeviceCaps(hTCSWindowDC, VERTRES);
02361
02362     screenrect.left= (TCSrect.left *iWidthMM *100)/iWidthPixel; // in .01 mm
02363     screenrect.top= (TCSrect.top *iHeightMM *100)/iHeightPixel;
02364     screenrect.right= (TCSrect.right *iWidthMM *100)/iWidthPixel; // right > left!
02365     screenrect.bottom= (TCSrect.bottom *iHeightMM *100)/iHeightPixel; // bottom > top!
02366
02367     hTCSMetaFileDC = CreateEnhMetaFile (hTCSWindowDC, NULL, &screenrect,
02368             _T("TCS for Windows\0Journalfile created by INITT\0" ));
02369
02370     SetMapMode (hTCSMetaFileDC, MM_ANISOTROPIC);
02371     SetViewportExtEx (hTCSMetaFileDC, TCSrect.right, -TCSrect.bottom, NULL);
02372     SetViewportOrgEx (hTCSMetaFileDC, TCSrect.left, TCSrect.top, NULL);
02373
02374     SetWindowExtEx (hTCSMetaFileDC, TCSrect.right, TCSrect.bottom, NULL);
02375     SetWindowOrgEx (hTCSMetaFileDC, TCSrect.left, TCSrect.bottom, NULL);
02376
02377     MoveToEx (hTCSMetaFileDC, 0, 0, NULL);  /* Cursorposition Neuzeichnen */
02378 #endif
02379
02380     ShowWindow (hTCSWindow, nCmdShow);      /* Skalierung Viewport  */
02381     UpdateWindow(hTCSWindow);               /* in TCSWndProc_OnSize */
02382
02383     SysMenu = GetSystemMenu (hTCSWindow, FALSE); /* Systemmenu: kein Close */
02384     DeleteMenu (SysMenu, 6, MF_BYPOSITION);
02385     AppendMenu (SysMenu,MF_STRING,TCS_WM_COPY,szTCSMenuCopyText);  /* Copy */
02386
02387     TCSFontdefinition.lfHeight= TCSCharHeight; /* Höhe, Breite */
02388     TCSFontdefinition.lfWidth= 0;
02389     TCSFontdefinition.lfEscapement= 0; /* lfEscapement=lfOrientation */
02390     TCSFontdefinition.lfOrientation= 0;
02391     TCSFontdefinition.lfWeight= FW_NORMAL; /* Strichstärke */
02392     TCSFontdefinition.lfItalic= false;
02393     TCSFontdefinition.lfUnderline= false;
02394     TCSFontdefinition.lfStrikeOut= false;
02395     TCSFontdefinition.lfCharSet= ANSI_CHARSET;
02396     TCSFontdefinition.lfOutPrecision= OUT_TT_ONLY_PRECIS;
02397     TCSFontdefinition.lfClipPrecision= CLIP_DEFAULT_PRECIS;
02398     TCSFontdefinition.lfQuality= DRAFT_QUALITY;
02399     TCSFontdefinition.lfPitchAndFamily= FF_MODERN | FIXED_PITCH;
02400     _tcscpy (TCSFontdefinition.lfFaceName, szTCSGraphicFont);
02401                         /* Bevorzugter Font, keine Proportionalschrift!!! */
02402
02403     hTCSFont= CreateFontIndirect (&TCSFontdefinition);
02404     #if !defined(__WIN32__) && !defined(_WIN32)
02405      SelectFont (hTCSWindowDC, hTCSFont);      // Aktuellen Zeichenstatus an
02406     #else
02407      SelectObject (hTCSWindowDC, hTCSFont);      // Aktuellen Zeichenstatus an
02408     #endif
02409     SetTextColor (hTCSWindowDC, dwColorTable[TKTRNX.iTxtCol]);
02410
02411     GetTextMetrics (hTCSWindowDC, &lpTM);
02412     TKTRNX.kitalc= 0;
02413     TKTRNX.ksizef= 0;
02414     TKTRNX.khorsz= (FTNINT) ((float)LoRes((float)lpTM.tmAveCharWidth *TEK_XMAX/iSizeX) + 0.25f);
02415     TKTRNX.kversz= (FTNINT) ((float)LoRes((float)lpTM.tmHeight *TEK_YMAX/iSizeY)  + 0.25f);
02416
02417     SetBkMode (hTCSWindowDC, TRANSPARENT );   /* Attribut statisch, durch */
02418     SetTextAlign (hTCSWindowDC, TA_LEFT | TA_BOTTOM | TA_UPDATECP); /* Ort: */
02419
02420     hTCSPen= CreatePen (PS_SOLID, 0, dwColorTable[TKTRNX.iLinCol]);
02421     #if !defined(__WIN32__) && !defined(_WIN32)
02422      SelectPen (hTCSWindowDC, hTCSPen); // 16bit: Makro aus windowsx.h
02423     #else
02424      SelectObject (hTCSWindowDC, hTCSPen); // 32bit: GDI Standardaufruf
02425     #endif
02426
02427     hGinCurs=LoadCursor(NULL, IDC_CROSS);
02428     hMouseCurs=LoadCursor(NULL, IDC_ARROW);
02429
02430 #if ( (JOURNALTYP == 1) || (JOURNALTYP == 2) )
02431     #if !defined(__WIN32__) && !defined(_WIN32)
02432      SelectFont (hTCSMetaFileDC, hTCSFont);      // Aktuellen Zeichenstatus an
02433     #else
02434      SelectObject (hTCSMetaFileDC, hTCSFont);      // Aktuellen Zeichenstatus an
02435     #endif
02436     SetBkMode (hTCSMetaFileDC, TRANSPARENT );
02437     SetTextAlign (hTCSMetaFileDC, TA_LEFT | TA_BOTTOM | TA_UPDATECP);
02438     SetTextColor (hTCSMetaFileDC, dwColorTable[TKTRNX.iTxtCol]);
02439     #if !defined(__WIN32__) && !defined(_WIN32)
02440      SelectPen (hTCSMetaFileDC, hTCSPen); // 16bit: Makro aus windowsx.h
```

```
02441     #else
02442      SelectObject (hTCSMetaFileDC, hTCSPen); // 32bit: GDI Standardaufruf
02443     #endif
02444
02445 #elif (JOURNALTYP == 3)
02446     hTCSJournal= NULL;
02447     xJournalEntry= (struct xJournalEntry_typ*) malloc (sizeof (struct xJournalEntry_typ));
02448     if (xJournalEntry == NULL) TCSGraphicError (WRN_JOUCREATE,"");
02449
02450     xJournalEntry->action=  XACTION_NOOP; // Erkennung Listenanfang: Wurzelelement ohne Funktion
02451     xJournalEntry->i1= 0;
02452     xJournalEntry->i2= 0;
02453     SGLIB_DL_LIST_ADD (xJournalEntry_typ, hTCSJournal, xJournalEntry, previous, next)
02454
02455     xJournalEntry= (struct xJournalEntry_typ*) malloc (sizeof (struct xJournalEntry_typ));
02456     if (xJournalEntry == NULL) TCSGraphicError (WRN_JOUENTRY,"");
02457     xJournalEntry->action=  XACTION_INITT;
02458     xJournalEntry->i1= 0;
02459     xJournalEntry->i2= 0;
02460     SGLIB_DL_LIST_ADD (xJournalEntry_typ, hTCSJournal, xJournalEntry, previous, next)
02461 #endif
02462
02463     /*
02464         Erzeugung des Statusfensters
02465     */
02466
02467     TCSWndClass.style          = CS_HREDRAW | CS_VREDRAW;  //  CS_OWNDC |
02468     TCSWndClass.lpfnWndProc    = TCSstatWndProc;
02469     TCSWndClass.hInstance      = hTCSInst;
02470     TCSWndClass.hIcon          = NULL;
02471     TCSWndClass.hCursor        = LoadCursor(NULL, IDC_ARROW);
02472     #if !defined(__WIN32__) && !defined(_WIN32)
02473      TCSWndClass.hbrBackground  = (HBRUSH) GetStockBrush(WHITE_BRUSH);
02474     #else
02475      TCSWndClass.hbrBackground  = GetStockObject(WHITE_BRUSH);
02476     #endif
02477     TCSWndClass.lpszMenuName   = NULL;
02478     TCSWndClass.lpszClassName  = TCS_STAT_WINDOWCLASS;
02479
02480     if (!RegisterClass (&TCSWndClass)) {
02481      #if defined(__WIN32__) || defined(_WIN32)
02482       retValue= GetLastError(); // win32-Funktion
02483 //    if (retValue == ERROR_CLASS_ALREADY_EXISTS) {
02484 //     Hier bei Bedarf Fehlerbehandlung einführen
02485 //    } else {
02486       FormatMessage(
02487         FORMAT_MESSAGE_ALLOCATE_BUFFER | FORMAT_MESSAGE_FROM_SYSTEM,
02488         NULL,
02489         retValue,
02490         MAKELANGID(LANG_NEUTRAL, SUBLANG_DEFAULT), // Default language
02491         (LPTSTR) &lpMsgBuf,
02492         0,
02493         NULL
02494       );
02495       MessageBox (NULL, lpMsgBuf, szTCSWindowName, MB_ICONSTOP);
02496       LocalFree( lpMsgBuf ); // Free the buffer
02497 //    } // Ende der Fehlerbehandlung
02498      #else // rudimentaere Fehlerbehandlung 16bit Windows
02499       MessageBox (NULL, _T("Window Class not registered"),
02500                                    szTCSWindowName, MB_ICONSTOP);
02501      #endif
02502      return;
02503     }
02504
02505     if ((TCSstatWindowIniXrelsiz < 100) || (TCSstatWindowIniYrelsiz < 100) ) {
02506      FirstShow= WS_OVERLAPPED | WS_SIZEBOX | WS_VSCROLL; // WIN16: int*2 !
02507      iX= (int) ( ( (long int) TCSstatWindowIniXrelpos *
02508                    (long int) GetSystemMetrics (SM_CXMAXIMIZED)) / 100);
02509      iY= (int) ( ( (long int) TCSstatWindowIniYrelpos *
02510                    (long int) GetSystemMetrics (SM_CYMAXIMIZED)) / 100);
02511      iSizeX= (int) ( ( (long int) TCSstatWindowIniXrelsiz *
02512                        (long int) GetSystemMetrics (SM_CXMAXIMIZED)) / 100);
02513      iSizeY= (int) ( ( (long int)  TCSstatWindowIniYrelsiz *
02514                        (long int) GetSystemMetrics (SM_CYMAXIMIZED) ) / 100);
02515     } else {
02516      FirstShow= WS_OVERLAPPED | WS_SIZEBOX | WS_VSCROLL | WS_MAXIMIZE;
02517      iX= 0;
02518      iY = GetSystemMetrics (SM_CYMAXIMIZED) -
02519                     #if defined(__WIN32__) || defined(_WIN32)
02520                                  (int) (TCS_REL_CHR_SPACE*TextLineHeight) -
02521                     #endif
02522                               STAT_MINLINES*GetSystemMetrics (SM_CYMINTRACK);
02523      iSizeX= GetSystemMetrics (SM_CXMAXIMIZED);
02524      iSizeY= (int) (TCS_REL_CHR_SPACE*TextLineHeight) +
02525                               STAT_MINLINES*GetSystemMetrics (SM_CYMINTRACK);
02526     }
02527
```

```
02528     hTCSstatWindow = CreateWindow(TCS_STAT_WINDOWCLASS, szTCSstatWindowName,
02529                         FirstShow,
02530                         iX, iY,
02531                         iSizeX, iSizeY,
02532                         (HWND) hTCSWindow, (HMENU) NULL,
02533                         (HINSTANCE) hTCSInst, (LPSTR) NULL);
02534
02535     if (hTCSstatWindow == NULL) return;
02536
02537     #ifdef STAT_WINDOW_PRIVATE
02538      hTCSstatWindowDC = GetDC (hTCSstatWindow);
02539     #endif
02540
02541     TCSFontdefinition.lfHeight= TextLineHeight; /* Buchstabenhöhe */
02542     _tcscpy (TCSFontdefinition.lfFaceName, szTCSSysFont);
02543                         /* Bevorzugter Font, keine Proportionalschrift!!! */
02544     hTCSSysFont= CreateFontIndirect (&TCSFontdefinition);
02545
02546     TCSFontdefinition.lfHeight= TCSCharHeight; /* Wiederherstellung Graphikzeichensatz */
02547     _tcscpy (TCSFontdefinition.lfFaceName, szTCSGraphicFont);
02548
02549
02550     TCSStatWindowAutomatic = true;
02551     TCSstatCursorPosY= 0;
02552     TCSstatScrollY= 0;
02553     TCSstatRow= -1;
02554     TCSstatOrgY= TCSstatScrollY;
02555     SetScrollRange (hTCSstatWindow, SB_VERT, 0,STAT_MAXROWS-1, true);
02556     SetScrollPos (hTCSstatWindow, SB_VERT, TCSstatScrollY, true);
02557
02558     #ifdef __cplusplus /* Im Komplettpaket durch TCS.FOR in INITT gesetzt */
02559      TKTRNX.kminsx= 0;
02560      TKTRNX.kmaxsx= TEK_XMAX;
02561      TKTRNX.kminsy= 0;
02562      TKTRNX.kmaxsy= TEK_YMAX;
02563     #endif
02564
02565     ShowWindow (hTCSstatWindow, SW_HIDE);
02566
02567     ClippingNotActive= true;
02568
02569     return;
02570 }
02571
02572
02573
02574 extern void TCSdrWIN__ finitt ()
02575 {
02576 // FTNINT iErr;
02577 #if (JOURNALTYP == 1)
02578  HMETAFILE hmf;
02579 #elif (JOURNALTYP == 2)
02580  HENHMETAFILE hmf;
02581 #elif (JOURNALTYP == 3)
02582  struct xJournalEntry_typ * xJournalEntry;
02583 #endif
02584
02585
02586     if (!TCSinitialized) return; /* Graphiksystem nicht initialisiert */
02587
02588     TCSGraphicError (ERR_EXIT,"");  /* TCSinitialized verhindert Rekursion*/
02589
02590     TCSinitialized= false;           /* Ab jetzt nicht mehr funktionsfähig */
02591
02592     ReleaseDC (hTCSWindow, hTCSWindowDC);
02593     DestroyWindow (hTCSWindow);
02594     UnregisterClass (TCS_WINDOWCLASS, hTCSInst);
02595
02596 #if (JOURNALTYP == 1)
02597     hmf = CloseMetaFile (hTCSMetaFileDC);
02598     DeleteMetaFile (hmf);
02599 #elif (JOURNALTYP == 2)
02600     hmf = CloseEnhMetaFile (hTCSMetaFileDC);
02601     DeleteEnhMetaFile (hmf);
02602 #elif (JOURNALTYP == 3)
02603     SGLIB_DL_LIST_MAP_ON_ELEMENTS (struct xJournalEntry_typ, hTCSJournal,
02604            xJournalEntry,previous,next, {free (xJournalEntry);}); // free all
02605     hTCSJournal= NULL;
02606 #endif
02607
02608     #ifdef STAT_WINDOW_PRIVATE
02609      ReleaseDC (hTCSstatWindow, hTCSstatWindowDC);
02610     #endif
02611     DestroyWindow (hTCSstatWindow);
02612     UnregisterClass (TCS_STAT_WINDOWCLASS, hTCSInst);
02613
02614     #if !defined(__WIN32__) && !defined(_WIN32)
```

```
02615       DeleteFont (hTCSFont);
02616       DeleteFont (hTCSSysFont);
02617       DeletePen (hTCSPen);
02618      #else
02619       DeleteObject (hTCSFont);
02620       DeleteObject (hTCSSysFont);
02621       DeleteObject (hTCSPen);
02622      #endif
02623
02624      #if defined(__WATCOMC__) && defined(__SW_BW)
02625       _dwShutDown();        // Shutdown Watcom Default Window System
02626      #endif
02627
02628      if (TCSErrorLev[ERR_EXIT] >= 10) exit (EXIT_SUCCESS); // Programmende
02629      return; // Bei Fehlerlevel <10 zurück zum Hauptprogramm
02630 }
02631
02632
02633
02634 /*
02635 ---------------------- Userroutinen: Zeichnen -------------------
02636 */
02637
02638
02639
02640 extern void TCSdrWIN__ swind1 (FTNINT *ix1,FTNINT *iy1,FTNINT *ix2,FTNINT *iy2)
02641 {
02642     ClippingNotActive = (*ix1==0) && (*iy1==0) &&
02643                                      (*ix2==TEK_XMAX) && (*iy2==TEK_YMAX);
02644     /* Berechnung BOOL zur Wahrung der Programmstruktur der DOS-Version */
02645 }
02646
02647
02648
02649 extern void TCSdrWIN__ erase (void)
02650 {
02651 #if (JOURNALTYP == 1)
02652  HMETAFILE hmf;
02653  HRGN       hWindowRegion;
02654  HBRUSH     hBack;
02655 #elif (JOURNALTYP == 2)
02656  HENHMETAFILE   hmf;
02657  ENHMETAHEADER emh ;
02658 #elif (JOURNALTYP == 3)
02659  struct xJournalEntry_typ    * xJournalEntry;
02660 #endif
02661
02662 #if (JOURNALTYP == 1)
02663      hmf = CloseMetaFile (hTCSMetaFileDC);   /* Cursor, Farben unverändert! */
02664      DeleteMetaFile (hmf);                   /* alter Status Bildschirm */
02665      hTCSMetaFileDC  = CreateMetaFile (NULL);/* für neues Journalfile */
02666      SetWindowExtEx (hTCSMetaFileDC, TCSrect.right, TCSrect.bottom, NULL);
02667      SetWindowOrgEx (hTCSMetaFileDC, TCSrect.left, TCSrect.bottom, NULL);
02668
02669      hBack= CreateSolidBrush (dwColorTable[TKTRNX.iBckCol]);
02670      hWindowRegion= CreateRectRgn (TCSrect.left, TCSrect.top, TCSrect.right,TCSrect.bottom); //
     rechts,oben
02671      FillRgn (hTCSMetaFileDC, hWindowRegion, hBack);         // nicht eingeschlossen
02672      #if !defined(__WIN32__) && !defined(_WIN32)
02673       DeleteBrush (hBack);
02674       DeleteRgn (hWindowRegion);                   /* Resourcen freigeben */
02675       SelectFont (hTCSMetaFileDC, hTCSFont);      // Aktuellen Zeichenstatus an
02676      #else
02677       DeleteObject (hBack);
02678       DeleteObject (hWindowRegion);
02679       SelectObject (hTCSMetaFileDC, hTCSFont);      // Aktuellen Zeichenstatus an
02680      #endif
02681
02682      SetBkMode (hTCSMetaFileDC, TRANSPARENT );
02683      SetTextAlign (hTCSMetaFileDC, TA_LEFT | TA_BOTTOM | TA_UPDATECP);
02684      SetTextColor (hTCSMetaFileDC, dwColorTable[TKTRNX.iTxtCol]);
02685      #if !defined(__WIN32__) && !defined(_WIN32)
02686       SelectPen (hTCSMetaFileDC, hTCSPen); // 16bit: Makro aus windowsx.h
02687      #else
02688       SelectObject (hTCSMetaFileDC, hTCSPen); // 32bit: GDI Standardaufruf
02689      #endif
02690
02691      MoveToEx (hTCSMetaFileDC, HiRes(TKTRNX.kBeamX), HiRes(TKTRNX.kBeamY), NULL);
02692
02693 #elif (JOURNALTYP == 2)
02694      hmf = CloseEnhMetaFile (hTCSMetaFileDC);
02695      GetEnhMetaFileHeader (hmf, sizeof (emh), &emh) ;
02696      DeleteEnhMetaFile (hmf);                     // alter Status Bildschirm
02697
02698      hTCSMetaFileDC  = CreateEnhMetaFile (hTCSWindowDC, NULL, &emh.rclFrame,
02699                        _T("TCS for Windows\0Journalfile created by Erase\0\0"));
02700
```

