Graph2D Library --- Windows ---

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Chapter 1

Plot10 & Advanced Graphing II

Graph2D is written entirely in FTN77 and ANSI C90. Initially it was developed using the Open Watcom compiler. Now the MINGW-GCC is used additionally to allow linking against applications written in modern Fortran.

1.0.0.1 How to build the library:

Copy the sources into the /build subdirectory by running "$$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 features can be changed by the following files:

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

1.0.0.3 Hardcopies

By default ∗.wmf hardcopies are used, but other formats can be configured before compiling the package.

Chapter 2

Compiler setup and foreign libraries

2.0.1 Setting up the IDE

2.0.1.1 Open source libraries

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

sglib is a macro library, no compilation is required:

- 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 Create 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
- Build 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-bit 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

To build 32bit programs the global GCC settings must be changed accordingly. The 32bit settings define new compilers and can now be distinguished from the 64bit versions when used within the 32bit workspaces.

2.0.1.3.2 Building the miniXML library MiniXML: The compilation uses an 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 add the following flags:
  LIBS = -lpthread -lssp
- $ make
- $ make test

- $ exit
- Copy (in 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 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 45 of file TKTRNX.h.

5.1.2.2 iLinCol

```
FTNINT TKTRNXcommonBlock::iLinCol
```

Definition at line 45 of file TKTRNX.h.

5.1.2.3 iMouse

```
FTNINT TKTRNXcommonBlock::iMouse
```

Definition at line 45 of file TKTRNX.h.

5.1.2.4 iTxtCol

```
FTNINT TKTRNXcommonBlock::iTxtCol
```

Definition at line 45 of file TKTRNX.h.

5.1.2.5 kBeamX

```
FTNINT TKTRNXcommonBlock::kBeamX
```

Definition at line 34 of file TKTRNX.h.

5.1.2.6 kBeamY

```
FTNINT TKTRNXcommonBlock::kBeamY
```

Definition at line 34 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 36 of file TKTRNX.h.

5.1.2.12 kmaxsy

```
FTNINT TKTRNXcommonBlock::kmaxsy
```

Definition at line 36 of file TKTRNX.h.

5.1.2.13 kminsx

```
FTNINT TKTRNXcommonBlock::kminsx
```

Definition at line 36 of file TKTRNX.h.

5.1.2.14 kminsy

```
FTNINT TKTRNXcommonBlock::kminsy
```

Definition at line 36 of file TKTRNX.h.

5.1.2.15 krmrgn

```
FTNINT TKTRNXcommonBlock::krmrgn
```

Definition at line 31 of file TKTRNX.h.

5.1.2.16 ksizef

```
FTNINT TKTRNXcommonBlock::ksizef
```

Definition at line 30 of file TKTRNX.h.

5.1.2.17 kStCol

```
FTNINT TKTRNXcommonBlock::kStCol
```

Definition at line 44 of file TKTRNX.h.

5.1.2.18 kversz

```
FTNINT TKTRNXcommonBlock::kversz
```

Definition at line 29 of file TKTRNX.h.

5.1.2.19 tmaxvx

```
FTNREAL TKTRNXcommonBlock::tmaxvx
```

Definition at line 39 of file TKTRNX.h.

5.1.2.20 tmaxvy

```
FTNREAL TKTRNXcommonBlock::tmaxvy
```

Definition at line 39 of file TKTRNX.h.

5.1.2.21 tminvx

```
FTNREAL TKTRNXcommonBlock::tminvx
```

Definition at line 39 of file TKTRNX.h.

5.1.2.22 tminvy

```
FTNREAL TKTRNXcommonBlock::tminvy
```

Definition at line 39 of file TKTRNX.h.

5.1.2.23 trcosf

```
FTNREAL TKTRNXcommonBlock::trcosf
```

Definition at line 41 of file TKTRNX.h.

5.1.2.24 trscal

```
FTNREAL TKTRNXcommonBlock::trscal
```

Definition at line 41 of file TKTRNX.h.

5.1.2.25 trsinf

```
FTNREAL TKTRNXcommonBlock::trsinf
```

Definition at line 41 of file TKTRNX.h.

5.1.2.26 xfac

```
FTNREAL TKTRNXcommonBlock::xfac
```

Definition at line 42 of file TKTRNX.h.

5.1.2.27 xlog

```
FTNREAL TKTRNXcommonBlock::xlog
```

Definition at line 42 of file TKTRNX.h.

5.1.2.28 yfac

```
FTNREAL TKTRNXcommonBlock::yfac
```

Definition at line 42 of file TKTRNX.h.

5.1.2.29 ylog

```
FTNREAL TKTRNXcommonBlock::ylog
```

Definition at line 42 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

(2023,135, 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 2563 of file AG2.for.

6.1.2.3 bar()

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

Definition at line 1688 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 1840 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 1538 of file AG2.for.

6.1.2.12 datget()

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

Definition at line 1660 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 1524 of file AG2.for.

6.1.2.18 eformc()

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

Definition at line 2434 of file AG2.for.

6.1.2.19 esplit()

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

Definition at line 2467 of file AG2.for.

6.1.2.20 expoutc()

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

Definition at line 2487 of file AG2.for.

6.1.2.21 fformc()

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

Definition at line 2375 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 1755 of file AG2.for.

6.1.2.23 findge()

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

Definition at line 2922 of file AG2.for.

6.1.2.24 findle()

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

Definition at line 2941 of file AG2.for.

6.1.2.25 fonlyc()

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

Definition at line 2403 of file AG2.for.

6.1.2.26 frame()

```
subroutine frame
```

Definition at line 1510 of file AG2.for.

6.1.2.27 gline()

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

Definition at line 2173 of file AG2.for.

6.1.2.28 grid()

```
subroutine grid
```

Definition at line 1956 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 2343 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 3066 of file AG2.for.

6.1.2.33 iubgc()

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

Definition at line 1473 of file AG2.for.

6.1.2.34 justerc()

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

Definition at line 2666 of file AG2.for.

6.1.2.35 keyset()

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

Definition at line 1634 of file AG2.for.

6.1.2.36 label()

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

Definition at line 2200 of file AG2.for.

6.1.2.37 leap()

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

Definition at line 1459 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 2963 of file AG2.for.

6.1.2.40 locle()

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

Definition at line 2981 of file AG2.for.

6.1.2.41 logtix()

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

Definition at line 2042 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 2732 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 2159 of file AG2.for.

6.1.2.46 notatec()

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

Definition at line 2618 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 2316 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 1487 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 2807 of file AG2.for.

6.1.2.53 rescom()

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

Definition at line 3050 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 2999 of file AG2.for.

6.1.2.56 roundu()

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

Definition at line 3015 of file AG2.for.

6.1.2.57 savcom()

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

Definition at line 3034 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 2870 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 1857 of file AG2.for.

6.1.2.68 teksym()

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

Definition at line 1882 of file AG2.for.

6.1.2.69 teksym1()

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

Definition at line 1930 of file AG2.for.

6.1.2.70 tset()

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

Definition at line 2089 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 2127 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 2643 of file AG2.for.

6.1.2.75 width()

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

Definition at line 2691 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 )
```

entry subroutine YMDYD (iJulYrIn,iJulDayIn,iGregYrOut,iGregMonOut,iGregDayOut)

Definition at line 1404 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    (2023,135, 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)=2023       ! Aenderungsjahr
00100       ilevel(2)= 135       ! 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       subroutine ymdyd (iJulYrOut,iJulDayOut,
01405      1                                iGregYrIn,iGregMonIn,iGregDayIn)
01406       implicit none
01407       integer iJulYrOut,iJulDayOut, iGregYrIn,iGregMonIn,iGregDayIn
01408       integer iJulYrIn,iJulDayIn, iGregYrOut,iGregMonOut,iGregDayOut
01409       integer iMon, LEAP
01410       integer iDatTab(12)
01411       save idattab
01412       data idattab /0,31,59,90,120,151,181,212,243,273,304,334/
01413
01414       ijulyrout= igregyrin
01415       imon= igregmonin
01416 100   if (imon .lt. 1) then ! while iMon .not. in [1..12]
01417        imon= imon + 12
01418        ijulyrout= ijulyrout-1
01419        goto 100
01420       else if (imon .gt. 12) then
01421        imon= imon -12
01422        ijulyrout= ijulyrout+1
01423        goto 100
01424       end if
01425       ijuldayout= igregdayin + idattab(imon)
01426       if (imon .gt.2) ijuldayout= ijuldayout + leap(ijulyrout)
01427       return
01428
01429 C> entry subroutine YMDYD (iJulYrIn,iJulDayIn,iGregYrOut,iGregMonOut,iGregDayOut)
01430       entry ydymd(ijulyrin,ijuldayin,
01431      1                        igregyrout,igregmonout,igregdayout)
01432
01433       igregdayout= ijuldayin
01434       igregyrout= ijulyrin
01435 110   if (igregdayout .lt. 1) then ! while iGregDayOut .not. in [1..365(366)]
01436        igregyrout= igregyrout-1
01437        igregdayout= igregdayout + 365 + leap(igregyrout)
01438        goto 110
01439       else if (igregdayout .gt. 365+ leap(igregyrout)) then
01440        igregyrout= igregyrout+1
01441        igregdayout= igregdayout - 365 - leap(igregyrout)
01442        goto 110
01443       end if
01444
01445       igregmonout= int( real(igregdayout)/29.5+1.)
01446       if (igregdayout .le. idattab(igregmonout)) then
01447        if ((igregmonout .le. 2) .or.
01448      1   (igregdayout.le.(idattab(igregmonout)+leap(igregyrout)))) then
01449         igregmonout= igregmonout-1
01450        end if
01451       end if
01452       igregdayout= igregdayout- idattab(igregmonout)
01453       if (igregmonout .gt. 2) igregdayout= igregdayout -leap(igregyrout)
01454       return
01455       end
01456
01457
01458
01459       integer function  leap (iyear)
01460       implicit none
01461       integer iyear
01462       if (  (mod(iyear,4) .eq. 0) .and.
01463      1     ((mod(iyear,100).ne.0) .or. (mod(iyear,400).eq.0))  ) then
```

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

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

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

```
01725         ibegy= cxysmin(2)
01726        else
01727         call wincot (0.,0.,ibegx,ibegy)
01728        end if
01729       end if
01730
01731       call wincot (x,y,ix,iy)
01732       if (verticalbar) then ! vertikale Balken
01733        iyl= min0(ibegy,iy)
01734        iyh= max0(ibegy,iy)
01735        ixl= min0(ix-ihalf,ix+ihalf)
01736        ixh= max0(ix-ihalf,ix+ihalf)
01737       else ! horizontale Balken
01738        iyl= min0(iy-ihalf,iy+ihalf)
01739        iyh= max0(iy-ihalf,iy+ihalf)
01740        ixl= min0(ibegx,ix)
01741        ixh= max0(ibegx,ix)
01742       end if
01743       ixl=max0(ixl,minx)
01744       ixh=min0(ixh,maxx)
01745       iyl=max0(iyl,miny)
01746       iyh=min0(iyh,maxy)
01747       if ((ixh-ixl .ge. 2) .and. (iyh-iyl .ge. 2)) then ! mindestens 2x2 Pxl
01748        call filbox(ixl,iyl,ixh,iyh,isymb,lspace)
01749       end if
01750       return
01751       end
01752
01753
01754
01755       subroutine filbox (minx,miny,maxx,maxy,ishade,lspace)
01756       implicit none
01757       integer minx,miny,maxx,maxy,ishade,lspace
01758       integer iminx,imaxx,iminy,imaxy
01759       integer i, ishift, idely, iymax
01760       real ximin, ximax
01761       real savcom (60)
01762
01763       iminx= min0(minx,maxx)        ! zeichne Rechteck
01764       iminy= min0(miny,maxy)
01765       imaxx= max0(minx,maxx)
01766       imaxy= max0(miny,maxy)
01767
01768       call movabs (iminx,iminy)
01769       call drwabs (imaxx,iminy)
01770       call drwabs (imaxx,imaxy)
01771       call drwabs (iminx,imaxy)
01772       call drwabs (iminx,iminy)
01773
01774       if ((ishade .le.0) .or. (ishade .gt. 15)) return ! ohne Schraffur
01775
01776       ishift= ishade / 2
01777       if ((ishade-ishift*2) .ne. 0) then ! Bit0: horizontale Schraffur
01778        i= iminy
01779 100    continue ! repeat...
01780         i= i+lspace
01781        if (i .lt. imaxy) then
01782         call movabs (iminx,i)
01783         call drwabs (imaxx,i)
01784         goto 100 ! ... until
01785        end if
01786       end if ! horizontale Schraffur gezeichnet
01787
01788       if (mod(ishift,2) .ne. 0) then ! Bit1: vertikale Schraffur
01789        i= iminx
01790 110    continue ! repeat
01791         i= i+lspace
01792        if(i .lt. imaxx) then
01793         call movabs (i,iminy)
01794         call drwabs (i,imaxy)
01795         goto 110
01796        end if ! vertikale Schraffur gezeichnet
01797       end if
01798
01799       if (ishade .ge. 4) then ! diagonale Schraffuren
01800        ximin= real(iminx)
01801        ximax= real(imaxx)
01802        call svstat (savcom) ! verwende TCS-Clipping
01803        call lintrn
01804        call dwindo (ximin,ximax,real(iminy),real(imaxy))
01805        call twindo (iminx,imaxx,iminy,imaxy)
01806
01807        if (ishade .ge. 8) then ! Bit3: diagonal fallend
01808         idely= iminx-imaxx
01809         iymax= imaxy+imaxx-iminx
01810         i= iminy+lspace
01811 120     continue ! repeat ...
```

```
01812           call movea (ximin,real(i))
01813           call drawa (ximax,real(i+idely))
01814           i= i+lspace
01815          if (i .lt. iymax) goto 120 ! ... until
01816          ishift= ishade -8
01817         else
01818          ishift= ishade
01819         end if
01820
01821         if (ishift .ge. 4) then ! Bit2: diagonal steigend
01822          idely= imaxx-iminx
01823          iymax= real(imaxy)
01824          i= iminy - idely + lspace
01825 130     continue ! repeat...
01826           call movea (ximin,real(i))
01827           call drawa (ximax,real(i+idely))
01828           i= i+lspace
01829          if (i .lt. iymax) goto 130 ! ...until
01830         end if
01831         call restat (savcom)
01832        end if ! Diagonalen
01833        return
01834        end
01835
01836
01837
01838 C  Zeichnen von Symbolen
01839
01840        subroutine bsyms (x,y,isym)
01841        implicit none
01842        real x,y
01843        integer isym
01844        include 'G2dAG2.fd'
01845
01846        if (isym .ge. 0) then
01847         call symout (isym, csizes)
01848        else
01849         call users (x,y,isym)
01850        end if
01851        call movea (x,y)
01852        return
01853        end
01854
01855
01856
01857        subroutine symout (isym,fac)
01858        implicit none
01859        integer isym
01860        real fac
01861        integer ix,iy, ihorz,ivert
01862
01863        call seeloc (ix,iy)
01864        if (isym .gt. 127) then
01865         call softek (isym)
01866        else if (isym .ge. 33) then
01867         call csize (ihorz,ivert)
01868         ihorz= int( real(ihorz)*.3572)
01869         ivert= int( real(ivert)*.3182)
01870         call movrel (-ihorz,-ivert)
01871         call alfmod
01872         call toutpt (isym)
01873        else if (isym .le. 11) then
01874         call teksym (isym,fac)
01875        end if
01876        call movabs (ix,iy)
01877        return
01878        end
01879
01880
01881
01882        subroutine teksym (isym,amult)
01883        implicit none
01884        integer isym
01885        real amult
01886        integer ihalf, ifull
01887
01888        ihalf= nint(8.* amult)
01889        ifull=ihalf * 2
01890        if (isym .eq. 1) then ! Kreis
01891         call teksym1 (0, 360, 30, 8.*amult)
01892        else if (isym .eq. 2) then ! X
01893         call movrel (ihalf,ihalf)
01894         call drwrel (-ifull,-ifull)
01895         call movrel (0,ifull)
01896         call drwrel (ifull,-ifull)
01897        else if (isym .eq. 3) then ! Dreieck
01898         call teksym1 (90, 450, 120, 8.*amult)
```

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

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

```
02073         end if
02074         idy=  -ivert / 3
02075         call movabs (mend,logtic)
02076         call drwabs (mstart,logtic)
02077        end if
02078
02079        if (cxymtcs(nbase) .eq. -2) then ! numerisches Ticmarklabel
02080         call movrel (idx,idy)
02081         call toutstc (loglab)
02082        end if
02083 100   continue
02084       return
02085       end
02086
02087
02088
02089       subroutine tset (nbase)
02090       implicit none
02091       integer nbase
02092       integer IOTHER
02093       integer otherbase, near, nfar, newloc, nlen
02094       include 'G2dAG2.fd'
02095
02096       otherbase= iother(nbase)
02097       near= min0(cxysmin(otherbase), cxysmax(otherbase))
02098       nfar= max0(cxysmin(otherbase), cxysmax(otherbase))
02099       newloc= near + cxyloc(nbase)
02100       if (cxyfrm(nbase) .ne. 1) then
02101        if (newloc .lt. ((nfar+near)/2)) then
02102         nlen= cxylen(nbase)
02103        else
02104         nlen= -cxylen(nbase)
02105         nfar= near
02106        end if
02107        call tset2 (newloc,nfar,nlen,cxyfrm(nbase),
02108      1                              cxybeg(nbase),cxyend(nbase))
02109       else
02110        cxybeg(nbase)= 0
02111        cxyend(nbase)= 0
02112       end if
02113
02114       if ((cxymfrm(nbase) .ne. 1) .and. (cxymtcs(nbase) .ne. 0)) then
02115        nlen= nlen / 2
02116        call tset2 (newloc,nfar,nlen,cxymfrm(nbase),
02117      1                              cxymbeg(nbase),cxymend(nbase))
02118       else
02119        cxymbeg(nbase)= 0
02120        cxymend(nbase)= 0
02121       end if
02122       return
02123       end
02124
02125
02126
02127       subroutine tset2 (newloc,nfar,nlen,nfrm,kstart,kend)
02128       implicit none
02129       integer newloc,nfar,nlen,nfrm,kstart,kend
02130
02131       if (nfrm .eq. 3 .or. nfrm .eq. 6) then
02132        kstart= newloc
02133       else
02134        kstart=newloc-nlen
02135       end if
02136       if (kstart .lt. 0) then
02137        kstart= 0
02138       else if (kend .gt. 1023) then
02139        kstart= 1023
02140       end if
02141
02142       if (nfrm .eq. 2) then
02143        kend= newloc
02144       else if (nfrm .eq. 5 .or. nfrm .eq. 6) then
02145        kend = nfar
02146       else
02147        kend=newloc+nlen
02148       end if
02149       if (kend .lt. 0) then
02150        kend= 0
02151       else if (kend .gt. 1023) then
02152        kend= 1023
02153       end if
02154       return
02155       end
02156
02157
02158
02159       subroutine monpos (nbase,iy1,dpos, spos)
```

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

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

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

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

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

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

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

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

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

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

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

Restore Hardcopies.

Functions/Subroutines

- logical function gethdc (Filnam)

6.23.1 Detailed Description

Restore Hardcopies.

Version

1.2

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      Restore Hardcopies
00003 C> \version    1.2
```

```
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       include 'Tktrnx.fd'
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 if (action.eq.15) then ! XACTION_CLIP
00100           if (i1.eq.0) then ! clipping not active
00101             kminsx= 0
00102             kminsy= 0
00103             kmaxsx= 1023 ! TEK_XMAX
00104             kmaxsy= 780 ! TEK_YMAX
00105             call swindl(kminsx,kminsy,kmaxsx,kmaxsy) ! Set bool ClippingNotActive
00106           end if
00107         else if (action.eq.16) then ! XACTION_CLIP1
00108           kminsx= i1
00109           kminsy= i2
00110           call swindl(kminsx,kminsy,kmaxsx,kmaxsy)
00111         else if (action.eq.17) then ! XACTION_CLIP2
00112           kmaxsx= i1
00113           kmaxsy= i2
00114           call swindl(kminsx,kminsy,kmaxsx,kmaxsy)
00115         else ! unknown
00116           continue
00117         end if
00118       if (ios.eq.0) goto 10 ! until EOF
00119
00120       close (iunit)
00121       gethdc= .false.
00122       return
00123       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 PlotHDC.for File Reference

Utility: Plot Journalfiles.

Functions/Subroutines

- program plothdc

6.28.1 Detailed Description

Utility: Plot Journalfiles.

Version

1.0-GCC

Author

(C) 2023 Dr.-Ing. Klaus Friedewald

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Utility to draw journal-hardcopies from SDL2 and wX programs. With cut/paste they could be used by other MS-win programs. Program parameters are optained by calling gfortran extensions.

Note

```
Invoke by:
 $> plothdc FileName
```

Definition in file PlotHDC.for.

6.28.2 Function/Subroutine Documentation

6.28.2.1 plothdc()

```
program plothdc
```

Definition at line 26 of file PlotHDC.for.

6.29 PlotHDC.for

```
00001 C> \file       PlotHDC.for
00002 C> \brief      Utility: Plot Journalfiles
00003 C> \version    1.0-GCC
00004 C> \author     (C) 2023 Dr.-Ing. Klaus Friedewald
00005 C> \copyright  GNU LESSER GENERAL PUBLIC LICENSE Version 3
00006 C>
00007 C> \~german
00008 C> Hilfsprogramm zur Anzeige von Journal-Hardcopies von SDL2 und wX-Programmen.
00009 C> Diese koennen dann ueber Cut/Paste in andere Windowsprogramme uebernommen werden.
00010 C> Die Abfrage der Programmparameter erfolgt durch gfortran spezifische Erweiterungen.
00011 C> \note \verbatim
00012 C>    Aufruf durch:
00013 C>     $> plothdc FileName
00014 C> \endverbatim
```

```
00015 C>
00016 C> \~english
00017 C> Utility to draw journal-hardcopies from SDL2 and wX programs.
00018 C> With cut/paste they could be used by other MS-win programs.
00019 C> Program parameters are optained by calling gfortran extensions.
00020 C> \note \verbatim
00021 C>    Invoke by:
00022 C>     $> plothdc FileName
00023 C> \endverbatim
00024 C> \~
00025 C>
00026       program plothdc
00027       implicit none
00028       integer itrimlen
00029       integer ipar
00030       character * 128 filnam
00031
00032       call initt (0)
00033       ipar = iargc() ! Version for GCC compiler
00034       call getarg(1,filnam)
00035
00036       if (ipar.gt.0) then
00037         call gethdc (filnam(1:itrimlen(filnam))//char(0))
00038       else
00039         call graphicerror (9, 'Please invoke by: PlotHDC FileName')
00040       end if
00041       call finitt
00042       end
```

6.30 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)

6.30.1 Detailed Description

TCS: String functions.

Version

1.26

Author

(C) 2022 Dr.-Ing. Klaus Friedewald

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

6.30.2 Function/Subroutine Documentation

6.30.2.1 istringlen()

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

Definition at line 94 of file Strings.for.

6.30.2.2 itrimlen()

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

Definition at line 133 of file Strings.for.

6.30.2.3 printstring()

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

Definition at line 114 of file Strings.for.

6.30.2.4 substitute()

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

Definition at line 30 of file Strings.for.

6.31 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
```

6.32 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)

6.32.1 Detailed Description

TCS: Tektronix Plot 10 Emulation.

Version

4.0

Author

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System independent subroutines
Definition in file TCS.for.

6.32.2 Function/Subroutine Documentation

6.32.2.1 ancho()

```
subroutine ancho (
              ichar )
```

Definition at line 315 of file TCS.for.

6.32.2.2 anstr()

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

Definition at line 305 of file TCS.for.

6.32.2.3 baksp()

```
subroutine baksp
```

Definition at line 360 of file TCS.for.

6.32.2.4 cartn()

```
subroutine cartn
```

Definition at line 341 of file TCS.for.

6.32.2.5 dasha()

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

Definition at line 266 of file TCS.for.

6.32.2.6 dashr()

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

Definition at line 212 of file TCS.for.

6.32.2.7 drawa()

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

Definition at line 233 of file TCS.for.

6.32.2.8 drawr()

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

Definition at line 188 of file TCS.for.

6.32.2.9 dwindo()

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

Definition at line 438 of file TCS.for.

6.32.2.10 genflg()

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

Definition at line 534 of file TCS.for.

6.32.2.11 home()

```
subroutine home
```

Definition at line 494 of file TCS.for.

6.32.2.12 linef()

```
subroutine linef
```

Definition at line 350 of file TCS.for.

6.32.2.13 linhgt()

```
function linhgt (
              Numlin )
```

Definition at line 376 of file TCS.for.

6.32.2.14 lintrn()

```
subroutine lintrn
```

Definition at line 394 of file TCS.for.

6.32.2.15 linwdt()

```
function linwdt (
              NumChr )
```

Definition at line 384 of file TCS.for.

6.32.2.16 logtrn()

```
subroutine logtrn (
              IMODE )
```

Definition at line 404 of file TCS.for.

6.32.2.17 movea()

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

Definition at line 244 of file TCS.for.

6.32.2.18 mover()

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

Definition at line 196 of file TCS.for.

6.32.2.19 newlin()

```
subroutine newlin
```

Definition at line 333 of file TCS.for.

6.32.2.20 newpag()

```
subroutine newpag
```

Definition at line 368 of file TCS.for.

6.32.2.21 pointa()

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

Definition at line 255 of file TCS.for.

6.32.2.22 pointr()

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

Definition at line 204 of file TCS.for.

6.32.2.23 rel2ab()

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

Definition at line 220 of file TCS.for.

6.32.2.24 rescal()

```
subroutine rescal
```

Definition at line 457 of file TCS.for.

6.32.2.25 revcot()

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

Definition at line 290 of file TCS.for.

6.32.2.26 rrotat()

```
subroutine rrotat (
              Grad )
```

Definition at line 477 of file TCS.for.

6.32.2.27 rscale()

```
subroutine rscale (
              Faktor )
```

Definition at line 486 of file TCS.for.

6.32.2.28 seetrm()

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

Definition at line 512 of file TCS.for.

6.32.2.29 seetrn()

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

Definition at line 523 of file TCS.for.

6.32.2.30 setmrg()

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

Definition at line 503 of file TCS.for.

6.32.2.31 swindo()

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

Definition at line 426 of file TCS.for.

6.32.2.32 twindo()

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

Definition at line 419 of file TCS.for.

6.32.2.33 vcursr()

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

Definition at line 178 of file TCS.for.

6.32.2.34 vwindo()

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

Definition at line 445 of file TCS.for.

6.32.2.35 wincot()

```
subroutine wincot (
              X,
```

```
     Y,
     IX,
     IY )
```

Definition at line 277 of file TCS.for.

6.33 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
00014 C      27.11.20 Version 4.0:
00015 C               Einheitliche Version CPM/DOS/Windows/SDL2
00016 C
00017 C      17.08.20 Version 3.2
00018 C               Harmonisierung der Verwendung des Commonblocks TKTRNX
00019 C               Variable KHOMEY wird jetzt (analog alter DOS-Version) verwendet.
00020 C               Da KHOMEY nicht in der CP/M Version vorhanden ist, muss ab dieser
00021 C               Version fuer eine Complilation unter CP/M die entsprechende Zeile
00022 C               in der SUBROUTINE HOME geändert werden.
00023 C
00024 C      13.11.17 Version 3.1
00025 C               Anpassung an OpenWatcom 2.0
00026 C               Bugfix: Unterscheidung Aufrufe ueber windowsx.h (win16) und GDI (win32)
00027 C                - SelectPen -> SelectObject
00028 C                - DeletePen -> DeleteObject
00029 C                - DeleteBrush -> DeleteObject
00030 C                - GetStockBrush -> GetStockObject
00031 C                - DeleteRgn -> DeleteObject
00032 C                - SelectFont -> SelectObject
00033 C                - DeleteFont -> DeleteObject
00034 C
00035 C      27.03.13 Version 3.0
00036 C               Anpassung an Windows 7 und OpenWatcom 1.9
00037 C               Anpassung an gfortran anstelle von g77 der GCC
00038 C
00039 C      22.12.05 Version 2.19
00040 C               Elimination berechnetes GOTO in LOGTRN
00041 C
00042 C      18.10.05 Version 2.18
00043 C               Anpassung der Windowsversionen zur gemeinsamen Verwendung SDL2:
00044 C                 TCSdrWIN.for
00045 C                 TCSdWINc.h
00046 C                 - Überfuehrung der Deklaration aus TCSdWIN.c nach *.h:
00047 C                   GraphicError und CreateMainWindow_IfNecessary
00048 C                 - Definition der Fehlernummern als Konstante statt enum
00049 C               Abhaengigkeit Watcom-Defaultwindowsystem eliminiert
00050 C               - TCSdWINc.c: Kein Abbruch bei OpenWatcom > 1.3 und
00051 C                 definiertem Symbol trace_calls
00052 C
00053 C      26.10.04 Version 2.17
00054 C               Bugfix Windows-System: Größe und Defaultposition des Status-
00055 C                fensters wird bei der Erzeugung berechnet -> 1. RESTORE nach
00056 C                Verkleinern des Graphikfensters entspricht dem vorherigen
00057 C                Bild. 2. Angleichung des Verhaltens von 16- und 32bit Windows
00058 C               Bei Definition des Symbols STAT_WINDOW_PRIVATE erhält das
00059 C                Statusfenster einen privaten Devicekontext.
00060 C               Zusammenfuehrung Initialisierung der Windows-Library und
00061 C                Windows-DLL -> zusaetzliche Sourcefiles
00062 C                TCSinitt.for, CreateMainWindow.c, GetMainInstance.c
00063 C
00064 C      23.06.04 Version 2.16:
00065 C               Anpassungen an GNU-Compiler fuer Win32. Zusätzliches Sourcefile
00066 C                fuer die GNU-Version: WinMain.c
00067 C               CSIZE in Windows-Version: Korrektur Rundungsfehler
00068 C
00069 C      08.06.04 Version 2.15:
00070 C               Umbenennung lib$movc3 in lib_movc3 (entsprechend ANSI-Fortran)
00071 C               Modul STRINGS.FOR: Version 1.24
00072 C
00073 C      27.06.03 Version 2.14:
00074 C               Verarbeitung Steuerzeichen in ANCHO
00075 C
00076 C      21.10.02 Version 2.13:
```

```
C               Einheitliche Version CPM/DOS/Windows
C
CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC
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
```

```
00164 C               TKTRNX.h      identisch mit Windows-Version
00165 C               TCSdrSDL.FOR  SDL2-spezifische API-Routinen
00166 C               TCSdSDLc.c    SDL2-spezifische API-Routinen
00167 C               TCSdSDLc.h    Compiler- und systemspezifische Deklarationen
00168 C               STRINGS.FOR   identisch mit Windows-Version
00169 C
00170 C      27.11.20 Version 4.00: Dr.-Ing. K. Friedewald
00171 C
00172
00173
00174 C
00175 C Graphic Input
00176 C
00177
00178       subroutine vcursr (IC,X,Y)
00179       call dcursr (ic,ix,iy)
00180       call revcot (ix,iy,x,y)
00181       return
00182       end
00183
00184 C
00185 C  Virtuelle Graphik, relativ
00186 C
00187
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
```

6.34 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

  Entry Dummyroutinen.
- logical function winselect (iDummy)

6.34.1 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.

6.34.2 Function/Subroutine Documentation

6.34.2.1 anmode()

```
subroutine anmode
```

Entry Dummyroutinen.
AlfMod
pClipt
ioWait
alpha
Definition at line 269 of file TCSdrWIN.for.

6.34.2.2 drwrel()

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

Definition at line 191 of file TCSdrWIN.for.

6.34.2.3 dshrel()

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

Definition at line 201 of file TCSdrWIN.for.

6.34.2.4 movrel()

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

Definition at line 171 of file TCSdrWIN.for.

6.34.2.5 pntrel()

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

Definition at line 181 of file TCSdrWIN.for.

6.34.2.6 restat()

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

Definition at line 153 of file TCSdrWIN.for.

6.34.2.7 seeloc()

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

Definition at line 213 of file TCSdrWIN.for.

6.34.2.8 statst()

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

Definition at line 255 of file TCSdrWIN.for.

6.34.2.9 svstat()

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

Definition at line 140 of file TCSdrWIN.for.

6.34.2.10 tcslev()

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

Definition at line 123 of file TCSdrWIN.for.

6.34.2.11 toutpt()

```
subroutine toutpt (
             iChr )
```

Definition at line 228 of file TCSdrWIN.for.

6.34.2.12 toutst()

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

Definition at line 236 of file TCSdrWIN.for.

6.34.2.13 toutstc()

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

Definition at line 247 of file TCSdrWIN.for.

6.34.2.14 winselect()

```
logical function winselect (
              iDummy )
```

Definition at line 283 of file TCSdrWIN.for.