```
02701       SetMapMode (hTCSMetaFileDC, MM_ANISOTROPIC);
02702       SetViewportExtEx (hTCSMetaFileDC, TCSrect.right, -TCSrect.bottom, NULL);
02703       SetViewportOrgEx (hTCSMetaFileDC, TCSrect.left, TCSrect.top, NULL);
02704       SetWindowExtEx (hTCSMetaFileDC, TCSrect.right, TCSrect.bottom, NULL);
02705       SetWindowOrgEx (hTCSMetaFileDC, TCSrect.left, TCSrect.bottom, NULL);
02706
02707       #if !defined(__WIN32__) && !defined(_WIN32)
02708        SelectFont (hTCSMetaFileDC, hTCSFont);      // Aktuellen Zeichenstatus an
02709       #else
02710        SelectObject (hTCSMetaFileDC, hTCSFont);      // Aktuellen Zeichenstatus an
02711       #endif
02712       SetBkMode (hTCSMetaFileDC, TRANSPARENT );
02713       SetTextAlign (hTCSMetaFileDC, TA_LEFT | TA_BOTTOM | TA_UPDATECP);
02714       SetTextColor (hTCSMetaFileDC, dwColorTable[TKTRNX.iTxtCol]);
02715       #if !defined(__WIN32__) && !defined(_WIN32)
02716        SelectPen (hTCSMetaFileDC, hTCSPen); // 16bit: Makro aus windowsx.h
02717       #else
02718        SelectObject (hTCSMetaFileDC, hTCSPen); // 32bit: GDI Standardaufruf
02719       #endif
02720
02721       MoveToEx (hTCSMetaFileDC, HiRes(TKTRNX.kBeamX),HiRes(TKTRNX.kBeamY), NULL);
02722
02723 #elif (JOURNALTYP == 3)
02724       SGLIB_DL_LIST_MAP_ON_ELEMENTS (struct xJournalEntry_typ, hTCSJournal,
02725             xJournalEntry,previous,next, {free (xJournalEntry);}); // free all
02726       hTCSJournal= NULL;
02727
02728       xJournalEntry= (struct xJournalEntry_typ*) malloc (sizeof (struct xJournalEntry_typ));
02729       if (xJournalEntry == NULL) TCSGraphicError (WRN_JOUENTRY,"");
02730       xJournalEntry->action=  XACTION_NOOP;
02731       xJournalEntry->i1= 0;
02732       xJournalEntry->i2= 0;
02733       SGLIB_DL_LIST_ADD (xJournalEntry_typ, hTCSJournal, xJournalEntry, previous, next)
02734
02735       xJournalEntry= (struct xJournalEntry_typ*) malloc (sizeof (struct xJournalEntry_typ));
02736       if (xJournalEntry == NULL) TCSGraphicError (WRN_JOUADD,"");
02737       xJournalEntry->action=  XACTION_LINCOL;
02738       xJournalEntry->i1= TKTRNX.iLinCol;
02739       xJournalEntry->i2= 0;
02740       SGLIB_DL_LIST_ADD (xJournalEntry_typ, hTCSJournal, xJournalEntry, previous, next)
02741
02742       xJournalEntry= (struct xJournalEntry_typ*) malloc (sizeof (struct xJournalEntry_typ));
02743       if (xJournalEntry == NULL) TCSGraphicError (WRN_JOUADD,"");
02744       xJournalEntry->action=  XACTION_TXTCOL;
02745       xJournalEntry->i1= TKTRNX.iTxtCol;
02746       xJournalEntry->i2= 0;
02747       SGLIB_DL_LIST_ADD (xJournalEntry_typ, hTCSJournal, xJournalEntry, previous, next)
02748
02749       xJournalEntry= (struct xJournalEntry_typ*) malloc (sizeof (struct xJournalEntry_typ));
02750       if (xJournalEntry == NULL) TCSGraphicError (WRN_JOUADD,"");
02751       xJournalEntry->action=  XACTION_BCKCOL;
02752       xJournalEntry->i1= TKTRNX.iBckCol;
02753       xJournalEntry->i2= 0;
02754       SGLIB_DL_LIST_ADD (xJournalEntry_typ, hTCSJournal, xJournalEntry, previous, next)
02755
02756       xJournalEntry= (struct xJournalEntry_typ*) malloc (sizeof (struct xJournalEntry_typ));
02757       if (xJournalEntry == NULL) TCSGraphicError (WRN_JOUENTRY,"");
02758       xJournalEntry->action=  XACTION_ERASE;
02759       xJournalEntry->i1= 0;
02760       xJournalEntry->i2= 0;
02761       SGLIB_DL_LIST_ADD (xJournalEntry_typ, hTCSJournal, xJournalEntry, previous, next)
02762 #endif
02763
02764     TCSBackgroundColour=TKTRNX.iBckCol; /* Jetzt in ERASE-Handler wirksam */
02765
02766     InvalidateRect (hTCSWindow, NULL, true); /* ,ClientArea, EraseFlag */
02767     UpdateWindow (hTCSWindow); /* 16bit Rechner: gegen Irritation Anwender */
02768
02769 }
02770
02771
02772
02773 #ifdef __cplusplus /* Erweiterte Version in TCS.FOR, nur C++ Version */
02774
02775 extern TCSdrWIN__ swindo (FTNINT *ix,FTNINT *iLx, FTNINT *iy,FTNINT *iLy)
02776 {
02777     TKTRNX.kminsx= *ix;
02778     TKTRNX.kmaxsx= *ix + *iLx;
02779     TKTRNX.kminsy= *iy;
02780     TKTRNX.kmaxsy= *iy + *iLy;
02781 }
02782
02783 #endif
02784
02785
02786
02787 extern void TCSdrWIN__ movabs (FTNINT *ix,FTNINT *iy)
```

```
02788 {
02789 int ixx, iyy; /* Erzwingt Typangleichung Windows-GDI / Fortran */
02790
02791 #if (JOURNALTYP == 3)
02792  struct xJournalEntry_typ    * xJournalEntry;
02793 #endif
02794
02795     TKTRNX.kBeamX= *ix; TKTRNX.kBeamY= *iy;
02796     if (PointInWindow (*ix, *iy)) {
02797      ixx= HiRes(*ix); iyy= HiRes(*iy);
02798      MoveToEx (hTCSWindowDC, ixx, iyy, NULL);
02799
02800 #if ((JOURNALTYP == 1) || (JOURNALTYP == 2))
02801      MoveToEx (hTCSMetaFileDC, ixx, iyy, NULL);
02802 #elif (JOURNALTYP == 3)
02803      xJournalEntry= (struct xJournalEntry_typ*) malloc (sizeof (struct xJournalEntry_typ));
02804      if (xJournalEntry == NULL) TCSGraphicError (WRN_JOUENTRY,"");
02805      xJournalEntry->action=  XACTION_MOVABS;
02806      xJournalEntry->i1= *ix;
02807      xJournalEntry->i2= *iy;
02808      SGLIB_DL_LIST_ADD (xJournalEntry_typ, hTCSJournal, xJournalEntry, previous, next)
02809 #endif
02810     }
02811 }
02812
02813
02814
02815 extern void TCSdrWIN__ drwabs (FTNINT *ix,FTNINT *iy)
02816 {
02817 FTNINT iXClip, iYClip;
02818 int ixx, iyy;
02819
02820 #if (JOURNALTYP == 3)
02821  struct xJournalEntry_typ    * xJournalEntry;
02822 #endif
02823
02824     if (ClipLineStart(TKTRNX.kBeamX,TKTRNX.kBeamY, *ix,*iy, &iXClip,&iYClip)) {
02825      ixx= HiRes(iXClip); iyy= HiRes(iYClip);
02826      MoveToEx (hTCSWindowDC, ixx,iyy, NULL);
02827 #if ((JOURNALTYP == 1) || (JOURNALTYP == 2))
02828      MoveToEx (hTCSMetaFileDC, ixx,iyy, NULL);
02829 #elif (JOURNALTYP == 3)
02830      xJournalEntry= (struct xJournalEntry_typ*) malloc (sizeof (struct xJournalEntry_typ));
02831      if (xJournalEntry == NULL) TCSGraphicError (WRN_JOUENTRY,"");
02832      xJournalEntry->action=  XACTION_MOVABS;
02833      xJournalEntry->i1= iXClip;
02834      xJournalEntry->i2= iYClip;
02835      SGLIB_DL_LIST_ADD (xJournalEntry_typ, hTCSJournal, xJournalEntry, previous, next)
02836 #endif
02837
02838      ClipLineStart(*ix,*iy, TKTRNX.kBeamX,TKTRNX.kBeamY, &iXClip,&iYClip);
02839      ixx= HiRes(iXClip); iyy= HiRes(iYClip);    /* geclippter Endpunkt */
02840      LineTo (hTCSWindowDC, ixx,iyy);      /* Endpunkt nicht mitgezeichnet! */
02841      SetPixel (hTCSWindowDC,ixx,iyy,dwColorTable[TKTRNX.iLinCol]);
02842
02843 #if ((JOURNALTYP == 1) || (JOURNALTYP == 2))
02844      LineTo (hTCSMetaFileDC, ixx,iyy);
02845      SetPixel (hTCSMetaFileDC,ixx,iyy, dwColorTable[TKTRNX.iLinCol]);
02846 #elif (JOURNALTYP == 3)
02847      xJournalEntry= (struct xJournalEntry_typ*) malloc (sizeof (struct xJournalEntry_typ));
02848      if (xJournalEntry == NULL) TCSGraphicError (WRN_JOUENTRY,"");
02849      xJournalEntry->action=  XACTION_DRWABS;
02850      xJournalEntry->i1= iXClip;
02851      xJournalEntry->i2= iYClip;
02852      SGLIB_DL_LIST_ADD (xJournalEntry_typ, hTCSJournal, xJournalEntry, previous, next)
02853
02854      xJournalEntry= (struct xJournalEntry_typ*) malloc (sizeof (struct xJournalEntry_typ));
02855      if (xJournalEntry == NULL) TCSGraphicError (WRN_JOUADD,"");
02856      xJournalEntry->action=  XACTION_MOVABS;
02857      xJournalEntry->i1= *ix;
02858      xJournalEntry->i2= *iy;
02859      SGLIB_DL_LIST_ADD (xJournalEntry_typ, hTCSJournal, xJournalEntry, previous, next)
02860 #endif
02861
02862     }
02863     TKTRNX.kBeamX= *ix; TKTRNX.kBeamY= *iy;
02864
02865 }
02866
02867
02868
02869 extern void TCSdrWIN__ dshabs (FTNINT *ix,FTNINT *iy, FTNINT *iMask)
02870 {
02871 HPEN     hPenDash;
02872 FTNINT iXClip, iYClip;
02873 int     iMaskIndex, ixx, iyy;
02874
```

```
02875 #if (JOURNALTYP == 3)
02876  struct xJournalEntry_typ    * xJournalEntry;
02877 #endif
02878
02879     if (*iMask < 0) {     /* Verhindern eines Access-Errors bei Integermaskenübergabe */
02880      iMaskIndex= 0;
02881     } else if (*iMask > MAX_PENSTYLE_INDEX) {
02882      iMaskIndex= 1;       /* Style: dotted */
02883     } else {
02884      iMaskIndex= *iMask;
02885     }
02886
02887     if (ClipLineStart(TKTRNX.kBeamX,TKTRNX.kBeamY, *ix,*iy, &iXClip,&iYClip)) {
02888      ixx= HiRes(iXClip); iyy= HiRes(iYClip);
02889      MoveToEx (hTCSWindowDC, ixx,iyy, NULL);
02890
02891 #if ((JOURNALTYP == 1) || (JOURNALTYP == 2))
02892      MoveToEx (hTCSMetaFileDC, ixx,iyy, NULL);
02893 #elif (JOURNALTYP == 3)
02894      xJournalEntry= (struct xJournalEntry_typ*) malloc (sizeof (struct xJournalEntry_typ));
02895      if (xJournalEntry == NULL) TCSGraphicError (WRN_JOUENTRY,"");
02896      xJournalEntry->action=  XACTION_MOVABS;
02897      xJournalEntry->i1= iXClip;
02898      xJournalEntry->i2= iYClip;
02899      SGLIB_DL_LIST_ADD (xJournalEntry_typ, hTCSJournal, xJournalEntry, previous, next)
02900 #endif
02901
02902      ClipLineStart(*ix,*iy, TKTRNX.kBeamX,TKTRNX.kBeamY, &iXClip,&iYClip);
02903      ixx= HiRes(iXClip); iyy= HiRes(iYClip);      /* geclippter Endpunkt */
02904
02905      hPenDash= CreatePen (dwPenStyle[iMaskIndex], 0, dwColorTable[TKTRNX.iLinCol]);
02906      #if !defined(__WIN32__) && !defined(_WIN32)
02907       SelectPen (hTCSWindowDC, hPenDash); // 16bit: Makro aus windowsx.h
02908      #else
02909       SelectObject (hTCSWindowDC, hPenDash); // 32bit: GDI Standardaufruf
02910      #endif
02911      LineTo (hTCSWindowDC, ixx,iyy);   /* Ohne Endpunkt bei Dash o.k! */
02912      #if !defined(__WIN32__) && !defined(_WIN32)
02913       SelectPen (hTCSWindowDC, hTCSPen); // 16bit: Makro aus windowsx.h
02914      #else
02915       SelectObject (hTCSWindowDC, hTCSPen); // 32bit: GDI Standardaufruf
02916      #endif
02917
02918 #if ((JOURNALTYP == 1) || (JOURNALTYP == 2))
02919      #if !defined(__WIN32__) && !defined(_WIN32)
02920       SelectPen (hTCSMetaFileDC, hPenDash); // 16bit: Makro aus windowsx.h
02921      #else
02922       SelectObject (hTCSMetaFileDC, hPenDash); // 32bit: GDI Standardaufruf
02923      #endif
02924      LineTo (hTCSMetaFileDC, ixx,iyy);
02925      #if !defined(__WIN32__) && !defined(_WIN32)
02926       SelectPen (hTCSMetaFileDC, hTCSPen); // 16bit: Makro aus windowsx.h
02927      #else
02928       SelectObject (hTCSMetaFileDC, hTCSPen); // 32bit: GDI Standardaufruf
02929      #endif
02930 #elif (JOURNALTYP == 3)
02931      xJournalEntry= (struct xJournalEntry_typ*) malloc (sizeof (struct xJournalEntry_typ));
02932      if (xJournalEntry == NULL) TCSGraphicError (WRN_JOUENTRY,"");
02933      xJournalEntry->action=  XACTION_DSHSTYLE;
02934      xJournalEntry->i1= iMaskIndex;
02935      SGLIB_DL_LIST_ADD (xJournalEntry_typ, hTCSJournal, xJournalEntry, previous, next)
02936
02937      xJournalEntry= (struct xJournalEntry_typ*) malloc (sizeof (struct xJournalEntry_typ));
02938      if (xJournalEntry == NULL) TCSGraphicError (WRN_JOUENTRY,"");
02939      xJournalEntry->action=  XACTION_DSHABS;
02940      xJournalEntry->i1= iXClip;
02941      xJournalEntry->i2= iYClip;
02942      SGLIB_DL_LIST_ADD (xJournalEntry_typ, hTCSJournal, xJournalEntry, previous, next)
02943
02944      xJournalEntry= (struct xJournalEntry_typ*) malloc (sizeof (struct xJournalEntry_typ));
02945      if (xJournalEntry == NULL) TCSGraphicError (WRN_JOUADD,"");
02946      xJournalEntry->action=  XACTION_MOVABS;
02947      xJournalEntry->i1= *ix;
02948      xJournalEntry->i2= *iy;
02949      SGLIB_DL_LIST_ADD (xJournalEntry_typ, hTCSJournal, xJournalEntry, previous, next)
02950 #endif
02951
02952      #if !defined(__WIN32__) && !defined(_WIN32)
02953       DeletePen (hPenDash);
02954      #else
02955       DeleteObject (hPenDash);
02956      #endif
02957
02958     }
02959     TKTRNX.kBeamX= *ix; TKTRNX.kBeamY= *iy;
02960 }
02961
```

```
02962
02963
02964 extern void TCSdrWIN__ pntabs (FTNINT *ix,FTNINT *iy)
02965 {
02966 int     ixx, iyy; /* Erzwingt Typangleichung Windows-GDI / Fortran */
02967
02968 #if (JOURNALTYP == 3)
02969  struct xJournalEntry_typ    * xJournalEntry;
02970 #endif
02971
02972     TKTRNX.kBeamX= *ix; TKTRNX.kBeamY= *iy;
02973     if (PointInWindow (*ix, *iy)) {
02974      ixx= HiRes(*ix); iyy= HiRes(*iy);
02975      SetPixel (hTCSWindowDC,ixx,iyy, dwColorTable[TKTRNX.iLinCol]);
02976
02977 #if ((JOURNALTYP == 1) || (JOURNALTYP == 2))
02978      SetPixel (hTCSMetaFileDC,ixx,iyy,dwColorTable[TKTRNX.iLinCol]);
02979 #elif (JOURNALTYP == 3)
02980      xJournalEntry= (struct xJournalEntry_typ*) malloc (sizeof (struct xJournalEntry_typ));
02981      if (xJournalEntry == NULL) TCSGraphicError (WRN_JOUENTRY,"");
02982      xJournalEntry->action=  XACTION_PNTABS;
02983      xJournalEntry->i1= *ix;
02984      xJournalEntry->i2= *iy;
02985      SGLIB_DL_LIST_ADD (xJournalEntry_typ, hTCSJournal, xJournalEntry, previous, next)
02986 #endif
02987
02988     }
02989 }
02990
02991
02992
02993 extern void TCSdrWIN__ bckcol (FTNINT *iCol)
02994 {
02995
02996 #if (JOURNALTYP == 3)
02997  struct xJournalEntry_typ    * xJournalEntry;
02998 #endif
02999
03000     TKTRNX.iBckCol= min(abs(*iCol),MAX_COLOR_INDEX);
03001
03002 #if (JOURNALTYP == 3)
03003     xJournalEntry= (struct xJournalEntry_typ*) malloc (sizeof (struct xJournalEntry_typ));
03004     if (xJournalEntry == NULL) TCSGraphicError (WRN_JOUENTRY,"");
03005     xJournalEntry->action=  XACTION_BCKCOL;
03006     xJournalEntry->i1= TKTRNX.iBckCol;
03007     SGLIB_DL_LIST_ADD (xJournalEntry_typ, hTCSJournal, xJournalEntry, previous, next)
03008 #endif
03009
03010 }
03011
03012
03013
03014 extern void TCSdrWIN__ lincol (FTNINT *iCol)
03015 {
03016
03017 HPEN    hPenOld;
03018
03019 #if (JOURNALTYP == 3)
03020  struct xJournalEntry_typ    * xJournalEntry;
03021 #endif
03022
03023     TKTRNX.iLinCol= min(abs(*iCol),MAX_COLOR_INDEX);
03024     hTCSPen= CreatePen (PS_SOLID, 0, dwColorTable[TKTRNX.iLinCol]);
03025     #if !defined(__WIN32__) && !defined(_WIN32)
03026      hPenOld= SelectPen (hTCSWindowDC, hTCSPen); // 16bit: Makro aus windowsx.h
03027     #else
03028      hPenOld= SelectObject (hTCSWindowDC, hTCSPen); // 32bit: GDI Standardaufruf
03029     #endif
03030
03031 #if ((JOURNALTYP == 1) || (JOURNALTYP == 2))
03032     #if !defined(__WIN32__) && !defined(_WIN32)
03033      SelectPen (hTCSMetaFileDC, hTCSPen); // 16bit: Makro aus windowsx.h
03034     #else
03035      SelectObject (hTCSMetaFileDC, hTCSPen); // 32bit: GDI Standardaufruf
03036     #endif
03037 #elif (JOURNALTYP == 3)
03038     xJournalEntry= (struct xJournalEntry_typ*) malloc (sizeof (struct xJournalEntry_typ));
03039     if (xJournalEntry == NULL) TCSGraphicError (WRN_JOUENTRY,"");
03040     xJournalEntry->action=  XACTION_LINCOL;
03041     xJournalEntry->i1= TKTRNX.iLinCol;
03042     SGLIB_DL_LIST_ADD (xJournalEntry_typ, hTCSJournal, xJournalEntry, previous, next)
03043 #endif
03044
03045     #if !defined(__WIN32__) && !defined(_WIN32)
03046      DeletePen (hPenOld);
03047     #else
03048      DeleteObject (hPenOld);
```

```
03049     #endif
03050
03051 }
03052
03053
03054
03055
03056 extern void TCSdrWIN__ txtcol (FTNINT *iCol)
03057 {
03058
03059 #if (JOURNALTYP == 3)
03060  struct xJournalEntry_typ    * xJournalEntry;
03061 #endif
03062
03063     TKTRNX.iTxtCol= min(abs(*iCol),MAX_COLOR_INDEX);
03064     SetTextColor (hTCSWindowDC, dwColorTable[TKTRNX.iTxtCol]);
03065 #if ((JOURNALTYP == 1) || (JOURNALTYP == 2))
03066     SetTextColor (hTCSMetaFileDC, dwColorTable[TKTRNX.iTxtCol]);
03067 #elif (JOURNALTYP == 3)
03068     xJournalEntry= (struct xJournalEntry_typ*) malloc (sizeof (struct xJournalEntry_typ));
03069     if (xJournalEntry == NULL) TCSGraphicError (WRN_JOUENTRY,"");
03070     xJournalEntry->action=  XACTION_TXTCOL;
03071     xJournalEntry->i1= TKTRNX.iTxtCol;
03072     SGLIB_DL_LIST_ADD (xJournalEntry_typ, hTCSJournal, xJournalEntry, previous, next)
03073 #endif
03074
03075 }
03076
03077
03078
03079 extern void TCSdrWIN__ DefaultColour (void)
03080 {
03081     TKTRNX.iLinCol= TCSDefaultLinCol;
03082     TKTRNX.iTxtCol= TCSDefaultTxtCol;
03083     TKTRNX.iBckCol= TCSDefaultBckCol;
03084
03085     lincol (&TKTRNX.iLinCol);
03086     txtcol (&TKTRNX.iTxtCol);
03087     bckcol (&TKTRNX.iBckCol);
03088 }
03089
03090
03091
03092 /*
03093 ---------------------- Userroutinen: Graphiktext -----------------------
03094 */
03095
03096
03097
03098 extern void TCSdrWIN__ outgtext(FTNSTRPAR * ftn_string FTNSTRPAR_TAIL(ftn_string) )
03099 {
03100 int iL;
03101 SIZE Size;
03102 POINT CPpos;
03103
03104 #if (JOURNALTYP == 3)
03105  int i;
03106  struct xJournalEntry_typ    * xJournalEntry;
03107 #endif
03108
03109 #ifdef extended_error_handling
03110  HDC         hdc;
03111  LPVOID      lpMsgBuf;
03112 #endif
03113
03114
03115     if (FTNSTRPARA(ftn_string)[0] == (FTNCHAR) 0 ) return; // Leerstring char(0)
03116
03117     iL= 1; // Stringbeginn bei 0 -> Dec Laenge
03118     while ( (FTNSTRPARA(ftn_string)[iL-1] != (FTNCHAR) 0) &&  // c-String bis \0
03119                     (iL < FTNSTRPARL(ftn_string)) ) iL++;  // oder Ftn-String
03120     if (FTNSTRPARA(ftn_string)[iL-1] == (FTNCHAR) 0 ) iL--;   // cString ohne \0
03121
03122
03123     #ifdef extended_error_handling
03124      if (GetTextExtentPoint (hTCSWindowDC, FTNSTRPARA(ftn_string),iL,&Size) == 0 ){
03125       hdc = CreateIC (_T ("DISPLAY"), NULL, NULL, NULL);
03126       #if !defined(__WIN32__) && !defined(_WIN32)
03127        SelectFont (hdc, hTCSFont);      // Aktuellen Zeichenstatus an
03128       #else
03129        SelectObject (hdc, hTCSFont);      // Aktuellen Zeichenstatus an
03130       #endif
03131       GetTextExtentPoint (hdc, FTNSTRPARA(ftn_string),iL,&Size);
03132       DeleteDC (hdc);
03133
03134       FormatMessage(
03135         FORMAT_MESSAGE_ALLOCATE_BUFFER | FORMAT_MESSAGE_FROM_SYSTEM,
```