6.35 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>  Entry Dummyroutinen
00266 C         (WINLBL keine Dummyroutine, ALPHA zusätzlich)
00267 C
00268
00269       subroutine    anmode
00270 C> AlfMod
00271       entry         alfmod
00272 C> pClipt
00273       entry         pclipt
00274 C> ioWait
00275       entry         iowait
00276 C> alpha
00277       entry         alpha
00278       return
00279       end
00280
00281
00282
00283       logical function winselect (iDummy)
00284       winselect= .false.
00285       return
00286       end
00287
```

6.36 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, LPARAM 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 tcslev3 (FTNINT *SysLev)
- void PresetProgPar ()
- void CustomizeProgPar ()
- void winlbl (FTNSTRPAR *PloWinNam, FTNSTRPAR *StatWinNam, FTNSTRPAR *IniFilNam FTNSTRPAR_TAIL(IniFilNam))
- void initt1 (HINSTANCE *hParentInstance, HWND *hParentWindow)
- void finitt ()
- void swind1 (FTNINT *ix1, FTNINT *iy1, FTNINT *ix2, FTNINT *iy2)
- void erase (void)
- void movabs (FTNINT *ix, FTNINT *iy)
- void drwabs (FTNINT *ix, FTNINT *iy)
- void dshabs (FTNINT *ix, FTNINT *iy, FTNINT *iMask)
- void pntabs (FTNINT *ix, FTNINT *iy)
- void bckcol (FTNINT *iCol)
- void lincol (FTNINT *iCol)
- void txtcol (FTNINT *iCol)
- void DefaultColour (void)
- void outgtext (FTNSTRPAR *ftn_string FTNSTRPAR_TAIL(ftn_string))
- void italic (void)
- void italir (void)
- void dblsiz (void)
- void nrmsiz (void)
- void csize (FTNINT *ix, FTNINT *iy)
- void tinput (FTNINT *ic)
- void dcursr (FTNINT *ic, FTNINT *ix, FTNINT *iy)
- 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 hdcopy (void)
- void 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 [ ]

6.36.1 Detailed Description

MS Windows Port: Low-Level Driver.

Version

1.97

Author

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system-specific subroutines of the teklib-library
Definition in file TCSdWINc.c.

6.36.2 Macro Definition Documentation

6.36.2.1 INIFILEXT

```
#define INIFILEXT _TEXT(".INI")
```
Definition at line 231 of file TCSdWINc.c.

6.36.2.2 JOURNALTYP

```
#define JOURNALTYP 1
```
Definition at line 218 of file TCSdWINc.c.

6.36.2.3 MAX_COLOR_INDEX

```
#define MAX_COLOR_INDEX 15
```
Definition at line 509 of file TCSdWINc.c.

6.36.2.4 MAX_PENSTYLE_INDEX

```
#define MAX_PENSTYLE_INDEX 3
```
Definition at line 486 of file TCSdWINc.c.

6.36.2.5 TMPSTRLEN

```
#define TMPSTRLEN TCS_WINDOW_NAMELEN
```

6.36.2.6 TMPSTRLREN

```
#define TMPSTRLREN TCS_WINDOW_NAMELEN
```

6.36.2.7 WIN32_LEAN_AND_MEAN

```
#define WIN32_LEAN_AND_MEAN
```
Definition at line 257 of file TCSdWINc.c.

6.36.3 Typedef Documentation

6.36.3.1 ErrMsg

```
typedef TCHAR ErrMsg[STAT_MAXCOLUMNS]
```
Definition at line 428 of file TCSdWINc.c.

6.36.3.2 StatLine

```
typedef TCHAR StatLine[STAT_MAXCOLUMNS+1]
```
Definition at line 400 of file TCSdWINc.c.

6.36.4 Function Documentation

6.36.4.1 bckcol()

```
void bckcol (
            FTNINT * iCol )
```
Definition at line 2925 of file TCSdWINc.c.

6.36.4.2 bell()

```
void bell (
            void  )
```
Definition at line 3638 of file TCSdWINc.c.

6.36.4.3 ClipLineStart()

```
bool ClipLineStart (
            FTNINT ix1,
            FTNINT iy1,
            FTNINT ix2,
            FTNINT iy2,
            FTNINT * isx,
            FTNINT * isy )
```
Definition at line 730 of file TCSdWINc.c.

6.36.4.4 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.

6.36.4.5 csize()

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

Definition at line 3292 of file TCSdWINc.c.

6.36.4.6 CustomizeProgPar()

```
void CustomizeProgPar ( )
```

Definition at line 1744 of file TCSdWINc.c.

6.36.4.7 dblsiz()

```
void dblsiz (
            void  )
```

Definition at line 3212 of file TCSdWINc.c.

6.36.4.8 dcursr()

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

Definition at line 3477 of file TCSdWINc.c.

6.36.4.9 DefaultColour()

```
void DefaultColour (
            void  )
```

Definition at line 3011 of file TCSdWINc.c.

6.36.4.10 drwabs()

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

Definition at line 2747 of file TCSdWINc.c.

6.36.4.11 dshabs()

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

Definition at line 2801 of file TCSdWINc.c.

6.36.4.12 erase()

```
void erase (
            void  )
```

Definition at line 2595 of file TCSdWINc.c.

6.36.4.13 finitt()

```
void finitt ( )
```

Definition at line 2520 of file TCSdWINc.c.

6.36.4.14 GraphicError()

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

Definition at line 3676 of file TCSdWINc.c.

6.36.4.15 hdcopy()

```
void hdcopy (
            void  )
```

Definition at line 3690 of file TCSdWINc.c.

6.36.4.16 initt1()

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

Definition at line 1942 of file TCSdWINc.c.

6.36.4.17 italic()

```
void italic (
            void  )
```

Definition at line 3136 of file TCSdWINc.c.

6.36.4.18 italir()

```
void italir (
            void  )
```

Definition at line 3174 of file TCSdWINc.c.

6.36.4.19 lib_movc3()

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

Definition at line 3921 of file TCSdWINc.c.

6.36.4.20 lincol()

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

Definition at line 2946 of file TCSdWINc.c.

6.36.4.21 movabs()

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

Definition at line 2719 of file TCSdWINc.c.

6.36.4.22 nrmsiz()

```
void nrmsiz (
            void  )
```

Definition at line 3252 of file TCSdWINc.c.

6.36.4.23 outgtext()

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

Definition at line 3030 of file TCSdWINc.c.

6.36.4.24 outtext()

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

Definition at line 3646 of file TCSdWINc.c.

6.36.4.25 pntabs()

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

Definition at line 2896 of file TCSdWINc.c.

6.36.4.26 PointInWindow()

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

Definition at line 721 of file TCSdWINc.c.

6.36.4.27 PresetProgPar()

```
void PresetProgPar ( )
```

Definition at line 1715 of file TCSdWINc.c.

6.36.4.28 swind1()

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

Definition at line 2586 of file TCSdWINc.c.

6.36.4.29 TCSGraphicError()

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

Definition at line 519 of file TCSdWINc.c.

6.36.4.30 tcslev3()

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

Definition at line 1678 of file TCSdWINc.c.

6.36.4.31 TCSstatWndProc()

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

Definition at line 1656 of file TCSdWINc.c.

6.36.4.32 TCSstatWndProc_OnGetminmaxinfo()

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

Definition at line 1597 of file TCSdWINc.c.

6.36.4.33 TCSstatWndProc_OnKillfocus()

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

Definition at line 1590 of file TCSdWINc.c.

6.36.4.34 TCSstatWndProc_OnPaint()

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

Definition at line 1569 of file TCSdWINc.c.

6.36.4.35 TCSstatWndProc_OnVScroll()

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

Definition at line 1620 of file TCSdWINc.c.

6.36.4.36 TCSWndProc()

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

Definition at line 1530 of file TCSdWINc.c.

6.36.4.37 TCSWndProc_OnCopyClipboard()

```
bool TCSWndProc_OnCopyClipboard ( )
```

Definition at line 1410 of file TCSdWINc.c.

6.36.4.38 TCSWndProc_OnErasebkgnd()

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

Definition at line 1389 of file TCSdWINc.c.

6.36.4.39 TCSWndProc_OnPaint()

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

Definition at line 1119 of file TCSdWINc.c.

6.36.4.40 TCSWndProc_OnRbuttondown()

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

Definition at line 1380 of file TCSdWINc.c.

6.36.4.41 TCSWndProc_OnSize()

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

Definition at line 1364 of file TCSdWINc.c.

6.36.4.42 tinput()

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

Definition at line 3346 of file TCSdWINc.c.

6.36.4.43 txtcol()

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

Definition at line 2988 of file TCSdWINc.c.

6.36.4.44 winlbl()

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

Definition at line 1835 of file TCSdWINc.c.

6.36.5 Variable Documentation

6.36.5.1 ClippingNotActive

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

Definition at line 350 of file TCSdWINc.c.

6.36.5.2 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 491 of file TCSdWINc.c.

6.36.5.3 dwPenStyle

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

Initial value:

```
= {
                          PS_SOLID,
                          PS_DOT,
```

```
                        PS_DASHDOT,
                        PS_DASH
                       }
```

Definition at line 480 of file TCSdWINc.c.

6.36.5.4 hGinCurs

```
HCURSOR hGinCurs  [static]
```

Definition at line 385 of file TCSdWINc.c.

6.36.5.5 hMouseCurs

```
HCURSOR hMouseCurs  [static]
```

Definition at line 386 of file TCSdWINc.c.

6.36.5.6 hOwnerWindow

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

Definition at line 357 of file TCSdWINc.c.

6.36.5.7 hTCSFont

```
HFONT hTCSFont  [static]
```

Definition at line 380 of file TCSdWINc.c.

6.36.5.8 hTCSInst

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

Definition at line 353 of file TCSdWINc.c.

6.36.5.9 hTCSMetaFileDC

```
HDC hTCSMetaFileDC  [static]
```

Definition at line 362 of file TCSdWINc.c.

6.36.5.10 hTCSPen

```
HPEN hTCSPen  [static]
```

Definition at line 383 of file TCSdWINc.c.

6.36.5.11 hTCSstatWindow

```
HWND hTCSstatWindow = NULL  [static]
```

Definition at line 356 of file TCSdWINc.c.

6.36.5.12 hTCSSysFont

```
HFONT hTCSSysFont  [static]
```

Definition at line 381 of file TCSdWINc.c.

6.36.5.13 hTCSWindow

```
HWND hTCSWindow = NULL  [static]
```
Definition at line 355 of file TCSdWINc.c.

6.36.5.14 hTCSWindowDC

```
HDC hTCSWindowDC  [static]
```
Definition at line 359 of file TCSdWINc.c.

6.36.5.15 iHardcopyCount

```
int iHardcopyCount =1  [static]
```
Definition at line 421 of file TCSdWINc.c.

6.36.5.16 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 429 of file TCSdWINc.c.

6.36.5.17 szTCSGraphicFont

```
TCHAR szTCSGraphicFont[TCS_FILE_NAMELEN] = TCS_INIDEF_FONT  [static]
```
Definition at line 395 of file TCSdWINc.c.

6.36.5.18 szTCSHardcopyFile

```
TCHAR szTCSHardcopyFile[TCS_FILE_NAMELEN] = TCS_HDCFILE_NAME  [static]
```
Definition at line 394 of file TCSdWINc.c.

6.36.5.19 szTCSIconFile

```
TCHAR szTCSIconFile[TCS_FILE_NAMELEN] = TCS_ICONFILE_NAME  [static]
```
Definition at line 392 of file TCSdWINc.c.

6.36.5.20 szTCSIniFile

```
TCHAR szTCSIniFile[TCS_FILE_NAMELEN] = TCS_INIFILE_NAME INIFILEXT  [static]
```
Definition at line 391 of file TCSdWINc.c.

6.36.5.21 szTCSMainWindowName

```
TCHAR szTCSMainWindowName[TCS_WINDOW_NAMELEN] = TCS_MAINWINDOW_NAME  [static]
```
Definition at line 390 of file TCSdWINc.c.

6.36.5.22 szTCSMenuCopyText

```
TCHAR szTCSMenuCopyText[TCS_MENUENTRY_LEN] = TCS_INIDEF_COPMEN  [static]
```
Definition at line 393 of file TCSdWINc.c.

6.36.5.23 szTCSsect0

```
TCHAR szTCSsect0[TCS_FILE_NAMELEN] = TCS_INISECT0  [static]
```
Definition at line 397 of file TCSdWINc.c.

6.36.5.24 szTCSstatWindowName

```
TCHAR szTCSstatWindowName[TCS_WINDOW_NAMELEN] = ""  [static]
```
Definition at line 389 of file TCSdWINc.c.

6.36.5.25 szTCSSysFont

```
TCHAR szTCSSysFont[TCS_FILE_NAMELEN] = TCS_INIDEF_SYSFONT  [static]
```
Definition at line 396 of file TCSdWINc.c.

6.36.5.26 szTCSWindowName

```
TCHAR szTCSWindowName[TCS_WINDOW_NAMELEN] = ""  [static]
```
Definition at line 388 of file TCSdWINc.c.

6.36.5.27 TCSBackgroundColour

```
int TCSBackgroundColour  [static]
```
Definition at line 417 of file TCSdWINc.c.

6.36.5.28 TCSCharHeight

```
int TCSCharHeight  [static]
```
Definition at line 416 of file TCSdWINc.c.

6.36.5.29 TCSDefaultBckCol

```
int TCSDefaultBckCol = TCS_INIDEF_BCKCOL  [static]
```
Definition at line 420 of file TCSdWINc.c.

6.36.5.30 TCSDefaultLinCol

```
int TCSDefaultLinCol = TCS_INIDEF_LINCOL  [static]
```
Definition at line 418 of file TCSdWINc.c.

6.36.5.31 TCSDefaultTxtCol

```
int TCSDefaultTxtCol = TCS_INIDEF_TXTCOL  [static]
```
Definition at line 419 of file TCSdWINc.c.

6.36.5.32 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 453 of file TCSdWINc.c.

6.36.5.33 TCSFontdefinition

```
LOGFONT TCSFontdefinition  [static]
```
Definition at line 378 of file TCSdWINc.c.

6.36.5.34 TCSGinCurPos

```
POINT TCSGinCurPos = { TEK_XMAX / 2, TEK_YMAX / 2}  [static]
```
Definition at line 423 of file TCSdWINc.c.

6.36.5.35 TCSinitialized

```
bool TCSinitialized = false  [static]
```
Definition at line 349 of file TCSdWINc.c.

6.36.5.36 TCSrect

```
RECT TCSrect = {0,0, HiRes(TEK_XMAX),HiRes(TEK_YMAX)}  [static]
```
Definition at line 347 of file TCSdWINc.c.

6.36.5.37 TCSstatCursorPosY

```
int TCSstatCursorPosY  [static]
```
Definition at line 413 of file TCSdWINc.c.

6.36.5.38 TCSstatOrgY

```
int TCSstatOrgY  [static]
```
Definition at line 412 of file TCSdWINc.c.

6.36.5.39 TCSstatRow

```
int TCSstatRow  [static]
```
Definition at line 414 of file TCSdWINc.c.

6.36.5.40 TCSstatScrollY

```
int TCSstatScrollY  [static]
```
Definition at line 411 of file TCSdWINc.c.

6.36.5.41 TCSstatTextBuf

```
StatLine TCSstatTextBuf[STAT_MAXROWS]  [static]
```
Definition at line 401 of file TCSdWINc.c.

6.36.5.42 TCSStatWindowAutomatic

```
bool TCSStatWindowAutomatic = true  [static]
```
Definition at line 351 of file TCSdWINc.c.

6.36.5.43 TCSstatWindowIniXrelpos

```
int TCSstatWindowIniXrelpos = TCS_INIDEF_STATPOSX  [static]
```
Definition at line 407 of file TCSdWINc.c.

6.36.5.44 TCSstatWindowIniXrelsiz

```
int TCSstatWindowIniXrelsiz = TCS_INIDEF_STATSIZX  [static]
```
Definition at line 409 of file TCSdWINc.c.

6.36.5.45 TCSstatWindowIniYrelpos

```
int TCSstatWindowIniYrelpos = TCS_INIDEF_STATPOSY  [static]
```
Definition at line 408 of file TCSdWINc.c.

6.36.5.46 TCSstatWindowIniYrelsiz

```
int TCSstatWindowIniYrelsiz = TCS_INIDEF_STATSIZY  [static]
```
Definition at line 410 of file TCSdWINc.c.

6.36.5.47 TCSwindowIniXrelpos

```
int TCSwindowIniXrelpos = TCS_INIDEF_WINPOSX  [static]
```
Definition at line 403 of file TCSdWINc.c.

6.36.5.48 TCSwindowIniXrelsiz

```
int TCSwindowIniXrelsiz = TCS_INIDEF_WINSIZX  [static]
```
Definition at line 405 of file TCSdWINc.c.

6.36.5.49 TCSwindowIniYrelpos

```
int TCSwindowIniYrelpos = TCS_INIDEF_WINPOSY  [static]
```
Definition at line 404 of file TCSdWINc.c.

6.36.5.50 TCSwindowIniYrelsiz

```
int TCSwindowIniYrelsiz = TCS_INIDEF_WINSIZY  [static]
```
Definition at line 406 of file TCSdWINc.c.

6.36.5.51 TextLineHeight

```
int TextLineHeight  [static]
```
Definition at line 415 of file TCSdWINc.c.

6.37 TCSdWINc.c

```
00001 /** ****************************************************************************
00002 \file       TCSdWINc.c
00003 \brief      MS Windows Port: Low-Level Driver
00004 \version    1.97
00005 \author     (C) 2023 Dr.-Ing. Klaus Friedewald
00006 \copyright  GNU LESSER GENERAL PUBLIC LICENSE Version 3
00007 \~german
00008          Systemnahe Graphikroutinen für das Tektronix Graphiksystem
00009 \~english
00010          system-specific subroutines of the teklib-library
00011 \~
00012 **************************************************************************** */
00013
00014 /*
00015         Anmerkungen:
00016           1. Die Systemmeldungen erfolgen in einem eigenen, im Regelfall
00017              unsichtbaren, Fenster. Durch Drücken der rechten Maustaste
00018              im Graphikfenster kann es sichtbar gemacht werden, durch
00019              Setzen des Fokus auf das Graphikfenster verschwindet es wieder.
00020              Bei aktiviertem GIN-Cursor kann die Umschaltung über der Titel-
00021              zeile erfolgen.
00022           2. Die Art der Protokollierung zum Neuzeichnen eines Fensters wird
00023              durch die Konstante JOURNALTYP gesteuert:
00024              --- JOURNALTYP 1 ---
00025              Die Zeichenbefehle werden mithilfe eines Metafiles im Speicher
00026              aufgezeichnet. Das Abspielen eines Metafiles in ein anderes führt
00027              bei Windows bis 3.0 einschließlich zum Systemabsturz! Ab Windows
00028              3.1 aufwärts ist das Problem behoben. Mögliche Abhilfe bei Windows
00029              3.0: Verwendung von Festplatten-basierten Metafiles.
00030              (lt. MS-SDK Dokumentation).
00031              --- JOURNALTYP 2: ---
00032              Anstelle eines Windows-Metafiles (*.wmf) wird ein extended
00033              Metafile (*.emf) verwendet. Funktion wurde im Hinblick auf das
00034              64bit-Windows entwickelt, für 32bit Windows entsteht im Vergleich
00035              zum Journaltyp 1 lediglich ein Performancenachteil.
00036              Anmerkung: MS-WORD besitzt Filter sowohl für *.wmf als auch *.emf
00037                         Dateien. Jedoch ist der *.emf-Filter bis WORD 2000 SP1
00038                         fehlerhaft (Buchstaben des stehen evtl. auf dem Kopf)
00039                         In Windows XP wird nach jedem Neuskalieren das *.emf
00040                         Metafile immer größer. Hierdurch dauert das Neuzeich-
00041                         nen unakzeptabel lange. Dieses Problem tritt bei
00042                         Windows 2000 nicht auf
```

```
00043                   -> JOURNALFILE 1 bei 32-bit Windows Default.
00044              --- JOURNALTYP 3: ---
00045              Die Zeichenbefehle werden in einer Liste aufgezeichnet. Ein
00046              einzelner Befehl hat den Aufbau
00047              struct xaction_typ {
00048                        FTNINT action
00049                        FTNINT i1
00050                        FTNINT i2
00051                              } XACTION;
00052              Die TCS-Befehle im einzelnen:
00053                     erase ()
00054                      XACTION.action= XACTION_ERASE;
00055                     movabs (ix,iy)
00056                      XACTION.action= XACTION_MOVABS;
00057                      XACTION.i1= ix;
00058                      XACTION.i2= ix;
00059                     drwabs (ix.iy)
00060                      XACTION.action= XACTION_DRWABS;
00061                      XACTION.i1= ix;
00062                      XACTION.i2= ix;
00063                     dshabs (ix,iy,iDash)
00064                      XACTION.action= XACTION_DSHSTYLE;
00065                      XACTION.i1= iDash;
00066                      XACTION.action= XACTION_DSHABS;
00067                      XACTION.i1= ix;
00068                      XACTION.i2= ix;
00069                     pntabs (ix,iy)
00070                      XACTION.action= XACTION_PNTABS;
00071                      XACTION.i1= ix;
00072                      XACTION.i2= ix;
00073                     outgtext (string) - Graphiktext
00074                      XACTION.action= XACTION_GTEXT;
00075                      XACTION.i1= iChar;
00076                      XACTION.i2= iASCII_1;
00077                      XACTION.action= XACTION_ASCII;
00078                      XACTION.i1= iASCII_2;
00079                      XACTION.i2= iASCII_3;
00080                      ...
00081                      XACTION.action= XACTION_ASCII;
00082                      XACTION.i1= iASCII_iChar;
00083                     italic ()
00084                      XACTION.action= XACTION_FONTATTR;
00085                      XACTION.i1= 1; // Attribut 1
00086                      XACTION.i2= 1; // true
00087                     italir ()
00088                      XACTION.action= XACTION_FONTATTR;
00089                      XACTION.i1= 1; // Attribut 1
00090                      XACTION.i2= 0; // false
00091                     dblsiz ()
00092                      XACTION.action= XACTION_FONTATTR;
00093                      XACTION.i1= 2; // Attribut 2
00094                      XACTION.i2= 1; // true
00095                     nrmsiz ()
00096                      XACTION.action= XACTION_FONTATTR;
00097                      XACTION.i1= 2; // Attribut 2
00098                      XACTION.i2= 0; // false
00099
00100                     bckcol (iCol) - keine Zeichenarbeit, nur Commonblock
00101                     lincol (iCol)
00102                     txtcol (iCol)
00103                     DefaultColour () - keine Zeichenarbeit, nur Commonblock
00104
00105              3. Clipping: Windows erwartet die Angabe der Clipping-region in
00106                 Devicekoordinaten, daher wird die Clipping-Region bei Vergrößern
00107                 und Verzerren des Fensters nicht angepasst. Abhilfe: Implementa-
00108                 tion einer eigen Clippingroutine, gesteuert über den Tektronix-
00109                 Commonblock. Die (funktionierende) Definition der Clippingregion
00110                 bei Ausgabe in die Zwischenablage wird so überflüssig.
00111              4. Linestyle in der Regel nur durchgezogen (wird auch durch LINCOL
00112                 zurückgesetzt) -> Merken nicht nötig. Die aktuelle Farbe muß
00113                 jedoch für DASH gemerkt werden!!!
00114              5. Übergabe der Windows-Instanz:
00115                 A.  Subroutine INITT (iDummy) ruft GetMainInstAndWin auf und
00116                     speichert Instanz und Windowhandle durch SaveMainInstAndWin.
00117                 B.  Übergabe des Instanz-Handlers als Parameter von INITT1 (hInst)
00118                     Der Aufruf von INITT1 kann auch mehrmals erfolgen, d.h. möglich
00119                     ist ein Aufruf von INITT1 durch ein C-Hauptprogramm und ein
00120                     erneuter INITT1-Aufruf durch FORTRAN-Unterprogramm. Hier gilt
00121                     dann der erste Aufruf, also die durch C übergebene Instanz.
00122                 C.  Zur Vereinfachung der Programmentwicklung mit MS-Visual C++
00123                     wird bei INITT1(0) und Kompilierung durch den MS-Compiler
00124                     die Standardvariable hInst des Visual Studio verwendet.
00125              6. Initialisierung erfolgt in dem File GRAPH2D.INI
00126                 Default: im Windows-Directory (c:\WINNT)
00127              7. Abweichend zur DOS-Version entspricht der Farbindex 0 weiss
00128                 (Hintergrund) und der Index 1 schwarz.
00129              8. Bei Kompilierung als Konsolenanwendung oder als Window-Anwendung
```

```
00130              ohne Default-Windowsystem Fehler möglich. Debuggen durch
00131              Definition von "extended_error_handling".
00132              Ursache: fehlendes Fenster für das Hauptprogramm, Fehler ist
00133              jetzt behoben.
00134           9. Bei Watcom-Compiler den C-Teil ohne Optimierung compilieren!!!
00135          10. Getestete Compiler: WATCOM 11.0c, OpenWatcom 1.0 - 2.0.
00136              Bei neuen Compilern erst mit #define trace_calls übersetzen.
00137              Prüfen, ob __MainWindow definiert!
00138          11. Anpassungen an GNU-Compiler. Anstelle des Watcom-Defaultwindow-
00139              systems wird die eigene Routine WinMain.c verwendet.
00140          12. Auf Wunsch kann das Statusfenster einen privaten Device-Kontext
00141              erhalten: Definition des Symbols STAT_WINDOW_PRIVATE
00142          13. Bei mehreren Fenstern des Hauptprogrammes kann durch <Alt><F6>
00143              zwischen den einzelnen Fenstern umgeschaltet werden.
00144          14. Fuer die 16bit-Version ist das Watcom Default Window System
00145              notwendig. Bei 32bit ist ab der OpenWatcom Version 1.0 das
00146              Defaultsystem deaktiviert.
00147          15. Skalierung des Tektronix-Bildschirmkoordinatensystems (1023/780)
00148              ist bei Bildschirmen höherer Auflösung nicht ausreichend. Falls
00149              Anzahl der Bildschirmpixel in x-Richtung größer als 1024*Pixfac
00150              ist, hinterläßt der Rahmen eines über das Graphikfenster gezogenes
00151              Fensters horizontale und vertikale dünne Linien, die nach Mini-
00152              mierung und Neuzeichnen des Graphikfensters verschwinden.
00153              Vorsicht: PixFac *1024 darf bis einschließlich Windows95 nicht
00154              den 2-Byte int  Zahlenbereich (-32768...+32767) überschreiten!!!
00155              Bei PixFac=100 kann derzeit kein Refresh des Bildschirms durchge-
00156              fuehrt werden, nach erstem Zeichnen der Linie ((0,0)->(1023,780))
00157              erfolgt kein Neuzeichnen. Nicht nur einzige (?!) Ursache ist die
00158              Verwendung der 16bit GDI Befehle um METAFILE.
00159              Falls PixFac nicht definiert wird, erfolgt keine zusaetzliche
00160              Koordinatentransformation -> Performancegewinn bei alten Systemen.
00161          16. Im Falle von JOURNALTYP=3 darf der Fehler JOUUNKWN nur als
00162              Warnung definiert werden (G2dJouEntryUnknwnL= 1), da sonst inner-
00163              halb von TINPUT ein rekursiver Aufruf von TCSWndProc_OnPaint
00164              ueber GraphicError erfolgt!
00165              Dieser Punkt ist ab Version 1.93 mit der Verlagerung der Routine
00166              GraphicError in den c-Teil behoben.
00167          17. Die Defaultwerte des *.ini-Files müssen fuer die Initialisierung
00168              durch die Registry und/oder XML-Files auch bei der Variablen-
00169              definition angegeben werden, da GetPrivateProfileString nicht
00170              mehr in jedem Fall aufgerufen wird und somit Variablen evtl.
00171              nicht mehr vorbelegt sein koennen.
00172          18. Die Steuerung der Initialisierungmethode erfolgt ueber die File-
00173              extension des Initialisierungfiles.
00174              *.INI: Windows Initialisierungsfile
00175              *.REG: 32bit-Windows Registry
00176              *.XML: XML-Dateien
00177              Der Default (steuerbar durch das Extensiontoken .%) wird durch
00178               #define INIFILEXT _TEXT(".REG")         // win32: Registry
00179              bestimmt.
00180              Durch die Definition der Konstanten REGSUPPORT bzw. XMLSUPPORT
00181              wird der entsprechende Programmteil eingebunden.
00182          19. Aufgrund eines Bugs in der 32-bit Version von win7 darf eine
00183              Tastaturabfrage nicht ohne Filter efolgen, also nicht
00184               GetMessage (&msg, NULL, 0, 0);
00185              sondern
00186               GetMessage (&msg, NULL, WM_NULL, WM_USER);
00187              oder
00188               GetMessage (&msg, hWIND, 0, 0);
00189              Die früheren Versionen bis XP und auch die 64bit Version von Win7
00190              sind hiervon nicht betroffen.
00191          20. XML-Dateien verwenden i.d.R. UTF-8 Codierungen, deswegen erfolgt
00192              bei _UNICODE keine Einbindung des XML-Parsers.
00193          21. Journalfile Typ 3: Die verwendete Listenbibliothek verträgt sich
00194              nicht mit den Makros LoRes und HiRes. Deswegen darf dann PixFac
00195              nicht definiert werden.
00196
00197 */
00198
00199
00200 // #define UNICODE   // fuer Windows-Headerfiles -> jedoch Watcom FTN77 nicht
00201 // #define _UNICODE  // fuer C-Runtime Headerfiles  UNICODEfähig !?!
00202
00203
00204 /*
00205 -------------------- Konfiguration des Zielystems ----------------------
00206 */
00207
00208 // #define PixFac  30               // s. Kommentar 15, 21
00209 // #define STAT_WINDOW_PRIVATE      // s. Kommentar 12
00210 // #define REGSUPPORT               // s. Kommentar 18
00211 // #define XMLSUPPORT               // s. Kommentar 18
00212 // #define INIFILEXT _TEXT(".XML")  // s. Kommentar 18
00213 // #define JOURNALTYP 3             // s. Kommentar 2, 21
00214
00215 #if !defined(JOURNALTYP) // Defaultwerte, falls nicht oben definiert
00216  #if !defined(__WIN32__) && !defined(_WIN32)
```

```
00217   /* Defaultvorgabe 16bit: langsame CPU, Aufloesung <= 1024x780 Pxl */
00218   #define JOURNALTYP 1       // s. Kommentar 2, nur *.wmf implementiert
00219   #undef PixFac              // s. Kommentar 15, LoRes
00220   #undef STAT_WINDOW_PRIVATE // s. Kommentar 12
00221  #else
00222   // Default 32bit: kein extended Metafile, Auflösung <= 30*1024 x 30*780 Pxl
00223   #define JOURNALTYP 1       // *.emf hoeherer Overhead -> unnoetig
00224   #define PixFac  30         // Koordinatentransformation hochauflösende CRT's
00225   #undef STAT_WINDOW_PRIVATE // s. Kommentar 12
00226  #endif
00227 #endif
00228
00229 #if !defined(INIFILEXT)
00230  #if !defined(__WIN32__) && !defined(_WIN32)
00231   #define INIFILEXT _TEXT(".INI") // s. Kommentar 18, win16: *.ini Dateien
00232   #undef REGSUPPORT               // Keine vollwertige Registry, nur win.ini
00233   #undef XMLSUPPORT               // Programmgroesse verringern
00234  #else
00235   #define INIFILEXT _TEXT(".REG") // win32: Registry
00236   #define REGSUPPORT
00237   #if (defined(__WIN64__) || defined(_WIN64))
00238    #define XMLSUPPORT
00239   #else
00240    #undef XMLSUPPORT
00241   #endif
00242  #endif
00243 #endif
00244
00245 #if (JOURNALTYP == 3)
00246  #undef PixFac                  // s. Kommentar 21
00247 #endif
00248
00249 #if defined(UNICODE) || defined(_UNICODE)
00250  #undef XMLSUPPORT              // s. Kommentar 20
00251 #endif
00252
00253 /*
00254 -------------------- Headerfiles ----------------------------------------
00255 */
00256
00257 #define WIN32_LEAN_AND_MEAN
00258 #include <windows.h>   // Muss unbedingt vor den Standard C-Headern stehen, da
00259 #include <windowsx.h>  // hier NULL fuer 16bit Windows als 0 definiert wird
00260
00261 #include <stdlib.h>
00262 #include <string.h>
00263 #include <stdio.h>
00264 #include <tchar.h>     // Public Domain ueber MINGW-Package, nicht nur MS
00265
00266 #if defined(__WATCOMC__) && defined(__SW_BW)
00267  #include <wdefwin.h>   // Compilerswitch -bw: Watcom Default Window System
00268 #endif
00269
00270 #ifdef XMLSUPPORT
00271  #include  "mxml.h"
00272 #endif
00273
00274 #if (JOURNALTYP == 3)
00275  #include "sglib.h"
00276 #endif
00277
00278 #include "TCSdWINc.h"
00279 #include "TKTRNX.h"
00280
00281 /*
00282 -------------------- Debug Compiler Switches ---------------------------
00283 */
00284
00285 // #define extended_error_handling
00286 #if !defined(__WIN32__) && !defined(_WIN32)
00287   #undef extended_error_handling
00288 #endif
00289
00290 // #define trace_calls
00291 /* Debug-Messageboxen / Compilermessages, nach include definieren! */
00292
00293 #ifdef trace_calls
00294
00295  #ifdef __WATCOMC__
00296   #if (__WATCOMC__ == 1100)
00297    #pragma message ( "Symbol __WATCOMC__ defined to 1100 (Version 11.0c)")
00298   #elif (__WATCOMC__ >= 1200)
00299    #pragma message ( "Symbol __WATCOMC__ defined (OpenWatcom Version >= 1.0)")
00300   #else
00301    /* Andere Versionen noch nicht getestet! */
00302    #pragma message ( "Untested Version: Symbol __WATCOMC__ defined to :")
00303    #pragma message (__WATCOMC__) // Erzwingen Fehler zur Erweiterung
```

```
00304   #endif
00305   #if !defined(__WIN32__) && !defined(_WIN32)
00306    #pragma message ( "16 bit Windows" )
00307   #else
00308    #pragma message ( "32 bit Windows" )
00309   #endif
00310  #endif
00311
00312  #ifdef _MSC_VER
00313   #pragma message ( "Symbol _MSC_VER defined" )
00314   #if !defined(__WIN32__) && !defined(_WIN32)
00315    #pragma message ( "16 bit Windows" )
00316   #else
00317    #pragma message ( "32 bit Windows" )
00318   #endif
00319  #endif
00320
00321  #ifdef __GNUC__
00322   #warning "GNU-Compiler"
00323   #if !defined(__WIN32__) && !defined(_WIN32)
00324    #warning "16 bit Windows"
00325   #elif !defined(__WIN64__) && !defined(_WIN64)
00326    #warning "32 bit Windows"
00327   #else
00328    #warning "64 bit Windows"
00329   #endif
00330  #endif
00331
00332 #endif
00333
00334 /*
00335 -------------- Compilerunabhaengige externe Bezüge --------------------
00336 */
00337
00338
00339 extern void CreateMainWindow_IfNecessary (HINSTANCE * hMainProgInst,
00340                                   HWND * hMainProgWindow, LPTSTR szWinName);
00341
00342
00343 /*
00344 ------------------------ Globale Variablen ----------------------------
00345 */
00346
00347 static  RECT    TCSrect = {0,0, HiRes(TEK_XMAX),HiRes(TEK_YMAX)}; // Plotbereich
00348
00349 static  bool    TCSinitialized = false,
00350                 ClippingNotActive = true,
00351                 TCSStatWindowAutomatic = true;
00352
00353 static  HINSTANCE hTCSInst = NULL;
00354
00355 static  HWND    hTCSWindow = NULL,
00356                 hTCSstatWindow = NULL,
00357                 hOwnerWindow = NULL;
00358
00359 static  HDC     hTCSWindowDC;     // privater DC, gilt ganze Fensterlebensdauer
00360
00361 #if (JOURNALTYP == 1)
00362  static  HDC    hTCSMetaFileDC;   // Metafile als Recorder für WM_PAINT
00363 #elif (JOURNALTYP == 2)
00364  static  HDC    hTCSMetaFileDC;   // extended Metafile als Recorder WM_PAINT
00365 #elif (JOURNALTYP == 3)
00366  struct xJournalEntry_typ {struct xJournalEntry_typ * previous;
00367                            struct xJournalEntry_typ * next;
00368                            FTNINT action; FTNINT i1; FTNINT i2;};
00369  static struct xJournalEntry_typ* hTCSJournal = NULL;
00370                                   // Journal zum Neuzeichnen des Fensters
00371 #endif
00372
00373 #ifdef STAT_WINDOW_PRIVATE
00374  static HDC     hTCSstatWindowDC;
00375 #endif
00376
00377
00378 static  LOGFONT TCSFontdefinition;
00379
00380 static  HFONT   hTCSFont,
00381                 hTCSSysFont;
00382
00383 static  HPEN    hTCSPen;
00384
00385 static  HCURSOR hGinCurs,
00386                 hMouseCurs;
00387
00388 static  TCHAR   szTCSWindowName[TCS_WINDOW_NAMELEN] = "", // Default TCS_WINDOW_NAME erst in ??
     gesetzt
00389                 szTCSstatWindowName[TCS_WINDOW_NAMELEN] = "", // TCS_STATWINDOW_NAME,
```

```
00390                 szTCSMainWindowName[TCS_WINDOW_NAMELEN] = TCS_MAINWINDOW_NAME,
00391                 szTCSIniFile[TCS_FILE_NAMELEN] = TCS_INIFILE_NAME INIFILEXT,
00392                 szTCSIconFile[TCS_FILE_NAMELEN] = TCS_ICONFILE_NAME,
00393                 szTCSMenuCopyText[TCS_MENUENTRY_LEN] = TCS_INIDEF_COPMEN,
00394                 szTCSHardcopyFile[TCS_FILE_NAMELEN] = TCS_HDCFILE_NAME,
00395                 szTCSGraphicFont[TCS_FILE_NAMELEN] = TCS_INIDEF_FONT,
00396                 szTCSSysFont[TCS_FILE_NAMELEN] = TCS_INIDEF_SYSFONT,
00397                 szTCSsect0[TCS_FILE_NAMELEN] = TCS_INISECT0;
00398
00399
00400 typedef TCHAR   StatLine[STAT_MAXCOLUMNS+1];
00401 static  StatLine TCSstatTextBuf[STAT_MAXROWS];
00402
00403 static  int     TCSwindowIniXrelpos = TCS_INIDEF_WINPOSX, // rel. Bildschirmpos.
00404                 TCSwindowIniYrelpos = TCS_INIDEF_WINPOSY, // bei Init in %
00405                 TCSwindowIniXrelsiz = TCS_INIDEF_WINSIZX,
00406                 TCSwindowIniYrelsiz = TCS_INIDEF_WINSIZY,
00407                 TCSstatWindowIniXrelpos = TCS_INIDEF_STATPOSX, // dito
00408                 TCSstatWindowIniYrelpos = TCS_INIDEF_STATPOSY, // Statusfenster
00409                 TCSstatWindowIniXrelsiz = TCS_INIDEF_STATSIZX,
00410                 TCSstatWindowIniYrelsiz = TCS_INIDEF_STATSIZY,
00411                 TCSstatScrollY, // Position des sichtbaren Scrollbereichs
00412                 TCSstatOrgY,    // Ursprung des log. Koordinatensystems
00413                 TCSstatCursorPosY,
00414                 TCSstatRow,
00415                 TextLineHeight,
00416                 TCSCharHeight,
00417                 TCSBackgroundColour,
00418                 TCSDefaultLinCol = TCS_INIDEF_LINCOL,
00419                 TCSDefaultTxtCol = TCS_INIDEF_TXTCOL,
00420                 TCSDefaultBckCol = TCS_INIDEF_BCKCOL,
00421                 iHardcopyCount =1;  // Zähler zur Erzeugung Filenamen
00422
00423 static  POINT   TCSGinCurPos = { TEK_XMAX / 2, TEK_YMAX / 2};
00424
00425
00426 /* Zuordnung Fehlernummern zu Meldungen,  */
00427
00428 typedef TCHAR   ErrMsg[STAT_MAXCOLUMNS];
00429 static  ErrMsg  szTCSErrorMsg[(int) MSG_MAXERRNO+1] =
00430                 {_T("Element 0 unused"),_T("DOS"),_T("DOS"),_T("DOS"),
00431                  _T("DOS"),_T("DOS"),    // Errno 0..5
00432                 TCS_INIDEF_HDCOPN,      // Errno 6
00433                 TCS_INIDEF_HDCWRT,      // Errno 7
00434                 TCS_INIDEF_HDCINT,      // Errno 8
00435                 TCS_INIDEF_USR,         // Errno 9
00436                 TCS_INIDEF_HDCACT,      // Errno 10
00437                 TCS_INIDEF_USRWRN,      // Errno 11
00438                 TCS_INIDEF_EXIT,        // Errno 12
00439                 TCS_INIDEF_COPMEM,      // Errno 13
00440                 TCS_INIDEF_COPLCK,      // Errno 14
00441                 TCS_INIDEF_JOUCREATE,   // Errno 15
00442                 TCS_INIDEF_JOUENTRY,    // Errno 16
00443                 TCS_INIDEF_JOUADD,      // Errno 17
00444                 TCS_INIDEF_JOUCLR,      // Errno 18
00445                 TCS_INIDEF_JOUUNKWN,    // Errno 19
00446                 TCS_INIDEF_XMLPARSER,   // Errno 20
00447                 TCS_INIDEF_XMLOPEN,     // Errno 21
00448                 _T("SDL"),
00449                 TCS_INIDEF_USR2,        // Errno 23
00450                 TCS_INIDEF_INI2,        // Errno 24
00451                 _T("Maxerr only for internal Use") };
00452
00453 static  int     TCSErrorLev[(int) MSG_MAXERRNO+1] =
00454                 {10,10,10,10,10,10,
00455                 TCS_INIDEF_HDCOPNL,     // Errno 6
00456                 TCS_INIDEF_HDCWRTL,     // Errno 7
00457                 TCS_INIDEF_HDCINTL,     // Errno 8
00458                 TCS_INIDEF_USRL,        // Errno 9
00459                 TCS_INIDEF_HDCACTL,     // Errno 10
00460                 TCS_INIDEF_USRWRNL,     // Errno 11
00461                 TCS_INIDEF_EXITL,       // Errno 12
00462                 TCS_INIDEF_COPMEML,     // Errno 13
00463                 TCS_INIDEF_COPLCKL,     // Errno 14
00464                 TCS_INIDEF_JOUCREATEL,  // Errno 15
00465                 TCS_INIDEF_JOUENTRYL,   // Errno 16
00466                 TCS_INIDEF_JOUADDL,     // Errno 17
00467                 TCS_INIDEF_JOUCLRL,     // Errno 18
00468                 TCS_INIDEF_JOUUNKWNL,   // Errno 19
00469                 TCS_INIDEF_XMLPARSERL,  // Errno 20
00470                 TCS_INIDEF_XMLOPENL,    // Errno 21
00471                 10,
00472                 TCS_INIDEF_USR2L,       // Errno 23
00473                 TCS_INIDEF_INI2L,       // Errno 24
00474                 10};
00475
00476
```

```
00477
00478 /* Zuordnung der Linienarten zu Liniennummern */
00479
00480 static  DWORD dwPenStyle[] = {
00481                             PS_SOLID,    /* iMask= 0 */
00482                             PS_DOT,      /* iMask= 1 */
00483                             PS_DASHDOT,  /* iMask= 2 */
00484                             PS_DASH      /* iMask= 3 */
00485                            };
00486 #define MAX_PENSTYLE_INDEX 3
00487
00488
00489 /* Zuordnung der Farbennummern zur VGA-Palette */
00490
00491 static  DWORD dwColorTable[] = {
00492                             RGB (240,240,240), /* iCol= 00: weiss (DOS: 01) */
00493                             RGB (  0,  0,  0), /* iCol= 01: schwarz(DOS:00) */
00494                             RGB (240, 80, 80), /* iCol= 02: rot             */
00495                             RGB ( 80,240, 80), /* iCol= 03: gruen           */
00496                             RGB ( 80,240,240), /* iCol= 04: blau            */
00497                             RGB ( 80, 80,240), /* iCol= 05: lila            */
00498                             RGB (240,240, 80), /* iCol= 06: gelb            */
00499                             RGB (160,160,160), /* iCol= 07: grau            */
00500                             RGB (240, 80,240), /* iCol= 08: violett         */
00501                             RGB (160,  0,  0), /* iCol= 09: mattrot         */
00502                             RGB (  0,160,  0), /* iCol= 10: mattgruen       */
00503                             RGB (  0,  0,160), /* iCol= 11: mattblau        */
00504                             RGB (  0,160,160), /* iCol= 12: mattlila        */
00505                             RGB (160, 80,  0), /* iCol= 13: orange          */
00506                             RGB ( 80, 80, 80), /* iCol= 14: mattgrau        */
00507                             RGB (160,  0,160)  /* iCol= 15: mattviolett     */
00508                            };
00509 #define MAX_COLOR_INDEX 15
00510
00511
00512
00513 /*
00514 ---------------------- Globale Unterprogramme -------------------------
00515 */
00516
00517
00518
00519 void TCSGraphicError (int iErr, const char* msg)
00520 {
00521 char cBuf[TCS_MESSAGELEN];
00522 FTNINT i; // Dummyparameter
00523 FTNSTRDESC  ftnstrg;
00524
00525     snprintf( cBuf, TCS_MESSAGELEN, szTCSErrorMsg[iErr], msg );
00526     if ((iErr == WRN_JOUUNKWN) || // Rekursion von TCSWndProc_OnPaint vermeiden
00527         (iErr == ERR_XMLOPEN)          ) { // System noch nicht initialisiert
00528      MessageBox (NULL, _T(cBuf), szTCSWindowName, MB_ICONINFORMATION);
00529     } else { // ab jetzt mit bell, outtext...
00530      InvalidateRect (hTCSWindow, NULL, true); /* ,ClientArea, EraseFlag */
00531      UpdateWindow (hTCSWindow); /* Notwendig bei OnPaint mit Journaltyp=3 */
00532      bell (); // -> MessgageBeep / winuser.h, ohne Initialisierung verwendbar
00533      ftnstrg.addr= cBuf; ftnstrg.len= strlen (cBuf);
00534      outtext (CALLFTNSTRA(ftnstrg) CALLFTNSTRL(ftnstrg));
00535      if (TCSErrorLev[iErr] >1) {
00536       if (TCSErrorLev[iErr] < 10) {
00537        if (TCSErrorLev[iErr] == 5) {
00538         tinput (&i); // Press Any Key
00539        }
00540        if (TCSErrorLev[iErr]==8) {
00541         MessageBox (NULL, _T(cBuf), szTCSWindowName, MB_ICONINFORMATION);
00542        }
00543       } else {
00544        if (TCSErrorLev[iErr] == 10) {
00545         tinput (&i); // Press Any Key
00546        }
00547        if (TCSErrorLev[iErr]==12) {
00548          MessageBox (NULL, _T(cBuf), szTCSWindowName, MB_ICONSTOP);
00549        }
00550        if (iErr != ERR_EXIT) { // Error-Level von finitt durch XML veraenderbar
00551          TCSErrorLev[ERR_EXIT] = 10; // Hier: Fehler mit Programmabbruch
00552          finitt ();                  // Erzwungenes Beenden durch finitt
00553        }
00554       }
00555      }
00556     }
00557 }
00558
00559
00560
00561 // ------------- Unterprogramme fuer die Event Handler  ----------------
00562
00563
```

```
00564
00565
00566 // ------------- Unterprogramme für die Userroutinen -------------------
00567
00568
00569 #if defined(REGSUPPORT)
00570  void StoreIni (TCHAR * szSection, TCHAR * szField, TCHAR * szValue)
00571  {
00572
00573     if (_tcsicmp (szSection,TCS_INISECT1) == 0 ) { // Section1: Names ---------
00574      if (_tcsicmp (szField,TCS_INIVAR_WINNAM) == 0 ) {
00575       if (_tcslen(szTCSWindowName)==0) _tcsncpy(szTCSWindowName,
00576                                                 szValue,TCS_WINDOW_NAMELEN-1);
00577      } else if (_tcsicmp (szField,TCS_INIVAR_STATNAM) == 0 ) {
00578       if (_tcslen(szTCSstatWindowName)==0) _tcsncpy(szTCSstatWindowName,
00579                                                 szValue,TCS_WINDOW_NAMELEN-1);
00580      } else if (_tcsicmp (szField,TCS_INIVAR_MAINWINNAM) == 0 ) {
00581       _tcsncpy(szTCSMainWindowName, szValue,TCS_WINDOW_NAMELEN-1);
00582      } else if (_tcsicmp (szField,TCS_INIVAR_HDCNAM) == 0 ) {
00583       _tcsncpy(szTCSHardcopyFile, szValue,TCS_FILE_NAMELEN-1);
00584      }
00585
00586     } else if (_tcsicmp (szSection,TCS_INISECT2) == 0 ) { // Section2: Layout -
00587      if (_tcsicmp (szField,TCS_INIVAR_COPMEN) == 0 ) {
00588       _tcsncpy(szTCSMenuCopyText, szValue,TCS_MENUENTRY_LEN-1);
00589      } else if (_tcsicmp (szField,TCS_INIVAR_FONT) == 0 ) {
00590       _tcsncpy(szTCSGraphicFont, szValue,TCS_FILE_NAMELEN-1);
00591      } else if (_tcsicmp (szField,TCS_INIVAR_SYSFONT) == 0 ) {
00592       _tcsncpy(szTCSSysFont, szValue,TCS_FILE_NAMELEN-1);
00593      } else if (_tcsicmp (szField,TCS_INIVAR_ICONNAM) == 0 ) {
00594       _tcsncpy(szTCSIconFile, szValue,TCS_FILE_NAMELEN-1);
00595
00596      } else if (_tcsicmp (szField,TCS_INIVAR_WINPOSX) == 0 ) {
00597       TCSwindowIniXrelpos= * (int*) szValue;
00598      } else if (_tcsicmp (szField,TCS_INIVAR_WINPOSY) == 0 ) {
00599       TCSwindowIniYrelpos= * (int*) szValue;
00600      } else if (_tcsicmp (szField,TCS_INIVAR_WINSIZX) == 0 ) {
00601       TCSwindowIniXrelsiz= * (int*) szValue;
00602      } else if (_tcsicmp (szField,TCS_INIVAR_WINSIZY) == 0 ) {
00603       TCSwindowIniYrelsiz= * (int*) szValue;
00604
00605      } else if (_tcsicmp (szField,TCS_INIVAR_STATPOSX) == 0 ) {
00606       TCSstatWindowIniXrelpos= * (int*) szValue;
00607      } else if (_tcsicmp (szField,TCS_INIVAR_STATPOSY) == 0 ) {
00608       TCSstatWindowIniYrelpos= * (int*) szValue;
00609      } else if (_tcsicmp (szField,TCS_INIVAR_STATSIZX) == 0 ) {
00610       TCSstatWindowIniXrelsiz= * (int*) szValue;
00611      } else if (_tcsicmp (szField,TCS_INIVAR_STATSIZY) == 0 ) {
00612       TCSstatWindowIniYrelsiz= * (int*) szValue;
00613
00614      } else if (_tcsicmp (szField,TCS_INIVAR_LINCOL) == 0 ) {
00615       TCSDefaultLinCol= * (int*) szValue;
00616      } else if (_tcsicmp (szField,TCS_INIVAR_TXTCOL) == 0 ) {
00617       TCSDefaultTxtCol= * (int*) szValue;
00618      } else if (_tcsicmp (szField,TCS_INIVAR_BCKCOL) == 0 ) {
00619       TCSDefaultBckCol= * (int*) szValue;
00620      }
00621
00622     } else if (_tcsicmp (szSection,TCS_INISECT3) == 0 ) { // Section3: Messages
00623      if (_tcsicmp (szField,TCS_INIVAR_HDCOPN) == 0 ) {
00624       _tcsncpy(szTCSErrorMsg[WRN_HDCFILOPN], szValue,STAT_MAXCOLUMNS-1);
00625      } else if (_tcsicmp (szField,TCS_INIVAR_HDCOPNL) == 0 ) {
00626       TCSErrorLev[WRN_HDCFILOPN]= * (int*) szValue;
00627
00628      } else if (_tcsicmp (szField,TCS_INIVAR_HDCWRT) == 0 ) {
00629       _tcsncpy(szTCSErrorMsg[WRN_HDCFILWRT], szValue,STAT_MAXCOLUMNS-1);
00630      } else if (_tcsicmp (szField,TCS_INIVAR_HDCWRTL) == 0 ) {
00631       TCSErrorLev[WRN_HDCFILWRT]= * (int*) szValue;
00632
00633      } else if (_tcsicmp (szField,TCS_INIVAR_HDCINT) == 0 ) {
00634       _tcsncpy(szTCSErrorMsg[WRN_HDCINTERN], szValue,STAT_MAXCOLUMNS-1);
00635      } else if (_tcsicmp (szField,TCS_INIVAR_HDCINTL) == 0 ) {
00636       TCSErrorLev[WRN_HDCINTERN]= * (int*) szValue;
00637
00638      } else if (_tcsicmp (szField,TCS_INIVAR_USR) == 0 ) {
00639       _tcsncpy(szTCSErrorMsg[MSG_USR], szValue,STAT_MAXCOLUMNS-1);
00640      } else if (_tcsicmp (szField,TCS_INIVAR_USRL) == 0 ) {
00641       TCSErrorLev[MSG_USR]= * (int*) szValue;
00642
00643      } else if (_tcsicmp (szField,TCS_INIVAR_HDCACT) == 0 ) {
00644       _tcsncpy(szTCSErrorMsg[MSG_HDCACT], szValue,STAT_MAXCOLUMNS-1);
00645      } else if (_tcsicmp (szField,TCS_INIVAR_HDCACTL) == 0 ) {
00646       TCSErrorLev[MSG_HDCACT]= * (int*) szValue;
00647
00648      } else if (_tcsicmp (szField,TCS_INIVAR_USRWRN) == 0 ) {
00649       _tcsncpy(szTCSErrorMsg[WRN_USRPRESSANY], szValue,STAT_MAXCOLUMNS-1);
00650      } else if (_tcsicmp (szField,TCS_INIVAR_USRWRNL) == 0 ) {
```

```
00651       TCSErrorLev[WRN_USRPRESSANY]= * (int*) szValue;
00652
00653      } else if (_tcsicmp (szField,TCS_INIVAR_EXIT) == 0 ) {
00654       _tcsncpy(szTCSErrorMsg[ERR_EXIT], szValue,STAT_MAXCOLUMNS-1);
00655      } else if (_tcsicmp (szField,TCS_INIVAR_EXITL) == 0 ) {
00656       TCSErrorLev[ERR_EXIT]= * (int*) szValue;
00657
00658      } else if (_tcsicmp (szField,TCS_INIVAR_COPMEM) == 0 ) {
00659       _tcsncpy(szTCSErrorMsg[WRN_COPYNOMEM], szValue,STAT_MAXCOLUMNS-1);
00660      } else if (_tcsicmp (szField,TCS_INIVAR_COPMEML) == 0 ) {
00661       TCSErrorLev[WRN_COPYNOMEM]= * (int*) szValue;
00662
00663      } else if (_tcsicmp (szField,TCS_INIVAR_COPLCK) == 0 ) {
00664       _tcsncpy(szTCSErrorMsg[WRN_COPYLOCK], szValue,STAT_MAXCOLUMNS-1);
00665      } else if (_tcsicmp (szField,TCS_INIVAR_COPLCKL) == 0 ) {
00666       TCSErrorLev[WRN_COPYLOCK]= * (int*) szValue;
00667
00668      } else if (_tcsicmp (szField,TCS_INIVAR_JOUCREATE) == 0 ) {
00669       _tcsncpy(szTCSErrorMsg[WRN_JOUCREATE], szValue,STAT_MAXCOLUMNS-1);
00670      } else if (_tcsicmp (szField,TCS_INIVAR_JOUCREATEL) == 0 ) {
00671       TCSErrorLev[WRN_JOUCREATE]= * (int*) szValue;
00672
00673      } else if (_tcsicmp (szField,TCS_INIVAR_JOUENTRY) == 0 ) {
00674       _tcsncpy(szTCSErrorMsg[WRN_JOUENTRY], szValue,STAT_MAXCOLUMNS-1);
00675      } else if (_tcsicmp (szField,TCS_INIVAR_JOUENTRYL) == 0 ) {
00676       TCSErrorLev[WRN_JOUENTRY]= * (int*) szValue;
00677
00678      } else if (_tcsicmp (szField,TCS_INIVAR_JOUADD) == 0 ) {
00679       _tcsncpy(szTCSErrorMsg[WRN_JOUADD], szValue,STAT_MAXCOLUMNS-1);
00680      } else if (_tcsicmp (szField,TCS_INIVAR_JOUADDL) == 0 ) {
00681       TCSErrorLev[WRN_JOUADD]= * (int*) szValue;
00682
00683      } else if (_tcsicmp (szField,TCS_INIVAR_JOUCLR) == 0 ) {
00684       _tcsncpy(szTCSErrorMsg[WRN_JOUCLR], szValue,STAT_MAXCOLUMNS-1);
00685      } else if (_tcsicmp (szField,TCS_INIVAR_JOUCLRL) == 0 ) {
00686       TCSErrorLev[WRN_JOUCLR]= * (int*) szValue;
00687
00688      } else if (_tcsicmp (szField,TCS_INIVAR_JOUUNKWN) == 0 ) {
00689       _tcsncpy(szTCSErrorMsg[WRN_JOUUNKWN], szValue,STAT_MAXCOLUMNS-1);
00690      } else if (_tcsicmp (szField,TCS_INIVAR_JOUUNKWNL) == 0 ) {
00691       TCSErrorLev[WRN_JOUUNKWN]= * (int*) szValue;
00692
00693      } else if (_tcsicmp (szField,TCS_INIVAR_XMLPARSER) == 0 ) {
00694       _tcsncpy(szTCSErrorMsg[ERR_XMLPARSER], szValue,STAT_MAXCOLUMNS-1);
00695      } else if (_tcsicmp (szField,TCS_INIVAR_XMLPARSERL) == 0 ) {
00696       TCSErrorLev[ERR_XMLPARSER]= * (int*) szValue;
00697
00698      } else if (_tcsicmp (szField,ERR_XMLOPEN) == 0 ) {
00699       _tcsncpy(szTCSErrorMsg[ERR_XMLOPEN], szValue,STAT_MAXCOLUMNS-1);
00700      } else if (_tcsicmp (szField,TCS_INIVAR_XMLOPENL) == 0 ) {
00701       TCSErrorLev[ERR_XMLOPEN]= * (int*) szValue;
00702
00703      } else if (_tcsicmp (szField,TCS_INIVAR_USR2) == 0 ) {
00704       _tcsncpy(szTCSErrorMsg[MSG_USR2], szValue,STAT_MAXCOLUMNS-1);
00705      } else if (_tcsicmp (szField,TCS_INIVAR_USR2L) == 0 ) {
00706       TCSErrorLev[MSG_USR2]= * (int*) szValue;
00707
00708      } else if (_tcsicmp (szField,TCS_INIVAR_INI2) == 0 ) {
00709       _tcsncpy(szTCSErrorMsg[WRN_INI2], szValue,STAT_MAXCOLUMNS-1);
00710      } else if (_tcsicmp (szField,TCS_INIVAR_INI2L) == 0 ) {
00711       TCSErrorLev[WRN_INI2]= * (int*) szValue;
00712
00713      }
00714
00715     } // End case section
00716
00717  }
00718 #endif
00719
00720
00721 bool PointInWindow (FTNINT ix1, FTNINT iy1)
00722 {
00723     if (ClippingNotActive ) return true;
00724     return ( (TKTRNX.kminsx <= ix1) && (TKTRNX.kmaxsx >= ix1) &&
00725                     (TKTRNX.kminsy <= iy1) && (TKTRNX.kmaxsy >= iy1));
00726 }
00727
00728
00729
00730 bool ClipLineStart (FTNINT ix1, FTNINT iy1, FTNINT ix2, FTNINT iy2,
00731                                                 FTNINT *isx, FTNINT *isy)
00732 /* ClipLineStart=true: isx,isy Startpunkt; =false: Linie nicht zeichnen */
00733 {
00734     if (ClippingNotActive) {
00735      *isx= ix1; *isy= iy1;
00736      return true;
00737     }
```

```
00738
00739     if (ix1 < TKTRNX.kminsx) { /* Start links vom Fenster */
00740      if (ix2 < TKTRNX.kminsx) return false;
00741      *isy= iy1+((TKTRNX.kminsx-ix1) * (iy2-iy1)) / (ix2-ix1);
00742      if ((TKTRNX.kminsy <= *isy) && (TKTRNX.kmaxsy >= *isy)) {
00743       *isx= TKTRNX.kminsx;
00744       return true;
00745      }
00746      if (iy1 == iy2) return false;
00747      if (((ix2-ix1)*(iy2-iy1)) >= 0) { /* Steigung positiv */
00748       *isx= ix1+ ((TKTRNX.kminsy-iy1)*(ix2-ix1))/(iy2-iy1);
00749       *isy= TKTRNX.kminsy;
00750      } else {
00751       *isx= ix1+ ((TKTRNX.kmaxsy-iy1)*(ix2-ix1))/(iy2-iy1);
00752       *isy= TKTRNX.kmaxsy;
00753      }
00754      if ((*isx > TKTRNX.kmaxsx) || (*isx < TKTRNX.kminsx)) return false;
00755      return true;
00756
00757     } else if (ix1 > TKTRNX.kmaxsx) { /* Start rechts vom Fenster */
00758      if (ix2 > TKTRNX.kmaxsx) return false;
00759      *isy= iy1+((TKTRNX.kmaxsx-ix1) * (iy2-iy1)) / (ix2-ix1);
00760      if ((TKTRNX.kminsy <= *isy) && (TKTRNX.kmaxsy >= *isy)) {
00761       *isx= TKTRNX.kmaxsx;
00762       return true;
00763      }
00764      if (iy1 == iy2) return false;
00765      if (((ix2-ix1)*(iy2-iy1)) >= 0) { /* Steigung positiv */
00766       *isx= ix1+ ((TKTRNX.kmaxsy-iy1)*(ix2-ix1))/(iy2-iy1);
00767       *isy= TKTRNX.kmaxsy;
00768      } else {
00769       *isx= ix1+ ((TKTRNX.kminsy-iy1)*(ix2-ix1))/(iy2-iy1);
00770       *isy= TKTRNX.kminsy;
00771      }
00772      if ((*isx > TKTRNX.kmaxsx) || (*isx < TKTRNX.kminsx)) return false;
00773      return true;
00774
00775     } else if (iy1 < TKTRNX.kminsy) { /* Start unter dem Fenster */
00776      if (iy2 < TKTRNX.kminsy) return false;
00777      *isx= ix1+ ((TKTRNX.kminsy-iy1)*(ix2-ix1))/(iy2-iy1);
00778      if ((*isx > TKTRNX.kmaxsx) || (*isx < TKTRNX.kminsx)) return false;
00779      *isy= TKTRNX.kminsy;
00780      return true;
00781
00782     } else if (iy1 > TKTRNX.kmaxsy) { /* Start ueber dem Fenster */
00783      if (iy2 > TKTRNX.kmaxsy) return false;
00784      *isx= ix1+ ((TKTRNX.kmaxsy-iy1)*(ix2-ix1))/(iy2-iy1);
00785      if ((*isx > TKTRNX.kmaxsx) || (*isx < TKTRNX.kminsx)) return false;
00786      *isy= TKTRNX.kmaxsy;
00787      return true;
00788
00789     }
00790     *isx= ix1;                          /* Startpunkt liegt im Fenster */
00791     *isy= iy1;
00792     return true;
00793 }
00794
00795
00796
00797 /*
00798 ------------------- Event Handler zum Parsen von XML-Dateien ----------
00799 */
00800
00801 #if defined(XMLSUPPORT)
00802
00803 void sax_callback (mxml_node_t *node, mxml_sax_event_t event, void *usr)
00804 {
00805 char * StorePtr;
00806
00807     switch (event) {
00808      case MXML_SAX_ELEMENT_OPEN: {
00809       switch (*(int*)usr ) {
00810        case -1: { // Statemachine: noch keine aktive Sektion
00811         if (strcmp(mxmlGetElement(node),szTCSsect0) == 0) {
00812          *(int*)usr= 0;  // Parsing active
00813          mxmlElementSetAttr (node,"typ","none");
00814         }
00815         break;
00816        }
00817        case 0: {
00818         if ((strcmp(mxmlGetElement(node),TCS_INISECT1) == 0)  ) {
00819          *(int*)usr= 1; // State: TCS_INISECT1
00820         } else if ((strcmp(mxmlGetElement(node),TCS_INISECT2) == 0)  ) {
00821          *(int*)usr= 2; // State: TCS_INISECT2
00822         } else if ((strcmp(mxmlGetElement(node),TCS_INISECT3) == 0)  ) {
00823          *(int*)usr= 3; // State: TCS_INISECT3
00824         }
```

```
00825          mxmlElementSetAttr (node,"typ","none");
00826          break;
00827         }
00828
00829         case 1: { // Section = Names
00830          if ((strcmp(mxmlGetElement(node),TCS_INIVAR_WINNAM) == 0)  ) {
00831           mxmlElementSetAttr (node,"typ","opaque");
00832           mxmlElementSetAttrf(node,"store","%p",&szTCSWindowName);
00833          } else if ((strcmp(mxmlGetElement(node),TCS_INIVAR_STATNAM) == 0)  ) {
00834           mxmlElementSetAttr (node,"typ","opaque");
00835           mxmlElementSetAttrf(node,"store","%p",&szTCSstatWindowName);
00836          } else if ((strcmp(mxmlGetElement(node),TCS_INIVAR_MAINWINNAM) == 0)  ) {
00837           mxmlElementSetAttr (node,"typ","opaque");
00838           mxmlElementSetAttrf(node,"store","%p",&szTCSMainWindowName);
00839          } else if ((strcmp(mxmlGetElement(node),TCS_INIVAR_HDCNAM) == 0)  ) {
00840           mxmlElementSetAttr (node,"typ","opaque");
00841           mxmlElementSetAttrf(node,"store","%p",&szTCSHardcopyFile);
00842          }
00843          break;
00844         }
00845
00846         case 2: { // Section = Layout
00847          if ((strcmp(mxmlGetElement(node),TCS_INIVAR_COPMEN) == 0)  ) {
00848           mxmlElementSetAttr (node,"typ","opaque");
00849           mxmlElementSetAttrf(node,"store","%p",&szTCSMenuCopyText);
00850          } else if ((strcmp(mxmlGetElement(node),TCS_INIVAR_FONT) == 0)  ) {
00851           mxmlElementSetAttr (node,"typ","opaque");
00852           mxmlElementSetAttrf(node,"store","%p",&szTCSGraphicFont);
00853          } else if ((strcmp(mxmlGetElement(node),TCS_INIVAR_SYSFONT) == 0)  ) {
00854           mxmlElementSetAttr (node,"typ","opaque");
00855           mxmlElementSetAttrf(node,"store","%p",&szTCSSysFont);
00856          } else if ((strcmp(mxmlGetElement(node),TCS_INIVAR_ICONNAM) == 0)  ) {
00857           mxmlElementSetAttr (node,"typ","opaque");
00858           mxmlElementSetAttrf(node,"store","%p",&szTCSIconFile);
00859
00860          } else if ((strcmp(mxmlGetElement(node),TCS_INIVAR_WINPOSX) == 0)  ) {
00861           mxmlElementSetAttr (node,"typ","integer");
00862           mxmlElementSetAttrf(node,"store","%p",&TCSwindowIniXrelpos);
00863          } else if ((strcmp(mxmlGetElement(node),TCS_INIVAR_WINPOSY) == 0)  ) {
00864           mxmlElementSetAttr (node,"typ","integer");
00865           mxmlElementSetAttrf(node,"store","%p",&TCSwindowIniYrelpos);
00866          } else if ((strcmp(mxmlGetElement(node),TCS_INIVAR_WINSIZX) == 0)  ) {
00867           mxmlElementSetAttr (node,"typ","integer");
00868           mxmlElementSetAttrf(node,"store","%p",&TCSwindowIniXrelsiz);
00869          } else if ((strcmp(mxmlGetElement(node),TCS_INIVAR_WINSIZY) == 0)  ) {
00870           mxmlElementSetAttr (node,"typ","integer");
00871           mxmlElementSetAttrf(node,"store","%p",&TCSwindowIniYrelsiz);
00872
00873          } else if ((strcmp(mxmlGetElement(node),TCS_INIVAR_STATPOSX) == 0)  ) {
00874           mxmlElementSetAttr (node,"typ","integer");
00875           mxmlElementSetAttrf(node,"store","%p",&TCSstatWindowIniXrelpos);
00876          } else if ((strcmp(mxmlGetElement(node),TCS_INIVAR_STATPOSY) == 0)  ) {
00877           mxmlElementSetAttr (node,"typ","integer");
00878           mxmlElementSetAttrf(node,"store","%p",&TCSstatWindowIniYrelpos);
00879          } else if ((strcmp(mxmlGetElement(node),TCS_INIVAR_STATSIZX) == 0)  ) {
00880           mxmlElementSetAttr (node,"typ","integer");
00881           mxmlElementSetAttrf(node,"store","%p",&TCSstatWindowIniXrelsiz);
00882          } else if ((strcmp(mxmlGetElement(node),TCS_INIVAR_STATSIZY) == 0)  ) {
00883           mxmlElementSetAttr (node,"typ","integer");
00884           mxmlElementSetAttrf(node,"store","%p",&TCSstatWindowIniYrelsiz);
00885
00886          } else if ((strcmp(mxmlGetElement(node),TCS_INIVAR_LINCOL) == 0)  ) {
00887           mxmlElementSetAttr (node,"typ","integer");
00888           mxmlElementSetAttrf(node,"store","%p",&TCSDefaultLinCol);
00889          } else if ((strcmp(mxmlGetElement(node),TCS_INIVAR_TXTCOL) == 0)  ) {
00890           mxmlElementSetAttr (node,"typ","integer");
00891           mxmlElementSetAttrf(node,"store","%p",&TCSDefaultTxtCol);
00892          } else if ((strcmp(mxmlGetElement(node),TCS_INIVAR_BCKCOL) == 0)  ) {
00893           mxmlElementSetAttr (node,"typ","integer");
00894           mxmlElementSetAttrf(node,"store","%p",&TCSDefaultBckCol);
00895          }
00896          break;
00897         }
00898
00899         case 3: { // Section = Messages
00900          if ((strcmp(mxmlGetElement(node),TCS_INIVAR_HDCOPN) == 0)  ) {
00901           mxmlElementSetAttr (node,"typ","opaque");
00902           mxmlElementSetAttrf(node,"store","%p",&szTCSErrorMsg[WRN_HDCFILOPN]);
00903          } else if ((strcmp(mxmlGetElement(node),TCS_INIVAR_HDCOPNL) == 0)  ) {
00904           mxmlElementSetAttr (node,"typ","integer");
00905           mxmlElementSetAttrf(node,"store","%p",&TCSErrorLev[WRN_HDCFILOPN]);
00906
00907          } else if ((strcmp(mxmlGetElement(node),TCS_INIVAR_HDCWRT) == 0)  ) {
00908           mxmlElementSetAttr (node,"typ","opaque");
00909           mxmlElementSetAttrf(node,"store","%p",&szTCSErrorMsg[WRN_HDCFILWRT]);
00910          } else if ((strcmp(mxmlGetElement(node),TCS_INIVAR_HDCWRTL) == 0)  ) {
00911           mxmlElementSetAttr (node,"typ","integer");
```