```
03136         NULL,
03137         GetLastError(),
03138         MAKELANGID(LANG_NEUTRAL, SUBLANG_DEFAULT), // Default language
03139         (LPTSTR) &lpMsgBuf,
03140         0,
03141         NULL
03142       );
03143       MessageBox( NULL, lpMsgBuf,
03144                         _T("Internal Error GRAPH2D - subroutine _OUTGTEXT"),
03145                                                 MB_OK|MB_ICONINFORMATION );
03146       LocalFree( lpMsgBuf ); // Free the buffer
03147      }
03148     #else
03149      #if !defined(__WIN32__) && !defined(_WIN32)
03150       GetTextExtentPoint (hTCSWindowDC, FTNSTRPARA(ftn_string),iL,&Size);
03151      #else
03152       GetTextExtentPoint32 (hTCSWindowDC, FTNSTRPARA(ftn_string),iL,&Size);
03153      #endif
03154     #endif
03155
03156     if (PointInWindow (TKTRNX.kBeamX+LoRes(Size.cx),
03157                                                 TKTRNX.kBeamY+LoRes(Size.cy))) {
03158      MoveToEx (hTCSWindowDC,HiRes(TKTRNX.kBeamX),HiRes(TKTRNX.kBeamY),NULL);
03159      TextOut (hTCSWindowDC, 0,0,FTNSTRPARA(ftn_string), iL);
03160
03161 #if ((JOURNALTYP == 1) || (JOURNALTYP == 2))
03162      MoveToEx (hTCSMetaFileDC,HiRes(TKTRNX.kBeamX),HiRes(TKTRNX.kBeamY),NULL);
03163      TextOut (hTCSMetaFileDC, 0,0, FTNSTRPARA(ftn_string), iL);
03164 #elif (JOURNALTYP == 3)
03165      xJournalEntry= (struct xJournalEntry_typ*) malloc (sizeof (struct xJournalEntry_typ));
03166      if (xJournalEntry == NULL) TCSGraphicError (WRN_JOUENTRY,"");
03167      xJournalEntry->action=  XACTION_MOVABS;
03168      xJournalEntry->i1= TKTRNX.kBeamX;
03169      xJournalEntry->i2= TKTRNX.kBeamY;
03170      SGLIB_DL_LIST_ADD (xJournalEntry_typ, hTCSJournal, xJournalEntry, previous, next)
03171
03172      xJournalEntry= (struct xJournalEntry_typ*) malloc (sizeof (struct xJournalEntry_typ));
03173      xJournalEntry->action=  XACTION_GTEXT;
03174      xJournalEntry->i1= (FTNINT) iL;
03175      xJournalEntry->i2= (FTNINT) FTNSTRPARA(ftn_string)[0];
03176      SGLIB_DL_LIST_ADD (xJournalEntry_typ, hTCSJournal, xJournalEntry, previous, next)
03177
03178      i= 1;
03179      while (i < iL) {
03180       xJournalEntry= (struct xJournalEntry_typ*) malloc (sizeof (struct xJournalEntry_typ));
03181       xJournalEntry->action=  XACTION_ASCII;
03182       xJournalEntry->i1= (FTNINT) FTNSTRPARA(ftn_string)[i++];
03183       if ( i<iL ) xJournalEntry->i2= (FTNINT) FTNSTRPARA(ftn_string)[i++];
03184       SGLIB_DL_LIST_ADD (xJournalEntry_typ, hTCSJournal, xJournalEntry, previous, next)
03185      }
03186 #endif
03187
03188      GetCurrentPositionEx (hTCSWindowDC, &CPpos); /* Update Beam */
03189      TKTRNX.kBeamX= LoRes(CPpos.x); TKTRNX.kBeamY= LoRes(CPpos.y);
03190
03191 #if (JOURNALTYP == 3) // Bei Metafiles ist auch nach Neuskalierung CP i.O.
03192      xJournalEntry= (struct xJournalEntry_typ*) malloc (sizeof (struct xJournalEntry_typ));
03193      xJournalEntry->action=  XACTION_MOVABS;
03194      xJournalEntry->i1= TKTRNX.kBeamX;
03195      xJournalEntry->i2= TKTRNX.kBeamY;
03196      SGLIB_DL_LIST_ADD (xJournalEntry_typ, hTCSJournal, xJournalEntry, previous, next)
03197 #endif
03198
03199     }
03200 }
03201
03202
03203
03204 extern void TCSdrWIN__ italic (void)
03205 {
03206 HFONT   hOldFont;
03207 #if (JOURNALTYP == 3)
03208  struct xJournalEntry_typ    * xJournalEntry;
03209 #endif
03210
03211     TKTRNX.kitalc = 1;
03212
03213     TCSFontdefinition.lfItalic= true;
03214     hTCSFont= CreateFontIndirect (&TCSFontdefinition);
03215     #if !defined(__WIN32__) && !defined(_WIN32)
03216      hOldFont= SelectFont (hTCSWindowDC, hTCSFont);
03217     #else
03218      hOldFont= SelectObject (hTCSWindowDC, hTCSFont);
03219     #endif
03220 #if ( (JOURNALTYP == 1) || (JOURNALTYP == 2) )
03221     #if !defined(__WIN32__) && !defined(_WIN32)
03222      SelectFont (hTCSMetaFileDC, hTCSFont);
```

```
03223     #else
03224      SelectObject (hTCSMetaFileDC, hTCSFont);
03225     #endif
03226 #elif (JOURNALTYP == 3)
03227     xJournalEntry= (struct xJournalEntry_typ*) malloc (sizeof (struct xJournalEntry_typ));
03228     xJournalEntry->action= XACTION_FONTATTR;
03229     xJournalEntry->i1= TKTRNX.kitalc;
03230     xJournalEntry->i2= TKTRNX.ksizef;
03231     SGLIB_DL_LIST_ADD (xJournalEntry_typ, hTCSJournal, xJournalEntry, previous, next)
03232 #endif
03233     #if !defined(__WIN32__) && !defined(_WIN32)
03234      DeleteFont (hOldFont);
03235     #else
03236      DeleteObject (hOldFont);
03237     #endif
03238 }
03239
03240
03241
03242 extern void TCSdrWIN__ italir (void)
03243 {
03244 HFONT   hOldFont;
03245 #if (JOURNALTYP == 3)
03246  struct xJournalEntry_typ    * xJournalEntry;
03247 #endif
03248
03249     TKTRNX.kitalc = 0;
03250
03251     TCSFontdefinition.lfItalic= false;
03252     hTCSFont= CreateFontIndirect (&TCSFontdefinition);
03253     #if !defined(__WIN32__) && !defined(_WIN32)
03254      hOldFont= SelectFont (hTCSWindowDC, hTCSFont);
03255     #else
03256      hOldFont= SelectObject (hTCSWindowDC, hTCSFont);
03257     #endif
03258 #if ( (JOURNALTYP == 1) || (JOURNALTYP == 2) )
03259     #if !defined(__WIN32__) && !defined(_WIN32)
03260      SelectFont (hTCSMetaFileDC, hTCSFont);
03261     #else
03262      SelectObject (hTCSMetaFileDC, hTCSFont);
03263     #endif
03264 #elif (JOURNALTYP == 3)
03265     xJournalEntry= (struct xJournalEntry_typ*) malloc (sizeof (struct xJournalEntry_typ));
03266     xJournalEntry->action= XACTION_FONTATTR;
03267     xJournalEntry->i1= TKTRNX.kitalc;
03268     xJournalEntry->i2= TKTRNX.ksizef;
03269     SGLIB_DL_LIST_ADD (xJournalEntry_typ, hTCSJournal, xJournalEntry, previous, next)
03270 #endif
03271     #if !defined(__WIN32__) && !defined(_WIN32)
03272      DeleteFont (hOldFont);
03273     #else
03274      DeleteObject (hOldFont);
03275     #endif
03276 }
03277
03278
03279
03280 extern void TCSdrWIN__ dblsiz (void)
03281 {
03282 HFONT   hOldFont;
03283 #if (JOURNALTYP == 3)
03284  struct xJournalEntry_typ    * xJournalEntry;
03285 #endif
03286
03287     TKTRNX.ksizef = 1;
03288     TKTRNX.khomey = TEK_YMAX - 3.0f*TKTRNX.kversz;
03289
03290     TCSFontdefinition.lfHeight= 2* TCSCharHeight;
03291     TCSFontdefinition.lfWidth= 0;
03292     hTCSFont= CreateFontIndirect (&TCSFontdefinition);
03293     #if !defined(__WIN32__) && !defined(_WIN32)
03294      hOldFont= SelectFont (hTCSWindowDC, hTCSFont);
03295     #else
03296      hOldFont= SelectObject (hTCSWindowDC, hTCSFont);
03297     #endif
03298 #if ( (JOURNALTYP == 1) || (JOURNALTYP == 2) )
03299     #if !defined(__WIN32__) && !defined(_WIN32)
03300      SelectFont (hTCSMetaFileDC, hTCSFont);
03301     #else
03302      SelectObject (hTCSMetaFileDC, hTCSFont);
03303     #endif
03304 #elif (JOURNALTYP == 3)
03305     xJournalEntry= (struct xJournalEntry_typ*) malloc (sizeof (struct xJournalEntry_typ));
03306     xJournalEntry->action= XACTION_FONTATTR;
03307     xJournalEntry->i1= TKTRNX.kitalc;
03308     xJournalEntry->i2= TKTRNX.ksizef;
03309     SGLIB_DL_LIST_ADD (xJournalEntry_typ, hTCSJournal, xJournalEntry, previous, next)
```

```
03310 #endif
03311     #if !defined(__WIN32__) && !defined(_WIN32)
03312      DeleteFont (hOldFont);
03313     #else
03314      DeleteObject (hOldFont);
03315     #endif
03316 }
03317
03318
03319
03320 extern void TCSdrWIN__ nrmsiz (void)
03321 {
03322 HFONT   hOldFont;
03323 #if (JOURNALTYP == 3)
03324  struct xJournalEntry_typ    * xJournalEntry;
03325 #endif
03326
03327     TKTRNX.ksizef = 0;
03328     TKTRNX.khomey = TEK_YMAX - 1.5f*TKTRNX.kversz;
03329
03330     TCSFontdefinition.lfHeight= TCSCharHeight;
03331     TCSFontdefinition.lfWidth= 0;
03332     hTCSFont= CreateFontIndirect (&TCSFontdefinition);
03333     #if !defined(__WIN32__) && !defined(_WIN32)
03334      hOldFont= SelectFont (hTCSWindowDC, hTCSFont);
03335     #else
03336      hOldFont= SelectObject (hTCSWindowDC, hTCSFont);
03337     #endif
03338 #if ( (JOURNALTYP == 1) || (JOURNALTYP == 2) )
03339     #if !defined(__WIN32__) && !defined(_WIN32)
03340      SelectFont (hTCSMetaFileDC, hTCSFont);
03341     #else
03342      SelectObject (hTCSMetaFileDC, hTCSFont);
03343     #endif
03344 #elif (JOURNALTYP == 3)
03345     xJournalEntry= (struct xJournalEntry_typ*) malloc (sizeof (struct xJournalEntry_typ));
03346     xJournalEntry->action= XACTION_FONTATTR;
03347     xJournalEntry->i1= TKTRNX.kitalc;
03348     xJournalEntry->i2= TKTRNX.ksizef;
03349     SGLIB_DL_LIST_ADD (xJournalEntry_typ, hTCSJournal, xJournalEntry, previous, next)
03350 #endif
03351     #if !defined(__WIN32__) && !defined(_WIN32)
03352      DeleteFont (hOldFont);
03353     #else
03354      DeleteObject (hOldFont);
03355     #endif
03356 }
03357
03358
03359
03360 extern void TCSdrWIN__ csize (FTNINT *ix,FTNINT *iy)
03361 {
03362 TEXTMETRIC  lpTM;
03363
03364 #ifdef extended_error_handling
03365  HDC         hdc;
03366  LPVOID      lpMsgBuf;
03367 #endif
03368
03369     #ifdef extended_error_handling
03370      if (GetTextMetrics (hTCSWindowDC, &lpTM)== 0) {
03371       /* WATCOM ohne Default-Windowsystem(auch bei Consolenanwendungen):
03372          evtl. kein Message-Loop vorhanden.
03373          Workaround: Abfrageschleife in MessageBox                        */
03374
03375       hdc = CreateIC (_T ("DISPLAY"), NULL, NULL, NULL);
03376       #if !defined(__WIN32__) && !defined(_WIN32)
03377        SelectFont (hdc, hTCSFont);
03378       #else
03379        SelectObject (hdc, hTCSFont);
03380       #endif
03381       GetTextMetrics (hdc, &lpTM);
03382       DeleteDC (hdc);
03383
03384       FormatMessage(
03385         FORMAT_MESSAGE_ALLOCATE_BUFFER | FORMAT_MESSAGE_FROM_SYSTEM,
03386         NULL,
03387         GetLastError(),
03388         MAKELANGID(LANG_NEUTRAL, SUBLANG_DEFAULT), // Default language
03389         (LPTSTR) &lpMsgBuf,
03390         0,
03391         NULL
03392       );
03393       MessageBox( NULL, lpMsgBuf, "Internal Error GRAPH2D - subroutine CSIZE",
03394                                                   MB_OK|MB_ICONINFORMATION );
03395       LocalFree( lpMsgBuf ); // Free the buffer
03396      }
```

```
03397     #else
03398      GetTextMetrics (hTCSWindowDC, &lpTM);
03399     #endif
03400     *ix= (int) ((float)LoRes((float)lpTM.tmAveCharWidth) + 0.25f);
03401     *iy= (int) ((float)LoRes((float)lpTM.tmHeight)  + 0.25f);
03402
03403 }
03404
03405
03406
03407
03408 /*
03409 ---------------------- Userroutinen: Graphic Input----------------------
03410 */
03411
03412
03413
03414 extern void TCSdrWIN__ tinput (FTNINT *ic)
03415 {
03416 MSG msg;        /* Message information */
03417 TCHAR iChar;
03418 HWND hAktWindowInThread;
03419
03420     if (!TCSinitialized) return;            /* Aufhängen vermeiden */
03421     TCSStatWindowAutomatic = false;          /* Meldungen lesbar */
03422     iChar= (TCHAR) 0;
03423     hAktWindowInThread= GetFocus(); // Fuer Texteingabe eigene Applikation
03424     while (iChar == (TCHAR) 0) { // Messageschleife jetzt hier -> Usereingabe
03425      SetFocus (hTCSWindow);         // Kein Zugang Elternfenster (Aufhängen!)
03426      #ifdef extended_error_handling
03427       if (GetMessage (&msg, NULL, WM_NULL, WM_USER) == -1) {
03428        MessageBox(NULL, "GetMessage failed in Mesageloop of Graphic Window",
03429                         "Internal Information GRAPH2D - Subroutine TINPUT",
03430                         MB_OK | MB_ICONINFORMATION);
03431       }
03432      #else
03433       GetMessage (&msg, NULL, WM_NULL, WM_USER); // Achtung wg. win7 nicht 0,0)
03434      #endif
03435      if ((msg.hwnd != hTCSWindow) && (msg.hwnd != hTCSstatWindow) ) {
03436       switch (msg.message) {
03437        case WM_NCLBUTTONDOWN:   /* Fensterbefehle der Elternfenster zulassen */
03438        case WM_NCLBUTTONUP:
03439        case WM_NCLBUTTONDBLCLK:
03440        case WM_SYSKEYDOWN:
03441        case WM_SYSKEYUP:
03442        case WM_SYSCOMMAND:
03443         DefWindowProc( msg.hwnd, msg.message, msg.wParam, msg.lParam );
03444         break;
03445        case WM_PAINT:
03446         UpdateWindow( msg.hwnd);
03447         break;
03448        default:
03449         SetFocus (hTCSWindow);
03450         UpdateWindow (hTCSWindow);
03451       }
03452      } else if (msg.hwnd == hTCSstatWindow) { /* Meldungen Statusfenster */
03453       switch (msg.message) {
03454        case WM_NCLBUTTONDOWN:    /* Scrollen und Verschieben zulassen */
03455        case WM_NCLBUTTONUP:
03456        case WM_NCLBUTTONDBLCLK:
03457        case WM_VSCROLL:
03458         DefWindowProc( msg.hwnd, msg.message, msg.wParam, msg.lParam );
03459         break;
03460        case WM_PAINT:
03461          TCSstatWndProc_OnPaint (hTCSstatWindow);
03462          break;
03463        case WM_LBUTTONDOWN:
03464         iChar= (FTNINT) 27;    /* Verlassen PRESSANY durch Statusfenster */
03465         break;
03466       }
03467      } else { /* eigene Meldungen des Graphikfensters */
03468       switch (msg.message) {
03469        case WM_PAINT:
03470         TCSWndProc_OnPaint (msg.hwnd);
03471         break;
03472        case WM_RBUTTONDOWN:      /* Auf Wunsch Statusfenster sichtbar */
03473         ShowWindow (hTCSstatWindow, SW_SHOWNA);
03474         UpdateWindow(hTCSstatWindow);
03475         SetFocus (hTCSWindow);
03476         UpdateWindow (hTCSWindow);
03477         break;
03478        case WM_LBUTTONDOWN:
03479         ShowWindow (hTCSstatWindow, SW_HIDE);
03480         break;
03481        case WM_LBUTTONUP:
03482        case WM_MBUTTONUP:
03483        case WM_RBUTTONUP:
```

```
03484         case WM_MBUTTONDOWN:
03485         case WM_LBUTTONDBLCLK:
03486         case WM_RBUTTONDBLCLK:
03487         case WM_MBUTTONDBLCLK:
03488          SetFocus (hTCSWindow);
03489          UpdateWindow (hTCSWindow);
03490          break;
03491         case WM_KEYDOWN:          /* Hardwareanpassung, dann WM_CHAR */
03492         case WM_KEYUP:
03493          TranslateMessage (&msg);
03494          break;
03495         case WM_CHAR:             /* nach WM_KEYDOWN jetzt ASCII */
03496          iChar= (TCHAR) msg.wParam;
03497          break;
03498         case WM_KILLFOCUS:
03499          TCSStatWindowAutomatic= true; /* Statusfenster unsichtbar */
03500          ShowWindow (hTCSstatWindow, SW_HIDE); /* jetzt DefWindowProc */
03501          UpdateWindow (hTCSstatWindow);
03502         case WM_NCLBUTTONDOWN:
03503         case WM_NCLBUTTONUP:
03504         case WM_NCLBUTTONDBLCLK:
03505         case WM_SYSKEYDOWN:       /* Uebersetzt in WM_SYSCOMMAND */
03506         case WM_SYSKEYUP:
03507          DefWindowProc( msg.hwnd, msg.message, msg.wParam, msg.lParam );
03508          break;
03509         case WM_QUIT:
03510          #ifdef trace_calls
03511           MessageBox(NULL, "WM_QUIT Graphic Window",
03512                      "Internal Information GRAPH2D - Subroutine TINPUT",
03513                      MB_OK | MB_ICONINFORMATION);
03514          #endif
03515         case WM_SYSCOMMAND:       /* und nach WM_SYSKEYDOWN Befehlsauswertung */
03516          switch (msg.wParam) {
03517           case SC_CLOSE:
03518            iChar= (FTNINT) 27;    /* <ALT><F4> -> ESC */
03519            break;
03520           case TCS_WM_COPY:
03521            #ifdef trace_calls
03522             MessageBox(NULL, "WM_SYSCOMMAND (TCS_WM_COPY)",
03523                        "Internal Information GRAPH2D - Subroutine TINPUT",
03524                         MB_OK | MB_ICONINFORMATION);
03525            #endif
03526            TCSWndProc_OnCopyClipboard ();
03527            break;
03528           default:
03529            DefWindowProc( msg.hwnd, msg.message, msg.wParam, msg.lParam);
03530            break;
03531          } /* Systembefehle */
03532       } /* Window-Messageauswertung */
03533      } /* Meldungen des Graphikfensters */
03534     } /* Ende Eingabeschleife */
03535     *ic= (FTNINT) iChar;
03536     TCSStatWindowAutomatic= true;
03537     ShowWindow (hTCSstatWindow, SW_HIDE); /* Statusfenster unsichtbar */
03538     if (hAktWindowInThread != NULL) SetFocus (hAktWindowInThread);
03539     return;
03540 }
03541
03542
03543
03544
03545 extern void TCSdrWIN__ dcursr (FTNINT *ic,FTNINT *ix,FTNINT *iy)
03546 {
03547 MSG msg;        /* Message information */
03548 TCHAR iButton, iKey;
03549
03550 #if defined(__WIN32__) || defined(_WIN32)
03551  POINT MousePos;
03552 #endif
03553
03554     if (!TCSinitialized) return;             /* Aufhängen vermeiden */
03555     TCSStatWindowAutomatic = false;           /* Meldungen lesbar */
03556
03557     InvalidateRect (hTCSWindow, NULL, true); /* ,ClientArea, EraseFlag */
03558     UpdateWindow (hTCSWindow); /* Notwendig bei OnPaint mit Journaltyp=3 */
03559
03560     iButton= (TCHAR) 0; iKey= (TCHAR) 0;
03561
03562     /* Setzen der Maus auf die alte GinCursor Position */
03563
03564     #if defined(__WIN32__) || defined(_WIN32)
03565      MousePos.x= HiRes(TCSGinCurPos.x); MousePos.y= HiRes(TCSGinCurPos.y);
03566      LPtoDP (hTCSWindowDC, (LPPOINT)&MousePos, 1);
03567      MapWindowPoints(hTCSWindow, HWND_DESKTOP, (LPPOINT)&MousePos, 1);
03568      MousePos.x=  MousePos.x* MOUSE_XMAX / GetSystemMetrics (SM_CXSCREEN);
03569      MousePos.y=  MousePos.y* MOUSE_YMAX / GetSystemMetrics (SM_CYSCREEN);
03570      mouse_event(MOUSEEVENTF_MOVE | MOUSEEVENTF_ABSOLUTE,
```

```
03571                                       MousePos.x,MousePos.y, 0, 0);
03572     #endif
03573
03574     SetCursor(hGinCurs);       /* WM_SETCURSOR wird ab hier nicht erzeugt! */
03575     while (iButton == (TCHAR) 0) {  /* Messageschleife jetzt hier  */
03576      SetFocus (hTCSWindow);    /* Kein Zugang Elternfenster (Aufhängen!) */
03577      GetMessage (&msg, NULL, WM_NULL, WM_USER); // Achtung wg. win7 nicht 0,0)
03578      if (msg.hwnd == hTCSstatWindow) { /* Statusfenster stört -> unsichtbar */
03579       switch (msg.message) {
03580        case WM_MOUSEMOVE:                  /* falls Cursor über Client-Area */
03581         TCSStatWindowAutomatic= true;
03582         ShowWindow (hTCSstatWindow, SW_HIDE);
03583        case WM_NCMOUSEMOVE:            /* Cursor ueber Titelleiste -> Pfeil */
03584         SetCursor (hMouseCurs);
03585         break;
03586       }
03587      }              /* Statuszeile und Scrollbar können noch angewählt werden */
03588      if (msg.hwnd != hTCSWindow) {
03589       switch (msg.message) {
03590        case WM_NCLBUTTONDOWN:    /* Fensterbefehle der Elternfenster zulassen */
03591        case WM_NCLBUTTONUP:
03592        case WM_NCLBUTTONDBLCLK:
03593        case WM_SYSKEYDOWN:
03594        case WM_SYSKEYUP:
03595        case WM_SYSCOMMAND:
03596         DefWindowProc( msg.hwnd, msg.message, msg.wParam, msg.lParam );
03597         break;
03598        case WM_PAINT:
03599         if (msg.hwnd == hTCSstatWindow) {
03600          TCSstatWndProc_OnPaint (hTCSstatWindow);
03601         } else {
03602          UpdateWindow( msg.hwnd);
03603         }
03604         break;
03605        default:
03606         SetFocus (hTCSWindow);
03607         UpdateWindow (hTCSWindow);
03608       }
03609      } else { /* eigene Meldungen des Graphikfensters */
03610       switch (msg.message) {
03611        case WM_PAINT:
03612         TCSWndProc_OnPaint (msg.hwnd);
03613         break;
03614        case WM_NCMOUSEMOVE:    /* Cursor ueber Titelleiste -> Pfeil */
03615         SetCursor (hMouseCurs);
03616         break;
03617        case WM_MOUSEMOVE:     /* GinCursor evtl. von Titelleiste zurück */
03618         SetCursor (hGinCurs);
03619         iKey= (TCHAR) 0;      /* Tastenbetätigung außerhalb Graphikfenster */
03620         break;
03621        case WM_NCLBUTTONDOWN: /* Titelleiste kann Statusfenster steuern */
03622         TCSStatWindowAutomatic= true;
03623         ShowWindow (hTCSstatWindow, SW_HIDE); /* jetzt DefWindowProc ! */
03624        case WM_NCLBUTTONUP:
03625        case WM_NCLBUTTONDBLCLK:
03626        case WM_SYSKEYDOWN:       /* Uebersetzt in WM_SYSCOMMAND */
03627        case WM_SYSKEYUP:
03628         DefWindowProc( msg.hwnd, msg.message, msg.wParam, msg.lParam );
03629         break;
03630        case WM_NCRBUTTONDOWN:
03631         ShowWindow (hTCSstatWindow, SW_SHOWNA);
03632         UpdateWindow(hTCSstatWindow);
03633         break;
03634        case WM_LBUTTONDOWN: {
03635         #if !defined(__WIN32__) && !defined(_WIN32)
03636 LftDwn:
03637         #endif
03638         if (iKey== (TCHAR) 0) iButton= 1; else iButton=iKey;
03639        }
03640        case WM_RBUTTONDOWN: if (iButton== (TCHAR) 0) iButton= 2;
03641        case WM_MBUTTONDOWN: if (iButton== (TCHAR) 0) iButton= 4; // wie DOS
03642         #if !defined(__WIN32__) && !defined(_WIN32)
03643          TCSGinCurPos= MAKEPOINT (msg.lParam);
03644         #else
03645          TCSGinCurPos.x= GET_X_LPARAM (msg.lParam);
03646          TCSGinCurPos.y= GET_Y_LPARAM (msg.lParam);
03647         #endif
03648         DPtoLP (hTCSWindowDC, (LPPOINT)&TCSGinCurPos, 1);
03649         TCSGinCurPos.x= LoRes(TCSGinCurPos.x);
03650         TCSGinCurPos.y= LoRes(TCSGinCurPos.y);
03651         break;
03652        case WM_LBUTTONUP: /* Falls erneuter Aufruf nach Taste unten wird */
03653        case WM_RBUTTONUP: /* der Cursor sonst wieder auf Pfeil umgestellt */
03654        case WM_MBUTTONUP:
03655         SetCursor (hGinCurs);
03656         break;
03657        case WM_KEYDOWN:          /* Hardwareanpassung, dann WM_CHAR */
```

```
03658         case WM_KEYUP:
03659          TranslateMessage (&msg);
03660          break;
03661         case WM_CHAR:              /* nach WM_KEYDOWN jetzt ASCII */
03662          iKey= (TCHAR) msg.wParam;
03663          #if !defined(__WIN32__) && !defined(_WIN32)
03664           goto LftDwn;             /* Workaround Fehlen mouse_event */
03665          #else
03666           mouse_event(MOUSEEVENTF_LEFTDOWN, 0, 0, 0, 0);
03667           break;
03668          #endif
03669         case WM_SYSCOMMAND:        /* und nach WM_SYSKEYDOWN Befehlsauswertung */
03670          switch (msg.wParam) {
03671           case SC_CLOSE:
03672            iKey= (FTNINT) 27;      /* <ALT><F4> -> ESC */
03673            #if !defined(__WIN32__) && !defined(_WIN32)
03674             goto LftDwn;
03675            #else
03676             mouse_event(MOUSEEVENTF_LEFTDOWN, 0, 0, 0, 0);
03677             break;
03678            #endif
03679           case TCS_WM_COPY:
03680            TCSWndProc_OnCopyClipboard ();
03681            break;
03682           default:
03683            DefWindowProc( msg.hwnd, msg.message, msg.wParam, msg.lParam);
03684            break;                  /* Sonst keine Befehle auswerten */
03685         } /* Systembefehle */
03686       } /* Window-Messageauswertung */
03687      } /* Messages fuer Graphikfenster */
03688     } /* Ende Eingabeschleife */
03689     *ic= (FTNINT) iButton;
03690     *ix=TCSGinCurPos.x;
03691     *iy=TCSGinCurPos.y;
03692
03693     TCSStatWindowAutomatic= true;
03694     ShowWindow (hTCSstatWindow, SW_HIDE); /* Statusfenster unsichtbar */
03695     return;
03696 }
03697
03698
03699
03700 /*
03701 ---------------------- Userroutinen: Statusmeldungen -------------------
03702 */
03703
03704
03705
03706 extern void TCSdrWIN__ bell (void)
03707 {
03708     MessageBeep (-1);
03709 }
03710
03711
03712
03713
03714 extern void TCSdrWIN__ outtext (FTNSTRPAR * ftn_string FTNSTRPAR_TAIL(ftn_string) )
03715 {
03716 int i;
03717
03718     TCSstatRow++;
03719     if (TCSstatRow >= STAT_MAXROWS) {
03720      TCSstatRow= STAT_MAXROWS-1;
03721      for (i=0; i<TCSstatRow;i++)
03722       _tcscpy( TCSstatTextBuf[i],TCSstatTextBuf[i+1]);
03723     }
03724
03725     _tcsncpy( TCSstatTextBuf[TCSstatRow],FTNSTRPARA(ftn_string),
03726                         min (FTNSTRPARL(ftn_string), STAT_MAXCOLUMNS));
03727     TCSstatTextBuf[TCSstatRow][STAT_MAXCOLUMNS]= (FTNCHAR) 0;
03728     // TCSstatTextBuf ist mit STAT_MAXCOLUMNS+1 fuer char(0) dimensioniert!
03729
03730     TCSstatScrollY= TCSstatRow   /* Anzahl  Zeilen  im Display */;
03731     ScrollWindow (hTCSstatWindow, 0,
03732                   (TCSstatOrgY-TCSstatScrollY)*TextLineHeight, NULL, NULL);
03733
03734     TCSstatOrgY= TCSstatScrollY;
03735
03736     SetScrollPos (hTCSstatWindow, SB_VERT, TCSstatScrollY, true);
03737
03738     ShowWindow (hTCSstatWindow, SW_SHOW);
03739     UpdateWindow(hTCSstatWindow);
03740 }
03741
03742
03743
03744 extern void TCSdrWIN__ GraphicError (FTNINT *iErr, FTNSTRPAR *ftn_string,
```

```
03745                                       FTNINT *iL  FTNSTRPAR_TAIL(ftn_string))
03746 {
03747     TCSGraphicError (*iErr, FTNSTRPARA(ftn_string));
03748
03749 }
03750
03751
03752
03753 /*
03754 ---------------------- Userroutinen: Hardcopy -------------------
03755 */
03756
03757
03758 extern void TCSdrWIN__ hdcopy (void)
03759 {
03760 FTNINT      iErr;
03761 // FTNSTRDESC  ftnstrg;
03762 TCHAR       FilNam[TCS_FILE_NAMELEN], OldFilNam[TCS_FILE_NAMELEN];
03763 OFSTRUCT    ReOpenBuf;
03764 #ifdef __cplusplus
03765  TCHAR      MessageBuf[STAT_MAXCOLUMNS]
03766 #endif
03767
03768 #if (JOURNALTYP == 1)
03769  HMETAFILE  hmf, hmf1;
03770  HDC        hTCSNewMetaFileDC;
03771  HRGN       hWindowRegion;
03772  HBRUSH     hBack;
03773 #elif (JOURNALTYP == 2)
03774  HENHMETAFILE   hmf, hmf1;
03775  HDC            hTCSNewMetaFileDC;
03776  ENHMETAHEADER  emh ;
03777  DWORD          ErrorCode;
03778  LPVOID         lpMsgBuf;
03779 #elif (JOURNALTYP == 3)
03780  struct xJournalEntry_typ    *xJournalEntry;
03781  FILE           *fHandle;
03782 #endif
03783
03784     FilNam[0] = (FTNCHAR) 0;
03785     OldFilNam[0] = (FTNCHAR) 0;
03786     do {     /* Suche erstes nicht existierendes File */
03787      _tcscpy(OldFilNam, FilNam);
03788      sprintf( FilNam, szTCSHardcopyFile, iHardcopyCount++ );
03789     } while ( (OpenFile (FilNam, &ReOpenBuf, OF_EXIST) != HFILE_ERROR) &&
03790               (_tcsicmp (FilNam,OldFilNam) > 0 )                          );
03791
03792     if (_tcsicmp (FilNam,OldFilNam) <= 0 ) { /* kein Filename vorhanden */
03793      #ifndef __cplusplus
03794       iErr= WRN_HDCFILOPN;
03795       TCSGraphicError (iErr,"");
03796      #else
03797       ftnstrg.addr= szTCSErrorMsg[WRN_HDCFILOPN];
03798       ftnstrg.len= _tcslen (szTCSErrorMsg[WRN_HDCFILOPN]);
03799       TCSdrWIN__ outtext (CALLFTNSTRA(ftnstrg) CALLFTNSTRL(ftnstrg));
03800       TCSdrWIN__ bell ();
03801      #endif
03802      return;                                /* Error during Open -> ret */
03803     }
03804
03805     #ifndef __cplusplus
03806      iErr= MSG_HDCACT;
03807      TCSGraphicError (iErr,FilNam);
03808     #else
03809      sprintf( MessageBuf, szTCSErrorMsg[MSG_HDCACT], FilNam );
03810      ftnstrg.addr= MessageBuf;
03811      ftnstrg.len= _tcslen (MessageBuf);
03812      TCSdrWIN__ outtext (CALLFTNSTRA(ftnstrg) CALLFTNSTRL(ftnstrg));
03813     #endif
03814
03815 #if (JOURNALTYP ==1)
03816     hTCSNewMetaFileDC  = CreateMetaFile (FilNam);
03817     if (hTCSNewMetaFileDC == NULL) {
03818      #ifndef __cplusplus
03819       iErr= WRN_HDCFILOPN;
03820       TCSGraphicError (iErr,"");
03821      #else
03822       ftnstrg.addr= szTCSErrorMsg[WRN_HDCFILOPN];
03823       ftnstrg.len= _tcslen (szTCSErrorMsg[WRN_HDCFILOPN]);
03824       TCSdrWIN__ outtext (CALLFTNSTRA(ftnstrg) CALLFTNSTRL(ftnstrg));
03825       TCSdrWIN__ bell ();
03826      #endif
03827      return;                                /* Error during Open -> ret */
03828     }
03829
03830     hmf = CloseMetaFile (hTCSMetaFileDC);       /* Metafile für WM_PAINT */
03831
```

```
03832     SetWindowExtEx (hTCSNewMetaFileDC, TCSrect.right, TCSrect.bottom, NULL);
03833     SetWindowOrgEx (hTCSNewMetaFileDC, TCSrect.left, TCSrect.bottom, NULL);
03834
03835     ScaleViewportExtEx (hTCSNewMetaFileDC, 1,1,-1,1,NULL);
03836
03837     hWindowRegion= CreateRectRgn(TCSrect.left, TCSrect.top, TCSrect.right,TCSrect.bottom);
03838     hBack= CreateSolidBrush (dwColorTable[TCSBackgroundColour]); /* rechts,oben */
03839     FillRgn (hTCSNewMetaFileDC, hWindowRegion, hBack);  /* nicht eingeschlossen */
03840     #if !defined(__WIN32__) && !defined(_WIN32)
03841      DeleteBrush (hBack);
03842      DeleteRgn (hWindowRegion);                    /* Resourcen freigeben */
03843     #else
03844      DeleteObject (hBack);
03845      DeleteObject (hWindowRegion);
03846     #endif
03847
03848     PlayMetaFile (hTCSNewMetaFileDC, hmf);
03849     hmf1= CloseMetaFile (hTCSNewMetaFileDC);
03850     if (hmf1 == NULL) {
03851      #ifndef __cplusplus
03852       iErr= WRN_HDCFILWRT;
03853       TCSGraphicError (iErr,"");
03854      #else
03855       ftnstrg.addr= szTCSErrorMsg[WRN_HDCFILWRT];
03856       ftnstrg.len= _tcslen (szTCSErrorMsg[WRN_HDCFILWRT]);
03857       TCSdrWIN__ outtext (CALLFTNSTRA(ftnstrg) CALLFTNSTRL(ftnstrg));
03858       TCSdrWIN__ bell ();
03859      #endif
03860      return;                                  /* Error during Write -> ret */
03861     } else {
03862      DeleteMetaFile (hmf1); /* Freigabe Resourcen, nicht Löschen des Files! */
03863     }
03864
03865     hTCSNewMetaFileDC  = CreateMetaFile (NULL); /* 16bit Windows Metafile */
03866     PlayMetaFile (hTCSNewMetaFileDC, hmf);      /* für neues Journalfile */
03867     DeleteMetaFile (hmf);                       /* alter Status Bildschirm */
03868     hTCSMetaFileDC = hTCSNewMetaFileDC;         /* bereit Weiterzeichnen */
03869
03870 #elif (JOURNALTYP == 2)
03871     hmf = CloseEnhMetaFile (hTCSMetaFileDC);    /* Metafile für WM_PAINT */
03872     hmf1  = CopyEnhMetaFile (hmf, FilNam);
03873     if (hmf1 == NULL) {
03874      ErrorCode= GetLastError(); // immer win32 bei emf
03875 //   if (ErrorCode == ERROR_CLASS_ALREADY_EXISTS) {
03876 //    Hier bei Bedarf Fehlerbehandlung einführen
03877 //   } else {
03878       FormatMessage(
03879          FORMAT_MESSAGE_ALLOCATE_BUFFER | FORMAT_MESSAGE_FROM_SYSTEM,
03880          NULL,
03881          ErrorCode,
03882          MAKELANGID(LANG_NEUTRAL, SUBLANG_DEFAULT), // Default language
03883          (LPTSTR) &lpMsgBuf,
03884          0,
03885          NULL
03886       );
03887       MessageBox (NULL, lpMsgBuf, szTCSWindowName, MB_ICONSTOP);
03888       LocalFree( lpMsgBuf ); // Free the buffer
03889 //   } // Ende der Fehlerbehandlung
03890      #ifndef __cplusplus
03891       iErr= WRN_HDCFILOPN;
03892       TCSGraphicError (iErr,"");
03893      #else
03894       ftnstrg.addr= szTCSErrorMsg[WRN_HDCFILOPN];
03895       ftnstrg.len= _tcslen (szTCSErrorMsg[WRN_HDCFILOPN]);
03896       TCSdrWIN__ outtext (CALLFTNSTRA(ftnstrg) CALLFTNSTRL(ftnstrg));
03897       TCSdrWIN__ bell ();
03898      #endif
03899      return;                                  /* Error during Open -> ret */
03900     }
03901     DeleteEnhMetaFile (hmf1); /* Handle freigeben, File  nicht geloescht! */
03902
03903     GetEnhMetaFileHeader (hmf, sizeof (emh), &emh) ;
03904     hTCSNewMetaFileDC  = CreateEnhMetaFile (hTCSWindowDC, NULL, &emh.rclFrame,
03905                          _T("TCS for Windows\0Subroutine HardCopy\0"));
03906     SetMapMode (hTCSNewMetaFileDC, MM_ANISOTROPIC);
03907     SetViewportExtEx (hTCSNewMetaFileDC, TCSrect.right, TCSrect.bottom, NULL);
03908     SetViewportOrgEx (hTCSNewMetaFileDC, TCSrect.left, TCSrect.bottom, NULL);
03909     SetWindowExtEx (hTCSNewMetaFileDC, TCSrect.right, TCSrect.bottom, NULL);
03910     SetWindowOrgEx (hTCSNewMetaFileDC, TCSrect.left, TCSrect.bottom, NULL);
03911
03912     PlayEnhMetaFile (hTCSNewMetaFileDC, hmf, &TCSrect); // neues Journal
03913
03914     DeleteEnhMetaFile (hmf);                    // alter Status Bildschirm
03915     hTCSMetaFileDC = hTCSNewMetaFileDC;         // bereit zum Weiterzeichnen
03916
03917     SetViewportExtEx (hTCSMetaFileDC, TCSrect.right, -TCSrect.bottom, NULL);
03918     SetViewportOrgEx (hTCSMetaFileDC, TCSrect.left, TCSrect.top, NULL);
```

```
03919     SetWindowExtEx (hTCSMetaFileDC, TCSrect.right, TCSrect.bottom, NULL);
03920     SetWindowOrgEx (hTCSMetaFileDC, TCSrect.left, TCSrect.bottom, NULL);
03921
03922     #if !defined(__WIN32__) && !defined(_WIN32)
03923      SelectFont (hTCSMetaFileDC, hTCSFont);      // Aktuellen Zeichenstatus an
03924     #else
03925      SelectObject (hTCSMetaFileDC, hTCSFont);
03926     #endif
03927     SetBkMode (hTCSMetaFileDC, TRANSPARENT );   // Metafile weitergegeben !
03928     SetTextAlign (hTCSMetaFileDC, TA_LEFT | TA_BOTTOM | TA_UPDATECP); // CP
03929     SetTextColor (hTCSMetaFileDC, dwColorTable[TKTRNX.iTxtCol]);
03930     #if !defined(__WIN32__) && !defined(_WIN32)
03931      SelectPen (hTCSMetaFileDC, hTCSPen); // 16bit: Makro aus windowsx.h
03932     #else
03933      SelectObject (hTCSMetaFileDC, hTCSPen); // 32bit: GDI Standardaufruf
03934     #endif
03935
03936 #elif (JOURNALTYP == 3)
03937     fHandle= fopen(FilNam, "w+");
03938     if ( fHandle == NULL) {
03939      #ifndef __cplusplus
03940       iErr= WRN_HDCFILOPN;
03941       TCSGraphicError (iErr,"");
03942      #else
03943       ftnstrg.addr= szTCSErrorMsg[WRN_HDCFILOPN];
03944       ftnstrg.len= _tcslen (szTCSErrorMsg[WRN_HDCFILOPN]);
03945       TCSdrWIN__ outtext (CALLFTNSTRA(ftnstrg) CALLFTNSTRL(ftnstrg));
03946       TCSdrWIN__ bell ();
03947      #endif
03948      return;                                /* Error during Open -> ret */
03949     }
03950
03951     SGLIB_DL_LIST_GET_LAST(struct xJournalEntry_typ, hTCSJournal, previous, next, xJournalEntry)
03952
03953     while (xJournalEntry != NULL) {
03954      fprintf( fHandle, "%02i#%04i-%03i\n", xJournalEntry->action, xJournalEntry->i1, xJournalEntry->i2
       );
03955
03956 #ifdef TRACE_CALLS
03957      switch (xJournalEntry->action) {
03958        case XACTION_INITT: {
03959         printf  ("%s § \n","Initt ");
03960         break;
03961        }
03962        case XACTION_ERASE: {
03963         printf  ("%s § \n","Erase ");
03964         break;
03965        }
03966        case XACTION_MOVABS: {
03967         printf  ("%s x:%i - y: %i § \n","MovAbs ", xJournalEntry->i1, xJournalEntry->i2);
03968         break;
03969        }
03970        case XACTION_DRWABS: {
03971         printf  ("%s x:%i - y: %i § \n","DrwAbs ", xJournalEntry->i1, xJournalEntry->i2);
03972         break;
03973        }
03974        case XACTION_DSHSTYLE: {
03975         printf  ("%s x:%i § \n","DshStyle ", xJournalEntry->i1);
03976         break;
03977        }
03978        case XACTION_DSHABS: {
03979         printf  ("%s x:%i - y: %i § \n","DshAbs ", xJournalEntry->i1, xJournalEntry->i2);
03980         break;
03981        }
03982        case XACTION_PNTABS: {
03983         printf  ("%s x:%i - y: %i § \n","PntAbs ", xJournalEntry->i1, xJournalEntry->i2);
03984         break;
03985        }
03986        case XACTION_BCKCOL: {
03987         printf  ("%s x:%i § \n","BckCol ", xJournalEntry->i1);
03988         break;
03989        }
03990        case XACTION_TXTCOL: {
03991         printf  ("%s x:%i § \n","TxtCol ", xJournalEntry->i1);
03992         break;
03993        }
03994        case XACTION_LINCOL: {
03995         printf  ("%s x:%i § \n","LinCol ", xJournalEntry->i1);
03996         break;
03997        }
03998        case XACTION_FONTATTR: {
03999         printf  ("%s x:%i - %i § \n","Fontattr ", xJournalEntry->i1, xJournalEntry->i2);
04000         break;
04001        }
04002        case XACTION_GTEXT: {
04003         printf  ("%s iL:%i - C0: %i [ %c ] § \n","GText ", xJournalEntry->i1, xJournalEntry->i2,
04004                 xJournalEntry->i2);
```