```
00912          mxmlElementSetAttrf(node,"store","%p",&TCSErrorLev[WRN_HDCFILWRT]);
00913
00914         } else if ((strcmp(mxmlGetElement(node),TCS_INIVAR_HDCINT) == 0)  ) {
00915          mxmlElementSetAttr (node,"typ","opaque");
00916          mxmlElementSetAttrf(node,"store","%p",&szTCSErrorMsg[WRN_HDCINTERN]);
00917         } else if ((strcmp(mxmlGetElement(node),TCS_INIVAR_HDCINTL) == 0)  ) {
00918          mxmlElementSetAttr (node,"typ","integer");
00919          mxmlElementSetAttrf(node,"store","%p",&TCSErrorLev[WRN_HDCINTERN]);
00920
00921         } else if ((strcmp(mxmlGetElement(node),TCS_INIVAR_USR) == 0)  ) {
00922          mxmlElementSetAttr (node,"typ","opaque");
00923          mxmlElementSetAttrf(node,"store","%p",&szTCSErrorMsg[MSG_USR]);
00924         } else if ((strcmp(mxmlGetElement(node),TCS_INIVAR_USRL) == 0)  ) {
00925          mxmlElementSetAttr (node,"typ","integer");
00926          mxmlElementSetAttrf(node,"store","%p",&TCSErrorLev[MSG_USR]);
00927
00928         } else if ((strcmp(mxmlGetElement(node),TCS_INIVAR_HDCACT) == 0)  ) {
00929          mxmlElementSetAttr (node,"typ","opaque");
00930          mxmlElementSetAttrf(node,"store","%p",&szTCSErrorMsg[MSG_HDCACT]);
00931         } else if ((strcmp(mxmlGetElement(node),TCS_INIVAR_HDCACTL) == 0)  ) {
00932          mxmlElementSetAttr (node,"typ","integer");
00933          mxmlElementSetAttrf(node,"store","%p",&TCSErrorLev[MSG_HDCACT]);
00934
00935         } else if ((strcmp(mxmlGetElement(node),TCS_INIVAR_USRWRN) == 0)  ) {
00936          mxmlElementSetAttr (node,"typ","opaque");
00937          mxmlElementSetAttrf(node,"store","%p",&szTCSErrorMsg[WRN_USRPRESSANY]);
00938         } else if ((strcmp(mxmlGetElement(node),TCS_INIVAR_USRWRNL) == 0)  ) {
00939          mxmlElementSetAttr (node,"typ","integer");
00940          mxmlElementSetAttrf(node,"store","%p",&TCSErrorLev[WRN_USRPRESSANY]);
00941
00942         } else if ((strcmp(mxmlGetElement(node),TCS_INIVAR_EXIT) == 0)  ) {
00943          mxmlElementSetAttr (node,"typ","opaque");
00944          mxmlElementSetAttrf(node,"store","%p",&szTCSErrorMsg[ERR_EXIT]);
00945         } else if ((strcmp(mxmlGetElement(node),TCS_INIVAR_EXITL) == 0)  ) {
00946          mxmlElementSetAttr (node,"typ","integer");
00947          mxmlElementSetAttrf(node,"store","%p",&TCSErrorLev[ERR_EXIT]);
00948
00949         } else if ((strcmp(mxmlGetElement(node),TCS_INIVAR_COPMEM) == 0)  ) {
00950          mxmlElementSetAttr (node,"typ","opaque");
00951          mxmlElementSetAttrf(node,"store","%p",&szTCSErrorMsg[WRN_COPYNOMEM]);
00952         } else if ((strcmp(mxmlGetElement(node),TCS_INIVAR_COPMEML) == 0)  ) {
00953          mxmlElementSetAttr (node,"typ","integer");
00954          mxmlElementSetAttrf(node,"store","%p",&TCSErrorLev[WRN_COPYNOMEM]);
00955
00956         } else if ((strcmp(mxmlGetElement(node),TCS_INIVAR_COPLCK) == 0)  ) {
00957          mxmlElementSetAttr (node,"typ","opaque");
00958          mxmlElementSetAttrf(node,"store","%p",&szTCSErrorMsg[WRN_COPYLOCK]);
00959         } else if ((strcmp(mxmlGetElement(node),TCS_INIVAR_COPLCKL) == 0)  ) {
00960          mxmlElementSetAttr (node,"typ","integer");
00961          mxmlElementSetAttrf(node,"store","%p",&TCSErrorLev[WRN_COPYLOCK]);
00962
00963         } else if ((strcmp(mxmlGetElement(node),TCS_INIVAR_JOUCREATE) == 0)  ) {
00964          mxmlElementSetAttr (node,"typ","opaque");
00965          mxmlElementSetAttrf(node,"store","%p",&szTCSErrorMsg[WRN_JOUCREATE]);
00966         } else if ((strcmp(mxmlGetElement(node),TCS_INIVAR_JOUCREATEL) == 0)  ) {
00967          mxmlElementSetAttr (node,"typ","integer");
00968          mxmlElementSetAttrf(node,"store","%p",&TCSErrorLev[WRN_JOUCREATE]);
00969
00970         } else if ((strcmp(mxmlGetElement(node),TCS_INIVAR_JOUENTRY) == 0)  ) {
00971          mxmlElementSetAttr (node,"typ","opaque");
00972          mxmlElementSetAttrf(node,"store","%p",&szTCSErrorMsg[WRN_JOUENTRY]);
00973         } else if ((strcmp(mxmlGetElement(node),TCS_INIVAR_JOUENTRYL) == 0)  ) {
00974          mxmlElementSetAttr (node,"typ","integer");
00975          mxmlElementSetAttrf(node,"store","%p",&TCSErrorLev[WRN_JOUENTRY]);
00976
00977         } else if ((strcmp(mxmlGetElement(node),TCS_INIVAR_JOUADD) == 0)  ) {
00978          mxmlElementSetAttr (node,"typ","opaque");
00979          mxmlElementSetAttrf(node,"store","%p",&szTCSErrorMsg[WRN_JOUADD]);
00980         } else if ((strcmp(mxmlGetElement(node),TCS_INIVAR_JOUADDL) == 0)  ) {
00981          mxmlElementSetAttr (node,"typ","integer");
00982          mxmlElementSetAttrf(node,"store","%p",&TCSErrorLev[WRN_JOUADD]);
00983
00984         } else if ((strcmp(mxmlGetElement(node),TCS_INIVAR_JOUCLR) == 0)  ) {
00985          mxmlElementSetAttr (node,"typ","opaque");
00986          mxmlElementSetAttrf(node,"store","%p",&szTCSErrorMsg[WRN_JOUCLR]);
00987         } else if ((strcmp(mxmlGetElement(node),TCS_INIVAR_JOUCLRL) == 0)  ) {
00988          mxmlElementSetAttr (node,"typ","integer");
00989          mxmlElementSetAttrf(node,"store","%p",&TCSErrorLev[WRN_JOUCLR]);
00990
00991         } else if ((strcmp(mxmlGetElement(node),TCS_INIVAR_JOUUNKWN) == 0)  ) {
00992          mxmlElementSetAttr (node,"typ","opaque");
00993          mxmlElementSetAttrf(node,"store","%p",&szTCSErrorMsg[WRN_JOUUNKWN]);
00994         } else if ((strcmp(mxmlGetElement(node),TCS_INIVAR_JOUUNKWNL) == 0)  ) {
00995          mxmlElementSetAttr (node,"typ","integer");
00996          mxmlElementSetAttrf(node,"store","%p",&TCSErrorLev[WRN_JOUUNKWN]);
00997
00998         } else if ((strcmp(mxmlGetElement(node),TCS_INIVAR_XMLPARSER) == 0)  ) {
```

```
00999          mxmlElementSetAttr (node,"typ","opaque");
01000          mxmlElementSetAttrf(node,"store","%p",&szTCSErrorMsg[ERR_XMLPARSER]);
01001         } else if ((strcmp(mxmlGetElement(node),TCS_INIVAR_XMLPARSERL) == 0)  ) {
01002          mxmlElementSetAttr (node,"typ","integer");
01003          mxmlElementSetAttrf(node,"store","%p",&TCSErrorLev[ERR_XMLPARSER]);
01004
01005         } else if ((strcmp(mxmlGetElement(node),TCS_INIVAR_XMLOPEN) == 0)  ) {
01006          mxmlElementSetAttr (node,"typ","opaque");
01007          mxmlElementSetAttrf(node,"store","%p",&szTCSErrorMsg[ERR_XMLOPEN]);
01008         } else if ((strcmp(mxmlGetElement(node),TCS_INIVAR_XMLOPENL) == 0)  ) {
01009          mxmlElementSetAttr (node,"typ","integer");
01010          mxmlElementSetAttrf(node,"store","%p",&TCSErrorLev[ERR_XMLOPEN]);
01011
01012         } else if ((strcmp(mxmlGetElement(node),TCS_INIVAR_USR2) == 0)  ) {
01013          mxmlElementSetAttr (node,"typ","opaque");
01014          mxmlElementSetAttrf(node,"store","%p",&szTCSErrorMsg[MSG_USR2]);
01015         } else if ((strcmp(mxmlGetElement(node),TCS_INIVAR_USR2L) == 0)  ) {
01016          mxmlElementSetAttr (node,"typ","integer");
01017          mxmlElementSetAttrf(node,"store","%p",&TCSErrorLev[MSG_USR2]);
01018
01019         } else if ((strcmp(mxmlGetElement(node),TCS_INIVAR_INI2) == 0)  ) {
01020          mxmlElementSetAttr (node,"typ","opaque");
01021          mxmlElementSetAttrf(node,"store","%p",&szTCSErrorMsg[WRN_INI2]);
01022         } else if ((strcmp(mxmlGetElement(node),TCS_INIVAR_INI2L) == 0)  ) {
01023          mxmlElementSetAttr (node,"typ","integer");
01024          mxmlElementSetAttrf(node,"store","%p",&TCSErrorLev[WRN_INI2]);
01025
01026         }
01027         break;
01028        }
01029
01030       }
01031       break;
01032      }
01033
01034      case MXML_SAX_DATA: {
01035       switch (mxmlGetType(node)) {
01036        case MXML_INTEGER: {
01037         sscanf (mxmlElementGetAttr(mxmlGetParent(node), "store"),"%p",&StorePtr);
01038         (*(int*)StorePtr)= mxmlGetInteger(node);
01039         break;
01040        }
01041        case MXML_REAL: {
01042         sscanf (mxmlElementGetAttr(mxmlGetParent(node), "store"),"%p",&StorePtr);
01043         (*(float*)StorePtr)= mxmlGetReal(node);
01044         break;
01045        }
01046        case MXML_TEXT: {
01047         sscanf (mxmlElementGetAttr(mxmlGetParent(node), "store"),"%p",&StorePtr);
01048         strcpy (StorePtr, mxmlGetText(node, NULL));
01049         break;
01050        }
01051        case MXML_OPAQUE: {
01052         sscanf (mxmlElementGetAttr(mxmlGetParent(node), "store"),"%p",&StorePtr);
01053         strcpy (StorePtr, mxmlGetOpaque(node));
01054         break;
01055        }
01056       }
01057       break;
01058      }
01059
01060      case MXML_SAX_ELEMENT_CLOSE: {
01061       if ((*(int*)usr==0) && (strcmp(mxmlGetElement(node),szTCSsect0)==0)) {
01062        *(int*)usr= -1; // State: idle
01063       } else if (
01064             ((*(int*)usr==1) && (strcmp(mxmlGetElement(node),TCS_INISECT1)==0))
01065          || ((*(int*)usr==2) && (strcmp(mxmlGetElement(node),TCS_INISECT2)==0))
01066          || ((*(int*)usr==3) && (strcmp(mxmlGetElement(node),TCS_INISECT3)==0))
01067          ) {
01068        *(int*)usr= 0; // State: Parsing active
01069       }
01070       break;
01071      }
01072     }
01073 }
01074
01075
01076 /* ------------------------------------------------------------------------ */
01077
01078
01079 mxml_type_t      sax_type_callback(mxml_node_t  *node)
01080 {
01081 const char *type;
01082
01083     if ((type = mxmlElementGetAttr(node, "typ")) == NULL) type = "none";
01084     if (!strcmp(type, "integer"))
01085      return (MXML_INTEGER);
```

```
01086     else if (!strcmp(type, "opaque") || !strcmp(type, "pre"))
01087      return (MXML_OPAQUE);
01088     else if (!strcmp(type, "real"))
01089      return (MXML_REAL);
01090     else if (!strcmp(type, "text"))
01091      return (MXML_TEXT);
01092     else
01093      return (MXML_IGNORE);
01094 }
01095
01096 /* ------------------------------------------------------------------------ */
01097
01098
01099 mxml_error_cb_t sax_error_callback (char *mssg)
01100 {
01101     TCSGraphicError (ERR_XMLPARSER, mssg);
01102     return;
01103 }
01104
01105 /* ------------------------------------------------------------------------ */
01106
01107 #endif   // Ende XML-Unterstützung
01108
01109
01110
01111
01112 /*
01113 ------------------- Event Handler Graphikfenster -----------------------
01114 */
01115
01116
01117
01118
01119 void TCSWndProc_OnPaint (HWND hWindow)
01120 {
01121 PAINTSTRUCT ps;
01122 #if (JOURNALTYP == 1)
01123  HMETAFILE hmf;
01124  HDC hTCSMetaFileDC1;
01125 #elif (JOURNALTYP == 2)
01126  HENHMETAFILE hmf;
01127  ENHMETAHEADER emh ;
01128  HDC hTCSMetaFileDC1;
01129  RECT   crtrect;
01130 #elif (JOURNALTYP == 3)
01131  struct xJournalEntry_typ    * xJournalEntry;
01132  HPEN   hPenDash, hPenOld;
01133  HFONT  hOldFont;
01134  int    iMaskIndex;
01135  int    iGraphTextLen, iGraphTextLenAkt;
01136  TCHAR  GraphTextBuf[STAT_MAXCOLUMNS+1];
01137 #endif
01138
01139
01140     BeginPaint (hWindow, &ps);
01141
01142 #if (JOURNALTYP == 1)
01143     hmf = CloseMetaFile (hTCSMetaFileDC);
01144     PlayMetaFile (hTCSWindowDC, hmf);           /* Wiederherstellung Anzeige */
01145
01146     hTCSMetaFileDC1  = CreateMetaFile (NULL);   /* 16bit Windows Metafile */
01147     PlayMetaFile (hTCSMetaFileDC1, hmf);        /* für neues Journalfile */
01148     DeleteMetaFile (hmf);                       /* alter Status Bildschirm */
01149     hTCSMetaFileDC = hTCSMetaFileDC1;           /* bereit zum Weiterzeichnen */
01150
01151 #elif (JOURNALTYP == 2)
01152     hmf = CloseEnhMetaFile (hTCSMetaFileDC);
01153     GetEnhMetaFileHeader (hmf, sizeof (emh), &emh) ;
01154     GetClientRect(hTCSWindow, &crtrect); // Zeichenbereich CRT in Pixeln
01155
01156     SetViewportExtEx (hTCSWindowDC, crtrect.right-crtrect.left,
01157                       crtrect.bottom-crtrect.top, NULL); // Zeichne EMF 1:1
01158     SetViewportOrgEx (hTCSWindowDC, crtrect.left, crtrect.bottom, NULL);
01159     SetWindowExtEx (hTCSWindowDC, TCSrect.right, TCSrect.bottom, NULL);
01160     SetWindowOrgEx (hTCSWindowDC, TCSrect.left, TCSrect.bottom, NULL);
01161
01162     PlayEnhMetaFile (hTCSWindowDC, hmf, &TCSrect); // Wiederherstellung Anzeige
01163
01164     SetViewportExtEx (hTCSWindowDC, crtrect.right-crtrect.left,
01165                       crtrect.top-crtrect.bottom, NULL); // Skaliere auf TEK
01166     SetViewportOrgEx (hTCSWindowDC, crtrect.left, crtrect.top, NULL);
01167     SetWindowExtEx (hTCSWindowDC, TCSrect.right, TCSrect.bottom, NULL);
01168     SetWindowOrgEx (hTCSWindowDC, TCSrect.left, TCSrect.bottom, NULL);
01169
01170
01171     hTCSMetaFileDC1  = CreateEnhMetaFile (hTCSWindowDC, NULL, &emh.rclFrame,
01172                        _T("TCS for Windows\0Journalfile created by OnPaint\0"));
```

```
01173
01174     SetMapMode (hTCSMetaFileDC1, MM_ANISOTROPIC);
01175     SetViewportExtEx (hTCSMetaFileDC1, TCSrect.right, TCSrect.bottom, NULL);
01176     SetViewportOrgEx (hTCSMetaFileDC1, TCSrect.left, TCSrect.bottom, NULL);
01177     SetWindowExtEx (hTCSMetaFileDC1, TCSrect.right, TCSrect.bottom, NULL);
01178     SetWindowOrgEx (hTCSMetaFileDC1, TCSrect.left, TCSrect.bottom, NULL);
01179
01180     PlayEnhMetaFile (hTCSMetaFileDC1, hmf, &TCSrect); // neues Journal
01181
01182     DeleteEnhMetaFile (hmf);                    // Bildschirminhalt restauriert
01183     hTCSMetaFileDC = hTCSMetaFileDC1;           // bereit zum Weiterzeichnen
01184     SetViewportExtEx (hTCSMetaFileDC, TCSrect.right, -TCSrect.bottom, NULL);
01185     SetViewportOrgEx (hTCSMetaFileDC, TCSrect.left, TCSrect.top, NULL);
01186     SetWindowExtEx (hTCSMetaFileDC, TCSrect.right, TCSrect.bottom, NULL);
01187     SetWindowOrgEx (hTCSMetaFileDC, TCSrect.left, TCSrect.bottom, NULL);
01188
01189     #if !defined(__WIN32__) && !defined(_WIN32)
01190      SelectFont (hTCSMetaFileDC, hTCSFont);      // Aktuellen Zeichenstatus an
01191     #else
01192      SelectObject (hTCSMetaFileDC, hTCSFont);      // Aktuellen Zeichenstatus an
01193     #endif
01194     SetBkMode (hTCSMetaFileDC, TRANSPARENT );   // Metafile weitergegeben !
01195     SetTextAlign (hTCSMetaFileDC, TA_LEFT | TA_BOTTOM | TA_UPDATECP); // CP
01196     SetTextColor (hTCSMetaFileDC, dwColorTable[TKTRNX.iTxtCol]);
01197     #if !defined(__WIN32__) && !defined(_WIN32)
01198      SelectPen (hTCSMetaFileDC, hTCSPen); // 16bit: Makro aus windowsx.h
01199     #else
01200      SelectObject (hTCSMetaFileDC, hTCSPen); // 32bit: GDI Standardaufruf
01201     #endif
01202
01203 #elif (JOURNALTYP == 3)
01204 //      if (hTCSJournal != NULL) {
01205     SGLIB_DL_LIST_GET_LAST(struct xJournalEntry_typ, hTCSJournal, previous, next, xJournalEntry)
01206     while (xJournalEntry != NULL) {
01207      switch (xJournalEntry->action) {
01208       case XACTION_INITT: {
01209        TKTRNX.iLinCol= TCSDefaultLinCol;
01210        TKTRNX.iTxtCol= TCSDefaultTxtCol;
01211        TKTRNX.iBckCol= TCSDefaultBckCol;
01212        initt2(); // HOME, Font, Scale...
01213       } // weiter mit Erase
01214       case XACTION_ERASE: {
01215        SetWindowExtEx (hTCSWindowDC, TCSrect.right, TCSrect.bottom, NULL);
01216        SetWindowOrgEx (hTCSWindowDC, TCSrect.left, TCSrect.bottom, NULL);
01217        SetBkMode (hTCSWindowDC, TRANSPARENT );
01218        SetTextAlign (hTCSWindowDC, TA_LEFT | TA_BOTTOM | TA_UPDATECP);
01219        SetTextColor (hTCSWindowDC, dwColorTable[TKTRNX.iTxtCol]);
01220        #if !defined(__WIN32__) && !defined(_WIN32)
01221         SelectPen (hTCSWindowDC, hTCSPen); // 16bit: Makro aus windowsx.h
01222        #else
01223         SelectObject (hTCSWindowDC, hTCSPen); // 32bit: GDI Standardaufruf
01224        #endif
01225        break;
01226       }
01227       case XACTION_MOVABS: {
01228        MoveToEx (hTCSWindowDC, HiRes(xJournalEntry->i1),
01229                                              HiRes(xJournalEntry->i2), NULL);
01230        TKTRNX.kBeamX= xJournalEntry->i1;
01231        TKTRNX.kBeamY= xJournalEntry->i2;
01232        break;
01233       }
01234       case XACTION_DRWABS: {
01235        LineTo (hTCSWindowDC, HiRes(xJournalEntry->i1),
01236                    HiRes(xJournalEntry->i2) ); // Endpunkt nicht mitgezeichnet!
01237        SetPixel (hTCSWindowDC,HiRes(xJournalEntry->i1),
01238                         HiRes(xJournalEntry->i2), dwColorTable[TKTRNX.iLinCol]);
01239        TKTRNX.kBeamX= xJournalEntry->i1;
01240        TKTRNX.kBeamY= xJournalEntry->i2;
01241        break;
01242       }
01243       case XACTION_DSHSTYLE: {
01244        iMaskIndex= xJournalEntry->i1;
01245        break;
01246       }
01247       case XACTION_DSHABS: {
01248        hPenDash= CreatePen (dwPenStyle[iMaskIndex], 0,
01249                                               dwColorTable[TKTRNX.iLinCol]);
01250        #if !defined(__WIN32__) && !defined(_WIN32)
01251         SelectPen (hTCSWindowDC, hPenDash); // 16bit: Makro aus windowsx.h
01252        #else
01253         SelectObject (hTCSWindowDC, hPenDash); // 32bit: GDI Standardaufruf
01254        #endif
01255        LineTo (hTCSWindowDC, HiRes(xJournalEntry->i1),
01256                                               HiRes(xJournalEntry->i2) );
01257        #if !defined(__WIN32__) && !defined(_WIN32)
01258         SelectPen (hTCSWindowDC, hTCSPen); // 16bit: Makro aus windowsx.h
01259         DeletePen (hPenDash);
```

```
01260         #else
01261          SelectObject (hTCSWindowDC, hTCSPen); // 32bit: GDI Standardaufruf
01262          DeleteObject (hPenDash);
01263         #endif
01264         TKTRNX.kBeamX= xJournalEntry->i1;
01265         TKTRNX.kBeamY= xJournalEntry->i2;
01266         break;
01267        }
01268        case XACTION_PNTABS: {
01269         SetPixel (hTCSWindowDC,HiRes(xJournalEntry->i1),
01270                   HiRes(xJournalEntry->i2), dwColorTable[TKTRNX.iLinCol]);
01271         TKTRNX.kBeamX= xJournalEntry->i1;
01272         TKTRNX.kBeamY= xJournalEntry->i2;
01273         break;
01274        }
01275        case XACTION_BCKCOL: {
01276         TKTRNX.iBckCol= xJournalEntry->i1;
01277         break;
01278        }
01279        case XACTION_LINCOL: {
01280         hTCSPen= CreatePen (PS_SOLID, 0, dwColorTable[xJournalEntry->i1]);
01281         #if !defined(__WIN32__) && !defined(_WIN32)
01282          hPenOld= SelectPen (hTCSWindowDC, hTCSPen);// 16bit: Makro aus windowsx.h
01283          DeletePen (hPenOld);
01284         #else
01285          hPenOld= SelectObject (hTCSWindowDC, hTCSPen); // 32bit: GDI Standardaufruf
01286          DeleteObject (hPenOld);
01287         #endif
01288         TKTRNX.iLinCol= xJournalEntry->i1;
01289         break;
01290        }
01291        case XACTION_TXTCOL: {
01292         SetTextColor (hTCSWindowDC, dwColorTable[xJournalEntry->i1]);
01293         TKTRNX.iTxtCol= xJournalEntry->i1;
01294         break;
01295        }
01296        case XACTION_FONTATTR: {
01297         TKTRNX.kitalc= xJournalEntry->i1;
01298         TCSFontdefinition.lfItalic= (TKTRNX.kitalc > 0);
01299         hTCSFont= CreateFontIndirect (&TCSFontdefinition);
01300         #if !defined(__WIN32__) && !defined(_WIN32)
01301          hOldFont= SelectFont (hTCSWindowDC, hTCSFont);
01302          DeleteFont (hOldFont);
01303         #else
01304          hOldFont= SelectObject (hTCSWindowDC, hTCSFont);
01305          DeleteObject (hOldFont);
01306         #endif
01307
01308         if (TKTRNX.ksizef != xJournalEntry->i2) {
01309          TKTRNX.ksizef= xJournalEntry->i2;
01310          TCSFontdefinition.lfHeight= (1+TKTRNX.ksizef)*TCSCharHeight;
01311          TCSFontdefinition.lfWidth= 0;
01312          hTCSFont= CreateFontIndirect (&TCSFontdefinition);
01313          #if !defined(__WIN32__) && !defined(_WIN32)
01314           hOldFont= SelectFont (hTCSWindowDC, hTCSFont);
01315           DeleteFont (hOldFont);
01316          #else
01317           hOldFont= SelectObject (hTCSWindowDC, hTCSFont);
01318           DeleteObject (hOldFont);
01319          #endif
01320          TKTRNX.khomey = TEK_YMAX - 1.5f*(1+TKTRNX.ksizef)*TCS_REL_CHR_HEIGHT;
01321         }
01322         break;
01323        }
01324        case XACTION_GTEXT: {
01325         iGraphTextLenAkt= 0;
01326         iGraphTextLen= (int) xJournalEntry->i1;
01327         if (iGraphTextLen > STAT_MAXCOLUMNS) iGraphTextLen= STAT_MAXCOLUMNS;
01328         if (iGraphTextLen == 0) break;
01329         GraphTextBuf[iGraphTextLenAkt++]= (TCHAR) xJournalEntry->i2;
01330         if (iGraphTextLen == 1) {
01331          GraphTextBuf[iGraphTextLenAkt]= (FTNCHAR) 0;
01332          TextOut (hTCSWindowDC, 0,0,GraphTextBuf, iGraphTextLen);
01333         }
01334         break;
01335        }
01336        case XACTION_ASCII: {
01337         if (iGraphTextLenAkt < iGraphTextLen) {
01338          GraphTextBuf[iGraphTextLenAkt++]= (TCHAR) xJournalEntry->i1;
01339          if (iGraphTextLenAkt < iGraphTextLen)
01340           GraphTextBuf[iGraphTextLenAkt++]= (TCHAR) xJournalEntry->i2;
01341          if (iGraphTextLenAkt >= iGraphTextLen)
01342           TextOut (hTCSWindowDC, 0,0,GraphTextBuf, iGraphTextLen);
01343         }
01344         break;
01345        }
01346        case XACTION_NOOP: {
```

```
01347         break;
01348        }
01349        default: {
01350         TCSGraphicError (WRN_JOUUNKWN,"");
01351         break;
01352        }
01353       }
01354       xJournalEntry= xJournalEntry -> previous;
01355      }
01356 //       }
01357 #endif
01358 
01359     EndPaint( hWindow, &ps );
01360 }
01361 
01362 
01363 
01364 void TCSWndProc_OnSize (HWND hWindow, UINT message, WPARAM width, LPARAM height)
01365 {
01366     switch (message) {
01367      case SIZE_MINIMIZED:   /* Minimierung -> keine Aktion notwendig */
01368       break;
01369      case SIZE_RESTORED:    /*(Erst- oder Neu)Skalierung des Fensters */
01370      case SIZE_MAXIMIZED:       /* sichtbar: 0<=ix<=1023 / 0<=iy<=780 */
01371       SetMapMode (hTCSWindowDC, MM_ANISOTROPIC);
01372       SetViewportExtEx (hTCSWindowDC, width, -height, NULL);
01373       SetViewportOrgEx (hTCSWindowDC, 0, 0, NULL);
01374       /* Bei erneuter Änderung des Viewport geht die Auflösung verloren! */
01375     }
01376 }
01377 
01378 
01379 
01380 void TCSWndProc_OnRbuttondown (HWND hWindow, BOOL DoubleClick, int MouseX,
01381                                int MouseY, UINT ShftCtrlKeyMask)
01382 {
01383     ShowWindow (hTCSstatWindow, SW_SHOW);
01384     UpdateWindow(hTCSstatWindow);
01385 }
01386 
01387 
01388 
01389 bool TCSWndProc_OnErasebkgnd (HWND hWindow, HDC hDC)
01390 {
01391 RECT ClientArea;
01392 HBRUSH hBack;
01393 
01394     GetClientRect (hWindow, &ClientArea);
01395     DPtoLP (hDC, (LPPOINT)&ClientArea.left,2);
01396 
01397     hBack= CreateSolidBrush (dwColorTable[TCSBackgroundColour]);
01398     FillRect(hTCSWindowDC, &ClientArea, hBack);
01399     #if !defined(__WIN32__) && !defined(_WIN32)
01400      DeleteBrush (hBack);
01401     #else
01402      DeleteObject (hBack);
01403     #endif
01404 
01405     return false;
01406 }
01407 
01408 
01409 
01410 bool TCSWndProc_OnCopyClipboard ()
01411 {
01412 #if (JOURNALTYP == 1)
01413  FTNINT iErr;
01414  HMETAFILE hmf;
01415  HDC hTCSNewMetaFileDC;
01416  HGLOBAL hGlobalMem;
01417  LPMETAFILEPICT lpMfp;
01418  HRGN    hWindowRegion;
01419 #elif (JOURNALTYP == 2)
01420  FTNINT iErr;
01421  HENHMETAFILE hmf, hmf1;
01422  ENHMETAHEADER emh ;
01423  HDC hTCSMetaFileDC1;
01424 #endif
01425 
01426 
01427 #if (JOURNALTYP == 1)
01428     hmf = CloseMetaFile (hTCSMetaFileDC);       /* Metafile für WM_PAINT */
01429 
01430     hGlobalMem= GlobalAlloc(GMEM_MOVEABLE | GMEM_SHARE, sizeof(METAFILEPICT));
01431     if (hGlobalMem == NULL) {
01432      iErr= WRN_COPYNOMEM;
01433      TCSGraphicError (iErr,"");
```

```
01434      return false;                      /* Error: OutOfMemory -> ret */
01435     }
01436     lpMfp= (LPMETAFILEPICT) GlobalLock (hGlobalMem);
01437
01438     lpMfp->mm= MM_ANISOTROPIC;
01439     lpMfp->xExt= 0;             /* Keine Defaultgröße vorgeben */
01440     lpMfp->yExt= 0;             /* sonst in MM_HIMETRIC Device-Einheiten! */
01441
01442     hTCSNewMetaFileDC  = CreateMetaFile (NULL);
01443
01444     ScaleViewportExtEx (hTCSNewMetaFileDC, 1,1,-1,1,NULL);   // für Clipboard
01445
01446     hWindowRegion= CreateRectRgn(TCSrect.left, TCSrect.top, TCSrect.right,TCSrect.bottom); //
       rechts,oben
01447     SelectClipRgn (hTCSNewMetaFileDC, hWindowRegion); // nicht eingeschlossen
01448     #if !defined(__WIN32__) && !defined(_WIN32)
01449      DeleteRgn (hWindowRegion); // Resource freigeben
01450     #else
01451      DeleteObject (hWindowRegion);
01452     #endif
01453
01454     PlayMetaFile (hTCSNewMetaFileDC, hmf);
01455
01456     lpMfp->hMF= CloseMetaFile (hTCSNewMetaFileDC);
01457
01458     GlobalUnlock(hGlobalMem);
01459
01460     hTCSNewMetaFileDC  = CreateMetaFile (NULL); /* 16bit Windows Metafile */
01461     PlayMetaFile (hTCSNewMetaFileDC, hmf);      /* für neues Journalfile */
01462     DeleteMetaFile (hmf);                       /* alter Status Bildschirm */
01463     hTCSMetaFileDC = hTCSNewMetaFileDC;         /* bereit Weiterzeichnen */
01464
01465     if (!OpenClipboard (hTCSWindow)) {          /* Error: Clipboard locked */
01466      GlobalFree (hGlobalMem);
01467      iErr= WRN_COPYLOCK;
01468      TCSGraphicError (iErr,"");
01469      return false;
01470     }
01471     EmptyClipboard ();
01472     SetClipboardData (CF_METAFILEPICT, hGlobalMem);
01473     CloseClipboard ();  /* Jetzt GlobalFree() NICHT mehr aufrufen */
01474
01475 #elif (JOURNALTYP == 2)
01476     hmf = CloseEnhMetaFile (hTCSMetaFileDC);    /* Metafile für WM_PAINT */
01477     hmf1 = CopyEnhMetaFile (hmf, NULL) ;
01478     if (!OpenClipboard (hTCSWindow)) {          /* Error: Clipboard locked */
01479      iErr= WRN_COPYLOCK;
01480      TCSGraphicError (iErr,"");
01481      return false;
01482     }
01483     EmptyClipboard () ;
01484     SetClipboardData (CF_ENHMETAFILE, hmf1) ;
01485     CloseClipboard () ;
01486
01487     GetEnhMetaFileHeader (hmf, sizeof (emh), &emh) ;
01488     hTCSMetaFileDC1  = CreateEnhMetaFile (hTCSWindowDC, NULL, &emh.rclFrame,
01489                   _T("TCS for Windows\0Journalfile created by CopyClipboard\0"));
01490     SetMapMode (hTCSMetaFileDC1, MM_ANISOTROPIC);
01491     SetViewportExtEx (hTCSMetaFileDC1, TCSrect.right, TCSrect.bottom, NULL);
01492     SetViewportOrgEx (hTCSMetaFileDC1, TCSrect.left, TCSrect.bottom, NULL);
01493     SetWindowExtEx (hTCSMetaFileDC1, TCSrect.right, TCSrect.bottom, NULL);
01494     SetWindowOrgEx (hTCSMetaFileDC1, TCSrect.left, TCSrect.bottom, NULL);
01495
01496     SetBkMode (hTCSMetaFileDC, TRANSPARENT );
01497     SetTextAlign (hTCSMetaFileDC, TA_LEFT | TA_BOTTOM | TA_UPDATECP);
01498
01499     PlayEnhMetaFile (hTCSMetaFileDC1, hmf, &TCSrect); // neues Journal
01500
01501     DeleteEnhMetaFile (hmf);                      // alter Status Bildschirm
01502     hTCSMetaFileDC = hTCSMetaFileDC1;            // bereit zum Weiterzeichnen
01503
01504     SetViewportExtEx (hTCSMetaFileDC, TCSrect.right, -TCSrect.bottom, NULL);
01505     SetViewportOrgEx (hTCSMetaFileDC, TCSrect.left, TCSrect.top, NULL);
01506     SetWindowExtEx (hTCSMetaFileDC, TCSrect.right, TCSrect.bottom, NULL);
01507     SetWindowOrgEx (hTCSMetaFileDC, TCSrect.left, TCSrect.bottom, NULL);
01508
01509     #if !defined(__WIN32__) && !defined(_WIN32)
01510      SelectFont (hTCSMetaFileDC, hTCSFont);      // Aktuellen Zeichenstatus an
01511     #else
01512      SelectObject (hTCSMetaFileDC, hTCSFont);      // Aktuellen Zeichenstatus an
01513     #endif
01514     SetBkMode (hTCSMetaFileDC, TRANSPARENT );   // Metafile weitergegeben !
01515     SetTextAlign (hTCSMetaFileDC, TA_LEFT | TA_BOTTOM | TA_UPDATECP); // CP
01516     SetTextColor (hTCSMetaFileDC, dwColorTable[TKTRNX.iTxtCol]);
01517     #if !defined(__WIN32__) && !defined(_WIN32)
01518      SelectPen (hTCSMetaFileDC, hTCSPen); // 16bit: Makro aus windowsx.h
01519     #else
```

```
01520       SelectObject (hTCSMetaFileDC, hTCSPen); // 32bit: GDI Standardaufruf
01521      #endif
01522
01523 #endif
01524
01525      return true;
01526 }
01527
01528
01529
01530 LRESULT CALLBACK EXPORT16 TCSWndProc(HWND hWindow, UINT Message,
01531                                WPARAM wParam, LPARAM lParam)
01532 {
01533      switch( Message ) {
01534       HANDLE_MSG(hWindow, WM_PAINT, TCSWndProc_OnPaint);
01535       HANDLE_MSG(hWindow, WM_RBUTTONDOWN, TCSWndProc_OnRbuttondown);
01536       HANDLE_MSG(hWindow, WM_SIZE, TCSWndProc_OnSize);
01537       HANDLE_MSG(hWindow, WM_ERASEBKGND, TCSWndProc_OnErasebkgnd);
01538       case WM_SYSCOMMAND:
01539        if (wParam == TCS_WM_COPY) {
01540         #ifdef trace_calls
01541          MessageBox(NULL, "WM_SYSCOMMAND (TCS_WM_COPY)",
01542                         "Internal Information GRAPH2D - TCSwindowProc",
01543                          MB_OK | MB_ICONINFORMATION);
01544         #endif
01545         TCSWndProc_OnCopyClipboard ();
01546         break;
01547        } else {
01548         return DefWindowProc( hWindow, Message, wParam, lParam );
01549        }
01550       case WM_CLOSE: // Schliessen des Graphikfensters nicht zulassen! Meldung
01551        break;        // kann trotz Menuesperre über <ALT><F4> erzeugt werden
01552       case WM_ACTIVATEAPP: // Neuzeichnen wg. Fensterminimierung fremde Appl.
01553        UpdateWindow (hWindow);
01554        return 0;
01555       default:
01556        return DefWindowProc( hWindow, Message, wParam, lParam );
01557      }
01558      return 0;
01559 }
01560
01561
01562
01563 /*
01564 ------------------- Event Handler Statusfenster ------------------------
01565 */
01566
01567
01568
01569 void TCSstatWndProc_OnPaint (HWND hWindow)
01570 {
01571 int i;
01572 PAINTSTRUCT ps;
01573
01574      BeginPaint (hWindow, &ps);
01575      #if !defined(__WIN32__) && !defined(_WIN32)
01576       SelectFont (ps.hdc, hTCSSysFont);      // Aktuellen Zeichenstatus an
01577      #else
01578       SelectObject (ps.hdc, hTCSSysFont);      // Aktuellen Zeichenstatus an
01579      #endif
01580      SetMapMode (ps.hdc, MM_TEXT);
01581      SetWindowOrgEx (ps.hdc, 0,TCSstatOrgY*TextLineHeight, NULL);
01582      for (i=0; i <= TCSstatRow; i++ )
01583       TextOut (ps.hdc, 0, i*TextLineHeight, TCSstatTextBuf[i],
01584                                          _tcslen (TCSstatTextBuf[i]));
01585      EndPaint( hWindow, &ps );
01586 }
01587
01588
01589
01590 void TCSstatWndProc_OnKillfocus (HWND hWindow, HWND hNewWindow)
01591 {
01592      if (TCSStatWindowAutomatic) ShowWindow (hWindow, SW_HIDE);
01593 }
01594
01595
01596
01597 void TCSstatWndProc_OnGetminmaxinfo (HWND hWindow, MINMAXINFO FAR* lpMinMaxInfo)
01598 /* Beschränkung User-erzeugbare Fenstergröße */
01599 {
01600      lpMinMaxInfo -> ptMaxSize.x = GetSystemMetrics (SM_CXMAXIMIZED);
01601      lpMinMaxInfo -> ptMaxSize.y = (int) (TCS_REL_CHR_SPACE*TextLineHeight) +
01602                                    STAT_MINLINES*GetSystemMetrics (SM_CYMINTRACK);
01603      lpMinMaxInfo -> ptMaxPosition.x = 0;
01604      #if !defined(__WIN32__) && !defined(_WIN32)
01605       lpMinMaxInfo -> ptMaxPosition.y = GetSystemMetrics (SM_CYFULLSCREEN) -
01606                                    STAT_MINLINES*GetSystemMetrics (SM_CYMINTRACK);
```

```
01607     #else
01608      lpMinMaxInfo -> ptMaxPosition.y = GetSystemMetrics (SM_CYMAXIMIZED) -
01609                                  (lpMinMaxInfo -> ptMaxSize.y);
01610     #endif
01611     lpMinMaxInfo -> ptMinTrackSize.x = GetSystemMetrics (SM_CXMINTRACK);
01612     lpMinMaxInfo -> ptMinTrackSize.y = GetSystemMetrics (SM_CYMINTRACK);
01613     lpMinMaxInfo -> ptMaxTrackSize.x = GetSystemMetrics (SM_CXMAXIMIZED);
01614     lpMinMaxInfo -> ptMaxTrackSize.y = STAT_ADDLINES*TextLineHeight+
01615                                  (lpMinMaxInfo -> ptMaxSize.y);
01616 }
01617
01618
01619
01620 void TCSstatWndProc_OnVScroll (HWND hWindow, HWND hNewWindow, WPARAM wParam,
01621                                                               LPARAM lParam)
01622 {
01623     switch (wParam) {
01624      case SB_LINEUP:
01625       TCSstatScrollY --;
01626       if (TCSstatScrollY < 0) TCSstatScrollY=0;
01627       break;
01628      case SB_LINEDOWN:
01629       TCSstatScrollY ++;
01630       if (TCSstatScrollY >= STAT_MAXROWS) TCSstatScrollY=STAT_MAXROWS-1;
01631       break;
01632      case SB_PAGEUP:
01633       TCSstatScrollY -= STAT_PAGESIZ;
01634       if (TCSstatScrollY < 0) TCSstatScrollY=0;
01635       break;
01636      case SB_PAGEDOWN:
01637       TCSstatScrollY += STAT_PAGESIZ;
01638       if (TCSstatScrollY >= STAT_MAXROWS) TCSstatScrollY=STAT_MAXROWS-1;
01639       break;
01640      case SB_THUMBPOSITION:
01641       TCSstatScrollY= (int) lParam;
01642       if (TCSstatScrollY < 0) TCSstatScrollY=0;
01643       if (TCSstatScrollY >= STAT_MAXROWS) TCSstatScrollY=STAT_MAXROWS-1;
01644       InvalidateRect (hWindow, NULL, true); /* ,ClientArea, EraseFlag */
01645       UpdateWindow (hWindow);               /* zwingend notwendig für Win16 */
01646       break;
01647     }
01648     ScrollWindow (hWindow, 0, (TCSstatOrgY-TCSstatScrollY)*TextLineHeight,
01649                                                                 NULL, NULL);
01650     SetScrollPos (hWindow, SB_VERT, TCSstatScrollY, true);
01651     TCSstatOrgY= TCSstatScrollY;
01652 }
01653
01654
01655
01656 LRESULT CALLBACK EXPORT16 TCSstatWndProc(HWND hWindow, UINT Message,
01657                             WPARAM wParam, LPARAM lParam)
01658 {
01659     switch( Message ) {
01660      HANDLE_MSG(hWindow, WM_PAINT, TCSstatWndProc_OnPaint);
01661      HANDLE_MSG(hWindow, WM_KILLFOCUS, TCSstatWndProc_OnKillfocus);
01662      HANDLE_MSG(hWindow, WM_GETMINMAXINFO, TCSstatWndProc_OnGetminmaxinfo);
01663      HANDLE_MSG(hWindow, WM_VSCROLL, TCSstatWndProc_OnVScroll);
01664      default:
01665       return DefWindowProc( hWindow, Message, wParam, lParam );
01666     }
01667     return 0;
01668 }
01669
01670
01671
01672 /*
01673 ---------------------- Userroutinen: Initialisierung -------------------
01674 */
01675
01676
01677
01678 extern void tcslev3 (FTNINT *SysLev)
01679
01680 {
01681     *SysLev= TCSLEV3SYS;
01682 }
01683
01684
01685
01686 #ifdef XMLSUPPORT
01687
01688 void XMLreadProgPar (const char * filname)
01689 {
01690 int ParserState;
01691 FILE *fp;
01692 mxml_node_t *tree;
01693
```

```
01694     fp = fopen(filname, "r");
01695     if (fp == NULL) {
01696      TCSGraphicError (ERR_XMLOPEN, filname);
01697     } else {
01698       ParserState= -1; // State= idle
01699       mxmlSetErrorCallback ((mxml_error_cb_t)sax_error_callback);
01700       tree = mxmlSAXLoadFile(NULL, fp, sax_type_callback, sax_callback, &ParserState);
01701       fclose(fp);
01702     }
01703 }
01704
01705 #endif    // Ende XML-Unterstützung
01706
01707
01708
01709 /*
01710 Defaultwerte sind bereits durch Compiler initialisiert worden. Hier werden nur
01711 die Parameter wiederhergestellt, die fuer einen erneuten Aufruf von initt nach
01712 finitt sinnvoll sind.
01713 */
01714
01715 void PresetProgPar ()
01716 {
01717     TCSDefaultLinCol= TCS_INIDEF_LINCOL;
01718     TCSDefaultTxtCol= TCS_INIDEF_TXTCOL;
01719     TCSDefaultBckCol= TCS_INIDEF_BCKCOL;
01720
01721     TCSwindowIniXrelpos= TCS_INIDEF_WINPOSX;
01722     TCSwindowIniYrelpos= TCS_INIDEF_WINPOSY;
01723     TCSwindowIniXrelsiz= TCS_INIDEF_WINSIZX;
01724     TCSwindowIniYrelsiz= TCS_INIDEF_WINSIZY;
01725
01726     TCSstatWindowIniXrelpos= TCS_INIDEF_STATPOSX;
01727     TCSstatWindowIniYrelpos= TCS_INIDEF_STATPOSY;
01728     TCSstatWindowIniXrelsiz= TCS_INIDEF_STATSIZX;
01729     TCSstatWindowIniYrelsiz= TCS_INIDEF_STATSIZY;
01730
01731     // Fensternamen werden nur durch winlbl vorher veraendert
01732
01733     // Hardcopyname und Zaehlerstand bleibt!
01734
01735     // Fehlermeldungen werden bei der Variablendefinition durch den Compiler initialisiert
01736 }
01737
01738
01739
01740 /*
01741 Anpassung der Dateinamen an die Laufzeitumgebung
01742 */
01743
01744 void CustomizeProgPar ()
01745 {
01746 // Absicherung der Definition der Programmparameter
01747 #if (TCS_WINDOW_NAMELEN <= TCS_FILE_NAMELEN)
01748  #define TMPSTRLEN TCS_FILE_NAMELEN
01749 #else
01750  #define TMPSTRLEN TCS_WINDOW_NAMELEN
01751 #endif
01752
01753 int         iL;
01754 char        szTmpString[TMPSTRLEN];
01755 FTNSTRDESC  ftn_WorkString, o, n;
01756
01757 szTmpString[0]= '\0';
01758 n.addr= szTmpString; // Token bei Fonts werden geloescht
01759 n.len= TMPSTRLEN;
01760
01761 #ifdef XMLSUPPORT // Angabe von Dateinamen fuer Fonts bei Windows nicht moeglich
01762     o.addr= PROGDIRTOKEN; // Token %: loeschen
01763     o.len= strlen (o.addr);
01764     ftn_WorkString.len= TCS_FILE_NAMELEN; // Font Graphikfenster
01765     ftn_WorkString.addr= szTCSGraphicFont;
01766     o.addr= PROGDIRTOKEN; // Substring %: loeschen
01767     o.len= strlen (o.addr);
01768     SUBSTITUTE( CALLFTNSTRA(ftn_WorkString),
01769                 CALLFTNSTRA(ftn_WorkString), CALLFTNSTRA(o), CALLFTNSTRA(n)
01770                 CALLFTNSTRL(ftn_WorkString)
01771                 CALLFTNSTRL(ftn_WorkString) CALLFTNSTRL(o) CALLFTNSTRL(n) );
01772
01773     ftn_WorkString.addr= szTCSSysFont; // Font Statusfenster
01774     SUBSTITUTE( CALLFTNSTRA(ftn_WorkString),
01775                 CALLFTNSTRA(ftn_WorkString), CALLFTNSTRA(o), CALLFTNSTRA(n)
01776                 CALLFTNSTRL(ftn_WorkString)
01777                 CALLFTNSTRL(ftn_WorkString) CALLFTNSTRL(o) CALLFTNSTRL(n) );
01778
01779
01780     o.addr= INIFILEXTTOKEN; // Token .% loeschen
```

```
01781     o.len= strlen (o.addr); // Font Statusfenster
01782     SUBSTITUTE( CALLFTNSTRA(ftn_WorkString),
01783                 CALLFTNSTRA(ftn_WorkString), CALLFTNSTRA(o), CALLFTNSTRA(n)
01784                 CALLFTNSTRL(ftn_WorkString)
01785                 CALLFTNSTRL(ftn_WorkString) CALLFTNSTRL(o) CALLFTNSTRL(n) );
01786
01787     ftn_WorkString.addr= szTCSGraphicFont; // Font Graphikfenster
01788     SUBSTITUTE( CALLFTNSTRA(ftn_WorkString),
01789                 CALLFTNSTRA(ftn_WorkString), CALLFTNSTRA(o), CALLFTNSTRA(n)
01790                 CALLFTNSTRL(ftn_WorkString)
01791                 CALLFTNSTRL(ftn_WorkString) CALLFTNSTRL(o) CALLFTNSTRL(n) );
01792 #endif // Ende XML-Unterstützung, in *.INI und Registry keine Verwendung Token
01793
01794     if (strlen(szTCSWindowName) == 0) { // '/0' durch WINLBL -> Default
01795         strncpy(szTCSWindowName, TCS_WINDOW_NAME, TCS_WINDOW_NAMELEN);
01796     }
01797     if (strlen(szTCSstatWindowName) == 0) {
01798         strncpy(szTCSstatWindowName, TCS_STATWINDOW_NAME, TCS_WINDOW_NAMELEN);
01799     }
01800
01801     o.addr= PROGDIRTOKEN; // Substring %: vollstaendiger Programmname
01802     o.len= strlen (o.addr);
01803     #if !defined(__WIN32__) && !defined(_WIN32)   /* nicht bei DLL möglich */
01804      #if defined __WATCOMC__
01805       iL= 0;            /* Argument 0= Voller Programmname mit Directory */
01806       iL= igetarg ((FTNINT *) &iL, &n);
01807      #else
01808       #error "Kompilation für 16bit Windows nur mit Watcom-Compiler möglich"
01809      #endif
01810     #else   /* alternativ nur Win32: hInst=NULL: prozesserzeugende Instanz */
01811      iL= GetModuleFileName(NULL, n.addr, n.len);
01812     #endif
01813     if (iL <= 0) {
01814      n.addr[0]= (FTNCHAR) 0; /* kein Programmnamen bekannt */
01815     }
01816     ftn_WorkString.len= TCS_WINDOW_NAMELEN; // Ersatz %: im Graphikfenster
01817     ftn_WorkString.addr= szTCSWindowName;
01818     SUBSTITUTE( CALLFTNSTRA(ftn_WorkString),
01819                 CALLFTNSTRA(ftn_WorkString), CALLFTNSTRA(o), CALLFTNSTRA(n)
01820                 CALLFTNSTRL(ftn_WorkString)
01821                 CALLFTNSTRL(ftn_WorkString) CALLFTNSTRL(o) CALLFTNSTRL(n) );
01822    ftn_WorkString.addr= szTCSstatWindowName; // Ersatz %: im Statusfenster
01823    SUBSTITUTE( CALLFTNSTRA(ftn_WorkString),
01824                 CALLFTNSTRA(ftn_WorkString), CALLFTNSTRA(o), CALLFTNSTRA(n)
01825                 CALLFTNSTRL(ftn_WorkString)
01826                 CALLFTNSTRL(ftn_WorkString) CALLFTNSTRL(o) CALLFTNSTRL(n) );
01827
01828 // Absicherung TMPSTRLEN nicht mehr benoetigt
01829 #undef TMPSTRLEN
01830 }
01831
01832
01833
01834
01835 extern void winlbl (FTNSTRPAR * PloWinNam, FTNSTRPAR * StatWinNam,
01836                                            FTNSTRPAR *IniFilNam
01837                                            FTNSTRPAR_TAIL(PloWinNam)
01838                                            FTNSTRPAR_TAIL(StatWinNam)
01839                                            FTNSTRPAR_TAIL(IniFilNam)      )
01840
01841 {
01842
01843 #if (TCS_WINDOW_NAMELEN <= TCS_FILE_NAMELEN)
01844  #define TMPSTRLREN TCS_FILE_NAMELEN
01845 #else
01846  #define TMPSTRLREN TCS_WINDOW_NAMELEN
01847 #endif
01848
01849 FTNCHARLEN  i, iL;
01850 FTNCHAR     szTmpString[TMPSTRLREN], szTmpString1[TMPSTRLREN];
01851 FTNCHAR *   iAt;
01852 FTNSTRDESC  o, n, ftn_WorkString;
01853
01854
01855     iL= min(FTNSTRPARL(PloWinNam), TMPSTRLREN-1);    // Name des Grahikfensters
01856     _tcsncpy(szTmpString, FTNSTRPARA(PloWinNam),iL);
01857     szTmpString[iL]= (FTNCHAR) 0; // Fortranstring evtl. ohne \0
01858     iL= min (_tcslen (szTmpString), TCS_WINDOW_NAMELEN-1);
01859     if (iL > 0) {
01860      _tcsncpy( szTCSWindowName, szTmpString, iL);
01861      szTCSWindowName[iL]= (FTNCHAR) 0;
01862     }
01863
01864     iL= min(FTNSTRPARL(StatWinNam), TMPSTRLREN-1);   // Name des Statusfensters
01865     _tcsncpy(szTmpString, FTNSTRPARA(StatWinNam), iL);
01866     szTmpString[iL]= (FTNCHAR) 0; // Fortranstring evtl. ohne \0
01867     iL= min (_tcslen (szTmpString), TCS_WINDOW_NAMELEN-1);
```

```
01868     if (iL > 0) {
01869      _tcsncpy( szTCSstatWindowName, szTmpString, iL);
01870      szTCSstatWindowName[iL]= (FTNCHAR) 0;
01871     }
01872
01873     iL= min(FTNSTRPARL(IniFilNam), TMPSTRLREN-1); // Name Initialisierungsdatei
01874     _tcsncpy(szTmpString, FTNSTRPARA(IniFilNam), iL);
01875     szTmpString[iL]= (FTNCHAR) 0; // Fortranstring evtl. ohne \0
01876
01877     iL= min (_tcslen (szTmpString), TCS_FILE_NAMELEN-1);
01878
01879     if (iL > 0) {
01880      _tcsncpy( szTCSIniFile, szTmpString, iL);
01881      szTCSIniFile[iL]= (FTNCHAR) 0;
01882
01883      iAt= _tcsstr (szTCSIniFile, _T("@")); // Section Level0?
01884      if (iAt != 0) {
01885       _tcsncpy(szTCSsect0, &iAt[1], iL); // Abspeichern
01886       iAt[0]= (FTNCHAR) 0; // Abschneiden von @Section0 in szTCSIniFile
01887      }
01888
01889      ftn_WorkString.len= TCS_FILE_NAMELEN;
01890      ftn_WorkString.addr= szTCSIniFile;
01891
01892      n.len= _tcslen (INIFILEXT);
01893      n.addr= INIFILEXT;
01894      o.len= _tcslen (INIFILEXTTOKEN);
01895      o.addr= INIFILEXTTOKEN;
01896      SUBSTITUTE( CALLFTNSTRA(ftn_WorkString),
01897                  CALLFTNSTRA(ftn_WorkString), CALLFTNSTRA(o), CALLFTNSTRA(n)
01898                  CALLFTNSTRL(ftn_WorkString)
01899                  CALLFTNSTRL(ftn_WorkString) CALLFTNSTRL(o) CALLFTNSTRL(n) );
01900
01901      n.len= TCS_FILE_NAMELEN;
01902      n.addr= (FTNCHAR *) &szTmpString1;
01903      o.len= _tcslen (PROGDIRTOKEN);
01904      o.addr= PROGDIRTOKEN;
01905
01906      _tcsncpy (szTmpString1, szTCSIniFile, TCS_FILE_NAMELEN);
01907      _tcsrev (szTmpString1); // Abfrage Ende des Strings, Extension rueckwaerts!
01908
01909      if (_tcsnicmp (szTmpString1, _T("GER."),4) == 0) { // Filename endet .REG?
01910       n.addr[0]= (FTNCHAR) 0; /* keine Directory sinnvoll -> Token loeschen */
01911      } else {
01912       #if !defined(__WIN32__) && !defined(_WIN32)   /* nicht bei DLL möglich */
01913        #if defined __WATCOMC__
01914         iL= 0;             /* Argument 0= Voller Programmname mit Directory */
01915         iL= igetarg ((FTNINT *) &iL, &n);
01916        #else
01917         #error "Kompilation für 16bit Windows nur mit Watcom-Compiler möglich"
01918        #endif
01919       #else   /* alternativ nur Win32: hInst=NULL: prozesserzeugende Instanz */
01920        iL= GetModuleFileName(NULL, n.addr, n.len);
01921       #endif
01922       if (iL>0) {
01923        for (i=iL-1;(n.addr[i]!= (FTNCHAR) '\\' ) || (i==0); i--);
01924        i++;
01925        if (i < n.len) n.addr[i]= (FTNCHAR) 0; /* jetzt: Programmname entfernt */
01926       } else {
01927        n.addr[0]= (FTNCHAR) 0; /* keine Directory bekannt */
01928       }
01929      }
01930      SUBSTITUTE( CALLFTNSTRA(ftn_WorkString),
01931                  CALLFTNSTRA(ftn_WorkString), CALLFTNSTRA(o), CALLFTNSTRA(n)
01932                  CALLFTNSTRL(ftn_WorkString)
01933                  CALLFTNSTRL(ftn_WorkString) CALLFTNSTRL(o) CALLFTNSTRL(n) );
01934
01935     }
01936
01937 #undef TMPSTRLREN
01938 }
01939
01940
01941
01942 extern void initt1 (HINSTANCE *hParentInstance, HWND *hParentWindow)
01943 {
01944 int         nCmdShow, iX,iY, iSizeX, iSizeY;
01945 DWORD       FirstShow;
01946 WNDCLASS    TCSWndClass;
01947 HMENU       SysMenu;
01948 TCHAR       szTmpString[TCS_FILE_NAMELEN];
01949 TEXTMETRIC  lpTM;
01950
01951 #if defined(__WIN32__) || defined(_WIN32) || defined (REGSUPPORT)
01952  DWORD       retValue;
01953  LPVOID      lpMsgBuf;
01954 #endif
```

```
01955
01956 #if defined(REGSUPPORT)
01957  HKEY hSysrootKey, hRootKey,hSectionKey;
01958  TCHAR szRootKey[TCS_FILE_NAMELEN]= _T("Software\\"); // +IniFilename ohne Ext.
01959  TCHAR szSectionKey[TCS_FILE_NAMELEN];
01960  TCHAR szTmpString2[TCS_FILE_NAMELEN];
01961  DWORD dwSectionKeyLen;
01962  DWORD TmpStringLen, TmpStringLen2;
01963  DWORD i, j;
01964  DWORD retValue2;
01965 #endif
01966
01967 #if (JOURNALTYP == 2)
01968  RECT   screenrect;
01969  int iWidthMM, iHeightMM, iWidthPixel, iHeightPixel;
01970 #elif (JOURNALTYP == 3)
01971  struct xJournalEntry_typ * xJournalEntry;
01972 #endif
01973
01974
01975     if (TCSinitialized) return;   /* Bereits initialisiert */
01976     TCSinitialized= true;
01977
01978     PresetProgPar (); // Nach 2.Aufruf: nur Farben keine Namen wiederherstellen
01979
01980     if ( _tcslen (szTCSIniFile) <= 4) { // Extension muss angegeben werden!
01981      _tcsncpy (szTCSIniFile, _T("TooShortInitfilename"), TCS_FILE_NAMELEN);
01982     }
01983
01984     _tcsncpy (szTmpString, szTCSIniFile, TCS_FILE_NAMELEN);
01985     _tcsrev (szTmpString); // Abfrage Ende des Strings, Extension rueckwaerts!
01986
01987     /*
01988         Falls Extension des Ini-Files .XML: XML-Parser
01989     */
01990 #if defined(XMLSUPPORT)
01991     if (_tcsnicmp (szTmpString, _T("LMX."),4) == 0) { // Filename endet .XML?
01992      XMLreadProgPar (szTCSIniFile);
01993     } else  // endif Initialisierung ueber *.xml
01994 #endif
01995
01996
01997     /*
01998         Falls Extension des Ini-Files .REG: Auswertung der Registry
01999     */
02000 #if defined(REGSUPPORT)
02001     if (_tcsnicmp (szTmpString, _T("GER."),4) == 0) { // Filename endet .REG?
02002      _tcsncat (szRootKey, szTCSIniFile, _tcslen (szTCSIniFile)-4);
02003      for (hSysrootKey= HKEY_LOCAL_MACHINE; hSysrootKey!= NULL; ) {
02004       if (!RegOpenKeyEx( hSysrootKey, szRootKey, 0, KEY_READ, &hRootKey)) {
02005        szSectionKey[0]= (FTNCHAR) 0; // 1. Durchlauf ohne Section
02006        for (i = 0, retValue= false; !retValue; i++) {
02007         if (!RegOpenKeyEx( hRootKey, szSectionKey, 0, KEY_READ, &hSectionKey)) {
02008          for (j = 0, retValue2 = false; !retValue2; j++) {
02009           TmpStringLen= TCS_FILE_NAMELEN;          // Codewort
02010           TmpStringLen2= TCS_FILE_NAMELEN;         // Wert des Codewortes
02011           retValue2= RegEnumValue(hSectionKey, j, szTmpString, &TmpStringLen,
02012                             NULL, NULL, (LPBYTE) szTmpString2, &TmpStringLen2);
02013           if (!retValue2) StoreIni (szSectionKey,szTmpString, szTmpString2);
02014          }
02015          RegCloseKey(hSectionKey);
02016         }
02017         dwSectionKeyLen= TCS_FILE_NAMELEN;
02018         retValue= RegEnumKeyEx(hRootKey, i, szSectionKey, &dwSectionKeyLen,
02019                                                 NULL,  NULL, NULL, NULL);
02020        }
02021        RegCloseKey(hRootKey);
02022       }
02023       if (hSysrootKey == HKEY_LOCAL_MACHINE) {
02024        hSysrootKey= HKEY_CURRENT_USER;
02025       } else if (hSysrootKey == HKEY_CURRENT_USER) {
02026        hSysrootKey= NULL;
02027       }
02028      } // 2x: HKEY_LOCAL_MACHINE, HKEY_CURRENT_USER (ueberschreibt LOCAL_MACH.)
02029     } else  // endif Registryinitialisierung
02030 #endif
02031
02032     /*
02033         Falls Extension des Ini-Files .INI: Auswertung der Initialisierungsdatei
02034     */
02035
02036     if (_tcsnicmp (szTmpString, _T("INI."),4) == 0) { // Filename endet .INI?
02037      if (_tcslen(szTCSWindowName)==0)
02038       GetPrivateProfileString(TCS_INISECT1,TCS_INIVAR_WINNAM,
02039       TCS_WINDOW_NAME, szTCSWindowName, TCS_WINDOW_NAMELEN, szTCSIniFile);
02040      if (_tcslen(szTCSstatWindowName)==0)
02041       GetPrivateProfileString(TCS_INISECT1,TCS_INIVAR_STATNAM,
```

```
02042       TCS_STATWINDOW_NAME,szTCSstatWindowName,TCS_WINDOW_NAMELEN,szTCSIniFile);
02043
02044     GetPrivateProfileString(TCS_INISECT1,TCS_INIVAR_MAINWINNAM,
02045       TCS_MAINWINDOW_NAME,szTCSMainWindowName,TCS_WINDOW_NAMELEN,szTCSIniFile);
02046
02047     GetPrivateProfileString(TCS_INISECT1,TCS_INIVAR_HDCNAM, TCS_HDCFILE_NAME,
02048                             szTCSHardcopyFile,TCS_FILE_NAMELEN,szTCSIniFile);
02049
02050
02051     GetPrivateProfileString (TCS_INISECT2,TCS_INIVAR_COPMEN,TCS_INIDEF_COPMEN,
02052                              szTCSMenuCopyText, STAT_MAXCOLUMNS, szTCSIniFile);
02053     GetPrivateProfileString (TCS_INISECT2,TCS_INIVAR_FONT,TCS_INIDEF_FONT,
02054                              szTCSGraphicFont, TCS_FILE_NAMELEN, szTCSIniFile);
02055     GetPrivateProfileString (TCS_INISECT2,TCS_INIVAR_SYSFONT,TCS_INIDEF_SYSFONT,
02056                              szTCSSysFont, TCS_FILE_NAMELEN, szTCSIniFile);
02057     GetPrivateProfileString(TCS_INISECT2,TCS_INIVAR_ICONNAM, TCS_ICONFILE_NAME,
02058                             szTCSIconFile,TCS_FILE_NAMELEN,szTCSIniFile);
02059
02060     TCSwindowIniXrelpos= GetPrivateProfileInt (TCS_INISECT2,
02061                          TCS_INIVAR_WINPOSX, TCS_INIDEF_WINPOSX, szTCSIniFile);
02062     TCSwindowIniYrelpos= GetPrivateProfileInt (TCS_INISECT2,
02063                          TCS_INIVAR_WINPOSY, TCS_INIDEF_WINPOSY, szTCSIniFile);
02064     TCSwindowIniXrelsiz= GetPrivateProfileInt (TCS_INISECT2,
02065                          TCS_INIVAR_WINSIZX, TCS_INIDEF_WINSIZX, szTCSIniFile);
02066     TCSwindowIniYrelsiz= GetPrivateProfileInt (TCS_INISECT2,
02067                          TCS_INIVAR_WINSIZY, TCS_INIDEF_WINSIZY, szTCSIniFile);
02068
02069     TCSstatWindowIniXrelpos= GetPrivateProfileInt (TCS_INISECT2,
02070                          TCS_INIVAR_STATPOSX, TCS_INIDEF_STATPOSX, szTCSIniFile);
02071     TCSstatWindowIniYrelpos= GetPrivateProfileInt (TCS_INISECT2,
02072                          TCS_INIVAR_STATPOSY, TCS_INIDEF_STATPOSY, szTCSIniFile);
02073     TCSstatWindowIniXrelsiz= GetPrivateProfileInt (TCS_INISECT2,
02074                          TCS_INIVAR_STATSIZX, TCS_INIDEF_STATSIZX, szTCSIniFile);
02075     TCSstatWindowIniYrelsiz= GetPrivateProfileInt (TCS_INISECT2,
02076                          TCS_INIVAR_STATSIZY, TCS_INIDEF_STATSIZY, szTCSIniFile);
02077
02078     TCSDefaultLinCol= GetPrivateProfileInt (TCS_INISECT2,
02079                          TCS_INIVAR_LINCOL,TCS_INIDEF_LINCOL, szTCSIniFile);
02080     TCSDefaultTxtCol= GetPrivateProfileInt (TCS_INISECT2,
02081                          TCS_INIVAR_TXTCOL,TCS_INIDEF_TXTCOL, szTCSIniFile);
02082     TCSDefaultBckCol= GetPrivateProfileInt (TCS_INISECT2,
02083                          TCS_INIVAR_BCKCOL,TCS_INIDEF_BCKCOL, szTCSIniFile);
02084
02085
02086     GetPrivateProfileString (TCS_INISECT3,TCS_INIVAR_HDCOPN,TCS_INIDEF_HDCOPN,
02087                 szTCSErrorMsg[WRN_HDCFILOPN], STAT_MAXCOLUMNS, szTCSIniFile);
02088     TCSErrorLev[WRN_HDCFILOPN]= GetPrivateProfileInt (TCS_INISECT3,
02089                    TCS_INIVAR_HDCOPNL,TCS_INIDEF_HDCOPNL, szTCSIniFile);
02090
02091     GetPrivateProfileString (TCS_INISECT3,TCS_INIVAR_HDCWRT,TCS_INIDEF_HDCWRT,
02092                  szTCSErrorMsg[WRN_HDCFILWRT], STAT_MAXCOLUMNS, szTCSIniFile);
02093     TCSErrorLev[WRN_HDCFILWRT]= GetPrivateProfileInt (TCS_INISECT3,
02094                    TCS_INIVAR_HDCWRTL,TCS_INIDEF_HDCWRTL, szTCSIniFile);
02095
02096     GetPrivateProfileString (TCS_INISECT3,TCS_INIVAR_HDCINT,TCS_INIDEF_HDCINT,
02097                 szTCSErrorMsg[WRN_HDCINTERN], STAT_MAXCOLUMNS, szTCSIniFile);
02098     TCSErrorLev[WRN_HDCFILWRT]= GetPrivateProfileInt (TCS_INISECT3,
02099                    TCS_INIVAR_HDCINTL,TCS_INIDEF_HDCINTL, szTCSIniFile);
02100
02101     GetPrivateProfileString (TCS_INISECT3, TCS_INIVAR_USR,TCS_INIDEF_USR,
02102                    szTCSErrorMsg[MSG_USR], STAT_MAXCOLUMNS, szTCSIniFile);
02103     TCSErrorLev[MSG_USR]= GetPrivateProfileInt (TCS_INISECT3, TCS_INIVAR_USRL,
02104                    TCS_INIDEF_USRL, szTCSIniFile);
02105
02106     GetPrivateProfileString (TCS_INISECT3, TCS_INIVAR_HDCACT,TCS_INIDEF_HDCACT,
02107                    szTCSErrorMsg[MSG_HDCACT], STAT_MAXCOLUMNS, szTCSIniFile);
02108     TCSErrorLev[MSG_HDCACT]= GetPrivateProfileInt (TCS_INISECT3,
02109                    TCS_INIVAR_HDCACTL,TCS_INIDEF_HDCACTL, szTCSIniFile);
02110
02111     GetPrivateProfileString (TCS_INISECT3,TCS_INIVAR_USRWRN,TCS_INIDEF_USRWRN,
02112                 szTCSErrorMsg[WRN_USRPRESSANY],STAT_MAXCOLUMNS,szTCSIniFile);
02113     TCSErrorLev[WRN_USRPRESSANY]= GetPrivateProfileInt (TCS_INISECT3,
02114                    TCS_INIVAR_USRWRNL,TCS_INIDEF_USRWRNL, szTCSIniFile);
02115
02116     GetPrivateProfileString (TCS_INISECT3, TCS_INIVAR_EXIT,TCS_INIDEF_EXIT,
02117                    szTCSErrorMsg[ERR_EXIT], STAT_MAXCOLUMNS, szTCSIniFile);
02118     TCSErrorLev[ERR_EXIT]= GetPrivateProfileInt (TCS_INISECT3,
02119                    TCS_INIVAR_EXITL,TCS_INIDEF_EXITL, szTCSIniFile);
02120
02121     GetPrivateProfileString (TCS_INISECT3,TCS_INIVAR_COPMEM,TCS_INIDEF_COPMEM,
02122                 szTCSErrorMsg[WRN_COPYNOMEM], STAT_MAXCOLUMNS, szTCSIniFile);
02123     TCSErrorLev[WRN_COPYNOMEM]= GetPrivateProfileInt (TCS_INISECT3,
02124                    TCS_INIVAR_COPMEML,TCS_INIDEF_COPMEML, szTCSIniFile);
02125
02126     GetPrivateProfileString (TCS_INISECT3,TCS_INIVAR_COPLCK,TCS_INIDEF_COPLCK,
02127                  szTCSErrorMsg[WRN_COPYLOCK], STAT_MAXCOLUMNS, szTCSIniFile);
02128     TCSErrorLev[WRN_COPYLOCK]= GetPrivateProfileInt (TCS_INISECT3,
```