```
04005         break;
04006        }
04007        case XACTION_ASCII: {
04008         printf  ("%s C1:%i - C2: %i [ %c %c ] § \n","ASCII ", xJournalEntry->i1, xJournalEntry->i2,
04009                           xJournalEntry->i1, xJournalEntry->i2);
04010         break;
04011        }
04012        default: {
04013         printf ("??? %i ??? \n", xJournalEntry->action) ;
04014         break;
04015        }
04016      }
04017 #endif // TRACE_CALLS
04018      xJournalEntry= xJournalEntry -> previous;
04019     }
04020     fclose (fHandle);
04021 #endif // Journaltyp=3
04022     ShowWindow (hTCSstatWindow, SW_HIDE);
04023     return;
04024 }
04025
04026
04027
04028 /*
04029 ---- subroutine LIB_MOVC3 fuer Watcom- und GNU-Compiler ----------------
04030 Hier nicht benoetigt, nur wg. Kompatibilitaet zur DOS-Version enthalten
04031 */
04032
04033
04034 extern void TCSdrWIN__ lib_movc3 (FTNINT *len,FTNSTRPAR *sou,FTNSTRPAR *dst
04035                                   FTNSTRPAR_TAIL(sou)  FTNSTRPAR_TAIL(dst) )
04036
04037 {
04038 int n;
04039     if (FTNSTRPARA(dst) <= FTNSTRPARA(sou) ) {
04040      for (n=0; n<*len; n++) FTNSTRPARA(dst)[n]= FTNSTRPARA(sou)[n];
04041     } else {
04042      for (n= (*len)-1; n>=0; n--) FTNSTRPARA(dst)[n]= FTNSTRPARA(sou)[n];
04043     };
04044 }
```

6.36 TCSdWINc.h File Reference

MS Windows Port: Low-Level Driver.

Macros

- #define TEK_XMAX 1023
- #define TEK_YMAX 780
- #define HiRes(iX) iX
- #define LoRes(iX) iX
- #define LPTSTR LPSTR
- #define EXPORT16 __export /* __export bei virtuellem Adressraum unnötig */
- #define SM_CXMAXIMIZED SM_CXFULLSCREEN /* notduerftiger Ersatz für ... */
- #define SM_CYMAXIMIZED SM_CYFULLSCREEN /* ...Win32 Funktion */
- #define GetCommandLine() "WinApp" /* dito */
- #define MOUSE_XMAX 65535 /* Mousekoordinatensystem (Mickeys) */
- #define MOUSE_YMAX 65535 /* s. MS-Dokumentation mouse_event */
- #define TCS_WM_COPY 0x0401 /* Raum für Applikationen: 0x0400-0x7fff */
- #define STAT_MAXROWS 25 /* Gemerkte Statuszeilen (scrollbar) */
- #define STAT_MAXCOLUMNS 80
- #define STAT_MINLINES 1 /* Default: Angezeigte Statuszeilen */
- #define STAT_ADDLINES 9 /* Zusätzlich durch Mausziehen anzeigbar */
- #define STAT_PAGESIZ 5 /* Scrollschritte bei großem Statusfenster */
- #define TCS_REL_CHR_HEIGHT 1.0f
- #define TCS_REL_CHR_SPACE 1.1f /* Zeilenabstand */
- #define TCS_WINDOW_NAMELEN 255
- #define TCS_FILE_NAMELEN 128
- #define TCS_MESSAGELEN 80

- #define TCS_MENUENTRY_LEN 15
- #define INIFILEXTTOKEN _T(".%") /∗ Token fuer den Filenamenparser ∗/
- #define PROGDIRTOKEN _T("%:")
- #define TCS_WINDOWCLASS _T("Graph2DWindow")
- #define TCS_STAT_WINDOWCLASS _T("Graph2DstatWindow")
- #define TCS_DEFAULT_MAINWINDOWCLASS _T("WinMainFTN77")
- #define TCS_INIFILE_NAME _T("Graph2D")
- #define TCS_WINDOW_ICON _T("Graph2DIcon")
- #define TCS_WINDOW_ICONS _T("Graph2DIconS")
- #define XACTION_INITT 1
- #define XACTION_ERASE 2
- #define XACTION_MOVABS 3
- #define XACTION_DRWABS 4
- #define XACTION_DSHSTYLE 5
- #define XACTION_DSHABS 6
- #define XACTION_PNTABS 7
- #define XACTION_GTEXT 8
- #define XACTION_ASCII 9
- #define XACTION_BCKCOL 10
- #define XACTION_LINCOL 11
- #define XACTION_TXTCOL 12
- #define XACTION_FONTATTR 13
- #define XACTION_NOOP 14
- #define WRN_NOMSG 1
- #define ERR_UNKNGRAPHCARD 2
- #define ERR_NOFNTFIL 3
- #define ERR_NOFNT 4
- #define MSG_NOMOUSE 5
- #define WRN_HDCFILOPN 6
- #define WRN_HDCFILWRT 7
- #define WRN_HDCINTERN 8
- #define MSG_USR 9
- #define MSG_HDCACT 10
- #define WRN_USRPRESSANY 11
- #define ERR_EXIT 12
- #define WRN_COPYNOMEM 13
- #define WRN_COPYLOCK 14
- #define WRN_JOUCREATE 15
- #define WRN_JOUENTRY 16
- #define WRN_JOUADD 17
- #define WRN_JOUCLR 18
- #define WRN_JOUUNKWN 19
- #define ERR_XMLPARSER 20
- #define ERR_XMLOPEN 21
- #define ERR_UNKNAUDIO 22
- #define MSG_USR2 23
- #define WRN_INI2 24
- #define MSG_MAXERRNO 25
- #define TCS_INISECT0 "Graph2D"
- #define TCS_INISECT1 _T("Names")
- #define TCS_INIVAR_WINNAM _T("G2dGraphic")
- #define TCS_WINDOW_NAME _T("Graphics")
- #define TCS_INIVAR_STATNAM _T("G2dStatus")
- #define TCS_STATWINDOW_NAME _T("System Messages")
- #define TCS_INIVAR_HDCNAM _T("G2dHardcopy")

- #define TCS_HDCFILE_NAME _T("HDC%03i.UNKNOWN")
- #define TCS_INIVAR_MAINWINNAM _T("G2dMainWindow")
- #define TCS_MAINWINDOW_NAME _T("%:")
- #define TCS_INISECT2 _T("Layout")
- #define TCS_INIVAR_COPMEN _T("G2dSysMenuCopy")
- #define TCS_INIDEF_COPMEN _T("Copy")
- #define TCS_INIVAR_FONT _T("G2dGraphicFont")
- #define TCS_INIDEF_FONT _T("Arial Terminal")
- #define TCS_INIVAR_SYSFONT _T("G2dSystemFont")
- #define TCS_INIDEF_SYSFONT _T("Arial Terminal")
- #define TCS_INIVAR_ICONNAM _T("G2dIcon")
- #define TCS_ICONFILE_NAME _T("")
- #define TCS_INIVAR_WINPOSX _T("G2dGraphicPosX")
- #define TCS_INIDEF_WINPOSX 0
- #define TCS_INIVAR_WINPOSY _T("G2dGraphicPosY")
- #define TCS_INIDEF_WINPOSY 0
- #define TCS_INIVAR_WINSIZX _T("G2dGraphicSizeX")
- #define TCS_INIDEF_WINSIZX 100
- #define TCS_INIVAR_WINSIZY _T("G2dGraphicSizeY")
- #define TCS_INIDEF_WINSIZY 100
- #define TCS_INIVAR_STATPOSX _T("G2dStatusPosX")
- #define TCS_INIDEF_STATPOSX 0
- #define TCS_INIVAR_STATPOSY _T("G2dStatusPosY")
- #define TCS_INIDEF_STATPOSY 0
- #define TCS_INIVAR_STATSIZX _T("G2dStatusSizeX")
- #define TCS_INIDEF_STATSIZX 100
- #define TCS_INIVAR_STATSIZY _T("G2dStatusSizeY")
- #define TCS_INIDEF_STATSIZY 100
- #define TCS_INIVAR_LINCOL _T("G2dLinCol")
- #define TCS_INIDEF_LINCOL 1
- #define TCS_INIVAR_TXTCOL _T("G2dTxtCol")
- #define TCS_INIDEF_TXTCOL 1
- #define TCS_INIVAR_BCKCOL _T("G2dBckCol")
- #define TCS_INIDEF_BCKCOL 0
- #define TCS_INISECT3 _T("Messages")
- #define TCS_INIVAR_HDCOPN _T("G2dHdcOpen")
- #define TCS_INIDEF_HDCOPN _T("GRAPH2D HARDCOPY: Error during OPEN.")
- #define TCS_INIVAR_HDCOPNL _T("G2dHdcOpenL")
- #define TCS_INIDEF_HDCOPNL 5
- #define TCS_INIVAR_HDCWRT _T("G2dHdcWrite")
- #define TCS_INIDEF_HDCWRT _T("GRAPH2D HARDCOPY: Error during WRITE.")
- #define TCS_INIVAR_HDCWRTL _T("G2dHdcWriteL")
- #define TCS_INIDEF_HDCWRTL 5
- #define TCS_INIVAR_HDCINT _T("G2dHdcIntern")
- #define TCS_INIDEF_HDCINT _T("GRAPH2D HARDCOPY: Internal Error.")
- #define TCS_INIVAR_HDCINTL _T("G2dHdcInternL")
- #define TCS_INIDEF_HDCINTL 5
- #define TCS_INIVAR_USR _T("G2dUser")
- #define TCS_INIDEF_USR _T("%s")
- #define TCS_INIVAR_USRL _T("G2dUserL")
- #define TCS_INIDEF_USRL 5
- #define TCS_INIVAR_HDCACT _T("G2dHdcActive")
- #define TCS_INIDEF_HDCACT _T("Hardcopy in progress: File %s created.")
- #define TCS_INIVAR_HDCACTL _T("G2dHdcActiveL")
- #define TCS_INIDEF_HDCACTL 1

- #define TCS_INIVAR_USRWRN _T("G2dPressAny")
- #define TCS_INIDEF_USRWRN _T("Press any key to continue.")
- #define TCS_INIVAR_USRWRNL _T("G2dPressAnyL")
- #define TCS_INIDEF_USRWRNL 5
- #define TCS_INIVAR_EXIT _T("G2dExit")
- #define TCS_INIDEF_EXIT _T("Press any key to exit program.")
- #define TCS_INIVAR_EXITL _T("G2dExitL")
- #define TCS_INIDEF_EXITL 10
- #define TCS_INIVAR_COPMEM _T("G2dNoMemory")
- #define TCS_INIDEF_COPMEM _T("GRAPH2D Clipboard Manager: Out of Memory.")
- #define TCS_INIVAR_COPMEML _T("G2dNoMemoryL")
- #define TCS_INIDEF_COPMEML 1
- #define TCS_INIVAR_COPLCK _T("G2dClipLock")
- #define TCS_INIDEF_COPLCK _T("GRAPH2D Clipboard Manager: ClipBoard locked.")
- #define TCS_INIVAR_COPLCKL _T("G2dClipLockL")
- #define TCS_INIDEF_COPLCKL 1
- #define TCS_INIVAR_JOUCREATE _T("G2dJouCreate")
- #define TCS_INIDEF_JOUCREATE _T("GRAPH2D Error Creating Journal. Error-No: %s.")
- #define TCS_INIVAR_JOUCREATEL _T("G2dJouCreateL")
- #define TCS_INIDEF_JOUCREATEL 5
- #define TCS_INIVAR_JOUENTRY _T("G2dJouEntry")
- #define TCS_INIDEF_JOUENTRY _T("GRAPH2D Error Creating Journal Entry.")
- #define TCS_INIVAR_JOUENTRYL _T("G2dJouEntryL")
- #define TCS_INIDEF_JOUENTRYL 5
- #define TCS_INIVAR_JOUADD _T("G2dJouAdd")
- #define TCS_INIDEF_JOUADD _T("GRAPH2D Error Appending Journal Entry.")
- #define TCS_INIVAR_JOUADDL _T("G2dJouAddL")
- #define TCS_INIDEF_JOUADDL 5
- #define TCS_INIVAR_JOUCLR _T("G2dJouClr")
- #define TCS_INIDEF_JOUCLR _T("GRAPH2D Error Clearing Journal Entry.")
- #define TCS_INIVAR_JOUCLRL _T("G2dJouClrL")
- #define TCS_INIDEF_JOUCLRL 5
- #define TCS_INIVAR_JOUUNKWN _T("G2dJouEntryUnknwn")
- #define TCS_INIDEF_JOUUNKWN _T("GRAPH2D Unknown Journal Entry.")
- #define TCS_INIVAR_JOUUNKWNL _T("G2dJouEntryUnknwnL")
- #define TCS_INIDEF_JOUUNKWNL 1
- #define TCS_INIVAR_XMLPARSER _T("G2dXMLerror")
- #define TCS_INIDEF_XMLPARSER _T("GRAPH2D Error parsing XML-File: %s")
- #define TCS_INIVAR_XMLPARSERL _T("G2dXMLerrorL")
- #define TCS_INIDEF_XMLPARSERL 8
- #define TCS_INIVAR_XMLOPEN _T("G2dXMLopen")
- #define TCS_INIDEF_XMLOPEN _T("GRAPH2D Error opening %s")
- #define TCS_INIVAR_XMLOPENL _T("G2dXMLerrorL")
- #define TCS_INIDEF_XMLOPENL 8
- #define TCS_INIVAR_USR2 _T("G2dUser2")
- #define TCS_INIDEF_USR2 _T("%s")
- #define TCS_INIVAR_USR2L _T("G2dUser2L")
- #define TCS_INIDEF_USR2L 5
- #define TCS_INIVAR_INI2 _T("G2d2xInitt")
- #define TCS_INIDEF_INI2 _T("%s")
- #define TCS_INIVAR_INI2L _T("G2d2xInittL")
- #define TCS_INIDEF_INI2L 5
- #define TCSdrWIN__
- #define false 0
- #define true !false

Typedefs

- typedef char TCHAR
- typedef char * PTCHAR
- typedef int bool

Functions

- void bell (void)
- void outtext (FTNSTRPAR *ftn_string FTNSTRPAR_TAIL(ftn_string))
- void GraphicError (FTNINT *iErr, FTNSTRPAR *ftn_string, FTNINT *iL FTNSTRPAR_TAIL(ftn_string))
- void tinput (FTNINT *ic)
- void finitt ()

6.36.1 Detailed Description

MS Windows Port: Low-Level Driver.

Version

1.8

Author

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Headerfile for TCSdWIN.c

Note

Declarations and adaption to C++ vs. C

Definition in file TCSdWINc.h.

6.36.2 Macro Definition Documentation

6.36.2.1 ERR_EXIT

```
#define ERR_EXIT 12
```

Definition at line 299 of file TCSdWINc.h.

6.36.2.2 ERR_NOFNT

```
#define ERR_NOFNT 4
```

Definition at line 291 of file TCSdWINc.h.

6.36.2.3 ERR_NOFNTFIL

```
#define ERR_NOFNTFIL 3
```

Definition at line 290 of file TCSdWINc.h.

6.36.2.4 ERR_UNKNAUDIO

```
#define ERR_UNKNAUDIO 22
```
Definition at line 309 of file TCSdWINc.h.

6.36.2.5 ERR_UNKNGRAPHCARD

```
#define ERR_UNKNGRAPHCARD 2
```
Definition at line 289 of file TCSdWINc.h.

6.36.2.6 ERR_XMLOPEN

```
#define ERR_XMLOPEN 21
```
Definition at line 308 of file TCSdWINc.h.

6.36.2.7 ERR_XMLPARSER

```
#define ERR_XMLPARSER 20
```
Definition at line 307 of file TCSdWINc.h.

6.36.2.8 EXPORT16

```
#define EXPORT16 __export /* __export bei virtuellem Adressraum unnötig */
```
Definition at line 45 of file TCSdWINc.h.

6.36.2.9 false

```
#define false 0
```
Definition at line 499 of file TCSdWINc.h.

6.36.2.10 GetCommandLine

```
#define GetCommandLine( ) "WinApp" /* dito */
```
Definition at line 48 of file TCSdWINc.h.

6.36.2.11 HiRes

```
#define HiRes(
              iX ) iX
```
Definition at line 32 of file TCSdWINc.h.

6.36.2.12 INIFILEXTTOKEN

```
#define INIFILEXTTOKEN _T(".%") /* Token fuer den Filenamenparser */
```
Definition at line 255 of file TCSdWINc.h.

6.36.2.13 LoRes

```
#define LoRes(
              iX ) iX
```
Definition at line 33 of file TCSdWINc.h.

6.36.2.14 LPTSTR

```
#define LPTSTR LPSTR
```
Definition at line 43 of file TCSdWINc.h.

6.36.2.15 MOUSE_XMAX

```
#define MOUSE_XMAX 65535 /* Mousekoordinatensystem (Mickeys) */
```
Definition at line 234 of file TCSdWINc.h.

6.36.2.16 MOUSE_YMAX

```
#define MOUSE_YMAX 65535 /* s.  MS-Dokumentation mouse_event */
```
Definition at line 235 of file TCSdWINc.h.

6.36.2.17 MSG_HDCACT

```
#define MSG_HDCACT 10
```
Definition at line 297 of file TCSdWINc.h.

6.36.2.18 MSG_MAXERRNO

```
#define MSG_MAXERRNO 25
```
Definition at line 312 of file TCSdWINc.h.

6.36.2.19 MSG_NOMOUSE

```
#define MSG_NOMOUSE 5
```
Definition at line 292 of file TCSdWINc.h.

6.36.2.20 MSG_USR

```
#define MSG_USR 9
```
Definition at line 296 of file TCSdWINc.h.

6.36.2.21 MSG_USR2

```
#define MSG_USR2 23
```
Definition at line 310 of file TCSdWINc.h.

6.36.2.22 PROGDIRTOKEN

```
#define PROGDIRTOKEN _T("%:")
```
Definition at line 256 of file TCSdWINc.h.

6.36.2.23 SM_CXMAXIMIZED

```
#define SM_CXMAXIMIZED SM_CXFULLSCREEN /* notduerftiger Ersatz für ...  */
```
Definition at line 46 of file TCSdWINc.h.

6.36.2.24 SM_CYMAXIMIZED

```
#define SM_CYMAXIMIZED SM_CYFULLSCREEN /* ...Win32 Funktion */
```
Definition at line 47 of file TCSdWINc.h.

6.36.2.25 STAT_ADDLINES

```
#define STAT_ADDLINES 9 /* Zusätzlich durch Mausziehen anzeigbar */
```
Definition at line 244 of file TCSdWINc.h.

6.36.2.26 STAT_MAXCOLUMNS

```
#define STAT_MAXCOLUMNS 80
```
Definition at line 242 of file TCSdWINc.h.

6.36.2.27 STAT_MAXROWS

```
#define STAT_MAXROWS 25 /* Gemerkte Statuszeilen (scrollbar) */
```
Definition at line 241 of file TCSdWINc.h.

6.36.2.28 STAT_MINLINES

```
#define STAT_MINLINES 1 /* Default:  Angezeigte Statuszeilen */
```
Definition at line 243 of file TCSdWINc.h.

6.36.2.29 STAT_PAGESIZ

```
#define STAT_PAGESIZ 5 /* Scrollschritte bei großem Statusfenster */
```
Definition at line 245 of file TCSdWINc.h.

6.36.2.30 TCS_DEFAULT_MAINWINDOWCLASS

```
#define TCS_DEFAULT_MAINWINDOWCLASS _T("WinMainFTN77")
```
Definition at line 260 of file TCSdWINc.h.

6.36.2.31 TCS_FILE_NAMELEN

```
#define TCS_FILE_NAMELEN 128
```
Definition at line 251 of file TCSdWINc.h.

6.36.2.32 TCS_HDCFILE_NAME

```
#define TCS_HDCFILE_NAME _T("HDC%03i.UNKNOWN")
```
Definition at line 338 of file TCSdWINc.h.

6.36.2.33 TCS_ICONFILE_NAME

```
#define TCS_ICONFILE_NAME _T("")
```
Definition at line 351 of file TCSdWINc.h.

6.36.2.34 TCS_INIDEF_BCKCOL

```
#define TCS_INIDEF_BCKCOL 0
```
Definition at line 373 of file TCSdWINc.h.

6.36.2.35 TCS_INIDEF_COPLCK

```
#define TCS_INIDEF_COPLCK _T("GRAPH2D Clipboard Manager:  ClipBoard locked.")
```
Definition at line 409 of file TCSdWINc.h.

6.36.2.36 TCS_INIDEF_COPLCKL

```
#define TCS_INIDEF_COPLCKL 1
```
Definition at line 411 of file TCSdWINc.h.

6.36.2.37 TCS_INIDEF_COPMEM

```
#define TCS_INIDEF_COPMEM _T("GRAPH2D Clipboard Manager:  Out of Memory.")
```
Definition at line 405 of file TCSdWINc.h.

6.36.2.38 TCS_INIDEF_COPMEML

```
#define TCS_INIDEF_COPMEML 1
```
Definition at line 407 of file TCSdWINc.h.

6.36.2.39 TCS_INIDEF_COPMEN