```
02129                     TCS_INIVAR_COPLCKL,TCS_INIDEF_COPLCKL, szTCSIniFile);
02130
02131      GetPrivateProfileString (TCS_INISECT3,TCS_INIVAR_JOUCREATE,TCS_INIDEF_JOUCREATE,
02132                    szTCSErrorMsg[WRN_JOUCREATE], STAT_MAXCOLUMNS, szTCSIniFile);
02133      TCSErrorLev[WRN_JOUCREATE]= GetPrivateProfileInt (TCS_INISECT3,
02134                     TCS_INIVAR_JOUCREATEL,TCS_INIDEF_JOUCREATEL, szTCSIniFile);
02135
02136      GetPrivateProfileString (TCS_INISECT3,TCS_INIVAR_JOUENTRY,TCS_INIDEF_JOUENTRY,
02137                    szTCSErrorMsg[WRN_JOUENTRY], STAT_MAXCOLUMNS, szTCSIniFile);
02138      TCSErrorLev[WRN_JOUENTRY]= GetPrivateProfileInt (TCS_INISECT3,
02139                     TCS_INIVAR_JOUENTRYL,TCS_INIDEF_JOUENTRYL, szTCSIniFile);
02140
02141      GetPrivateProfileString (TCS_INISECT3,TCS_INIVAR_JOUADD,TCS_INIDEF_JOUADD,
02142                    szTCSErrorMsg[WRN_JOUADD], STAT_MAXCOLUMNS, szTCSIniFile);
02143      TCSErrorLev[WRN_JOUADD]= GetPrivateProfileInt (TCS_INISECT3,
02144                     TCS_INIVAR_JOUADDL,TCS_INIDEF_JOUADDL, szTCSIniFile);
02145
02146      GetPrivateProfileString (TCS_INISECT3,TCS_INIVAR_JOUCLR,TCS_INIDEF_JOUCLR,
02147                    szTCSErrorMsg[WRN_JOUCLR], STAT_MAXCOLUMNS, szTCSIniFile);
02148      TCSErrorLev[WRN_JOUCLR]= GetPrivateProfileInt (TCS_INISECT3,
02149                     TCS_INIVAR_JOUCLRL,TCS_INIDEF_JOUCLRL, szTCSIniFile);
02150
02151      GetPrivateProfileString (TCS_INISECT3,TCS_INIVAR_JOUUNKWN,TCS_INIDEF_JOUUNKWN,
02152                    szTCSErrorMsg[WRN_JOUUNKWN], STAT_MAXCOLUMNS, szTCSIniFile);
02153      TCSErrorLev[WRN_JOUUNKWN]= GetPrivateProfileInt (TCS_INISECT3,
02154                     TCS_INIVAR_JOUUNKWNL,TCS_INIDEF_JOUUNKWNL, szTCSIniFile);
02155
02156
02157      GetPrivateProfileString (TCS_INISECT3,TCS_INIVAR_XMLPARSER,TCS_INIDEF_XMLPARSER,
02158                    szTCSErrorMsg[ERR_XMLPARSER], STAT_MAXCOLUMNS, szTCSIniFile);
02159      TCSErrorLev[WRN_JOUUNKWN]= GetPrivateProfileInt (TCS_INISECT3,
02160                     TCS_INIVAR_XMLPARSERL,TCS_INIDEF_XMLPARSERL, szTCSIniFile);
02161
02162      GetPrivateProfileString (TCS_INISECT3,TCS_INIVAR_XMLOPEN,TCS_INIDEF_XMLOPEN,
02163                    szTCSErrorMsg[ERR_XMLOPEN], STAT_MAXCOLUMNS, szTCSIniFile);
02164      TCSErrorLev[WRN_JOUUNKWN]= GetPrivateProfileInt (TCS_INISECT3,
02165                     TCS_INIVAR_XMLOPENL,TCS_INIDEF_XMLOPENL, szTCSIniFile);
02166
02167      GetPrivateProfileString (TCS_INISECT3,TCS_INIVAR_USR2,TCS_INIDEF_USR2,
02168                    szTCSErrorMsg[MSG_USR2], STAT_MAXCOLUMNS, szTCSIniFile);
02169      TCSErrorLev[WRN_JOUUNKWN]= GetPrivateProfileInt (TCS_INISECT3,
02170                     TCS_INIVAR_USR2L,TCS_INIDEF_USR2L, szTCSIniFile);
02171
02172      GetPrivateProfileString (TCS_INISECT3,TCS_INIVAR_INI2,TCS_INIDEF_INI2,
02173                    szTCSErrorMsg[WRN_INI2], STAT_MAXCOLUMNS, szTCSIniFile);
02174      TCSErrorLev[WRN_JOUUNKWN]= GetPrivateProfileInt (TCS_INISECT3,
02175                     TCS_INIVAR_INI2L,TCS_INIDEF_INI2L, szTCSIniFile);
02176
02177     } // endif Initialisierung ueber *.ini
02178
02179
02180     CustomizeProgPar (); // Ersatz %: durch Programmverzeichnis
02181
02182     /*
02183     Übernahme der durch den Nutzer angepassten Initialisierungsdaten
02184     */
02185
02186     TKTRNX.iLinCol= TCSDefaultLinCol;
02187     TKTRNX.iTxtCol= TCSDefaultTxtCol;
02188     TKTRNX.iBckCol= TCSDefaultBckCol;
02189
02190     /*
02191         Ermittlung der Instanz des Processes
02192     */
02193
02194     hTCSInst= *hParentInstance; // In Hauptprogramm durch INITT ermittelt
02195     hOwnerWindow= *hParentWindow;
02196
02197     if (_tcscmp(szTCSMainWindowName,_T("%:")) == 0) {
02198      _tcsncpy( szTCSMainWindowName,GetCommandLine(), STAT_MAXCOLUMNS);
02199     }
02200
02201     CreateMainWindow_IfNecessary (&hTCSInst,&hOwnerWindow,szTCSMainWindowName);
02202
02203     *hParentWindow= hOwnerWindow;   // Publizieren evtl. neues Handle DLL->Main
02204
02205     /*
02206         Ermittlung allgemeiner systemspezifischer Parameter
02207     */
02208
02209     TextLineHeight= GetSystemMetrics (SM_CYMENU); /* Höhe Menüeintrag */
02210     TCSCharHeight= (int)(TCS_REL_CHR_HEIGHT* (float)(HiRes(TextLineHeight)));
02211
02212     TCSBackgroundColour= TKTRNX.iBckCol;
02213
02214     TKTRNX.kStCol = STAT_MAXCOLUMNS;
02215     TKTRNX.iMouse = 3; /* werden z.Zt. bei DCURSR () ausgewertet */
```

```
02216
02217     /*
02218         Erzeugung des Graphikfensters
02219     */
02220
02221     TCSWndClass.style          = CS_OWNDC | CS_HREDRAW | CS_VREDRAW;
02222     TCSWndClass.lpfnWndProc    = TCSWndProc;
02223     TCSWndClass.cbClsExtra     = 0;
02224     TCSWndClass.cbWndExtra     = 0;
02225     TCSWndClass.hInstance      = hTCSInst;
02226
02227     #if (defined(__WIN32__) || defined(_WIN32))
02228      if (_tcslen (szTCSIconFile) != 0) {
02229       TCSWndClass.hIcon         = LoadImage (NULL, szTCSIconFile,
02230                                         IMAGE_ICON,0,0,LR_LOADFROMFILE);
02231      } else {
02232       TCSWndClass.hIcon         = LoadIcon (hTCSInst, TCS_WINDOW_ICON);
02233                                 /* Falls Icon nicht definiert->LoadIcon=NULL */
02234      }
02235     #else
02236      TCSWndClass.hIcon         = LoadIcon (hTCSInst, TCS_WINDOW_ICON);
02237     #endif
02238
02239     TCSWndClass.hCursor        = LoadCursor(NULL, IDC_ARROW);
02240     TCSWndClass.hbrBackground  = NULL; /* Erase-Handler, Brush unnötig */
02241     TCSWndClass.lpszMenuName   = NULL;
02242     TCSWndClass.lpszClassName  = TCS_WINDOWCLASS;
02243
02244      /* Register the window class. Fail: most probable UNICODE on win98 */
02245     if (!RegisterClass (&TCSWndClass)) {
02246      #if defined(__WIN32__) || defined(_WIN32)
02247       retValue= GetLastError(); // win32-Funktion
02248 //    if (retValue == ERROR_CLASS_ALREADY_EXISTS) {
02249 //     Hier bei Bedarf Fehlerbehandlung einführen
02250 //    } else {
02251        FormatMessage(
02252          FORMAT_MESSAGE_ALLOCATE_BUFFER | FORMAT_MESSAGE_FROM_SYSTEM,
02253          NULL,
02254          retValue,
02255          MAKELANGID(LANG_NEUTRAL, SUBLANG_DEFAULT), // Default language
02256          (LPTSTR) &lpMsgBuf,
02257          0,
02258          NULL
02259        );
02260        MessageBox (NULL, lpMsgBuf, szTCSWindowName, MB_ICONSTOP);
02261        LocalFree( lpMsgBuf ); // Free the buffer
02262 //    } // Ende der Fehlerbehandlung
02263      #else // rudimentaere Fehlerbehandlung 16bit Windows
02264       MessageBox (NULL, _T("Window Class not registered"),
02265                                    szTCSWindowName, MB_ICONSTOP);
02266      #endif
02267      return;
02268     }
02269
02270     if ((TCSwindowIniXrelsiz < 100) || (TCSwindowIniYrelsiz < 100) ) {
02271      nCmdShow= SW_SHOWNORMAL; /* Achtung, int = 2Byte bei WIN16!!! */
02272      iX= (int) ( ( (long int) TCSwindowIniXrelpos *
02273                  (long int) GetSystemMetrics (SM_CXMAXIMIZED)) / 100);
02274      iY= (int) ( ( (long int) TCSwindowIniYrelpos *
02275                  (long int) GetSystemMetrics (SM_CYMAXIMIZED)) / 100);
02276      iSizeX= (int) ( ( (long int) TCSwindowIniXrelsiz *
02277                  (long int) GetSystemMetrics (SM_CXMAXIMIZED)) / 100);
02278      iSizeY= (int) ( ( (long int) TCSwindowIniYrelsiz *
02279                  (long int) GetSystemMetrics (SM_CYMAXIMIZED)) / 100);
02280     } else {
02281      nCmdShow= SW_SHOWMAXIMIZED;
02282      iX= 0;
02283      iY= 0;
02284      iSizeX= GetSystemMetrics (SM_CXMAXIMIZED);
02285      iSizeY= GetSystemMetrics (SM_CYMAXIMIZED);
02286     }
02287
02288     hTCSWindow = CreateWindow(TCS_WINDOWCLASS, szTCSWindowName,
02289                         WS_OVERLAPPEDWINDOW,
02290                         iX, iY,
02291                         iSizeX, iSizeY,
02292                         hOwnerWindow,
02293                         (HMENU) NULL,
02294                         (HINSTANCE) hTCSInst, (LPSTR) NULL);
02295
02296     if (hTCSWindow == NULL) return;
02297
02298     hTCSWindowDC = GetDC (hTCSWindow);
02299
02300     SetWindowExtEx (hTCSWindowDC, TCSrect.right, TCSrect.bottom, NULL);
02301     SetWindowOrgEx (hTCSWindowDC, TCSrect.left, TCSrect.bottom, NULL);
02302
```

```
02303 #if (JOURNALTYP == 1)
02304     hTCSMetaFileDC = CreateMetaFile (NULL); /* Memory-based 16bit Metafile */
02305     SetWindowExtEx (hTCSMetaFileDC, TCSrect.right, TCSrect.bottom, NULL);
02306     SetWindowOrgEx (hTCSMetaFileDC, TCSrect.left, TCSrect.bottom, NULL);
02307     MoveToEx (hTCSMetaFileDC, 0, 0, NULL);  /* Cursorposition Neuzeichnen */
02308
02309 #elif (JOURNALTYP == 2)
02310     iWidthMM = GetDeviceCaps(hTCSWindowDC, HORZSIZE); // Bildschirmgroesse(mm)
02311     iHeightMM = GetDeviceCaps(hTCSWindowDC, VERTSIZE);
02312     iWidthPixel = GetDeviceCaps(hTCSWindowDC, HORZRES); // Bildschirm (Pixel)
02313     iHeightPixel = GetDeviceCaps(hTCSWindowDC, VERTRES);
02314
02315     screenrect.left= (TCSrect.left *iWidthMM *100)/iWidthPixel; // in .01 mm
02316     screenrect.top= (TCSrect.top *iHeightMM *100)/iHeightPixel;
02317     screenrect.right= (TCSrect.right *iWidthMM *100)/iWidthPixel; // right > left!
02318     screenrect.bottom= (TCSrect.bottom *iHeightMM *100)/iHeightPixel; // bottom > top!
02319
02320     hTCSMetaFileDC = CreateEnhMetaFile (hTCSWindowDC, NULL, &screenrect,
02321             _T("TCS for Windows\0Journalfile created by INITT\0" ));
02322
02323     SetMapMode (hTCSMetaFileDC, MM_ANISOTROPIC);
02324     SetViewportExtEx (hTCSMetaFileDC, TCSrect.right, -TCSrect.bottom, NULL);
02325     SetViewportOrgEx (hTCSMetaFileDC, TCSrect.left, TCSrect.top, NULL);
02326
02327     SetWindowExtEx (hTCSMetaFileDC, TCSrect.right, TCSrect.bottom, NULL);
02328     SetWindowOrgEx (hTCSMetaFileDC, TCSrect.left, TCSrect.bottom, NULL);
02329
02330     MoveToEx (hTCSMetaFileDC, 0, 0, NULL);  /* Cursorposition Neuzeichnen */
02331 #endif
02332
02333     ShowWindow (hTCSWindow, nCmdShow);      /* Skalierung Viewport  */
02334     UpdateWindow(hTCSWindow);               /* in TCSWndProc_OnSize */
02335
02336     SysMenu = GetSystemMenu (hTCSWindow, FALSE); /* Systemmenu: kein Close */
02337     DeleteMenu (SysMenu, 6, MF_BYPOSITION);
02338     AppendMenu (SysMenu,MF_STRING,TCS_WM_COPY,szTCSMenuCopyText);  /* Copy */
02339
02340     TCSFontdefinition.lfHeight= TCSCharHeight; /* Höhe, Breite */
02341     TCSFontdefinition.lfWidth= 0;
02342     TCSFontdefinition.lfEscapement= 0; /* lfEscapement=lfOrientation */
02343     TCSFontdefinition.lfOrientation= 0;
02344     TCSFontdefinition.lfWeight= FW_NORMAL; /* Strichstärke */
02345     TCSFontdefinition.lfItalic= false;
02346     TCSFontdefinition.lfUnderline= false;
02347     TCSFontdefinition.lfStrikeOut= false;
02348     TCSFontdefinition.lfCharSet= ANSI_CHARSET;
02349     TCSFontdefinition.lfOutPrecision= OUT_TT_ONLY_PRECIS;
02350     TCSFontdefinition.lfClipPrecision= CLIP_DEFAULT_PRECIS;
02351     TCSFontdefinition.lfQuality= DRAFT_QUALITY;
02352     TCSFontdefinition.lfPitchAndFamily= FF_MODERN | FIXED_PITCH;
02353     _tcscpy (TCSFontdefinition.lfFaceName, szTCSGraphicFont);
02354                         /* Bevorzugter Font, keine Proportionalschrift!!! */
02355
02356     hTCSFont= CreateFontIndirect (&TCSFontdefinition);
02357     #if !defined(__WIN32__) && !defined(_WIN32)
02358      SelectFont (hTCSWindowDC, hTCSFont);      // Aktuellen Zeichenstatus an
02359     #else
02360      SelectObject (hTCSWindowDC, hTCSFont);      // Aktuellen Zeichenstatus an
02361     #endif
02362     SetTextColor (hTCSWindowDC, dwColorTable[TKTRNX.iTxtCol]);
02363
02364     GetTextMetrics (hTCSWindowDC, &lpTM);
02365     TKTRNX.kitalc= 0;
02366     TKTRNX.ksizef= 0;
02367     TKTRNX.khorsz= (FTNINT) ((float)LoRes((float)lpTM.tmAveCharWidth *TEK_XMAX/iSizeX) + 0.25f);
02368     TKTRNX.kversz= (FTNINT) ((float)LoRes((float)lpTM.tmHeight *TEK_YMAX/iSizeY)  + 0.25f);
02369
02370     SetBkMode (hTCSWindowDC, TRANSPARENT );   /* Attribut statisch, durch */
02371     SetTextAlign (hTCSWindowDC, TA_LEFT | TA_BOTTOM | TA_UPDATECP); /* Ort: */
02372
02373     hTCSPen= CreatePen (PS_SOLID, 0, dwColorTable[TKTRNX.iLinCol]);
02374     #if !defined(__WIN32__) && !defined(_WIN32)
02375      SelectPen (hTCSWindowDC, hTCSPen); // 16bit: Makro aus windowsx.h
02376     #else
02377      SelectObject (hTCSWindowDC, hTCSPen); // 32bit: GDI Standardaufruf
02378     #endif
02379
02380     hGinCurs=LoadCursor(NULL, IDC_CROSS);
02381     hMouseCurs=LoadCursor(NULL, IDC_ARROW);
02382
02383 #if ( (JOURNALTYP == 1) || (JOURNALTYP == 2) )
02384     #if !defined(__WIN32__) && !defined(_WIN32)
02385      SelectFont (hTCSMetaFileDC, hTCSFont);      // Aktuellen Zeichenstatus an
02386     #else
02387      SelectObject (hTCSMetaFileDC, hTCSFont);      // Aktuellen Zeichenstatus an
02388     #endif
02389     SetBkMode (hTCSMetaFileDC, TRANSPARENT );
```

```
02390     SetTextAlign (hTCSMetaFileDC, TA_LEFT | TA_BOTTOM | TA_UPDATECP);
02391     SetTextColor (hTCSMetaFileDC, dwColorTable[TKTRNX.iTxtCol]);
02392     #if !defined(__WIN32__) && !defined(_WIN32)
02393      SelectPen (hTCSMetaFileDC, hTCSPen); // 16bit: Makro aus windowsx.h
02394     #else
02395      SelectObject (hTCSMetaFileDC, hTCSPen); // 32bit: GDI Standardaufruf
02396     #endif
02397
02398 #elif (JOURNALTYP == 3)
02399     hTCSJournal= NULL;
02400     xJournalEntry= (struct xJournalEntry_typ*) malloc (sizeof (struct xJournalEntry_typ));
02401     if (xJournalEntry == NULL) TCSGraphicError (WRN_JOUCREATE,"");
02402
02403     xJournalEntry->action=  XACTION_NOOP; // Erkennung Listenanfang: Wurzelelement ohne Funktion
02404     xJournalEntry->i1= 0;
02405     xJournalEntry->i2= 0;
02406     SGLIB_DL_LIST_ADD (xJournalEntry_typ, hTCSJournal, xJournalEntry, previous, next)
02407
02408     xJournalEntry= (struct xJournalEntry_typ*) malloc (sizeof (struct xJournalEntry_typ));
02409     if (xJournalEntry == NULL) TCSGraphicError (WRN_JOUENTRY,"");
02410     xJournalEntry->action=  XACTION_INITT;
02411     xJournalEntry->i1= 0;
02412     xJournalEntry->i2= 0;
02413     SGLIB_DL_LIST_ADD (xJournalEntry_typ, hTCSJournal, xJournalEntry, previous, next)
02414 #endif
02415
02416     /*
02417         Erzeugung des Statusfensters
02418     */
02419
02420     TCSWndClass.style          = CS_HREDRAW | CS_VREDRAW;  //  CS_OWNDC |
02421     TCSWndClass.lpfnWndProc    = TCSstatWndProc;
02422     TCSWndClass.hInstance      = hTCSInst;
02423     TCSWndClass.hIcon          = NULL;
02424     TCSWndClass.hCursor        = LoadCursor(NULL, IDC_ARROW);
02425     #if !defined(__WIN32__) && !defined(_WIN32)
02426      TCSWndClass.hbrBackground  = (HBRUSH) GetStockBrush(WHITE_BRUSH);
02427     #else
02428      TCSWndClass.hbrBackground  = GetStockObject(WHITE_BRUSH);
02429     #endif
02430     TCSWndClass.lpszMenuName   = NULL;
02431     TCSWndClass.lpszClassName  = TCS_STAT_WINDOWCLASS;
02432
02433     if (!RegisterClass (&TCSWndClass)) {
02434      #if defined(__WIN32__) || defined(_WIN32)
02435       retValue= GetLastError(); // win32-Funktion
02436 //    if (retValue == ERROR_CLASS_ALREADY_EXISTS) {
02437 //     Hier bei Bedarf Fehlerbehandlung einführen
02438 //    } else {
02439        FormatMessage(
02440          FORMAT_MESSAGE_ALLOCATE_BUFFER | FORMAT_MESSAGE_FROM_SYSTEM,
02441          NULL,
02442          retValue,
02443          MAKELANGID(LANG_NEUTRAL, SUBLANG_DEFAULT), // Default language
02444          (LPTSTR) &lpMsgBuf,
02445          0,
02446          NULL
02447        );
02448        MessageBox (NULL, lpMsgBuf, szTCSWindowName, MB_ICONSTOP);
02449        LocalFree( lpMsgBuf ); // Free the buffer
02450 //    } // Ende der Fehlerbehandlung
02451      #else // rudimentaere Fehlerbehandlung 16bit Windows
02452       MessageBox (NULL, _T("Window Class not registered"),
02453                                    szTCSWindowName, MB_ICONSTOP);
02454      #endif
02455      return;
02456     }
02457
02458     if ((TCSstatWindowIniXrelsiz < 100) || (TCSstatWindowIniYrelsiz < 100) ) {
02459      FirstShow= WS_OVERLAPPED | WS_SIZEBOX | WS_VSCROLL; // WIN16: int*2 !
02460      iX= (int) ( ( (long int) TCSstatWindowIniXrelpos *
02461                    (long int) GetSystemMetrics (SM_CXMAXIMIZED)) / 100);
02462      iY= (int) ( ( (long int) TCSstatWindowIniYrelpos *
02463                    (long int) GetSystemMetrics (SM_CYMAXIMIZED)) / 100);
02464      iSizeX= (int) ( ( (long int) TCSstatWindowIniXrelsiz *
02465                        (long int) GetSystemMetrics (SM_CXMAXIMIZED)) / 100);
02466      iSizeY= (int) ( ( (long int)  TCSstatWindowIniYrelsiz *
02467                        (long int) GetSystemMetrics (SM_CYMAXIMIZED) ) / 100);
02468     } else {
02469      FirstShow= WS_OVERLAPPED | WS_SIZEBOX | WS_VSCROLL | WS_MAXIMIZE;
02470      iX= 0;
02471      iY = GetSystemMetrics (SM_CYMAXIMIZED) -
02472                     #if defined(__WIN32__) || defined(_WIN32)
02473                                  (int) (TCS_REL_CHR_SPACE*TextLineHeight) -
02474                     #endif
02475                               STAT_MINLINES*GetSystemMetrics (SM_CYMINTRACK);
02476      iSizeX= GetSystemMetrics (SM_CXMAXIMIZED);
```

```
02477      iSizeY= (int) (TCS_REL_CHR_SPACE*TextLineHeight) +
02478                              STAT_MINLINES*GetSystemMetrics (SM_CYMINTRACK);
02479     }
02480
02481     hTCSstatWindow = CreateWindow(TCS_STAT_WINDOWCLASS, szTCSstatWindowName,
02482                         FirstShow,
02483                         iX, iY,
02484                         iSizeX, iSizeY,
02485                         (HWND) hTCSWindow, (HMENU) NULL,
02486                         (HINSTANCE) hTCSInst, (LPSTR) NULL);
02487
02488     if (hTCSstatWindow == NULL) return;
02489
02490     #ifdef STAT_WINDOW_PRIVATE
02491      hTCSstatWindowDC = GetDC (hTCSstatWindow);
02492     #endif
02493
02494     TCSFontdefinition.lfHeight= TextLineHeight; /* Buchstabenhöhe */
02495     _tcscpy (TCSFontdefinition.lfFaceName, szTCSSysFont);
02496                         /* Bevorzugter Font, keine Proportionalschrift!!! */
02497     hTCSSysFont= CreateFontIndirect (&TCSFontdefinition);
02498
02499     TCSFontdefinition.lfHeight= TCSCharHeight; /* Wiederherstellung Graphikzeichensatz */
02500     _tcscpy (TCSFontdefinition.lfFaceName, szTCSGraphicFont);
02501
02502
02503     TCSStatWindowAutomatic = true;
02504     TCSstatCursorPosY= 0;
02505     TCSstatScrollY= 0;
02506     TCSstatRow= -1;
02507     TCSstatOrgY= TCSstatScrollY;
02508     SetScrollRange (hTCSstatWindow, SB_VERT, 0,STAT_MAXROWS-1, true);
02509     SetScrollPos (hTCSstatWindow, SB_VERT, TCSstatScrollY, true);
02510
02511     ShowWindow (hTCSstatWindow, SW_HIDE);
02512
02513     ClippingNotActive= true;
02514
02515     return;
02516 }
02517
02518
02519
02520 extern void finitt ()
02521 {
02522 // FTNINT iErr;
02523 #if (JOURNALTYP == 1)
02524  HMETAFILE hmf;
02525 #elif (JOURNALTYP == 2)
02526  HENHMETAFILE hmf;
02527 #elif (JOURNALTYP == 3)
02528  struct xJournalEntry_typ * xJournalEntry;
02529 #endif
02530
02531
02532     if (!TCSinitialized) return; /* Graphiksystem nicht initialisiert */
02533
02534     TCSGraphicError (ERR_EXIT,"");  /* TCSinitialized verhindert Rekursion*/
02535
02536     TCSinitialized= false;           /* Ab jetzt nicht mehr funktionsfähig */
02537
02538     ReleaseDC (hTCSWindow, hTCSWindowDC);
02539     DestroyWindow (hTCSWindow);
02540     UnregisterClass (TCS_WINDOWCLASS, hTCSInst);
02541
02542 #if (JOURNALTYP == 1)
02543     hmf = CloseMetaFile (hTCSMetaFileDC);
02544     DeleteMetaFile (hmf);
02545 #elif (JOURNALTYP == 2)
02546     hmf = CloseEnhMetaFile (hTCSMetaFileDC);
02547     DeleteEnhMetaFile (hmf);
02548 #elif (JOURNALTYP == 3)
02549     SGLIB_DL_LIST_MAP_ON_ELEMENTS (struct xJournalEntry_typ, hTCSJournal,
02550           xJournalEntry,previous,next, {free (xJournalEntry);}); // free all
02551     hTCSJournal= NULL;
02552 #endif
02553
02554     #ifdef STAT_WINDOW_PRIVATE
02555      ReleaseDC (hTCSstatWindow, hTCSstatWindowDC);
02556     #endif
02557     DestroyWindow (hTCSstatWindow);
02558     UnregisterClass (TCS_STAT_WINDOWCLASS, hTCSInst);
02559
02560     #if !defined(__WIN32__) && !defined(_WIN32)
02561      DeleteFont (hTCSFont);
02562      DeleteFont (hTCSSysFont);
02563      DeletePen (hTCSPen);
```

```
02564     #else
02565      DeleteObject (hTCSFont);
02566      DeleteObject (hTCSSysFont);
02567      DeleteObject (hTCSPen);
02568     #endif
02569
02570     #if defined(__WATCOMC__) && defined(__SW_BW)
02571      _dwShutDown();        // Shutdown Watcom Default Window System
02572     #endif
02573
02574     if (TCSErrorLev[ERR_EXIT] >= 10) exit (EXIT_SUCCESS); // Programmende
02575     return; // Bei Fehlerlevel <10 zurück zum Hauptprogramm
02576 }
02577
02578
02579
02580 /*
02581 ---------------------- Userroutinen: Zeichnen -------------------
02582 */
02583
02584
02585
02586 extern void swind1 (FTNINT *ix1,FTNINT *iy1,FTNINT *ix2,FTNINT *iy2)
02587 {
02588     ClippingNotActive = (*ix1==0) && (*iy1==0) &&
02589                                      (*ix2==TEK_XMAX) && (*iy2==TEK_YMAX);
02590     /* Berechnung BOOL zur Wahrung der Programmstruktur der DOS-Version */
02591 }
02592
02593
02594
02595 extern void erase (void)
02596 {
02597 #if (JOURNALTYP == 1)
02598  HMETAFILE hmf;
02599  HRGN       hWindowRegion;
02600  HBRUSH     hBack;
02601 #elif (JOURNALTYP == 2)
02602  HENHMETAFILE   hmf;
02603  ENHMETAHEADER emh ;
02604 #elif (JOURNALTYP == 3)
02605  struct xJournalEntry_typ    * xJournalEntry;
02606 #endif
02607
02608 #if (JOURNALTYP == 1)
02609      hmf = CloseMetaFile (hTCSMetaFileDC);   /* Cursor, Farben unverändert! */
02610      DeleteMetaFile (hmf);                   /* alter Status Bildschirm */
02611      hTCSMetaFileDC  = CreateMetaFile (NULL);/* für neues Journalfile */
02612      SetWindowExtEx (hTCSMetaFileDC, TCSrect.right, TCSrect.bottom, NULL);
02613      SetWindowOrgEx (hTCSMetaFileDC, TCSrect.left, TCSrect.bottom, NULL);
02614
02615      hBack= CreateSolidBrush (dwColorTable[TKTRNX.iBckCol]);
02616      hWindowRegion= CreateRectRgn (TCSrect.left, TCSrect.top, TCSrect.right,TCSrect.bottom); //
       rechts,oben
02617      FillRgn (hTCSMetaFileDC, hWindowRegion, hBack);         // nicht eingeschlossen
02618      #if !defined(__WIN32__) && !defined(_WIN32)
02619       DeleteBrush (hBack);
02620       DeleteRgn (hWindowRegion);                  /* Resourcen freigeben */
02621       SelectFont (hTCSMetaFileDC, hTCSFont);      // Aktuellen Zeichenstatus an
02622      #else
02623       DeleteObject (hBack);
02624       DeleteObject (hWindowRegion);
02625       SelectObject (hTCSMetaFileDC, hTCSFont);      // Aktuellen Zeichenstatus an
02626      #endif
02627
02628      SetBkMode (hTCSMetaFileDC, TRANSPARENT );
02629      SetTextAlign (hTCSMetaFileDC, TA_LEFT | TA_BOTTOM | TA_UPDATECP);
02630      SetTextColor (hTCSMetaFileDC, dwColorTable[TKTRNX.iTxtCol]);
02631      #if !defined(__WIN32__) && !defined(_WIN32)
02632       SelectPen (hTCSMetaFileDC, hTCSPen); // 16bit: Makro aus windowsx.h
02633      #else
02634       SelectObject (hTCSMetaFileDC, hTCSPen); // 32bit: GDI Standardaufruf
02635      #endif
02636
02637      MoveToEx (hTCSMetaFileDC, HiRes(TKTRNX.kBeamX), HiRes(TKTRNX.kBeamY), NULL);
02638
02639 #elif (JOURNALTYP == 2)
02640      hmf = CloseEnhMetaFile (hTCSMetaFileDC);
02641      GetEnhMetaFileHeader (hmf, sizeof (emh), &emh) ;
02642      DeleteEnhMetaFile (hmf);                    // alter Status Bildschirm
02643
02644      hTCSMetaFileDC  = CreateEnhMetaFile (hTCSWindowDC, NULL, &emh.rclFrame,
02645                        _T("TCS for Windows\0Journalfile created by Erase\0\0"));
02646
02647      SetMapMode (hTCSMetaFileDC, MM_ANISOTROPIC);
02648      SetViewportExtEx (hTCSMetaFileDC, TCSrect.right, -TCSrect.bottom, NULL);
02649      SetViewportOrgEx (hTCSMetaFileDC, TCSrect.left, TCSrect.top, NULL);
```

```
02650       SetWindowExtEx (hTCSMetaFileDC, TCSrect.right, TCSrect.bottom, NULL);
02651       SetWindowOrgEx (hTCSMetaFileDC, TCSrect.left, TCSrect.bottom, NULL);
02652
02653       #if !defined(__WIN32__) && !defined(_WIN32)
02654        SelectFont (hTCSMetaFileDC, hTCSFont);      // Aktuellen Zeichenstatus an
02655       #else
02656        SelectObject (hTCSMetaFileDC, hTCSFont);      // Aktuellen Zeichenstatus an
02657       #endif
02658       SetBkMode (hTCSMetaFileDC, TRANSPARENT );
02659       SetTextAlign (hTCSMetaFileDC, TA_LEFT | TA_BOTTOM | TA_UPDATECP);
02660       SetTextColor (hTCSMetaFileDC, dwColorTable[TKTRNX.iTxtCol]);
02661       #if !defined(__WIN32__) && !defined(_WIN32)
02662        SelectPen (hTCSMetaFileDC, hTCSPen); // 16bit: Makro aus windowsx.h
02663       #else
02664        SelectObject (hTCSMetaFileDC, hTCSPen); // 32bit: GDI Standardaufruf
02665       #endif
02666
02667       MoveToEx (hTCSMetaFileDC, HiRes(TKTRNX.kBeamX),HiRes(TKTRNX.kBeamY), NULL);
02668
02669 #elif (JOURNALTYP == 3)
02670       SGLIB_DL_LIST_MAP_ON_ELEMENTS (struct xJournalEntry_typ, hTCSJournal,
02671             xJournalEntry,previous,next, {free (xJournalEntry);}); // free all
02672       hTCSJournal= NULL;
02673
02674       xJournalEntry= (struct xJournalEntry_typ*) malloc (sizeof (struct xJournalEntry_typ));
02675       if (xJournalEntry == NULL) TCSGraphicError (WRN_JOUENTRY,"");
02676       xJournalEntry->action=  XACTION_NOOP;
02677       xJournalEntry->i1= 0;
02678       xJournalEntry->i2= 0;
02679       SGLIB_DL_LIST_ADD (xJournalEntry_typ, hTCSJournal, xJournalEntry, previous, next)
02680
02681       xJournalEntry= (struct xJournalEntry_typ*) malloc (sizeof (struct xJournalEntry_typ));
02682       if (xJournalEntry == NULL) TCSGraphicError (WRN_JOUADD,"");
02683       xJournalEntry->action=  XACTION_LINCOL;
02684       xJournalEntry->i1= TKTRNX.iLinCol;
02685       xJournalEntry->i2= 0;
02686       SGLIB_DL_LIST_ADD (xJournalEntry_typ, hTCSJournal, xJournalEntry, previous, next)
02687
02688       xJournalEntry= (struct xJournalEntry_typ*) malloc (sizeof (struct xJournalEntry_typ));
02689       if (xJournalEntry == NULL) TCSGraphicError (WRN_JOUADD,"");
02690       xJournalEntry->action=  XACTION_TXTCOL;
02691       xJournalEntry->i1= TKTRNX.iTxtCol;
02692       xJournalEntry->i2= 0;
02693       SGLIB_DL_LIST_ADD (xJournalEntry_typ, hTCSJournal, xJournalEntry, previous, next)
02694
02695       xJournalEntry= (struct xJournalEntry_typ*) malloc (sizeof (struct xJournalEntry_typ));
02696       if (xJournalEntry == NULL) TCSGraphicError (WRN_JOUADD,"");
02697       xJournalEntry->action=  XACTION_BCKCOL;
02698       xJournalEntry->i1= TKTRNX.iBckCol;
02699       xJournalEntry->i2= 0;
02700       SGLIB_DL_LIST_ADD (xJournalEntry_typ, hTCSJournal, xJournalEntry, previous, next)
02701
02702       xJournalEntry= (struct xJournalEntry_typ*) malloc (sizeof (struct xJournalEntry_typ));
02703       if (xJournalEntry == NULL) TCSGraphicError (WRN_JOUENTRY,"");
02704       xJournalEntry->action=  XACTION_ERASE;
02705       xJournalEntry->i1= 0;
02706       xJournalEntry->i2= 0;
02707       SGLIB_DL_LIST_ADD (xJournalEntry_typ, hTCSJournal, xJournalEntry, previous, next)
02708 #endif
02709
02710     TCSBackgroundColour=TKTRNX.iBckCol; /* Jetzt in ERASE-Handler wirksam */
02711
02712     InvalidateRect (hTCSWindow, NULL, true); /* ,ClientArea, EraseFlag */
02713     UpdateWindow (hTCSWindow); /* 16bit Rechner: gegen Irritation Anwender */
02714
02715 }
02716
02717
02718
02719 extern void movabs (FTNINT *ix,FTNINT *iy)
02720 {
02721 int ixx, iyy; /* Erzwingt Typangleichung Windows-GDI / Fortran */
02722
02723 #if (JOURNALTYP == 3)
02724  struct xJournalEntry_typ    * xJournalEntry;
02725 #endif
02726
02727     TKTRNX.kBeamX= *ix; TKTRNX.kBeamY= *iy;
02728     if (PointInWindow (*ix, *iy)) {
02729      ixx= HiRes(*ix); iyy= HiRes(*iy);
02730      MoveToEx (hTCSWindowDC, ixx, iyy, NULL);
02731
02732 #if ((JOURNALTYP == 1) || (JOURNALTYP == 2))
02733      MoveToEx (hTCSMetaFileDC, ixx, iyy, NULL);
02734 #elif (JOURNALTYP == 3)
02735      xJournalEntry= (struct xJournalEntry_typ*) malloc (sizeof (struct xJournalEntry_typ));
02736      if (xJournalEntry == NULL) TCSGraphicError (WRN_JOUENTRY,"");
```