```
#define TCS_INIDEF_COPMEN _T("Copy")
```
Definition at line 345 of file TCSdWINc.h.

6.36.2.40 TCS_INIDEF_EXIT

```
#define TCS_INIDEF_EXIT _T("Press any key to exit program.")
```
Definition at line 401 of file TCSdWINc.h.

6.36.2.41 TCS_INIDEF_EXITL

```
#define TCS_INIDEF_EXITL 10
```
Definition at line 403 of file TCSdWINc.h.

6.36.2.42 TCS_INIDEF_FONT

```
#define TCS_INIDEF_FONT _T("Arial Terminal")
```
Definition at line 347 of file TCSdWINc.h.

6.36.2.43 TCS_INIDEF_HDCACT

```
#define TCS_INIDEF_HDCACT _T("Hardcopy in progress:  File %s created.")
```
Definition at line 393 of file TCSdWINc.h.

6.36.2.44 TCS_INIDEF_HDCACTL

```
#define TCS_INIDEF_HDCACTL 1
```
Definition at line 395 of file TCSdWINc.h.

6.36.2.45 TCS_INIDEF_HDCINT

```
#define TCS_INIDEF_HDCINT _T("GRAPH2D HARDCOPY: Internal Error.")
```
Definition at line 385 of file TCSdWINc.h.

6.36.2.46 TCS_INIDEF_HDCINTL

```
#define TCS_INIDEF_HDCINTL 5
```
Definition at line 387 of file TCSdWINc.h.

6.36.2.47 TCS_INIDEF_HDCOPN

```
#define TCS_INIDEF_HDCOPN _T("GRAPH2D HARDCOPY: Error during OPEN.")
```
Definition at line 377 of file TCSdWINc.h.

6.36.2.48 TCS_INIDEF_HDCOPNL

```
#define TCS_INIDEF_HDCOPNL 5
```
Definition at line 379 of file TCSdWINc.h.

6.36.2.49 TCS_INIDEF_HDCWRT

```
#define TCS_INIDEF_HDCWRT _T("GRAPH2D HARDCOPY: Error during WRITE.")
```
Definition at line 381 of file TCSdWINc.h.

6.36.2.50 TCS_INIDEF_HDCWRTL

```
#define TCS_INIDEF_HDCWRTL 5
```
Definition at line 383 of file TCSdWINc.h.

6.36.2.51 TCS_INIDEF_INI2

```
#define TCS_INIDEF_INI2 _T("%s")
```
Definition at line 445 of file TCSdWINc.h.

6.36.2.52 TCS_INIDEF_INI2L

```
#define TCS_INIDEF_INI2L 5
```
Definition at line 447 of file TCSdWINc.h.

6.36.2.53 TCS_INIDEF_JOUADD

```
#define TCS_INIDEF_JOUADD _T("GRAPH2D Error Appending Journal Entry.")
```
Definition at line 421 of file TCSdWINc.h.

6.36.2.54 TCS_INIDEF_JOUADDL

```
#define TCS_INIDEF_JOUADDL 5
```
Definition at line 423 of file TCSdWINc.h.

6.36.2.55 TCS_INIDEF_JOUCLR

```
#define TCS_INIDEF_JOUCLR _T("GRAPH2D Error Clearing Journal Entry.")
```
Definition at line 425 of file TCSdWINc.h.

6.36.2.56 TCS_INIDEF_JOUCLRL

```
#define TCS_INIDEF_JOUCLRL 5
```
Definition at line 427 of file TCSdWINc.h.

6.36.2.57 TCS_INIDEF_JOUCREATE

```
#define TCS_INIDEF_JOUCREATE _T("GRAPH2D Error Creating Journal.  Error-No:  %s.")
```
Definition at line 413 of file TCSdWINc.h.

6.36.2.58 TCS_INIDEF_JOUCREATEL

```
#define TCS_INIDEF_JOUCREATEL 5
```
Definition at line 415 of file TCSdWINc.h.

6.36.2.59 TCS_INIDEF_JOUENTRY

```
#define TCS_INIDEF_JOUENTRY _T("GRAPH2D Error Creating Journal Entry.")
```
Definition at line 417 of file TCSdWINc.h.

6.36.2.60 TCS_INIDEF_JOUENTRYL

```
#define TCS_INIDEF_JOUENTRYL 5
```
Definition at line 419 of file TCSdWINc.h.

6.36.2.61 TCS_INIDEF_JOUUNKWN

```
#define TCS_INIDEF_JOUUNKWN _T("GRAPH2D Unknown Journal Entry.")
```
Definition at line 429 of file TCSdWINc.h.

6.36.2.62 TCS_INIDEF_JOUUNKWNL

```
#define TCS_INIDEF_JOUUNKWNL 1
```
Definition at line 431 of file TCSdWINc.h.

6.36.2.63 TCS_INIDEF_LINCOL

```
#define TCS_INIDEF_LINCOL 1
```
Definition at line 369 of file TCSdWINc.h.

6.36.2.64 TCS_INIDEF_STATPOSX

```
#define TCS_INIDEF_STATPOSX 0
```
Definition at line 361 of file TCSdWINc.h.

6.36.2.65 TCS_INIDEF_STATPOSY

```
#define TCS_INIDEF_STATPOSY 0
```
Definition at line 363 of file TCSdWINc.h.

6.36.2.66 TCS_INIDEF_STATSIZX

```
#define TCS_INIDEF_STATSIZX 100
```
Definition at line 365 of file TCSdWINc.h.

6.36.2.67 TCS_INIDEF_STATSIZY

```
#define TCS_INIDEF_STATSIZY 100
```
Definition at line 367 of file TCSdWINc.h.

6.36.2.68 TCS_INIDEF_SYSFONT

```
#define TCS_INIDEF_SYSFONT _T("Arial Terminal")
```
Definition at line 349 of file TCSdWINc.h.

6.36.2.69 TCS_INIDEF_TXTCOL

```
#define TCS_INIDEF_TXTCOL 1
```
Definition at line 371 of file TCSdWINc.h.

6.36.2.70 TCS_INIDEF_USR

```
#define TCS_INIDEF_USR _T("%s")
```
Definition at line 389 of file TCSdWINc.h.

6.36.2.71 TCS_INIDEF_USR2

```
#define TCS_INIDEF_USR2 _T("%s")
```
Definition at line 441 of file TCSdWINc.h.

6.36.2.72 TCS_INIDEF_USR2L

```
#define TCS_INIDEF_USR2L 5
```
Definition at line 443 of file TCSdWINc.h.

6.36.2.73 TCS_INIDEF_USRL

```
#define TCS_INIDEF_USRL 5
```
Definition at line 391 of file TCSdWINc.h.

6.36.2.74 TCS_INIDEF_USRWRN

```
#define TCS_INIDEF_USRWRN _T("Press any key to continue.")
```
Definition at line 397 of file TCSdWINc.h.

6.36.2.75 TCS_INIDEF_USRWRNL

```
#define TCS_INIDEF_USRWRNL 5
```
Definition at line 399 of file TCSdWINc.h.

6.36.2.76 TCS_INIDEF_WINPOSX

```
#define TCS_INIDEF_WINPOSX 0
```
Definition at line 353 of file TCSdWINc.h.

6.36.2.77 TCS_INIDEF_WINPOSY

```
#define TCS_INIDEF_WINPOSY 0
```
Definition at line 355 of file TCSdWINc.h.

6.36.2.78 TCS_INIDEF_WINSIZX

```
#define TCS_INIDEF_WINSIZX 100
```
Definition at line 357 of file TCSdWINc.h.

6.36.2.79 TCS_INIDEF_WINSIZY

```
#define TCS_INIDEF_WINSIZY 100
```
Definition at line 359 of file TCSdWINc.h.

6.36.2.80 TCS_INIDEF_XMLOPEN

```
#define TCS_INIDEF_XMLOPEN _T("GRAPH2D Error opening %s")
```
Definition at line 437 of file TCSdWINc.h.

6.36.2.81 TCS_INIDEF_XMLOPENL

```
#define TCS_INIDEF_XMLOPENL 8
```
Definition at line 439 of file TCSdWINc.h.

6.36.2.82 TCS_INIDEF_XMLPARSER

```
#define TCS_INIDEF_XMLPARSER _T("GRAPH2D Error parsing XML-File:  %s")
```
Definition at line 433 of file TCSdWINc.h.

6.36.2.83 TCS_INIDEF_XMLPARSERL

```
#define TCS_INIDEF_XMLPARSERL 8
```
Definition at line 435 of file TCSdWINc.h.

6.36.2.84 TCS_INIFILE_NAME

```
#define TCS_INIFILE_NAME _T("Graph2D")
```
Definition at line 261 of file TCSdWINc.h.

6.36.2.85 TCS_INISECT0

```
#define TCS_INISECT0 "Graph2D"
```
Definition at line 323 of file TCSdWINc.h.

6.36.2.86 TCS_INISECT1

```
#define TCS_INISECT1 _T("Names")
```
Definition at line 325 of file TCSdWINc.h.

6.36.2.87 TCS_INISECT2

```
#define TCS_INISECT2 _T("Layout")
```
Definition at line 343 of file TCSdWINc.h.

6.36.2.88 TCS_INISECT3

```
#define TCS_INISECT3 _T("Messages")
```
Definition at line 375 of file TCSdWINc.h.

6.36.2.89 TCS_INIVAR_BCKCOL

```
#define TCS_INIVAR_BCKCOL _T("G2dBckCol")
```
Definition at line 372 of file TCSdWINc.h.

6.36.2.90 TCS_INIVAR_COPLCK

```
#define TCS_INIVAR_COPLCK _T("G2dClipLock")
```
Definition at line 408 of file TCSdWINc.h.

6.36.2.91 TCS_INIVAR_COPLCKL

```
#define TCS_INIVAR_COPLCKL _T("G2dClipLockL")
```
Definition at line 410 of file TCSdWINc.h.

6.36.2.92 TCS_INIVAR_COPMEM

```
#define TCS_INIVAR_COPMEM _T("G2dNoMemory")
```
Definition at line 404 of file TCSdWINc.h.

6.36.2.93 TCS_INIVAR_COPMEML

```
#define TCS_INIVAR_COPMEML _T("G2dNoMemoryL")
```
Definition at line 406 of file TCSdWINc.h.

6.36.2.94 TCS_INIVAR_COPMEN

```
#define TCS_INIVAR_COPMEN _T("G2dSysMenuCopy")
```
Definition at line 344 of file TCSdWINc.h.

6.36.2.95 TCS_INIVAR_EXIT

```
#define TCS_INIVAR_EXIT _T("G2dExit")
```
Definition at line 400 of file TCSdWINc.h.

6.36.2.96 TCS_INIVAR_EXITL

```
#define TCS_INIVAR_EXITL _T("G2dExitL")
```
Definition at line 402 of file TCSdWINc.h.

6.36.2.97 TCS_INIVAR_FONT

```
#define TCS_INIVAR_FONT _T("G2dGraphicFont")
```
Definition at line 346 of file TCSdWINc.h.

6.36.2.98 TCS_INIVAR_HDCACT

```
#define TCS_INIVAR_HDCACT _T("G2dHdcActive")
```
Definition at line 392 of file TCSdWINc.h.

6.36.2.99 TCS_INIVAR_HDCACTL

```
#define TCS_INIVAR_HDCACTL _T("G2dHdcActiveL")
```
Definition at line 394 of file TCSdWINc.h.

6.36.2.100 TCS_INIVAR_HDCINT

```
#define TCS_INIVAR_HDCINT _T("G2dHdcIntern")
```
Definition at line 384 of file TCSdWINc.h.

6.36.2.101 TCS_INIVAR_HDCINTL

```
#define TCS_INIVAR_HDCINTL _T("G2dHdcInternL")
```
Definition at line 386 of file TCSdWINc.h.

6.36.2.102 TCS_INIVAR_HDCNAM

```
#define TCS_INIVAR_HDCNAM _T("G2dHardcopy")
```
Definition at line 330 of file TCSdWINc.h.

6.36.2.103 TCS_INIVAR_HDCOPN

```
#define TCS_INIVAR_HDCOPN _T("G2dHdcOpen")
```
Definition at line 376 of file TCSdWINc.h.

6.36.2.104 TCS_INIVAR_HDCOPNL

```
#define TCS_INIVAR_HDCOPNL _T("G2dHdcOpenL")
```
Definition at line 378 of file TCSdWINc.h.

6.36.2.105 TCS_INIVAR_HDCWRT

```
#define TCS_INIVAR_HDCWRT _T("G2dHdcWrite")
```
Definition at line 380 of file TCSdWINc.h.

6.36.2.106 TCS_INIVAR_HDCWRTL

```
#define TCS_INIVAR_HDCWRTL _T("G2dHdcWriteL")
```
Definition at line 382 of file TCSdWINc.h.

6.36.2.107 TCS_INIVAR_ICONNAM

```
#define TCS_INIVAR_ICONNAM _T("G2dIcon")
```
Definition at line 350 of file TCSdWINc.h.

6.36.2.108 TCS_INIVAR_INI2

```
#define TCS_INIVAR_INI2 _T("G2d2xInitt")
```
Definition at line 444 of file TCSdWINc.h.

6.36.2.109 TCS_INIVAR_INI2L

```
#define TCS_INIVAR_INI2L _T("G2d2xInittL")
```
Definition at line 446 of file TCSdWINc.h.

6.36.2.110 TCS_INIVAR_JOUADD

```
#define TCS_INIVAR_JOUADD _T("G2dJouAdd")
```
Definition at line 420 of file TCSdWINc.h.

6.36.2.111 TCS_INIVAR_JOUADDL

```
#define TCS_INIVAR_JOUADDL _T("G2dJouAddL")
```
Definition at line 422 of file TCSdWINc.h.

6.36.2.112 TCS_INIVAR_JOUCLR

```
#define TCS_INIVAR_JOUCLR _T("G2dJouClr")
```
Definition at line 424 of file TCSdWINc.h.

6.36.2.113 TCS_INIVAR_JOUCLRL

```
#define TCS_INIVAR_JOUCLRL _T("G2dJouClrL")
```
Definition at line 426 of file TCSdWINc.h.

6.36.2.114 TCS_INIVAR_JOUCREATE

```
#define TCS_INIVAR_JOUCREATE _T("G2dJouCreate")
```
Definition at line 412 of file TCSdWINc.h.

6.36.2.115 TCS_INIVAR_JOUCREATEL

```
#define TCS_INIVAR_JOUCREATEL _T("G2dJouCreateL")
```
Definition at line 414 of file TCSdWINc.h.

6.36.2.116 TCS_INIVAR_JOUENTRY

```
#define TCS_INIVAR_JOUENTRY _T("G2dJouEntry")
```
Definition at line 416 of file TCSdWINc.h.

6.36.2.117 TCS_INIVAR_JOUENTRYL

```
#define TCS_INIVAR_JOUENTRYL _T("G2dJouEntryL")
```
Definition at line 418 of file TCSdWINc.h.

6.36.2.118 TCS_INIVAR_JOUUNKWN

```
#define TCS_INIVAR_JOUUNKWN _T("G2dJouEntryUnknwn")
```
Definition at line 428 of file TCSdWINc.h.

6.36.2.119 TCS_INIVAR_JOUUNKWNL

```
#define TCS_INIVAR_JOUUNKWNL _T("G2dJouEntryUnknwnL")
```
Definition at line 430 of file TCSdWINc.h.

6.36.2.120 TCS_INIVAR_LINCOL

```
#define TCS_INIVAR_LINCOL _T("G2dLinCol")
```
Definition at line 368 of file TCSdWINc.h.

6.36.2.121 TCS_INIVAR_MAINWINNAM

```
#define TCS_INIVAR_MAINWINNAM _T("G2dMainWindow")
```
Definition at line 340 of file TCSdWINc.h.

6.36.2.122 TCS_INIVAR_STATNAM

```
#define TCS_INIVAR_STATNAM _T("G2dStatus")
```
Definition at line 328 of file TCSdWINc.h.

6.36.2.123 TCS_INIVAR_STATPOSX

```
#define TCS_INIVAR_STATPOSX _T("G2dStatusPosX")
```
Definition at line 360 of file TCSdWINc.h.

6.36.2.124 TCS_INIVAR_STATPOSY

```
#define TCS_INIVAR_STATPOSY _T("G2dStatusPosY")
```
Definition at line 362 of file TCSdWINc.h.

6.36.2.125 TCS_INIVAR_STATSIZX

```
#define TCS_INIVAR_STATSIZX _T("G2dStatusSizeX")
```
Definition at line 364 of file TCSdWINc.h.

6.36.2.126 TCS_INIVAR_STATSIZY

```
#define TCS_INIVAR_STATSIZY _T("G2dStatusSizeY")
```
Definition at line 366 of file TCSdWINc.h.

6.36.2.127 TCS_INIVAR_SYSFONT

```
#define TCS_INIVAR_SYSFONT _T("G2dSystemFont")
```
Definition at line 348 of file TCSdWINc.h.

6.36.2.128 TCS_INIVAR_TXTCOL

```
#define TCS_INIVAR_TXTCOL _T("G2dTxtCol")
```
Definition at line 370 of file TCSdWINc.h.

6.36.2.129 TCS_INIVAR_USR

```
#define TCS_INIVAR_USR _T("G2dUser")
```
Definition at line 388 of file TCSdWINc.h.

6.36.2.130 TCS_INIVAR_USR2

```
#define TCS_INIVAR_USR2 _T("G2dUser2")
```
Definition at line 440 of file TCSdWINc.h.

6.36.2.131 TCS_INIVAR_USR2L

```
#define TCS_INIVAR_USR2L _T("G2dUser2L")
```
Definition at line 442 of file TCSdWINc.h.

6.36.2.132 TCS_INIVAR_USRL

```
#define TCS_INIVAR_USRL _T("G2dUserL")
```
Definition at line 390 of file TCSdWINc.h.

6.36.2.133 TCS_INIVAR_USRWRN

```
#define TCS_INIVAR_USRWRN _T("G2dPressAny")
```
Definition at line 396 of file TCSdWINc.h.

6.36.2.134 TCS_INIVAR_USRWRNL

```
#define TCS_INIVAR_USRWRNL _T("G2dPressAnyL")
```
Definition at line 398 of file TCSdWINc.h.

6.36.2.135 TCS_INIVAR_WINNAM

```
#define TCS_INIVAR_WINNAM _T("G2dGraphic")
```
Definition at line 326 of file TCSdWINc.h.

6.36.2.136 TCS_INIVAR_WINPOSX

```
#define TCS_INIVAR_WINPOSX _T("G2dGraphicPosX")
```
Definition at line 352 of file TCSdWINc.h.

6.36.2.137 TCS_INIVAR_WINPOSY

```
#define TCS_INIVAR_WINPOSY _T("G2dGraphicPosY")
```
Definition at line 354 of file TCSdWINc.h.

6.36.2.138 TCS_INIVAR_WINSIZX

```
#define TCS_INIVAR_WINSIZX _T("G2dGraphicSizeX")
```
Definition at line 356 of file TCSdWINc.h.

6.36.2.139 TCS_INIVAR_WINSIZY

```
#define TCS_INIVAR_WINSIZY _T("G2dGraphicSizeY")
```
Definition at line 358 of file TCSdWINc.h.

6.36.2.140 TCS_INIVAR_XMLOPEN

```
#define TCS_INIVAR_XMLOPEN _T("G2dXMLopen")
```
Definition at line 436 of file TCSdWINc.h.

6.36.2.141 TCS_INIVAR_XMLOPENL

```
#define TCS_INIVAR_XMLOPENL _T("G2dXMLerrorL")
```
Definition at line 438 of file TCSdWINc.h.

6.36.2.142 TCS_INIVAR_XMLPARSER

```
#define TCS_INIVAR_XMLPARSER _T("G2dXMLerror")
```
Definition at line 432 of file TCSdWINc.h.

6.36.2.143 TCS_INIVAR_XMLPARSERL

```
#define TCS_INIVAR_XMLPARSERL _T("G2dXMLerrorL")
```
Definition at line 434 of file TCSdWINc.h.

6.36.2.144 TCS_MAINWINDOW_NAME

```
#define TCS_MAINWINDOW_NAME _T("%:")
```
Definition at line 341 of file TCSdWINc.h.

6.36.2.145 TCS_MENUENTRY_LEN

```
#define TCS_MENUENTRY_LEN 15
```
Definition at line 253 of file TCSdWINc.h.

6.36.2.146 TCS_MESSAGELEN

```
#define TCS_MESSAGELEN 80
```
Definition at line 252 of file TCSdWINc.h.

6.36.2.147 TCS_REL_CHR_HEIGHT

```
#define TCS_REL_CHR_HEIGHT 1.0f
```
Definition at line 247 of file TCSdWINc.h.

6.36.2.148 TCS_REL_CHR_SPACE

```
#define TCS_REL_CHR_SPACE 1.1f /* Zeilenabstand */
```
Definition at line 248 of file TCSdWINc.h.

6.36.2.149 TCS_STAT_WINDOWCLASS

```
#define TCS_STAT_WINDOWCLASS _T("Graph2DstatWindow")
```
Definition at line 259 of file TCSdWINc.h.

6.36.2.150 TCS_STATWINDOW_NAME

```
#define TCS_STATWINDOW_NAME _T("System Messages")
```
Definition at line 329 of file TCSdWINc.h.

6.36.2.151 TCS_WINDOW_ICON

```
#define TCS_WINDOW_ICON _T("Graph2DIcon")
```
Definition at line 262 of file TCSdWINc.h.

6.36.2.152 TCS_WINDOW_ICONS

```
#define TCS_WINDOW_ICONS _T("Graph2DIconS")
```
Definition at line 263 of file TCSdWINc.h.

6.36.2.153 TCS_WINDOW_NAME

```
#define TCS_WINDOW_NAME _T("Graphics")
```
Definition at line 327 of file TCSdWINc.h.

6.36.2.154 TCS_WINDOW_NAMELEN

```
#define TCS_WINDOW_NAMELEN 255
```
Definition at line 250 of file TCSdWINc.h.

6.36.2.155 TCS_WINDOWCLASS