```
02737      xJournalEntry->action=  XACTION_MOVABS;
02738      xJournalEntry->i1= *ix;
02739      xJournalEntry->i2= *iy;
02740      SGLIB_DL_LIST_ADD (xJournalEntry_typ, hTCSJournal, xJournalEntry, previous, next)
02741 #endif
02742     }
02743 }
02744
02745
02746
02747 extern void drwabs (FTNINT *ix,FTNINT *iy)
02748 {
02749 FTNINT iXClip, iYClip;
02750 int ixx, iyy;
02751
02752 #if (JOURNALTYP == 3)
02753  struct xJournalEntry_typ    * xJournalEntry;
02754 #endif
02755
02756     if (ClipLineStart(TKTRNX.kBeamX,TKTRNX.kBeamY, *ix,*iy, &iXClip,&iYClip)) {
02757      ixx= HiRes(iXClip); iyy= HiRes(iYClip);
02758      MoveToEx (hTCSWindowDC, ixx,iyy, NULL);
02759 #if ((JOURNALTYP == 1) || (JOURNALTYP == 2))
02760      MoveToEx (hTCSMetaFileDC, ixx,iyy, NULL);
02761 #elif (JOURNALTYP == 3)
02762      xJournalEntry= (struct xJournalEntry_typ*) malloc (sizeof (struct xJournalEntry_typ));
02763      if (xJournalEntry == NULL) TCSGraphicError (WRN_JOUENTRY,"");
02764      xJournalEntry->action=  XACTION_MOVABS;
02765      xJournalEntry->i1= iXClip;
02766      xJournalEntry->i2= iYClip;
02767      SGLIB_DL_LIST_ADD (xJournalEntry_typ, hTCSJournal, xJournalEntry, previous, next)
02768 #endif
02769
02770      ClipLineStart(*ix,*iy, TKTRNX.kBeamX,TKTRNX.kBeamY, &iXClip,&iYClip);
02771      ixx= HiRes(iXClip); iyy= HiRes(iYClip);    /* geclippter Endpunkt */
02772      LineTo (hTCSWindowDC, ixx,iyy);      /* Endpunkt nicht mitgezeichnet! */
02773      SetPixel (hTCSWindowDC,ixx,iyy,dwColorTable[TKTRNX.iLinCol]);
02774
02775 #if ((JOURNALTYP == 1) || (JOURNALTYP == 2))
02776      LineTo (hTCSMetaFileDC, ixx,iyy);
02777      SetPixel (hTCSMetaFileDC,ixx,iyy, dwColorTable[TKTRNX.iLinCol]);
02778 #elif (JOURNALTYP == 3)
02779      xJournalEntry= (struct xJournalEntry_typ*) malloc (sizeof (struct xJournalEntry_typ));
02780      if (xJournalEntry == NULL) TCSGraphicError (WRN_JOUENTRY,"");
02781      xJournalEntry->action=  XACTION_DRWABS;
02782      xJournalEntry->i1= iXClip;
02783      xJournalEntry->i2= iYClip;
02784      SGLIB_DL_LIST_ADD (xJournalEntry_typ, hTCSJournal, xJournalEntry, previous, next)
02785
02786      xJournalEntry= (struct xJournalEntry_typ*) malloc (sizeof (struct xJournalEntry_typ));
02787      if (xJournalEntry == NULL) TCSGraphicError (WRN_JOUADD,"");
02788      xJournalEntry->action=  XACTION_MOVABS;
02789      xJournalEntry->i1= *ix;
02790      xJournalEntry->i2= *iy;
02791      SGLIB_DL_LIST_ADD (xJournalEntry_typ, hTCSJournal, xJournalEntry, previous, next)
02792 #endif
02793
02794     }
02795     TKTRNX.kBeamX= *ix; TKTRNX.kBeamY= *iy;
02796
02797 }
02798
02799
02800
02801 extern void dshabs (FTNINT *ix,FTNINT *iy, FTNINT *iMask)
02802 {
02803 HPEN     hPenDash;
02804 FTNINT iXClip, iYClip;
02805 int     iMaskIndex, ixx, iyy;
02806
02807 #if (JOURNALTYP == 3)
02808  struct xJournalEntry_typ    * xJournalEntry;
02809 #endif
02810
02811     if (*iMask < 0) {    /* Verhindern eines Access-Errors bei Integermaskenübergabe */
02812      iMaskIndex= 0;
02813     } else if (*iMask > MAX_PENSTYLE_INDEX) {
02814      iMaskIndex= 1;      /* Style: dotted */
02815     } else {
02816      iMaskIndex= *iMask;
02817     }
02818
02819     if (ClipLineStart(TKTRNX.kBeamX,TKTRNX.kBeamY, *ix,*iy, &iXClip,&iYClip)) {
02820      ixx= HiRes(iXClip); iyy= HiRes(iYClip);
02821      MoveToEx (hTCSWindowDC, ixx,iyy, NULL);
02822
02823 #if ((JOURNALTYP == 1) || (JOURNALTYP == 2))
```

```
02824       MoveToEx (hTCSMetaFileDC, ixx,iyy, NULL);
02825 #elif (JOURNALTYP == 3)
02826       xJournalEntry= (struct xJournalEntry_typ*) malloc (sizeof (struct xJournalEntry_typ));
02827       if (xJournalEntry == NULL) TCSGraphicError (WRN_JOUENTRY,"");
02828       xJournalEntry->action=  XACTION_MOVABS;
02829       xJournalEntry->i1= iXClip;
02830       xJournalEntry->i2= iYClip;
02831       SGLIB_DL_LIST_ADD (xJournalEntry_typ, hTCSJournal, xJournalEntry, previous, next)
02832 #endif
02833
02834       ClipLineStart(*ix,*iy, TKTRNX.kBeamX,TKTRNX.kBeamY, &iXClip,&iYClip);
02835       ixx= HiRes(iXClip); iyy= HiRes(iYClip);       /* geclippter Endpunkt */
02836
02837       hPenDash= CreatePen (dwPenStyle[iMaskIndex], 0, dwColorTable[TKTRNX.iLinCol]);
02838       #if !defined(__WIN32__) && !defined(_WIN32)
02839        SelectPen (hTCSWindowDC, hPenDash); // 16bit: Makro aus windowsx.h
02840       #else
02841        SelectObject (hTCSWindowDC, hPenDash); // 32bit: GDI Standardaufruf
02842       #endif
02843       LineTo (hTCSWindowDC, ixx,iyy);    /* Ohne Endpunkt bei Dash o.k! */
02844       #if !defined(__WIN32__) && !defined(_WIN32)
02845        SelectPen (hTCSWindowDC, hTCSPen); // 16bit: Makro aus windowsx.h
02846       #else
02847        SelectObject (hTCSWindowDC, hTCSPen); // 32bit: GDI Standardaufruf
02848       #endif
02849
02850 #if ((JOURNALTYP == 1) || (JOURNALTYP == 2))
02851       #if !defined(__WIN32__) && !defined(_WIN32)
02852        SelectPen (hTCSMetaFileDC, hPenDash); // 16bit: Makro aus windowsx.h
02853       #else
02854        SelectObject (hTCSMetaFileDC, hPenDash); // 32bit: GDI Standardaufruf
02855       #endif
02856       LineTo (hTCSMetaFileDC, ixx,iyy);
02857       #if !defined(__WIN32__) && !defined(_WIN32)
02858        SelectPen (hTCSMetaFileDC, hTCSPen); // 16bit: Makro aus windowsx.h
02859       #else
02860        SelectObject (hTCSMetaFileDC, hTCSPen); // 32bit: GDI Standardaufruf
02861       #endif
02862 #elif (JOURNALTYP == 3)
02863       xJournalEntry= (struct xJournalEntry_typ*) malloc (sizeof (struct xJournalEntry_typ));
02864       if (xJournalEntry == NULL) TCSGraphicError (WRN_JOUENTRY,"");
02865       xJournalEntry->action=  XACTION_DSHSTYLE;
02866       xJournalEntry->i1= iMaskIndex;
02867       SGLIB_DL_LIST_ADD (xJournalEntry_typ, hTCSJournal, xJournalEntry, previous, next)
02868
02869       xJournalEntry= (struct xJournalEntry_typ*) malloc (sizeof (struct xJournalEntry_typ));
02870       if (xJournalEntry == NULL) TCSGraphicError (WRN_JOUENTRY,"");
02871       xJournalEntry->action=  XACTION_DSHABS;
02872       xJournalEntry->i1= iXClip;
02873       xJournalEntry->i2= iYClip;
02874       SGLIB_DL_LIST_ADD (xJournalEntry_typ, hTCSJournal, xJournalEntry, previous, next)
02875
02876       xJournalEntry= (struct xJournalEntry_typ*) malloc (sizeof (struct xJournalEntry_typ));
02877       if (xJournalEntry == NULL) TCSGraphicError (WRN_JOUADD,"");
02878       xJournalEntry->action=  XACTION_MOVABS;
02879       xJournalEntry->i1= *ix;
02880       xJournalEntry->i2= *iy;
02881       SGLIB_DL_LIST_ADD (xJournalEntry_typ, hTCSJournal, xJournalEntry, previous, next)
02882 #endif
02883
02884       #if !defined(__WIN32__) && !defined(_WIN32)
02885        DeletePen (hPenDash);
02886       #else
02887        DeleteObject (hPenDash);
02888       #endif
02889
02890     }
02891     TKTRNX.kBeamX= *ix; TKTRNX.kBeamY= *iy;
02892 }
02893
02894
02895
02896 extern void pntabs (FTNINT *ix,FTNINT *iy)
02897 {
02898 int      ixx, iyy; /* Erzwingt Typangleichung Windows-GDI / Fortran */
02899
02900 #if (JOURNALTYP == 3)
02901  struct xJournalEntry_typ    * xJournalEntry;
02902 #endif
02903
02904     TKTRNX.kBeamX= *ix; TKTRNX.kBeamY= *iy;
02905     if (PointInWindow (*ix, *iy)) {
02906      ixx= HiRes(*ix); iyy= HiRes(*iy);
02907      SetPixel (hTCSWindowDC,ixx,iyy, dwColorTable[TKTRNX.iLinCol]);
02908
02909 #if ((JOURNALTYP == 1) || (JOURNALTYP == 2))
02910       SetPixel (hTCSMetaFileDC,ixx,iyy,dwColorTable[TKTRNX.iLinCol]);
```

```
02911 #elif (JOURNALTYP == 3)
02912      xJournalEntry= (struct xJournalEntry_typ*) malloc (sizeof (struct xJournalEntry_typ));
02913      if (xJournalEntry == NULL) TCSGraphicError (WRN_JOUENTRY,"");
02914      xJournalEntry->action=  XACTION_PNTABS;
02915      xJournalEntry->i1= *ix;
02916      xJournalEntry->i2= *iy;
02917      SGLIB_DL_LIST_ADD (xJournalEntry_typ, hTCSJournal, xJournalEntry, previous, next)
02918 #endif
02919
02920     }
02921 }
02922
02923
02924
02925 extern void bckcol (FTNINT *iCol)
02926 {
02927
02928 #if (JOURNALTYP == 3)
02929  struct xJournalEntry_typ    * xJournalEntry;
02930 #endif
02931
02932     TKTRNX.iBckCol= min(abs(*iCol),MAX_COLOR_INDEX);
02933
02934 #if (JOURNALTYP == 3)
02935     xJournalEntry= (struct xJournalEntry_typ*) malloc (sizeof (struct xJournalEntry_typ));
02936     if (xJournalEntry == NULL) TCSGraphicError (WRN_JOUENTRY,"");
02937     xJournalEntry->action=  XACTION_BCKCOL;
02938     xJournalEntry->i1= TKTRNX.iBckCol;
02939     SGLIB_DL_LIST_ADD (xJournalEntry_typ, hTCSJournal, xJournalEntry, previous, next)
02940 #endif
02941
02942 }
02943
02944
02945
02946 extern void lincol (FTNINT *iCol)
02947 {
02948
02949 HPEN    hPenOld;
02950
02951 #if (JOURNALTYP == 3)
02952  struct xJournalEntry_typ    * xJournalEntry;
02953 #endif
02954
02955     TKTRNX.iLinCol= min(abs(*iCol),MAX_COLOR_INDEX);
02956     hTCSPen= CreatePen (PS_SOLID, 0, dwColorTable[TKTRNX.iLinCol]);
02957     #if !defined(__WIN32__) && !defined(_WIN32)
02958      hPenOld= SelectPen (hTCSWindowDC, hTCSPen); // 16bit: Makro aus windowsx.h
02959     #else
02960      hPenOld= SelectObject (hTCSWindowDC, hTCSPen); // 32bit: GDI Standardaufruf
02961     #endif
02962
02963 #if ((JOURNALTYP == 1) || (JOURNALTYP == 2))
02964     #if !defined(__WIN32__) && !defined(_WIN32)
02965      SelectPen (hTCSMetaFileDC, hTCSPen); // 16bit: Makro aus windowsx.h
02966     #else
02967      SelectObject (hTCSMetaFileDC, hTCSPen); // 32bit: GDI Standardaufruf
02968     #endif
02969 #elif (JOURNALTYP == 3)
02970     xJournalEntry= (struct xJournalEntry_typ*) malloc (sizeof (struct xJournalEntry_typ));
02971     if (xJournalEntry == NULL) TCSGraphicError (WRN_JOUENTRY,"");
02972     xJournalEntry->action=  XACTION_LINCOL;
02973     xJournalEntry->i1= TKTRNX.iLinCol;
02974     SGLIB_DL_LIST_ADD (xJournalEntry_typ, hTCSJournal, xJournalEntry, previous, next)
02975 #endif
02976
02977     #if !defined(__WIN32__) && !defined(_WIN32)
02978      DeletePen (hPenOld);
02979     #else
02980      DeleteObject (hPenOld);
02981     #endif
02982
02983 }
02984
02985
02986
02987
02988 extern void txtcol (FTNINT *iCol)
02989 {
02990
02991 #if (JOURNALTYP == 3)
02992  struct xJournalEntry_typ    * xJournalEntry;
02993 #endif
02994
02995     TKTRNX.iTxtCol= min(abs(*iCol),MAX_COLOR_INDEX);
02996     SetTextColor (hTCSWindowDC, dwColorTable[TKTRNX.iTxtCol]);
02997 #if ((JOURNALTYP == 1) || (JOURNALTYP == 2))
```

```
02998     SetTextColor (hTCSMetaFileDC, dwColorTable[TKTRNX.iTxtCol]);
02999 #elif (JOURNALTYP == 3)
03000     xJournalEntry= (struct xJournalEntry_typ*) malloc (sizeof (struct xJournalEntry_typ));
03001     if (xJournalEntry == NULL) TCSGraphicError (WRN_JOUENTRY,"");
03002     xJournalEntry->action=  XACTION_TXTCOL;
03003     xJournalEntry->i1= TKTRNX.iTxtCol;
03004     SGLIB_DL_LIST_ADD (xJournalEntry_typ, hTCSJournal, xJournalEntry, previous, next)
03005 #endif
03006
03007 }
03008
03009
03010
03011 extern void DefaultColour (void)
03012 {
03013     TKTRNX.iLinCol= TCSDefaultLinCol;
03014     TKTRNX.iTxtCol= TCSDefaultTxtCol;
03015     TKTRNX.iBckCol= TCSDefaultBckCol;
03016
03017     lincol (&TKTRNX.iLinCol);
03018     txtcol (&TKTRNX.iTxtCol);
03019     bckcol (&TKTRNX.iBckCol);
03020 }
03021
03022
03023
03024 /*
03025 ---------------------- Userroutinen: Graphiktext -----------------------
03026 */
03027
03028
03029
03030 extern void outgtext(FTNSTRPAR * ftn_string FTNSTRPAR_TAIL(ftn_string) )
03031 {
03032 int iL;
03033 SIZE Size;
03034 POINT CPpos;
03035
03036 #if (JOURNALTYP == 3)
03037  int i;
03038  struct xJournalEntry_typ    * xJournalEntry;
03039 #endif
03040
03041 #ifdef extended_error_handling
03042  HDC         hdc;
03043  LPVOID      lpMsgBuf;
03044 #endif
03045
03046
03047     if (FTNSTRPARA(ftn_string)[0] == (FTNCHAR) 0 ) return; // Leerstring char(0)
03048
03049     iL= 1; // Stringbeginn bei 0 -> Dec Laenge
03050     while ( (FTNSTRPARA(ftn_string)[iL-1] != (FTNCHAR) 0) &&  // c-String bis \0
03051                     (iL < FTNSTRPARL(ftn_string)) ) iL++;  // oder Ftn-String
03052     if (FTNSTRPARA(ftn_string)[iL-1] == (FTNCHAR) 0 ) iL--;   // cString ohne \0
03053
03054
03055     #ifdef extended_error_handling
03056      if (GetTextExtentPoint (hTCSWindowDC, FTNSTRPARA(ftn_string),iL,&Size) == 0 ){
03057       hdc = CreateIC (_T ("DISPLAY"), NULL, NULL, NULL);
03058       #if !defined(__WIN32__) && !defined(_WIN32)
03059        SelectFont (hdc, hTCSFont);      // Aktuellen Zeichenstatus an
03060       #else
03061        SelectObject (hdc, hTCSFont);      // Aktuellen Zeichenstatus an
03062       #endif
03063       GetTextExtentPoint (hdc, FTNSTRPARA(ftn_string),iL,&Size);
03064       DeleteDC (hdc);
03065
03066       FormatMessage(
03067         FORMAT_MESSAGE_ALLOCATE_BUFFER | FORMAT_MESSAGE_FROM_SYSTEM,
03068         NULL,
03069         GetLastError(),
03070         MAKELANGID(LANG_NEUTRAL, SUBLANG_DEFAULT), // Default language
03071         (LPTSTR) &lpMsgBuf,
03072         0,
03073         NULL
03074       );
03075       MessageBox( NULL, lpMsgBuf,
03076                         _T("Internal Error GRAPH2D - subroutine _OUTGTEXT"),
03077                                                 MB_OK|MB_ICONINFORMATION );
03078       LocalFree( lpMsgBuf ); // Free the buffer
03079      }
03080     #else
03081      #if !defined(__WIN32__) && !defined(_WIN32)
03082       GetTextExtentPoint (hTCSWindowDC, FTNSTRPARA(ftn_string),iL,&Size);
03083      #else
03084       GetTextExtentPoint32 (hTCSWindowDC, FTNSTRPARA(ftn_string),iL,&Size);
```

```
03085      #endif
03086     #endif
03087
03088     if (PointInWindow (TKTRNX.kBeamX+LoRes(Size.cx),
03089                                          TKTRNX.kBeamY+LoRes(Size.cy))) {
03090      MoveToEx (hTCSWindowDC,HiRes(TKTRNX.kBeamX),HiRes(TKTRNX.kBeamY),NULL);
03091      TextOut (hTCSWindowDC, 0,0,FTNSTRPARA(ftn_string), iL);
03092
03093 #if ((JOURNALTYP == 1) || (JOURNALTYP == 2))
03094      MoveToEx (hTCSMetaFileDC,HiRes(TKTRNX.kBeamX),HiRes(TKTRNX.kBeamY),NULL);
03095      TextOut (hTCSMetaFileDC, 0,0, FTNSTRPARA(ftn_string), iL);
03096 #elif (JOURNALTYP == 3)
03097      xJournalEntry= (struct xJournalEntry_typ*) malloc (sizeof (struct xJournalEntry_typ));
03098      if (xJournalEntry == NULL) TCSGraphicError (WRN_JOUENTRY,"");
03099      xJournalEntry->action=  XACTION_MOVABS;
03100      xJournalEntry->i1= TKTRNX.kBeamX;
03101      xJournalEntry->i2= TKTRNX.kBeamY;
03102      SGLIB_DL_LIST_ADD (xJournalEntry_typ, hTCSJournal, xJournalEntry, previous, next)
03103
03104      xJournalEntry= (struct xJournalEntry_typ*) malloc (sizeof (struct xJournalEntry_typ));
03105      xJournalEntry->action=  XACTION_GTEXT;
03106      xJournalEntry->i1= (FTNINT) iL;
03107      xJournalEntry->i2= (FTNINT) FTNSTRPARA(ftn_string)[0];
03108      SGLIB_DL_LIST_ADD (xJournalEntry_typ, hTCSJournal, xJournalEntry, previous, next)
03109
03110      i= 1;
03111      while (i < iL) {
03112       xJournalEntry= (struct xJournalEntry_typ*) malloc (sizeof (struct xJournalEntry_typ));
03113       xJournalEntry->action=  XACTION_ASCII;
03114       xJournalEntry->i1= (FTNINT) FTNSTRPARA(ftn_string)[i++];
03115       if ( i<iL ) xJournalEntry->i2= (FTNINT) FTNSTRPARA(ftn_string)[i++];
03116       SGLIB_DL_LIST_ADD (xJournalEntry_typ, hTCSJournal, xJournalEntry, previous, next)
03117      }
03118 #endif
03119
03120      GetCurrentPositionEx (hTCSWindowDC, &CPpos); /* Update Beam */
03121      TKTRNX.kBeamX= LoRes(CPpos.x); TKTRNX.kBeamY= LoRes(CPpos.y);
03122
03123 #if (JOURNALTYP == 3) // Bei Metafiles ist auch nach Neuskalierung CP i.O.
03124      xJournalEntry= (struct xJournalEntry_typ*) malloc (sizeof (struct xJournalEntry_typ));
03125      xJournalEntry->action=  XACTION_MOVABS;
03126      xJournalEntry->i1= TKTRNX.kBeamX;
03127      xJournalEntry->i2= TKTRNX.kBeamY;
03128      SGLIB_DL_LIST_ADD (xJournalEntry_typ, hTCSJournal, xJournalEntry, previous, next)
03129 #endif
03130
03131     }
03132 }
03133
03134
03135
03136 extern void italic (void)
03137 {
03138 HFONT   hOldFont;
03139 #if (JOURNALTYP == 3)
03140  struct xJournalEntry_typ    * xJournalEntry;
03141 #endif
03142
03143     TKTRNX.kitalc = 1;
03144
03145     TCSFontdefinition.lfItalic= true;
03146     hTCSFont= CreateFontIndirect (&TCSFontdefinition);
03147     #if !defined(__WIN32__) && !defined(_WIN32)
03148      hOldFont= SelectFont (hTCSWindowDC, hTCSFont);
03149     #else
03150      hOldFont= SelectObject (hTCSWindowDC, hTCSFont);
03151     #endif
03152 #if ( (JOURNALTYP == 1) || (JOURNALTYP == 2) )
03153     #if !defined(__WIN32__) && !defined(_WIN32)
03154      SelectFont (hTCSMetaFileDC, hTCSFont);
03155     #else
03156      SelectObject (hTCSMetaFileDC, hTCSFont);
03157     #endif
03158 #elif (JOURNALTYP == 3)
03159     xJournalEntry= (struct xJournalEntry_typ*) malloc (sizeof (struct xJournalEntry_typ));
03160     xJournalEntry->action= XACTION_FONTATTR;
03161     xJournalEntry->i1= TKTRNX.kitalc;
03162     xJournalEntry->i2= TKTRNX.ksizef;
03163     SGLIB_DL_LIST_ADD (xJournalEntry_typ, hTCSJournal, xJournalEntry, previous, next)
03164 #endif
03165     #if !defined(__WIN32__) && !defined(_WIN32)
03166      DeleteFont (hOldFont);
03167     #else
03168      DeleteObject (hOldFont);
03169     #endif
03170 }
03171
```

```
03172
03173
03174 extern void italir (void)
03175 {
03176 HFONT   hOldFont;
03177 #if (JOURNALTYP == 3)
03178  struct xJournalEntry_typ    * xJournalEntry;
03179 #endif
03180
03181     TKTRNX.kitalc = 0;
03182
03183     TCSFontdefinition.lfItalic= false;
03184     hTCSFont= CreateFontIndirect (&TCSFontdefinition);
03185     #if !defined(__WIN32__) && !defined(_WIN32)
03186      hOldFont= SelectFont (hTCSWindowDC, hTCSFont);
03187     #else
03188      hOldFont= SelectObject (hTCSWindowDC, hTCSFont);
03189     #endif
03190 #if ( (JOURNALTYP == 1) || (JOURNALTYP == 2) )
03191     #if !defined(__WIN32__) && !defined(_WIN32)
03192      SelectFont (hTCSMetaFileDC, hTCSFont);
03193     #else
03194      SelectObject (hTCSMetaFileDC, hTCSFont);
03195     #endif
03196 #elif (JOURNALTYP == 3)
03197     xJournalEntry= (struct xJournalEntry_typ*) malloc (sizeof (struct xJournalEntry_typ));
03198     xJournalEntry->action= XACTION_FONTATTR;
03199     xJournalEntry->i1= TKTRNX.kitalc;
03200     xJournalEntry->i2= TKTRNX.ksizef;
03201     SGLIB_DL_LIST_ADD (xJournalEntry_typ, hTCSJournal, xJournalEntry, previous, next)
03202 #endif
03203     #if !defined(__WIN32__) && !defined(_WIN32)
03204      DeleteFont (hOldFont);
03205     #else
03206      DeleteObject (hOldFont);
03207     #endif
03208 }
03209
03210
03211
03212 extern void dblsiz (void)
03213 {
03214 HFONT   hOldFont;
03215 #if (JOURNALTYP == 3)
03216  struct xJournalEntry_typ    * xJournalEntry;
03217 #endif
03218
03219     TKTRNX.ksizef = 1;
03220     TKTRNX.khomey = TEK_YMAX - 3.0f*TKTRNX.kversz;
03221
03222     TCSFontdefinition.lfHeight= 2* TCSCharHeight;
03223     TCSFontdefinition.lfWidth= 0;
03224     hTCSFont= CreateFontIndirect (&TCSFontdefinition);
03225     #if !defined(__WIN32__) && !defined(_WIN32)
03226      hOldFont= SelectFont (hTCSWindowDC, hTCSFont);
03227     #else
03228      hOldFont= SelectObject (hTCSWindowDC, hTCSFont);
03229     #endif
03230 #if ( (JOURNALTYP == 1) || (JOURNALTYP == 2) )
03231     #if !defined(__WIN32__) && !defined(_WIN32)
03232      SelectFont (hTCSMetaFileDC, hTCSFont);
03233     #else
03234      SelectObject (hTCSMetaFileDC, hTCSFont);
03235     #endif
03236 #elif (JOURNALTYP == 3)
03237     xJournalEntry= (struct xJournalEntry_typ*) malloc (sizeof (struct xJournalEntry_typ));
03238     xJournalEntry->action= XACTION_FONTATTR;
03239     xJournalEntry->i1= TKTRNX.kitalc;
03240     xJournalEntry->i2= TKTRNX.ksizef;
03241     SGLIB_DL_LIST_ADD (xJournalEntry_typ, hTCSJournal, xJournalEntry, previous, next)
03242 #endif
03243     #if !defined(__WIN32__) && !defined(_WIN32)
03244      DeleteFont (hOldFont);
03245     #else
03246      DeleteObject (hOldFont);
03247     #endif
03248 }
03249
03250
03251
03252 extern void nrmsiz (void)
03253 {
03254 HFONT   hOldFont;
03255 #if (JOURNALTYP == 3)
03256  struct xJournalEntry_typ    * xJournalEntry;
03257 #endif
03258
```

```
03259     TKTRNX.ksizef = 0;
03260     TKTRNX.khomey = TEK_YMAX - 1.5f*TKTRNX.kversz;
03261
03262     TCSFontdefinition.lfHeight= TCSCharHeight;
03263     TCSFontdefinition.lfWidth= 0;
03264     hTCSFont= CreateFontIndirect (&TCSFontdefinition);
03265     #if !defined(__WIN32__) && !defined(_WIN32)
03266      hOldFont= SelectFont (hTCSWindowDC, hTCSFont);
03267     #else
03268      hOldFont= SelectObject (hTCSWindowDC, hTCSFont);
03269     #endif
03270 #if ( (JOURNALTYP == 1) || (JOURNALTYP == 2) )
03271     #if !defined(__WIN32__) && !defined(_WIN32)
03272      SelectFont (hTCSMetaFileDC, hTCSFont);
03273     #else
03274      SelectObject (hTCSMetaFileDC, hTCSFont);
03275     #endif
03276 #elif (JOURNALTYP == 3)
03277     xJournalEntry= (struct xJournalEntry_typ*) malloc (sizeof (struct xJournalEntry_typ));
03278     xJournalEntry->action= XACTION_FONTATTR;
03279     xJournalEntry->i1= TKTRNX.kitalc;
03280     xJournalEntry->i2= TKTRNX.ksizef;
03281     SGLIB_DL_LIST_ADD (xJournalEntry_typ, hTCSJournal, xJournalEntry, previous, next)
03282 #endif
03283     #if !defined(__WIN32__) && !defined(_WIN32)
03284      DeleteFont (hOldFont);
03285     #else
03286      DeleteObject (hOldFont);
03287     #endif
03288 }
03289
03290
03291
03292 extern void csize (FTNINT *ix,FTNINT *iy)
03293 {
03294 TEXTMETRIC  lpTM;
03295
03296 #ifdef extended_error_handling
03297  HDC         hdc;
03298  LPVOID      lpMsgBuf;
03299 #endif
03300
03301     #ifdef extended_error_handling
03302      if (GetTextMetrics (hTCSWindowDC, &lpTM)== 0) {
03303       /* WATCOM ohne Default-Windowsystem(auch bei Consolenanwendungen):
03304          evtl. kein Message-Loop vorhanden.
03305          Workaround: Abfrageschleife in MessageBox                        */
03306
03307       hdc = CreateIC (_T ("DISPLAY"), NULL, NULL, NULL);
03308       #if !defined(__WIN32__) && !defined(_WIN32)
03309        SelectFont (hdc, hTCSFont);
03310       #else
03311        SelectObject (hdc, hTCSFont);
03312       #endif
03313       GetTextMetrics (hdc, &lpTM);
03314       DeleteDC (hdc);
03315
03316       FormatMessage(
03317         FORMAT_MESSAGE_ALLOCATE_BUFFER | FORMAT_MESSAGE_FROM_SYSTEM,
03318         NULL,
03319         GetLastError(),
03320         MAKELANGID(LANG_NEUTRAL, SUBLANG_DEFAULT), // Default language
03321         (LPTSTR) &lpMsgBuf,
03322         0,
03323         NULL
03324       );
03325       MessageBox( NULL, lpMsgBuf, "Internal Error GRAPH2D - subroutine CSIZE",
03326                                                   MB_OK|MB_ICONINFORMATION );
03327       LocalFree( lpMsgBuf ); // Free the buffer
03328      }
03329     #else
03330      GetTextMetrics (hTCSWindowDC, &lpTM);
03331     #endif
03332     *ix= (int) ((float)LoRes((float)lpTM.tmAveCharWidth) + 0.25f);
03333     *iy= (int) ((float)LoRes((float)lpTM.tmHeight)  + 0.25f);
03334
03335 }
03336
03337
03338
03339
03340 /*
03341 ---------------------- Userroutinen: Graphic Input----------------------
03342 */
03343
03344
03345
```

```
03346 extern void tinput (FTNINT *ic)
03347 {
03348 MSG msg;        /* Message information */
03349 TCHAR iChar;
03350 HWND hAktWindowInThread;
03351
03352     if (!TCSinitialized) return;            /* Aufhängen vermeiden */
03353     TCSStatWindowAutomatic = false;          /* Meldungen lesbar */
03354     iChar= (TCHAR) 0;
03355     hAktWindowInThread= GetFocus(); // Fuer Texteingabe eigene Applikation
03356     while (iChar == (TCHAR) 0) { // Messageschleife jetzt hier -> Usereingabe
03357      SetFocus (hTCSWindow);         // Kein Zugang Elternfenster (Aufhängen!)
03358      #ifdef extended_error_handling
03359       if (GetMessage (&msg, NULL, WM_NULL, WM_USER) == -1) {
03360        MessageBox(NULL, "GetMessage failed in Mesageloop of Graphic Window",
03361                         "Internal Information GRAPH2D - Subroutine TINPUT",
03362                         MB_OK | MB_ICONINFORMATION);
03363       }
03364      #else
03365       GetMessage (&msg, NULL, WM_NULL, WM_USER); // Achtung wg. win7 nicht 0,0)
03366      #endif
03367      if ((msg.hwnd != hTCSWindow) && (msg.hwnd != hTCSstatWindow) ) {
03368       switch (msg.message) {
03369        case WM_NCLBUTTONDOWN:   /* Fensterbefehle der Elternfenster zulassen */
03370        case WM_NCLBUTTONUP:
03371        case WM_NCLBUTTONDBLCLK:
03372        case WM_SYSKEYDOWN:
03373        case WM_SYSKEYUP:
03374        case WM_SYSCOMMAND:
03375         DefWindowProc( msg.hwnd, msg.message, msg.wParam, msg.lParam );
03376         break;
03377        case WM_PAINT:
03378         UpdateWindow( msg.hwnd);
03379         break;
03380        default:
03381         SetFocus (hTCSWindow);
03382         UpdateWindow (hTCSWindow);
03383       }
03384      } else if (msg.hwnd == hTCSstatWindow) { /* Meldungen Statusfenster */
03385       switch (msg.message) {
03386        case WM_NCLBUTTONDOWN:    /* Scrollen und Verschieben zulassen */
03387        case WM_NCLBUTTONUP:
03388        case WM_NCLBUTTONDBLCLK:
03389        case WM_VSCROLL:
03390         DefWindowProc( msg.hwnd, msg.message, msg.wParam, msg.lParam );
03391         break;
03392        case WM_PAINT:
03393          TCSstatWndProc_OnPaint (hTCSstatWindow);
03394          break;
03395        case WM_LBUTTONDOWN:
03396         iChar= (FTNINT) 27;    /* Verlassen PRESSANY durch Statusfenster */
03397         break;
03398       }
03399      } else { /* eigene Meldungen des Graphikfensters */
03400       switch (msg.message) {
03401        case WM_PAINT:
03402         TCSWndProc_OnPaint (msg.hwnd);
03403         break;
03404        case WM_RBUTTONDOWN:      /* Auf Wunsch Statusfenster sichtbar */
03405         ShowWindow (hTCSstatWindow, SW_SHOWNA);
03406         UpdateWindow(hTCSstatWindow);
03407         SetFocus (hTCSWindow);
03408         UpdateWindow (hTCSWindow);
03409         break;
03410        case WM_LBUTTONDOWN:
03411         ShowWindow (hTCSstatWindow, SW_HIDE);
03412         break;
03413        case WM_LBUTTONUP:
03414        case WM_MBUTTONUP:
03415        case WM_RBUTTONUP:
03416        case WM_MBUTTONDOWN:
03417        case WM_LBUTTONDBLCLK:
03418        case WM_RBUTTONDBLCLK:
03419        case WM_MBUTTONDBLCLK:
03420         SetFocus (hTCSWindow);
03421         UpdateWindow (hTCSWindow);
03422         break;
03423        case WM_KEYDOWN:          /* Hardwareanpassung, dann WM_CHAR */
03424        case WM_KEYUP:
03425         TranslateMessage (&msg);
03426         break;
03427        case WM_CHAR:             /* nach WM_KEYDOWN jetzt ASCII */
03428         iChar= (TCHAR) msg.wParam;
03429         break;
03430        case WM_KILLFOCUS:
03431         TCSStatWindowAutomatic= true; /* Statusfenster unsichtbar */
03432         ShowWindow (hTCSstatWindow, SW_HIDE); /* jetzt DefWindowProc */
```