```
#define TCS_WINDOWCLASS _T("Graph2DWindow")
```
Definition at line 258 of file TCSdWINc.h.

6.36.2.156 TCS_WM_COPY

```
#define TCS_WM_COPY 0x0401 /* Raum für Applikationen:  0x0400-0x7fff */
```
Definition at line 237 of file TCSdWINc.h.

6.36.2.157 TCSdrWIN__

```
#define TCSdrWIN__
```
Definition at line 496 of file TCSdWINc.h.

6.36.2.158 TEK_XMAX

```
#define TEK_XMAX 1023
```
Definition at line 23 of file TCSdWINc.h.

6.36.2.159 TEK_YMAX

```
#define TEK_YMAX 780
```
Definition at line 24 of file TCSdWINc.h.

6.36.2.160 true

```
#define true !false
```
Definition at line 500 of file TCSdWINc.h.

6.36.2.161 WRN_COPYLOCK

```
#define WRN_COPYLOCK 14
```
Definition at line 301 of file TCSdWINc.h.

6.36.2.162 WRN_COPYNOMEM

```
#define WRN_COPYNOMEM 13
```
Definition at line 300 of file TCSdWINc.h.

6.36.2.163 WRN_HDCFILOPN

```
#define WRN_HDCFILOPN 6
```
Definition at line 293 of file TCSdWINc.h.

6.36.2.164 WRN_HDCFILWRT

```
#define WRN_HDCFILWRT 7
```
Definition at line 294 of file TCSdWINc.h.

6.36.2.165 WRN_HDCINTERN

```
#define WRN_HDCINTERN 8
```
Definition at line 295 of file TCSdWINc.h.

6.36.2.166 WRN_INI2

```
#define WRN_INI2 24
```
Definition at line 311 of file TCSdWINc.h.

6.36.2.167 WRN_JOUADD

```
#define WRN_JOUADD 17
```
Definition at line 304 of file TCSdWINc.h.

6.36.2.168 WRN_JOUCLR

```
#define WRN_JOUCLR 18
```
Definition at line 305 of file TCSdWINc.h.

6.36.2.169 WRN_JOUCREATE

```
#define WRN_JOUCREATE 15
```
Definition at line 302 of file TCSdWINc.h.

6.36.2.170 WRN_JOUENTRY

```
#define WRN_JOUENTRY 16
```
Definition at line 303 of file TCSdWINc.h.

6.36.2.171 WRN_JOUUNKWN

```
#define WRN_JOUUNKWN 19
```
Definition at line 306 of file TCSdWINc.h.

6.36.2.172 WRN_NOMSG

```
#define WRN_NOMSG 1
```
Definition at line 288 of file TCSdWINc.h.

6.36.2.173 WRN_USRPRESSANY

```
#define WRN_USRPRESSANY 11
```
Definition at line 298 of file TCSdWINc.h.

6.36.2.174 XACTION_ASCII

```
#define XACTION_ASCII 9
```
Definition at line 277 of file TCSdWINc.h.

6.36.2.175 XACTION_BCKCOL

```
#define XACTION_BCKCOL 10
```
Definition at line 278 of file TCSdWINc.h.

6.36.2.176 XACTION_DRWABS

```
#define XACTION_DRWABS 4
```
Definition at line 272 of file TCSdWINc.h.

6.36.2.177 XACTION_DSHABS

```
#define XACTION_DSHABS 6
```
Definition at line 274 of file TCSdWINc.h.

6.36.2.178 XACTION_DSHSTYLE

```
#define XACTION_DSHSTYLE 5
```
Definition at line 273 of file TCSdWINc.h.

6.36.2.179 XACTION_ERASE

```
#define XACTION_ERASE 2
```
Definition at line 270 of file TCSdWINc.h.

6.36.2.180 XACTION_FONTATTR

```
#define XACTION_FONTATTR 13
```
Definition at line 281 of file TCSdWINc.h.

6.36.2.181 XACTION_GTEXT

```
#define XACTION_GTEXT 8
```
Definition at line 276 of file TCSdWINc.h.

6.36.2.182 XACTION_INITT

```
#define XACTION_INITT 1
```
Definition at line 269 of file TCSdWINc.h.

6.36.2.183 XACTION_LINCOL

```
#define XACTION_LINCOL 11
```
Definition at line 279 of file TCSdWINc.h.

6.36.2.184 XACTION_MOVABS

```
#define XACTION_MOVABS 3
```
Definition at line 271 of file TCSdWINc.h.

6.36.2.185 XACTION_NOOP

```
#define XACTION_NOOP 14
```
Definition at line 282 of file TCSdWINc.h.

6.36.2.186 XACTION_PNTABS

```
#define XACTION_PNTABS 7
```
Definition at line 275 of file TCSdWINc.h.

6.36.2.187 XACTION_TXTCOL

```
#define XACTION_TXTCOL 12
```
Definition at line 280 of file TCSdWINc.h.

6.36.3 Typedef Documentation

6.36.3.1 bool

```
typedef int bool
```
Definition at line 498 of file TCSdWINc.h.

6.36.3.2 PTCHAR

```
typedef char * PTCHAR
```
Definition at line 42 of file TCSdWINc.h.

6.36.3.3 TCHAR

```
typedef char TCHAR
```
Definition at line 42 of file TCSdWINc.h.

6.36.4 Function Documentation

6.36.4.1 bell()

```
void bell (
            void  )
```
Definition at line 3706 of file TCSdWINc.c.

6.36.4.2 finitt()

```
void finitt ( )
```
Definition at line 2574 of file TCSdWINc.c.

6.36.4.3 GraphicError()

```
void GraphicError (
            FTNINT * iErr,
            FTNSTRPAR * ftn_string,
            FTNINT *iL  FTNSTRPAR_TAILftn_string )
```

Definition at line 3744 of file TCSdWINc.c.

6.36.4.4 outtext()

```
void outtext (
            FTNSTRPAR *ftn_string  FTNSTRPAR_TAILftn_string )
```

Definition at line 3714 of file TCSdWINc.c.

6.36.4.5 tinput()

```
void tinput (
            FTNINT * ic )
```

Definition at line 3414 of file TCSdWINc.c.

6.37 TCSdWINc.h

```
00001 /** ****************************************************************************
00002 \file       TCSdWINc.h
00003 \brief      MS Windows Port: Low-Level Driver
00004 \version    1.8
00005 \author     (C) 2022 Dr.-Ing. Klaus Friedewald
00006 \copyright  GNU LESSER GENERAL PUBLIC LICENSE Version 3
00007 \~german
00008          Headerfile zu TCSdWINc.c
00009 \note
00010          Typ-, Konstantendefinitionen und Steuerung C++ / C
00011 \~english
00012          Headerfile for TCSdWIN.c
00013 \note
00014          Declarations and adaption to C++ vs. C
00015 \~
00016
00017
00018 ***************************************************************************** */
00019
00020
00021 /* ---- Zeichenbereich im Tektronix-Koordinatensystem ---------------------- */
00022
00023 #define TEK_XMAX 1023
00024 #define TEK_YMAX 780
00025
00026 /* ---- Erhoehung der Zeichenauflösung fuer hochaufloesende Bildschirme --- */
00027
00028 #if defined PixFac
00029  #define HiRes(iX) (iX*PixFac)
00030  #define LoRes(iX) (iX/PixFac)
00031 #else
00032  #define HiRes(iX) iX
00033  #define LoRes(iX) iX
00034 #endif
00035
00036
00037
00038 /* ------------------ Kompatibilität 16/32bit ----------------------------- */
00039
00040 #if !defined(__WIN32__) && !defined(_WIN32)
00041
00042  typedef char TCHAR, *PTCHAR;
00043  #define LPTSTR LPSTR
00044
00045  #define EXPORT16 __export /* __export bei virtuellem Adressraum unnötig */
00046  #define SM_CXMAXIMIZED SM_CXFULLSCREEN  /* notduerftiger Ersatz für ... */
00047  #define SM_CYMAXIMIZED SM_CYFULLSCREEN  /* ...Win32 Funktion */
00048  #define GetCommandLine() "WinApp"       /* dito */
00049
00050 #else
00051  #define EXPORT16
00052 #endif
```

```
00053
00054
00055 /* ------------ Compilerspezifische Definitionen ------------------------- */
00056
00057 // _____________________________ Open-Watcom _____________________________
00058 #if defined __WATCOMC__
00059  #ifdef _UNICODE
00060   #error "Watcom Ftn77 basiert nicht auf UNICODE !!!"
00061  #endif
00062
00063  #if !defined(__WIN32__) && !defined(_WIN32)
00064   #define TCSLEV3SYS 3 // TCSLEV(3) = 3 fuer Watcom/16 bit Windows
00065  #else
00066   #define TCSLEV3SYS 4 // TCSLEV(3) = 4 fuer Watcom/32 bit Windows
00067  #endif
00068
00069  /* Deklaration Parameteruebergabe Fortran <-> C */
00070  typedef long int LOGICAL;
00071  typedef long int FTNINT;
00072  typedef float FTNREAL;
00073  typedef double FTNDOUBLE;
00074  typedef struct {float real, imag;} FTNCOMPLEX;
00075  typedef char FTNCHAR;
00076  typedef unsigned FTNCHARLEN;
00077  typedef struct { FTNCHAR * addr; FTNCHARLEN len; } FTNSTRDESC;
00078  typedef FTNSTRDESC FTNSTRPAR;
00079  #define FTNSTRPAR_TAIL(ftns)
00080  #define FTNSTRPARA(ftns) ftns->addr
00081  #define FTNSTRPARL(ftns) ftns->len
00082  #define CALLFTNSTRA(ftns) & ftns
00083  #define CALLFTNSTRL(ftns)
00084  #define FWRDFTNSTRA(ftns) ftns
00085  #define FWRDFTNSTRL(ftns)
00086
00087  #pragma aux TKTRNX "^"; /* Fortran Naming Convention */
00088  #pragma aux tcslev3 "^";
00089  #pragma aux initt1 "^";
00090  #pragma aux finitt "^";
00091  #pragma aux GraphicError "^";
00092  #pragma aux winlbl "^";
00093  #pragma aux erase "^";
00094  #pragma aux swind1 "^";
00095  #pragma aux movabs "^";
00096  #pragma aux drwabs "^";
00097  #pragma aux dshabs "^";
00098  #pragma aux pntabs "^";
00099  #pragma aux bckcol "^";
00100  #pragma aux lincol "^";
00101  #pragma aux txtcol "^";
00102  #pragma aux DefaultColour "^"
00103  #pragma aux outgtext "^";
00104  #pragma aux italic "^";
00105  #pragma aux italir "^";
00106  #pragma aux dblsiz "^";
00107  #pragma aux nrmsiz "^";
00108  #pragma aux bell "^";
00109  #pragma aux outtext "^";
00110  #pragma aux tinput "^";
00111  #pragma aux dcursr "^";
00112  #pragma aux csize "^";
00113  #pragma aux hdcopy "^";
00114  #pragma aux lib_movc3 "^";
00115
00116 /* Deklarationen von durch C aufgerufenen FTN77-Unterprogrammen */
00117  #pragma aux igetarg "^"   // nur WATCOM: F77-Library
00118  FTNINT igetarg (FTNINT *iNo, FTNSTRDESC *Par);
00119
00120  #pragma aux initt2 "^"   // nur WATCOM: F77-Library
00121  void INITT2 (void);
00122
00123  #pragma aux SUBSTITUTE "^"        // aus STRINGS.FOR
00124  void SUBSTITUTE (FTNSTRPAR *Src, FTNSTRPAR *Dst, FTNSTRPAR *old, FTNSTRPAR *n
00125                                   FTNSTRPAR_TAIL(Src) FTNSTRPAR_TAIL(Dst)
00126                                   FTNSTRPAR_TAIL(old) FTNSTRPAR_TAIL(n));
00127
00128
00129 // _____________________________ GNU-CC _____________________________________
00130 #elif defined __GNUC__
00131  #ifdef _UNICODE
00132   #error "GNU f77 basiert nicht auf UNICODE !!!"
00133  #endif
00134
00135  #if defined (WINVER)
00136   #if defined (_WIN64)
00137    #define TCSLEV3SYS 7 // TCSLEV(3) = 7 fuer GCC / 64bit Windows
00138   #else
00139    #define TCSLEV3SYS 5 // TCSLEV(3) = 5 fuer GCC / Windows
```

```
00140   #endif // defined
00141  #else
00142   #define TCSLEV3SYS 0 // TCSLEV(3) = 0 fuer unknown
00143  #endif
00144
00145 /* Deklaration Parameteruebergabe Fortran <-> C */
00146
00147  //  #include <g2c.h> // nur fuer g77, fuer gfortran s.u.
00148  typedef long int logical; // 3 (mit ftnlen) plattformabhaengige Definitionen
00149  typedef long int integer; // Ersatz fuer g2c.h: evtl. ueberpruefen
00150
00151  typedef logical LOGICAL;
00152  typedef integer FTNINT;
00153  typedef float FTNREAL;
00154  typedef double FTNDOUBLE;
00155  typedef struct {float real, imag;} FTNCOMPLEX;
00156
00157  typedef TCHAR FTNCHAR;
00158  #if __GNUC__ > 7  // GCC V7: size_t definiert, bei win64 8 Byte, nicht 4!
00159   typedef size_t ftnlen;  // Ersatz fuer g2c.h
00160   typedef size_t FTNCHARLEN;
00161  #else
00162   typedef long int ftnlen;  // Ersatz fuer g2c.h
00163   typedef ftnlen FTNCHARLEN; // size_t erst ab GCC > 7 definiert
00164  #endif
00165
00166  typedef struct { FTNCHAR * addr; FTNCHARLEN len; } FTNSTRDESC;
00167  typedef FTNCHAR FTNSTRPAR;
00168  #define FTNSTRPAR_TAIL(ftns) , FTNCHARLEN ftns##_len
00169  #define FTNSTRPARA(ftns) ftns
00170  #define FTNSTRPARL(ftns) ftns##_len
00171  #define CALLFTNSTRA(ftns) ftns.addr
00172  #define CALLFTNSTRL(ftns) , ftns.len
00173  #define FWRDFTNSTRA(ftns) ftns
00174  #define FWRDFTNSTRL(ftns) , ftns##_len
00175
00176  #define TKTRNX tktrnx_ /* Fortran Naming Convention */
00177  #define tcslev3 tcslev3_
00178  #define initt1 initt1_
00179  #define finitt finitt_
00180  #define GraphicError graphicerror_
00181  #define winlbl winlbl_
00182  #define erase erase_
00183  #define swind1 swind1_
00184  #define movabs movabs_
00185  #define drwabs drwabs_
00186  #define dshabs dshabs_
00187  #define pntabs pntabs_
00188  #define bckcol bckcol_
00189  #define lincol lincol_
00190  #define txtcol txtcol_
00191  #define DefaultColour defaultcolour_
00192  #define outgtext outgtext_
00193  #define italic italic_
00194  #define italir italir_
00195  #define dblsiz dblsiz_
00196  #define nrmsiz nrmsiz_
00197  #define bell bell_
00198  #define outtext outtext_
00199  #define tinput tinput_
00200  #define dcursr dcursr_
00201  #define csize csize_
00202  #define hdcopy hdcopy_
00203  #define lib_movc3 lib_movc3_
00204
00205 /* Deklarationen von durch C aufgerufenen FTN77-Unterprogrammen */
00206  #define getarg getarg_       // aus GNU F77-Library
00207  FTNINT GETARG (FTNINT *iNo, FTNCHAR *line, FTNCHARLEN line_len);
00208
00209  #define initt2 initt2_
00210  void INITT2 (void);
00211
00212  #define SUBSTITUTE substitute_ // universeller Aufruf Watcom/GNU moeglich
00213  void SUBSTITUTE (FTNSTRPAR *Src, FTNSTRPAR *Dst, FTNSTRPAR *old, FTNSTRPAR *new
00214                                          FTNSTRPAR_TAIL(Src) FTNSTRPAR_TAIL(Dst)
00215                                          FTNSTRPAR_TAIL(old) FTNSTRPAR_TAIL(new));
00216
00217 #endif
00218 // ____________Ende systemabhaengige Deklarationen_____________________
00219
00220
00221 /* Forward Deklarationen: Codiert in C und auch in C verwendet */
00222
00223 void bell (void); //  -> Forward Deklaration
00224 void outtext(FTNSTRPAR * ftn_string FTNSTRPAR_TAIL(ftn_string) );
00225 void GraphicError (FTNINT *iErr, FTNSTRPAR *ftn_string,
00226                    FTNINT *iL  FTNSTRPAR_TAIL(ftn_string));
```

```
00227 // void dcursr (FTNINT *ic,FTNINT *ix,FTNINT *iy);
00228 void tinput (FTNINT *ic);
00229 void finitt (); // ueberpruefen !!!
00230
00231
00232 /* Systemparameter */
00233
00234 #define MOUSE_XMAX 65535        /* Mousekoordinatensystem (Mickeys) */
00235 #define MOUSE_YMAX 65535        /* s. MS-Dokumentation mouse_event */
00236
00237 #define TCS_WM_COPY 0x0401      /* Raum für Applikationen: 0x0400-0x7fff */
00238
00239 /* ------------ Programmparameter ---------------------------------------- */
00240
00241 #define STAT_MAXROWS 25         /* Gemerkte Statuszeilen (scrollbar) */
00242 #define STAT_MAXCOLUMNS 80
00243 #define STAT_MINLINES 1         /* Default: Angezeigte Statuszeilen */
00244 #define STAT_ADDLINES 9         /* Zusätzlich durch Mausziehen anzeigbar */
00245 #define STAT_PAGESIZ 5          /* Scrollschritte bei großem Statusfenster */
00246
00247 #define TCS_REL_CHR_HEIGHT 1.0f
00248 #define TCS_REL_CHR_SPACE 1.1f  /* Zeilenabstand */
00249
00250 #define TCS_WINDOW_NAMELEN 255
00251 #define TCS_FILE_NAMELEN 128
00252 #define TCS_MESSAGELEN 80
00253 #define TCS_MENUENTRY_LEN 15
00254
00255 #define INIFILEXTTOKEN _T(".%")      /* Token fuer den Filenamenparser */
00256 #define PROGDIRTOKEN _T("%:")
00257
00258 #define TCS_WINDOWCLASS _T("Graph2DWindow")
00259 #define TCS_STAT_WINDOWCLASS _T("Graph2DstatWindow")
00260 #define TCS_DEFAULT_MAINWINDOWCLASS _T("WinMainFTN77")
00261 #define TCS_INIFILE_NAME _T("Graph2D")
00262 #define TCS_WINDOW_ICON _T("Graph2DIcon")
00263 #define TCS_WINDOW_ICONS _T("Graph2DIconS")
00264
00265
00266
00267 /* Actioncodes des Journalfiles */
00268
00269 #define XACTION_INITT       1
00270 #define XACTION_ERASE       2
00271 #define XACTION_MOVABS      3
00272 #define XACTION_DRWABS      4
00273 #define XACTION_DSHSTYLE    5
00274 #define XACTION_DSHABS      6
00275 #define XACTION_PNTABS      7
00276 #define XACTION_GTEXT       8
00277 #define XACTION_ASCII       9
00278 #define XACTION_BCKCOL      10
00279 #define XACTION_LINCOL      11
00280 #define XACTION_TXTCOL      12
00281 #define XACTION_FONTATTR    13
00282 #define XACTION_NOOP        14
00283
00284
00285
00286 /* Zuordnung Fehlernummern zu Meldungen */
00287
00288 #define WRN_NOMSG 1
00289 #define ERR_UNKNGRAPHCARD 2
00290 #define ERR_NOFNTFIL 3
00291 #define ERR_NOFNT 4
00292 #define MSG_NOMOUSE 5
00293 #define WRN_HDCFILOPN 6
00294 #define WRN_HDCFILWRT 7
00295 #define WRN_HDCINTERN 8
00296 #define MSG_USR 9
00297 #define MSG_HDCACT 10
00298 #define WRN_USRPRESSANY 11
00299 #define ERR_EXIT 12
00300 #define WRN_COPYNOMEM 13
00301 #define WRN_COPYLOCK 14
00302 #define WRN_JOUCREATE 15
00303 #define WRN_JOUENTRY 16
00304 #define WRN_JOUADD 17
00305 #define WRN_JOUCLR 18
00306 #define WRN_JOUUNKWN 19
00307 #define ERR_XMLPARSER 20
00308 #define ERR_XMLOPEN 21
00309 #define ERR_UNKNAUDIO 22
00310 #define MSG_USR2 23
00311 #define WRN_INI2 24
00312 #define MSG_MAXERRNO 25
00313
```

```
00314
00315
00316 /* Initialisierungskonstanten *.INI, werden sinngemaess auch bei der
00317     Registry und XML-Initialisierung verwendet.
00318     Bei Erweiterungen Variableninitialisierung szTCSErrorMsg und TCSErrorLev
00319     in TCSdWINc.c fuer Registry und XML-Initialisierung nicht vergessen und
00320     alle Parser (*.ini bei INITT1(), Registry bei StoreIni() und
00321     *.xml bei sax_callback() beruecksichtigen! */
00322
00323 #define TCS_INISECT0 "Graph2D" // Root-Section, derzeit nur bei XML verwendet
00324
00325 #define TCS_INISECT1 _T("Names")
00326  #define TCS_INIVAR_WINNAM _T("G2dGraphic")
00327     #define TCS_WINDOW_NAME _T("Graphics")
00328  #define TCS_INIVAR_STATNAM _T("G2dStatus")
00329     #define TCS_STATWINDOW_NAME _T("System Messages")
00330  #define TCS_INIVAR_HDCNAM _T("G2dHardcopy")
00331     #if (JOURNALTYP ==1)
00332        #define TCS_HDCFILE_NAME _T("HDC%03i.WMF")
00333     #elif (JOURNALTYP ==2)
00334        #define TCS_HDCFILE_NAME _T("HDC%03i.EMF")
00335     #elif (JOURNALTYP ==3)
00336        #define TCS_HDCFILE_NAME _T("HDC%03i.HDC")
00337     #else
00338        #define TCS_HDCFILE_NAME _T("HDC%03i.UNKNOWN")
00339     #endif
00340  #define TCS_INIVAR_MAINWINNAM _T("G2dMainWindow")
00341     #define TCS_MAINWINDOW_NAME _T("%:")
00342
00343 #define TCS_INISECT2 _T("Layout")
00344  #define TCS_INIVAR_COPMEN _T("G2dSysMenuCopy")
00345     #define TCS_INIDEF_COPMEN _T("Copy")
00346  #define TCS_INIVAR_FONT _T("G2dGraphicFont")
00347     #define TCS_INIDEF_FONT _T("Arial Terminal")
00348  #define TCS_INIVAR_SYSFONT _T("G2dSystemFont")
00349     #define TCS_INIDEF_SYSFONT _T("Arial Terminal")
00350  #define TCS_INIVAR_ICONNAM _T("G2dIcon")
00351     #define TCS_ICONFILE_NAME _T("")
00352  #define TCS_INIVAR_WINPOSX _T("G2dGraphicPosX")
00353     #define TCS_INIDEF_WINPOSX 0
00354  #define TCS_INIVAR_WINPOSY _T("G2dGraphicPosY")
00355     #define TCS_INIDEF_WINPOSY 0
00356  #define TCS_INIVAR_WINSIZX _T("G2dGraphicSizeX")
00357     #define TCS_INIDEF_WINSIZX 100
00358  #define TCS_INIVAR_WINSIZY _T("G2dGraphicSizeY")
00359     #define TCS_INIDEF_WINSIZY 100
00360  #define TCS_INIVAR_STATPOSX _T("G2dStatusPosX")
00361     #define TCS_INIDEF_STATPOSX 0
00362  #define TCS_INIVAR_STATPOSY _T("G2dStatusPosY")
00363     #define TCS_INIDEF_STATPOSY 0
00364  #define TCS_INIVAR_STATSIZX _T("G2dStatusSizeX")
00365     #define TCS_INIDEF_STATSIZX 100
00366  #define TCS_INIVAR_STATSIZY _T("G2dStatusSizeY")
00367     #define TCS_INIDEF_STATSIZY 100
00368  #define TCS_INIVAR_LINCOL _T("G2dLinCol")
00369     #define TCS_INIDEF_LINCOL 1
00370  #define TCS_INIVAR_TXTCOL _T("G2dTxtCol")
00371     #define TCS_INIDEF_TXTCOL 1
00372  #define TCS_INIVAR_BCKCOL _T("G2dBckCol")
00373     #define TCS_INIDEF_BCKCOL 0
00374
00375 #define TCS_INISECT3 _T("Messages")
00376  #define TCS_INIVAR_HDCOPN _T("G2dHdcOpen")
00377     #define TCS_INIDEF_HDCOPN _T("GRAPH2D HARDCOPY: Error during OPEN.")
00378     #define TCS_INIVAR_HDCOPNL _T("G2dHdcOpenL")
00379     #define TCS_INIDEF_HDCOPNL 5
00380  #define TCS_INIVAR_HDCWRT _T("G2dHdcWrite")
00381     #define TCS_INIDEF_HDCWRT _T("GRAPH2D HARDCOPY: Error during WRITE.")
00382     #define TCS_INIVAR_HDCWRTL _T("G2dHdcWriteL")
00383     #define TCS_INIDEF_HDCWRTL 5
00384  #define TCS_INIVAR_HDCINT _T("G2dHdcIntern")
00385     #define TCS_INIDEF_HDCINT _T("GRAPH2D HARDCOPY: Internal Error.")
00386     #define TCS_INIVAR_HDCINTL _T("G2dHdcInternL")
00387     #define TCS_INIDEF_HDCINTL 5
00388  #define TCS_INIVAR_USR _T("G2dUser")
00389     #define TCS_INIDEF_USR _T("%s")
00390     #define TCS_INIVAR_USRL _T("G2dUserL")
00391     #define TCS_INIDEF_USRL 5
00392  #define TCS_INIVAR_HDCACT _T("G2dHdcActive")
00393     #define TCS_INIDEF_HDCACT _T("Hardcopy in progress: File %s created.")
00394     #define TCS_INIVAR_HDCACTL _T("G2dHdcActiveL")
00395     #define TCS_INIDEF_HDCACTL 1
00396  #define TCS_INIVAR_USRWRN _T("G2dPressAny")
00397     #define TCS_INIDEF_USRWRN _T("Press any key to continue.")
00398     #define TCS_INIVAR_USRWRNL _T("G2dPressAnyL")
00399     #define TCS_INIDEF_USRWRNL 5
00400  #define TCS_INIVAR_EXIT _T("G2dExit")
```

```
00401     #define TCS_INIDEF_EXIT _T("Press any key to exit program.")
00402     #define TCS_INIVAR_EXITL _T("G2dExitL")
00403     #define TCS_INIDEF_EXITL 10
00404  #define TCS_INIVAR_COPMEM _T("G2dNoMemory")
00405     #define TCS_INIDEF_COPMEM _T("GRAPH2D Clipboard Manager: Out of Memory.")
00406     #define TCS_INIVAR_COPMEML _T("G2dNoMemoryL")
00407     #define TCS_INIDEF_COPMEML 1
00408  #define TCS_INIVAR_COPLCK _T("G2dClipLock")
00409     #define TCS_INIDEF_COPLCK _T("GRAPH2D Clipboard Manager: ClipBoard locked.")
00410     #define TCS_INIVAR_COPLCKL _T("G2dClipLockL")
00411     #define TCS_INIDEF_COPLCKL 1
00412  #define TCS_INIVAR_JOUCREATE _T("G2dJouCreate")
00413     #define TCS_INIDEF_JOUCREATE _T("GRAPH2D Error Creating Journal. Error-No: %s.")
00414     #define TCS_INIVAR_JOUCREATEL _T("G2dJouCreateL")
00415     #define TCS_INIDEF_JOUCREATEL 5
00416  #define TCS_INIVAR_JOUENTRY _T("G2dJouEntry")
00417     #define TCS_INIDEF_JOUENTRY _T("GRAPH2D Error Creating Journal Entry.")
00418     #define TCS_INIVAR_JOUENTRYL _T("G2dJouEntryL")
00419     #define TCS_INIDEF_JOUENTRYL 5
00420  #define TCS_INIVAR_JOUADD _T("G2dJouAdd")
00421     #define TCS_INIDEF_JOUADD _T("GRAPH2D Error Appending Journal Entry.")
00422     #define TCS_INIVAR_JOUADDL _T("G2dJouAddL")
00423     #define TCS_INIDEF_JOUADDL 5
00424  #define TCS_INIVAR_JOUCLR _T("G2dJouClr")
00425     #define TCS_INIDEF_JOUCLR _T("GRAPH2D Error Clearing Journal Entry.")
00426     #define TCS_INIVAR_JOUCLRL _T("G2dJouClrL")
00427     #define TCS_INIDEF_JOUCLRL 5
00428  #define TCS_INIVAR_JOUUNKWN _T("G2dJouEntryUnknwn")
00429     #define TCS_INIDEF_JOUUNKWN _T("GRAPH2D Unknown Journal Entry.")
00430     #define TCS_INIVAR_JOUUNKWNL _T("G2dJouEntryUnknwnL")
00431     #define TCS_INIDEF_JOUUNKWNL 1
00432  #define TCS_INIVAR_XMLPARSER _T("G2dXMLerror")
00433     #define TCS_INIDEF_XMLPARSER _T("GRAPH2D Error parsing XML-File: %s")
00434     #define TCS_INIVAR_XMLPARSERL _T("G2dXMLerrorL")
00435     #define TCS_INIDEF_XMLPARSERL 8
00436  #define TCS_INIVAR_XMLOPEN _T("G2dXMLopen")
00437     #define TCS_INIDEF_XMLOPEN _T("GRAPH2D Error opening %s")
00438     #define TCS_INIVAR_XMLOPENL _T("G2dXMLerrorL")
00439     #define TCS_INIDEF_XMLOPENL 8
00440  #define TCS_INIVAR_USR2 _T("G2dUser2")
00441     #define TCS_INIDEF_USR2 _T("%s")
00442     #define TCS_INIVAR_USR2L _T("G2dUser2L")
00443     #define TCS_INIDEF_USR2L 5
00444  #define TCS_INIVAR_INI2 _T("G2d2xInitt")
00445     #define TCS_INIDEF_INI2 _T("%s")
00446     #define TCS_INIVAR_INI2L _T("G2d2xInittL")
00447     #define TCS_INIDEF_INI2L 5
00448
00449
00450 /* ------------ Steuerung C++: Klassendefinition / C: Unterprogramme ------ */
00451
00452 #ifdef __cplusplus
00453
00454 class TCSdrWIN
00455 {
00456 public:
00457             TCSdrWIN();
00458   virtual   ~TCSdrWIN();
00459
00460             tcslev3 (FTNINT *SysLev);
00461             winlbl (FTNSTRDESC * PloWinNam, FTNSTRDESC * StatWinNam,
00462                 FTNSTRDESC * IniFilNam, FTNINT *hIcon, FTNINT hIn, FTNINT hPrevIn);
00463
00464             initt1 (HINSTANCE *hParentInstance);
00465             finitt ();
00466             erase ();
00467             swindo (FTNINT *ix,FTNINT *iLx, FTNINT *iy,FTNINT *iLy);
00468             swind1 (FTNINT *ix,FTNINT *iLx, FTNINT *iy,FTNINT *iLy);
00469             movabs (FTNINT *ix,FTNINT *iy);
00470             drwabs (FTNINT *ix,FTNINT *iy);
00471             dshabs (FTNINT *ix,FTNINT *iy, FTNINT *iMask);
00472             pntabs (FTNINT *ix,FTNINT *iy);
00473             bckcol (FTNINT *iCol);
00474             lincol (FTNINT *iCol);
00475             txtcol (FTNINT *iCol);
00476             DefaultColour ();
00477             outgtext(FTNSTRDESC * ftn_string);
00478             italic ();
00479             italir ();
00480             dblsiz ();
00481             nrmsiz ();
00482   static    bell ();
00483   static    outtext (FTNSTRDESC * ftn_string);
00484             tinput (FTNINT *ic);
00485             dcursr (FTNINT *ic,FTNINT *ix,FTNINT *iy);
00486             GraphicErrorMsg (FTNINT *iErr, FTNSTRDESC *ftn_string, FTNINT *iL);
00487             csize (FTNINT *ix,FTNINT *iy);
```

```
00488             hdcopy ();
00489             lib_movc3 (FTNINT *len,FTNSTRDESC *sou,FTNSTRDESC *dst);
00490 };
00491
00492  #define TCSdrWIN__ TCSdrWIN:: /* zur Vereinheitlichung C++ und C */
00493
00494 #else /* __cplusplus */
00495
00496  #define TCSdrWIN__
00497
00498  typedef int bool;
00499  #define false 0
00500  #define true !false
00501
00502 #endif /* not __cplusplus */
00503
```

6.38 TCSinitt.for File Reference

MS Windows Port: initialization.

Functions/Subroutines

- subroutine initt (iDummy)

  MS Windows specific subroutines.

6.38.1 Detailed Description

MS Windows Port: initialization.

Version

1.4

Author

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Definition in file TCSinitt.for.

6.38.2 Function/Subroutine Documentation

6.38.2.1 initt()

```
subroutine initt (
              iDummy )
```

MS Windows specific subroutines.

Note

Initialization of the DLL: The subroutine INITT must not be placed inside the DLL, but must be linked statically to the user program. Otherwise the instance of the DLL and not the instance of the main programm will be optained.

Attention with 64bit operating systems: The passing of pointers is done by Fortran77 integer variables. With Win64 the pointer length is 8 bytes, corresponding to 2 StorageUnits (integer∗4). In consequence the parameter nPtrStorageUnits must be set >= 2.

This routine can also be used for initializing Windows NT console programs. Init Hardware & Software

initt2() -> Reset Software
Definition at line 80 of file TCSinitt.for.

6.39 TCSinitt.for

```
00001 C> \file       TCSinitt.for
00002 C> \version    1.4
00003 C> \author     (C) 2022 Dr.-Ing. Klaus Friedewald
00004 C> \copyright  GNU LESSER GENERAL PUBLIC LICENSE Version 3
00005 C> \~german
00006 C> \brief   MS Windows Port: Initialisierung
00007 C> \~english
00008 C> \brief   MS Windows Port: initialization
00009 C> \~
00010 C
00011 C
00012 C> \~german
00013 C> MS Windows-spezifische TCS-Routinen
00014 C> \note
00015 C> Initialisierung der DLL: Das Unterprogramm INITT darf sich nicht
00016 C> in der DLL befinden, sondern muss statisch zu dem Anwenderprogramm
00017 C> gelinkt werden, da sonst die Instanz der DLL und nicht die des
00018 C> Anwenderprogramms ermittelt wird.
00019 C>
00020 C> \note
00021 C> Achtung bei 64bit Betriebssystemen: Die Übergabe von Pointern erfolgt
00022 C> durch Fortran77 Integer-Variablen. Bei Win64 beträgt die Pointerlänge
00023 C> 8 Bytes entsprechend 2 StorageUnits (integer*4). Entsprechend muss der
00024 C> Parameter nPtrStorageUnits angepasst werden.
00025 C>
00026 C> \note
00027 C> Die Routine kann auch zur Initialisierung von Windows NT
00028 C> Konsolenprogrammen verwendet werden.
00029 C>
00030 C
00031 C
00032 C> \~english
00033 C> MS Windows specific subroutines
00034 C> \note
00035 C> Initialization of the DLL: The subroutine INITT must not be
00036 C> placed inside the DLL, but must be linked statically to the user
00037 C> program. Otherwise the instance of the DLL and not the instance
00038 C> of the main programm will be optained.
00039 C>
00040 C> \note
00041 C> Attention with 64bit operating systems: The passing of pointers is done
00042 C> by Fortran77 integer variables. With Win64 the pointer length is
00043 C> 8 bytes, corresponding to 2 StorageUnits (integer*4). In consequence the
00044 C> parameter nPtrStorageUnits must be set >= 2.
00045 C>
00046 C> \note
00047 C> This routine can also be used for initializing Windows NT console programs.
00048 C>\~
00049 C>
00050 C CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC   Changelog   CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC
00051 C
00052 C  Version 1.4, 30.4.2021, K. Friedewald
00053 C     Anpassung an Windows64: Pointerlänge 8 Byte > int*4 bei win32
00054 C
00055 C  Version 1.3, 17.8.2020, K. Friedewald
00056 C     Reaktivierung KHOMEY fuer HOME()
00057 C
00058 C  Version 1.2, 29.9.2004, K. Friedewald
00059 C     Zusammenfassung der DLL-Initialisierung mit der LIB-Version. INITT
00060 C     wird zusammen mit GetMainInstance.c in der LIB gehalten, die rest-
00061 C     lichen Programme können sich in einer DLL befinden.
00062 C
00063 C  Version 1.1, 22.6.2004, K. Friedewald
00064 C     Falls initt1 von dem Hauptprogramm ohne ein aktives Fenster aufgerufen
00065 C     wird treten schwer reproduzierbare Fehler auf, da die Rueckmeldungen
00066 C     auf die anfänglichen Windowsabfragen nicht eindeutig zugeordnet werden.
00067 C
00068 C     Abhilfe: Es wird jetzt bei Bedarf vor der Initialisierung ein eigenes
00069 C     Hauptprogrammfenster erstellt.
00070 C
00071 C  Version 1.0, 19.3.2003, K. Friedewald
00072 C
00073
00074
00075 C
00076 C>  Init Hardware & Software
00077 C
00078
00079
00080       subroutine initt (iDummy)
00081 C
00082       parameter(nptrstorageunits=2) ! max.Laenge Pointer in StorageUnits (2=64bit)
00083       integer iInstance(nPtrStorageUnits), iWindow(nPtrStorageUnits)
00084       call getmaininstandwin (iinstance, iwindow)
00085       call initt1 (iinstance, iwindow)
```

```
00086       call savemaininstandwin (iinstance, iwindow)
00087
00088 C> initt2() -> Reset Software
00089       entry initt2
00090       call lintrn
00091       call swindo (0,1023,0,780)
00092       call vwindo (0.,1023.,0.,780.)
00093       call rrotat (0.)
00094       call rscale (1.)
00095       call setmrg (0,1023)
00096       call nrmsiz
00097       call italir
00098       call home
00099       return
00100       end
```

6.40 TKTRNX.fd File Reference

MS Windows Port: TCS Common Block TKTRNX.

6.40.1 Detailed Description

MS Windows Port: TCS Common Block TKTRNX.

Version

1.3

Author

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header belonging to TKTRNX.h

Note

Because the following definition not beeing part of a module, the DOXYGEN parser is not able to handle the combination of COMMON and INTEGER declarations. Workaraound: \cond ... \endcond.

Definition in file TKTRNX.fd.

6.41 TKTRNX.fd

```
00001 C> \file       TKTRNX.fd
00002 C> \brief      MS Windows Port: TCS Common Block TKTRNX
00003 C> \version    1.3
00004 C> \author     (C) 2022 Dr.-Ing. Klaus Friedewald
00005 C> \copyright  GNU LESSER GENERAL PUBLIC LICENSE Version 3
00006 C>
00007 C> \~german
00008 C> Header passend zu TKTRNX.h
00009 C> \note
00010 C> Da die folgende Definition kein Bestandteil eines Moduls
00011 C> ist, versagt der DOXYGEN-Parser bei der Kombination von
00012 C> COMMON und INTEGER. Workaraound: \\cond ... \\endcond.
00013 C> \~english
00014 C> header belonging to TKTRNX.h
00015 C> \note
00016 C> Because the following definition not beeing part of a module, the
00017 C> DOXYGEN parser is not able to handle the combination of COMMON
00018 C> and INTEGER declarations.  Workaraound: \\cond ... \\endcond.
00019 C> \~
00020 C> \cond
00021 C Common Block TKTRNX, Version 1.3 für WINDOWS
00022 C
00023       COMMON /tktrnx/
00024 C           kbaudr,kerror,kgrafl,
00025      & khomey,
00026 C           kkmode,
```

```
00027      & khorsz,kversz,
00028      & kitalc,ksizef,
00029      & klmrgn,krmrgn, kscrx,kscry,
00030 C           ktblsz,khorzt(10),kvertt(10),
00031      & kbeamx,kbeamy,
00032 C           kmovef,kpchar(4),kdasht,
00033      & kminsx,kminsy,kmaxsx,kmaxsy,tminvx,tminvy,tmaxvx,tmaxvy,
00034 C      trealx,trealy,timagx,timagy,
00035      & trcosf,trsinf,trscal
00036      & ,xfac,yfac,xlog,ylog,kstcol,
00037      & ilincol, ibckcol, itxtcol, imouse
00038
00039       SAVE /tktrnx/
00040       integer iTktrnxL
00041       parameter(itktrnxl=31) ! +11)
00042
00043 C Neue Variablen:
00044 C     kHorSz,kVerSz: Buchstabengröße im (1024/780) Koordinatensystem
00045 C     kScrX, kScrY: Zeichenfläche in Pixeln
00046 C           Unterer Bildschirmrand für eine Statuszeile freigehalten
00047 C     kBeamX, kBeamY: Aktuelle Strahlposition im (1024/780) Koordinatensystem
00048 C     kStCol: Maximale Zeichenzahl in der Statuszeile
00049 C     iLinCol, iBckCol, iTxtCol: Farbindices
00050 C     iMouse: Anzahl der Maustasten. iMouse=0: keine Maus vorhanden
00051 C
00052 C Achtung:
00053 C       Anpassung Parameters iTktrnxL der Routinen SVSTAT, RESTAT aus TCS.FOR!
00054 C     Vorsicht, bei Integer*2 Variablen zählen Real-Variablen doppelt (*4!)
00055 C
00056 C> \endcond
```

6.42 TKTRNX.h File Reference

MS Windows Port: TCS Common Block TKTRNX.

Classes

- struct TKTRNXcommonBlock

Variables

- struct TKTRNXcommonBlock TKTRNX

6.42.1 Detailed Description

MS Windows Port: TCS Common Block TKTRNX.

Version

1.3

Author

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C header belonging to TKTRNX.fd

Note

Adaption to the compiler specific name convention is done in TCSdSDLc.h

Definition in file TKTRNX.h.

6.42.2 Variable Documentation

6.42.2.1 TKTRNX

```
struct TKTRNXcommonBlock TKTRNX
```

6.43 TKTRNX.h

```
00001 /** ****************************************************************************
00002 \file       TKTRNX.h
00003 \brief      MS Windows Port: TCS Common Block TKTRNX
00004 \version    1.3
00005 \author     (C) 2022 Dr.-Ing. Klaus Friedewald
00006 \copyright  GNU LESSER GENERAL PUBLIC LICENSE Version 3
00007 \~german
00008          C Header passend zu TKTRNX.fd
00009 \~english
00010          C header belonging to TKTRNX.fd
00011 \~
00012
00013 \~german
00014 \note
00015    Anpassung an die compilerabhaengige Namenskonvention erfolgt in TCSdSDLc.h
00016 \~english
00017 \note
00018    Adaption to the compiler specific name convention is done in TCSdSDLc.h
00019 \~
00020
00021 ******************************************************************************* */
00022
00023
00024 extern struct TKTRNXcommonBlock {
00025 FTNINT
00026 //           kbaudr,kerror,kgrafl,
00027      khomey,
00028 //           kkmode,
00029      khorsz,kversz,
00030      kitalc,ksizef,
00031      klmrgn,krmrgn, kScrX,kScrY,
00032 //           ktblsz,khorzt(10),kvertt(10),
00033      kBeamX,kBeamY,
00034 //           kmovef,kpchar(4),kdasht,
00035      kminsx,kminsy,kmaxsx,kmaxsy;
00036
00037 FTNREAL
00038      tminvx,tminvy,tmaxvx,tmaxvy,
00039 //       trealx,trealy,timagx,timagy,
00040      trcosf,trsinf,trscal
00041      ,xfac,yfac,xlog,ylog;
00042 FTNINT
00043     kStCol,
00044     iLinCol, iBckCol, iTxtCol, iMouse;
00045 } FAR TKTRNX;
00046
```

Index