```
03433         UpdateWindow (hTCSstatWindow);
03434        case WM_NCLBUTTONDOWN:
03435        case WM_NCLBUTTONUP:
03436        case WM_NCLBUTTONDBLCLK:
03437        case WM_SYSKEYDOWN:       /* Uebersetzt in WM_SYSCOMMAND */
03438        case WM_SYSKEYUP:
03439         DefWindowProc( msg.hwnd, msg.message, msg.wParam, msg.lParam );
03440         break;
03441        case WM_QUIT:
03442         #ifdef trace_calls
03443          MessageBox(NULL, "WM_QUIT Graphic Window",
03444                           "Internal Information GRAPH2D - Subroutine TINPUT",
03445                           MB_OK | MB_ICONINFORMATION);
03446         #endif
03447        case WM_SYSCOMMAND:       /* und nach WM_SYSKEYDOWN Befehlsauswertung */
03448         switch (msg.wParam) {
03449          case SC_CLOSE:
03450           iChar= (FTNINT) 27;     /* <ALT><F4> -> ESC */
03451           break;
03452          case TCS_WM_COPY:
03453           #ifdef trace_calls
03454            MessageBox(NULL, "WM_SYSCOMMAND (TCS_WM_COPY)",
03455                        "Internal Information GRAPH2D - Subroutine TINPUT",
03456                         MB_OK | MB_ICONINFORMATION);
03457           #endif
03458           TCSWndProc_OnCopyClipboard ();
03459           break;
03460          default:
03461           DefWindowProc( msg.hwnd, msg.message, msg.wParam, msg.lParam);
03462           break;
03463         } /* Systembefehle */
03464       } /* Window-Messageauswertung */
03465      } /* Meldungen des Graphikfensters */
03466     } /* Ende Eingabeschleife */
03467     *ic= (FTNINT) iChar;
03468     TCSStatWindowAutomatic= true;
03469     ShowWindow (hTCSstatWindow, SW_HIDE); /* Statusfenster unsichtbar */
03470     if (hAktWindowInThread != NULL) SetFocus (hAktWindowInThread);
03471     return;
03472 }
03473
03474
03475
03476
03477 extern void dcursr (FTNINT *ic,FTNINT *ix,FTNINT *iy)
03478 {
03479 MSG msg;        /* Message information */
03480 TCHAR iButton, iKey;
03481
03482 #if defined(__WIN32__) || defined(_WIN32)
03483  POINT MousePos;
03484 #endif
03485
03486     if (!TCSinitialized) return;             /* Aufhängen vermeiden */
03487     TCSStatWindowAutomatic = false;           /* Meldungen lesbar */
03488
03489     InvalidateRect (hTCSWindow, NULL, true); /* ,ClientArea, EraseFlag */
03490     UpdateWindow (hTCSWindow); /* Notwendig bei OnPaint mit Journaltyp=3 */
03491
03492     iButton= (TCHAR) 0; iKey= (TCHAR) 0;
03493
03494     /* Setzen der Maus auf die alte GinCursor Position */
03495
03496     #if defined(__WIN32__) || defined(_WIN32)
03497      MousePos.x= HiRes(TCSGinCurPos.x); MousePos.y= HiRes(TCSGinCurPos.y);
03498      LPtoDP (hTCSWindowDC, (LPPOINT)&MousePos, 1);
03499      MapWindowPoints(hTCSWindow, HWND_DESKTOP, (LPPOINT)&MousePos, 1);
03500      MousePos.x=  MousePos.x* MOUSE_XMAX / GetSystemMetrics (SM_CXSCREEN);
03501      MousePos.y=  MousePos.y* MOUSE_YMAX / GetSystemMetrics (SM_CYSCREEN);
03502      mouse_event(MOUSEEVENTF_MOVE | MOUSEEVENTF_ABSOLUTE,
03503                                       MousePos.x,MousePos.y, 0, 0);
03504     #endif
03505
03506     SetCursor(hGinCurs);       /* WM_SETCURSOR wird ab hier nicht erzeugt! */
03507     while (iButton == (TCHAR) 0) {  /* Messageschleife jetzt hier  */
03508      SetFocus (hTCSWindow);     /* Kein Zugang Elternfenster (Aufhängen!) */
03509      GetMessage (&msg, NULL, WM_NULL, WM_USER); // Achtung wg. win7 nicht 0,0)
03510      if (msg.hwnd == hTCSstatWindow) { /* Statusfenster stört -> unsichtbar */
03511       switch (msg.message) {
03512        case WM_MOUSEMOVE:                  /* falls Cursor über Client-Area */
03513         TCSStatWindowAutomatic= true;
03514         ShowWindow (hTCSstatWindow, SW_HIDE);
03515        case WM_NCMOUSEMOVE:            /* Cursor ueber Titelleiste -> Pfeil */
03516         SetCursor (hMouseCurs);
03517         break;
03518       }
03519      }              /* Statuszeile und Scrollbar können noch angewählt werden */
```

```
03520       if (msg.hwnd != hTCSWindow) {
03521        switch (msg.message) {
03522         case WM_NCLBUTTONDOWN:    /* Fensterbefehle der Elternfenster zulassen */
03523         case WM_NCLBUTTONUP:
03524         case WM_NCLBUTTONDBLCLK:
03525         case WM_SYSKEYDOWN:
03526         case WM_SYSKEYUP:
03527         case WM_SYSCOMMAND:
03528          DefWindowProc( msg.hwnd, msg.message, msg.wParam, msg.lParam );
03529          break;
03530         case WM_PAINT:
03531          if (msg.hwnd == hTCSstatWindow) {
03532           TCSstatWndProc_OnPaint (hTCSstatWindow);
03533          } else {
03534           UpdateWindow( msg.hwnd);
03535          }
03536          break;
03537         default:
03538          SetFocus (hTCSWindow);
03539          UpdateWindow (hTCSWindow);
03540        }
03541       } else { /* eigene Meldungen des Graphikfensters */
03542        switch (msg.message) {
03543         case WM_PAINT:
03544          TCSWndProc_OnPaint (msg.hwnd);
03545          break;
03546         case WM_NCMOUSEMOVE:    /* Cursor ueber Titelleiste -> Pfeil */
03547          SetCursor (hMouseCurs);
03548          break;
03549         case WM_MOUSEMOVE:     /* GinCursor evtl. von Titelleiste zurück */
03550          SetCursor (hGinCurs);
03551          iKey= (TCHAR) 0;      /* Tastenbetätigung außerhalb Graphikfenster */
03552          break;
03553         case WM_NCLBUTTONDOWN: /* Titelleiste kann Statusfenster steuern */
03554          TCSStatWindowAutomatic= true;
03555          ShowWindow (hTCSstatWindow, SW_HIDE); /* jetzt DefWindowProc ! */
03556         case WM_NCLBUTTONUP:
03557         case WM_NCLBUTTONDBLCLK:
03558         case WM_SYSKEYDOWN:       /* Uebersetzt in WM_SYSCOMMAND */
03559         case WM_SYSKEYUP:
03560          DefWindowProc( msg.hwnd, msg.message, msg.wParam, msg.lParam );
03561          break;
03562         case WM_NCRBUTTONDOWN:
03563          ShowWindow (hTCSstatWindow, SW_SHOWNA);
03564          UpdateWindow(hTCSstatWindow);
03565          break;
03566         case WM_LBUTTONDOWN: {
03567          #if !defined(__WIN32__) && !defined(_WIN32)
03568 LftDwn:
03569          #endif
03570          if (iKey== (TCHAR) 0) iButton= 1; else iButton=iKey;
03571         }
03572         case WM_RBUTTONDOWN: if (iButton== (TCHAR) 0) iButton= 2;
03573         case WM_MBUTTONDOWN: if (iButton== (TCHAR) 0) iButton= 4; // wie DOS
03574          #if !defined(__WIN32__) && !defined(_WIN32)
03575           TCSGinCurPos= MAKEPOINT (msg.lParam);
03576          #else
03577           TCSGinCurPos.x= GET_X_LPARAM (msg.lParam);
03578           TCSGinCurPos.y= GET_Y_LPARAM (msg.lParam);
03579          #endif
03580          DPtoLP (hTCSWindowDC, (LPPOINT)&TCSGinCurPos, 1);
03581          TCSGinCurPos.x= LoRes(TCSGinCurPos.x);
03582          TCSGinCurPos.y= LoRes(TCSGinCurPos.y);
03583          break;
03584         case WM_LBUTTONUP: /* Falls erneuter Aufruf nach Taste unten wird */
03585         case WM_RBUTTONUP: /* der Cursor sonst wieder auf Pfeil umgestellt */
03586         case WM_MBUTTONUP:
03587          SetCursor (hGinCurs);
03588          break;
03589         case WM_KEYDOWN:          /* Hardwareanpassung, dann WM_CHAR */
03590         case WM_KEYUP:
03591          TranslateMessage (&msg);
03592          break;
03593         case WM_CHAR:             /* nach WM_KEYDOWN jetzt ASCII */
03594          iKey= (TCHAR) msg.wParam;
03595          #if !defined(__WIN32__) && !defined(_WIN32)
03596           goto LftDwn;           /* Workaround Fehlen mouse_event */
03597          #else
03598           mouse_event(MOUSEEVENTF_LEFTDOWN, 0, 0, 0, 0);
03599           break;
03600          #endif
03601         case WM_SYSCOMMAND:       /* und nach WM_SYSKEYDOWN Befehlsauswertung */
03602          switch (msg.wParam) {
03603           case SC_CLOSE:
03604            iKey= (FTNINT) 27;     /* <ALT><F4> -> ESC */
03605            #if !defined(__WIN32__) && !defined(_WIN32)
03606             goto LftDwn;
```

```
03607           #else
03608            mouse_event(MOUSEEVENTF_LEFTDOWN, 0, 0, 0, 0);
03609            break;
03610           #endif
03611          case TCS_WM_COPY:
03612           TCSWndProc_OnCopyClipboard ();
03613           break;
03614          default:
03615           DefWindowProc( msg.hwnd, msg.message, msg.wParam, msg.lParam);
03616           break;                 /* Sonst keine Befehle auswerten */
03617         } /* Systembefehle */
03618       } /* Window-Messageauswertung */
03619      } /* Messages fuer Graphikfenster */
03620     } /* Ende Eingabeschleife */
03621     *ic= (FTNINT) iButton;
03622     *ix=TCSGinCurPos.x;
03623     *iy=TCSGinCurPos.y;
03624
03625     TCSStatWindowAutomatic= true;
03626     ShowWindow (hTCSstatWindow, SW_HIDE); /* Statusfenster unsichtbar */
03627     return;
03628 }
03629
03630
03631
03632 /*
03633 ---------------------- Userroutinen: Statusmeldungen -------------------
03634 */
03635
03636
03637
03638 extern void bell (void)
03639 {
03640     MessageBeep (-1);
03641 }
03642
03643
03644
03645
03646 extern void outtext (FTNSTRPAR * ftn_string FTNSTRPAR_TAIL(ftn_string) )
03647 {
03648 int i;
03649
03650     TCSstatRow++;
03651     if (TCSstatRow >= STAT_MAXROWS) {
03652      TCSstatRow= STAT_MAXROWS-1;
03653      for (i=0; i<TCSstatRow;i++)
03654       _tcscpy( TCSstatTextBuf[i],TCSstatTextBuf[i+1]);
03655     }
03656
03657     _tcsncpy( TCSstatTextBuf[TCSstatRow],FTNSTRPARA(ftn_string),
03658                         min (FTNSTRPARL(ftn_string), STAT_MAXCOLUMNS));
03659     TCSstatTextBuf[TCSstatRow][STAT_MAXCOLUMNS]= (FTNCHAR) 0;
03660     // TCSstatTextBuf ist mit STAT_MAXCOLUMNS+1 fuer char(0) dimensioniert!
03661
03662     TCSstatScrollY= TCSstatRow   /* Anzahl  Zeilen  im Display */;
03663     ScrollWindow (hTCSstatWindow, 0,
03664                 (TCSstatOrgY-TCSstatScrollY)*TextLineHeight, NULL, NULL);
03665
03666     TCSstatOrgY= TCSstatScrollY;
03667
03668     SetScrollPos (hTCSstatWindow, SB_VERT, TCSstatScrollY, true);
03669
03670     ShowWindow (hTCSstatWindow, SW_SHOW);
03671     UpdateWindow(hTCSstatWindow);
03672 }
03673
03674
03675
03676 extern void GraphicError (FTNINT *iErr, FTNSTRPAR *ftn_string,
03677                                       FTNINT *iL  FTNSTRPAR_TAIL(ftn_string))
03678 {
03679     TCSGraphicError (*iErr, FTNSTRPARA(ftn_string));
03680
03681 }
03682
03683
03684
03685 /*
03686 ---------------------- Userroutinen: Hardcopy -------------------
03687 */
03688
03689
03690 extern void hdcopy (void)
03691 {
03692 FTNINT      iErr;
03693 // FTNSTRDESC  ftnstrg;
```

```
03694 TCHAR       FilNam[TCS_FILE_NAMELEN], OldFilNam[TCS_FILE_NAMELEN];
03695 OFSTRUCT    ReOpenBuf;
03696
03697 #if (JOURNALTYP == 1)
03698  HMETAFILE  hmf, hmf1;
03699  HDC        hTCSNewMetaFileDC;
03700  HRGN       hWindowRegion;
03701  HBRUSH     hBack;
03702 #elif (JOURNALTYP == 2)
03703  HENHMETAFILE   hmf, hmf1;
03704  HDC            hTCSNewMetaFileDC;
03705  ENHMETAHEADER  emh ;
03706  DWORD          ErrorCode;
03707  LPVOID         lpMsgBuf;
03708 #elif (JOURNALTYP == 3)
03709  struct xJournalEntry_typ    *xJournalEntry;
03710  FILE           *fHandle;
03711 #endif
03712
03713     FilNam[0] = (FTNCHAR) 0;
03714     OldFilNam[0] = (FTNCHAR) 0;
03715     do {     /* Suche erstes nicht existierendes File */
03716      _tcscpy(OldFilNam, FilNam);
03717      sprintf( FilNam, szTCSHardcopyFile, iHardcopyCount++ );
03718     } while ( (OpenFile (FilNam, &ReOpenBuf, OF_EXIST) != HFILE_ERROR) &&
03719               (_tcsicmp (FilNam,OldFilNam) > 0 )                          );
03720
03721     if (_tcsicmp (FilNam,OldFilNam) <= 0 ) { /* kein Filename vorhanden */
03722      iErr= WRN_HDCFILOPN;
03723      TCSGraphicError (iErr,"");
03724      return;                                 /* Error during Open -> ret */
03725     }
03726
03727     iErr= MSG_HDCACT;
03728     TCSGraphicError (iErr,FilNam);
03729
03730 #if (JOURNALTYP ==1)
03731     hTCSNewMetaFileDC  = CreateMetaFile (FilNam);
03732     if (hTCSNewMetaFileDC == NULL) {
03733      iErr= WRN_HDCFILOPN;
03734      TCSGraphicError (iErr,"");
03735      return;                                 /* Error during Open -> ret */
03736     }
03737
03738     hmf = CloseMetaFile (hTCSMetaFileDC);       /* Metafile für WM_PAINT */
03739
03740     SetWindowExtEx (hTCSNewMetaFileDC, TCSrect.right, TCSrect.bottom, NULL);
03741     SetWindowOrgEx (hTCSNewMetaFileDC, TCSrect.left, TCSrect.bottom, NULL);
03742
03743     ScaleViewportExtEx (hTCSNewMetaFileDC, 1,1,-1,1,NULL);
03744
03745     hWindowRegion= CreateRectRgn(TCSrect.left, TCSrect.top, TCSrect.right,TCSrect.bottom);
03746     hBack= CreateSolidBrush (dwColorTable[TCSBackgroundColour]); /* rechts,oben */
03747     FillRgn (hTCSNewMetaFileDC, hWindowRegion, hBack);  /* nicht eingeschlossen */
03748     #if !defined(__WIN32__) && !defined(_WIN32)
03749      DeleteBrush (hBack);
03750      DeleteRgn (hWindowRegion);                  /* Resourcen freigeben */
03751     #else
03752      DeleteObject (hBack);
03753      DeleteObject (hWindowRegion);
03754     #endif
03755
03756     PlayMetaFile (hTCSNewMetaFileDC, hmf);
03757     hmf1= CloseMetaFile (hTCSNewMetaFileDC);
03758     if (hmf1 == NULL) {
03759      iErr= WRN_HDCFILWRT;
03760      TCSGraphicError (iErr,"");
03761      return;                                 /* Error during Write -> ret */
03762     } else {
03763      DeleteMetaFile (hmf1); /* Freigabe Resourcen, nicht Löschen des Files! */
03764     }
03765
03766     hTCSNewMetaFileDC  = CreateMetaFile (NULL); /* 16bit Windows Metafile */
03767     PlayMetaFile (hTCSNewMetaFileDC, hmf);      /* für neues Journalfile */
03768     DeleteMetaFile (hmf);                       /* alter Status Bildschirm */
03769     hTCSMetaFileDC = hTCSNewMetaFileDC;         /* bereit Weiterzeichnen */
03770
03771 #elif (JOURNALTYP == 2)
03772     hmf = CloseEnhMetaFile (hTCSMetaFileDC);    /* Metafile für WM_PAINT */
03773     hmf1  = CopyEnhMetaFile (hmf, FilNam);
03774     if (hmf1 == NULL) {
03775      ErrorCode= GetLastError(); // immer win32 bei emf
03776 //   if (ErrorCode == ERROR_CLASS_ALREADY_EXISTS) {
03777 //    Hier bei Bedarf Fehlerbehandlung einführen
03778 //   } else {
03779      FormatMessage(
03780         FORMAT_MESSAGE_ALLOCATE_BUFFER | FORMAT_MESSAGE_FROM_SYSTEM,
```

```
03781          NULL,
03782          ErrorCode,
03783          MAKELANGID(LANG_NEUTRAL, SUBLANG_DEFAULT), // Default language
03784          (LPTSTR) &lpMsgBuf,
03785          0,
03786          NULL
03787       );
03788       MessageBox (NULL, lpMsgBuf, szTCSWindowName, MB_ICONSTOP);
03789       LocalFree( lpMsgBuf ); // Free the buffer
03790 //    } // Ende der Fehlerbehandlung
03791      iErr= WRN_HDCFILOPN;
03792      TCSGraphicError (iErr,"");
03793      return;                                /* Error during Open -> ret */
03794     }
03795     DeleteEnhMetaFile (hmf1); /* Handle freigeben, File  nicht geloescht! */
03796
03797     GetEnhMetaFileHeader (hmf, sizeof (emh), &emh) ;
03798     hTCSNewMetaFileDC  = CreateEnhMetaFile (hTCSWindowDC, NULL, &emh.rclFrame,
03799                          _T("TCS for Windows\0Subroutine HardCopy\0"));
03800     SetMapMode (hTCSNewMetaFileDC, MM_ANISOTROPIC);
03801     SetViewportExtEx (hTCSNewMetaFileDC, TCSrect.right, TCSrect.bottom, NULL);
03802     SetViewportOrgEx (hTCSNewMetaFileDC, TCSrect.left, TCSrect.bottom, NULL);
03803     SetWindowExtEx (hTCSNewMetaFileDC, TCSrect.right, TCSrect.bottom, NULL);
03804     SetWindowOrgEx (hTCSNewMetaFileDC, TCSrect.left, TCSrect.bottom, NULL);
03805
03806     PlayEnhMetaFile (hTCSNewMetaFileDC, hmf, &TCSrect); // neues Journal
03807
03808     DeleteEnhMetaFile (hmf);                       // alter Status Bildschirm
03809     hTCSMetaFileDC = hTCSNewMetaFileDC;            // bereit zum Weiterzeichnen
03810
03811     SetViewportExtEx (hTCSMetaFileDC, TCSrect.right, -TCSrect.bottom, NULL);
03812     SetViewportOrgEx (hTCSMetaFileDC, TCSrect.left, TCSrect.top, NULL);
03813     SetWindowExtEx (hTCSMetaFileDC, TCSrect.right, TCSrect.bottom, NULL);
03814     SetWindowOrgEx (hTCSMetaFileDC, TCSrect.left, TCSrect.bottom, NULL);
03815
03816     #if !defined(__WIN32__) && !defined(_WIN32)
03817      SelectFont (hTCSMetaFileDC, hTCSFont);      // Aktuellen Zeichenstatus an
03818     #else
03819      SelectObject (hTCSMetaFileDC, hTCSFont);
03820     #endif
03821     SetBkMode (hTCSMetaFileDC, TRANSPARENT );   // Metafile weitergegeben !
03822     SetTextAlign (hTCSMetaFileDC, TA_LEFT | TA_BOTTOM | TA_UPDATECP); // CP
03823     SetTextColor (hTCSMetaFileDC, dwColorTable[TKTRNX.iTxtCol]);
03824     #if !defined(__WIN32__) && !defined(_WIN32)
03825      SelectPen (hTCSMetaFileDC, hTCSPen); // 16bit: Makro aus windowsx.h
03826     #else
03827      SelectObject (hTCSMetaFileDC, hTCSPen); // 32bit: GDI Standardaufruf
03828     #endif
03829
03830 #elif (JOURNALTYP == 3)
03831     fHandle= fopen(FilNam, "w+");
03832     if ( fHandle == NULL) {
03833      iErr= WRN_HDCFILOPN;
03834      TCSGraphicError (iErr,"");
03835      return;                                /* Error during Open -> ret */
03836     }
03837
03838     SGLIB_DL_LIST_GET_LAST(struct xJournalEntry_typ, hTCSJournal, previous, next, xJournalEntry)
03839
03840     while (xJournalEntry != NULL) {
03841      fprintf( fHandle, "%02i#%04i-%03i\n", xJournalEntry->action, xJournalEntry->i1, xJournalEntry->i2
      );
03842
03843 #ifdef TRACE_CALLS
03844      switch (xJournalEntry->action) {
03845        case XACTION_INITT: {
03846         printf  ("%s § \n","Initt ");
03847         break;
03848        }
03849        case XACTION_ERASE: {
03850         printf  ("%s § \n","Erase ");
03851         break;
03852        }
03853        case XACTION_MOVABS: {
03854         printf  ("%s x:%i - y: %i § \n","MovAbs ", xJournalEntry->i1, xJournalEntry->i2);
03855         break;
03856        }
03857        case XACTION_DRWABS: {
03858         printf  ("%s x:%i - y: %i § \n","DrwAbs ", xJournalEntry->i1, xJournalEntry->i2);
03859         break;
03860        }
03861        case XACTION_DSHSTYLE: {
03862         printf  ("%s x:%i § \n","DshStyle ", xJournalEntry->i1);
03863         break;
03864        }
03865        case XACTION_DSHABS: {
03866         printf  ("%s x:%i - y: %i § \n","DshAbs ", xJournalEntry->i1, xJournalEntry->i2);
```

```
03867         break;
03868        }
03869        case XACTION_PNTABS: {
03870         printf  ("%s x:%i - y: %i $ \n","PntAbs ", xJournalEntry->i1, xJournalEntry->i2);
03871         break;
03872        }
03873        case XACTION_BCKCOL: {
03874         printf  ("%s x:%i $ \n","BckCol ", xJournalEntry->i1);
03875         break;
03876        }
03877        case XACTION_TXTCOL: {
03878         printf  ("%s x:%i $ \n","TxtCol ", xJournalEntry->i1);
03879         break;
03880        }
03881        case XACTION_LINCOL: {
03882         printf  ("%s x:%i $ \n","LinCol ", xJournalEntry->i1);
03883         break;
03884        }
03885        case XACTION_FONTATTR: {
03886         printf  ("%s x:%i - %i $ \n","Fontattr ", xJournalEntry->i1, xJournalEntry->i2);
03887         break;
03888        }
03889        case XACTION_GTEXT: {
03890         printf  ("%s iL:%i - C0: %i [ %c ] $ \n","GText ", xJournalEntry->i1, xJournalEntry->i2,
03891                 xJournalEntry->i2);
03892         break;
03893        }
03894        case XACTION_ASCII: {
03895         printf  ("%s C1:%i - C2: %i [ %c %c ] $ \n","ASCII ", xJournalEntry->i1, xJournalEntry->i2,
03896                           xJournalEntry->i1, xJournalEntry->i2);
03897         break;
03898        }
03899        default: {
03900         printf ("??? %i ??? \n", xJournalEntry->action) ;
03901         break;
03902        }
03903       }
03904 #endif // TRACE_CALLS
03905       xJournalEntry= xJournalEntry -> previous;
03906      }
03907      fclose (fHandle);
03908 #endif // Journaltyp=3
03909      ShowWindow (hTCSstatWindow, SW_HIDE);
03910      return;
03911 }
03912
03913
03914
03915 /*
03916 ---- subroutine LIB_MOVC3 fuer Watcom- und GNU-Compiler ----------------
03917 Hier nicht benoetigt, nur wg. Kompatibilitaet zur DOS-Version enthalten
03918 */
03919
03920
03921 extern void lib_movc3 (FTNINT *len,FTNSTRPAR *sou,FTNSTRPAR *dst
03922                                  FTNSTRPAR_TAIL(sou)  FTNSTRPAR_TAIL(dst) )
03923
03924 {
03925 int n;
03926      if (FTNSTRPARA(dst) <= FTNSTRPARA(sou) ) {
03927       for (n=0; n<*len; n++) FTNSTRPARA(dst)[n]= FTNSTRPARA(sou)[n];
03928      } else {
03929       for (n= (*len)-1; n>=0; n--) FTNSTRPARA(dst)[n]= FTNSTRPARA(sou)[n];
03930      };
03931 }
```

6.38 TCSdWINc.h File Reference

MS Windows Port: Low-Level Driver.

Macros

- #define false 0
- #define true !false
- #define TEK_XMAX 1023
- #define TEK_YMAX 780
- #define HiRes(iX) iX
- #define LoRes(iX) iX
- #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 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 */

Typedefs

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

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 ()

6.38.1 Detailed Description

MS Windows Port: Low-Level Driver.

Version

1.9

Author

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Headerfile for TCSdWIN.c
Definition in file TCSdWINc.h.

6.38.2 Macro Definition Documentation

6.38.2.1 ERR_EXIT

```
#define ERR_EXIT 12
```

Definition at line 107 of file TCSdWINc.h.

6.38.2.2 ERR_NOFNT

```
#define ERR_NOFNT 4
```
Definition at line 99 of file TCSdWINc.h.

6.38.2.3 ERR_NOFNTFIL

```
#define ERR_NOFNTFIL 3
```
Definition at line 98 of file TCSdWINc.h.

6.38.2.4 ERR_UNKNAUDIO

```
#define ERR_UNKNAUDIO 22
```
Definition at line 117 of file TCSdWINc.h.

6.38.2.5 ERR_UNKNGRAPHCARD

```
#define ERR_UNKNGRAPHCARD 2
```
Definition at line 97 of file TCSdWINc.h.

6.38.2.6 ERR_XMLOPEN

```
#define ERR_XMLOPEN 21
```
Definition at line 116 of file TCSdWINc.h.

6.38.2.7 ERR_XMLPARSER

```
#define ERR_XMLPARSER 20
```
Definition at line 115 of file TCSdWINc.h.

6.38.2.8 EXPORT16

```
#define EXPORT16 __export /* __export bei virtuellem Adressraum unnötig */
```
Definition at line 266 of file TCSdWINc.h.

6.38.2.9 false

```
#define false 0
```
Definition at line 18 of file TCSdWINc.h.

6.38.2.10 GetCommandLine

```
#define GetCommandLine( ) "WinApp" /* dito */
```
Definition at line 269 of file TCSdWINc.h.

6.38.2.11 HiRes

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

6.38.2.12 INIFILEXTTOKEN

```
#define INIFILEXTTOKEN _T(".%") /* Token fuer den Filenamenparser */
```
Definition at line 63 of file TCSdWINc.h.

6.38.2.13 LoRes

```
#define LoRes(
              iX ) iX
```
Definition at line 34 of file TCSdWINc.h.

6.38.2.14 LPTSTR

```
#define LPTSTR LPSTR
```
Definition at line 264 of file TCSdWINc.h.

6.38.2.15 MOUSE_XMAX

```
#define MOUSE_XMAX 65535 /* Mousekoordinatensystem (Mickeys) */
```
Definition at line 39 of file TCSdWINc.h.

6.38.2.16 MOUSE_YMAX

```
#define MOUSE_YMAX 65535 /* s.  MS-Dokumentation mouse_event */
```
Definition at line 40 of file TCSdWINc.h.

6.38.2.17 MSG_HDCACT

```
#define MSG_HDCACT 10
```
Definition at line 105 of file TCSdWINc.h.

6.38.2.18 MSG_MAXERRNO

```
#define MSG_MAXERRNO 25
```
Definition at line 120 of file TCSdWINc.h.

6.38.2.19 MSG_NOMOUSE

```
#define MSG_NOMOUSE 5
```
Definition at line 100 of file TCSdWINc.h.

6.38.2.20 MSG_USR

```
#define MSG_USR 9
```
Definition at line 104 of file TCSdWINc.h.

6.38.2.21 MSG_USR2

```
#define MSG_USR2 23
```
Definition at line 118 of file TCSdWINc.h.

6.38.2.22 PROGDIRTOKEN

```
#define PROGDIRTOKEN _T("%:")
```
Definition at line 64 of file TCSdWINc.h.

6.38.2.23 SM_CXMAXIMIZED

```
#define SM_CXMAXIMIZED SM_CXFULLSCREEN /* notduerftiger Ersatz für ...  */
```
Definition at line 267 of file TCSdWINc.h.

6.38.2.24 SM_CYMAXIMIZED

```
#define SM_CYMAXIMIZED SM_CYFULLSCREEN /* ...Win32 Funktion */
```
Definition at line 268 of file TCSdWINc.h.

6.38.2.25 STAT_ADDLINES

```
#define STAT_ADDLINES 9 /* Zusätzlich durch Mausziehen anzeigbar */
```
Definition at line 52 of file TCSdWINc.h.

6.38.2.26 STAT_MAXCOLUMNS

```
#define STAT_MAXCOLUMNS 80
```
Definition at line 50 of file TCSdWINc.h.

6.38.2.27 STAT_MAXROWS

```
#define STAT_MAXROWS 25 /* Gemerkte Statuszeilen (scrollbar) */
```
Definition at line 49 of file TCSdWINc.h.

6.38.2.28 STAT_MINLINES

```
#define STAT_MINLINES 1 /* Default:  Angezeigte Statuszeilen */
```
Definition at line 51 of file TCSdWINc.h.

6.38.2.29 STAT_PAGESIZ

```
#define STAT_PAGESIZ 5 /* Scrollschritte bei großem Statusfenster */
```
Definition at line 53 of file TCSdWINc.h.

6.38.2.30 TCS_DEFAULT_MAINWINDOWCLASS

```
#define TCS_DEFAULT_MAINWINDOWCLASS _T("WinMainFTN77")
```
Definition at line 68 of file TCSdWINc.h.

6.38.2.31 TCS_FILE_NAMELEN

```
#define TCS_FILE_NAMELEN 128
```
Definition at line 59 of file TCSdWINc.h.

6.38.2.32 TCS_HDCFILE_NAME

```
#define TCS_HDCFILE_NAME _T("HDC%03i.UNKNOWN")
```
Definition at line 146 of file TCSdWINc.h.

6.38.2.33 TCS_ICONFILE_NAME

```
#define TCS_ICONFILE_NAME _T("")
```
Definition at line 159 of file TCSdWINc.h.

6.38.2.34 TCS_INIDEF_BCKCOL

```
#define TCS_INIDEF_BCKCOL 0
```
Definition at line 181 of file TCSdWINc.h.

6.38.2.35 TCS_INIDEF_COPLCK

```
#define TCS_INIDEF_COPLCK _T("GRAPH2D Clipboard Manager:  ClipBoard locked.")
```
Definition at line 217 of file TCSdWINc.h.

6.38.2.36 TCS_INIDEF_COPLCKL

```
#define TCS_INIDEF_COPLCKL 1
```
Definition at line 219 of file TCSdWINc.h.

6.38.2.37 TCS_INIDEF_COPMEM

```
#define TCS_INIDEF_COPMEM _T("GRAPH2D Clipboard Manager:  Out of Memory.")
```
Definition at line 213 of file TCSdWINc.h.

6.38.2.38 TCS_INIDEF_COPMEML

```
#define TCS_INIDEF_COPMEML 1
```
Definition at line 215 of file TCSdWINc.h.

6.38.2.39 TCS_INIDEF_COPMEN

```
#define TCS_INIDEF_COPMEN _T("Copy")
```
Definition at line 153 of file TCSdWINc.h.

6.38.2.40 TCS_INIDEF_EXIT

```
#define TCS_INIDEF_EXIT _T("Press any key to exit program.")
```
Definition at line 209 of file TCSdWINc.h.

6.38.2.41 TCS_INIDEF_EXITL

```
#define TCS_INIDEF_EXITL 10
```
Definition at line 211 of file TCSdWINc.h.

6.38.2.42 TCS_INIDEF_FONT

```
#define TCS_INIDEF_FONT _T("Arial Terminal")
```
Definition at line 155 of file TCSdWINc.h.

6.38.2.43 TCS_INIDEF_HDCACT

```
#define TCS_INIDEF_HDCACT _T("Hardcopy in progress:  File %s created.")
```
Definition at line 201 of file TCSdWINc.h.

6.38.2.44 TCS_INIDEF_HDCACTL

```
#define TCS_INIDEF_HDCACTL 1
```
Definition at line 203 of file TCSdWINc.h.

6.38.2.45 TCS_INIDEF_HDCINT

```
#define TCS_INIDEF_HDCINT _T("GRAPH2D HARDCOPY: Internal Error.")
```
Definition at line 193 of file TCSdWINc.h.

6.38.2.46 TCS_INIDEF_HDCINTL

```
#define TCS_INIDEF_HDCINTL 5
```
Definition at line 195 of file TCSdWINc.h.

6.38.2.47 TCS_INIDEF_HDCOPN

```
#define TCS_INIDEF_HDCOPN _T("GRAPH2D HARDCOPY: Error during OPEN.")
```
Definition at line 185 of file TCSdWINc.h.

6.38.2.48 TCS_INIDEF_HDCOPNL

```
#define TCS_INIDEF_HDCOPNL 5
```
Definition at line 187 of file TCSdWINc.h.

6.38.2.49 TCS_INIDEF_HDCWRT

```
#define TCS_INIDEF_HDCWRT _T("GRAPH2D HARDCOPY: Error during WRITE.")
```
Definition at line 189 of file TCSdWINc.h.

6.38.2.50 TCS_INIDEF_HDCWRTL

```
#define TCS_INIDEF_HDCWRTL 5
```
Definition at line 191 of file TCSdWINc.h.

6.38.2.51 TCS_INIDEF_INI2

```
#define TCS_INIDEF_INI2 _T("%s")
```
Definition at line 253 of file TCSdWINc.h.

6.38.2.52 TCS_INIDEF_INI2L

```
#define TCS_INIDEF_INI2L 5
```
Definition at line 255 of file TCSdWINc.h.

6.38.2.53 TCS_INIDEF_JOUADD

```
#define TCS_INIDEF_JOUADD _T("GRAPH2D Error Appending Journal Entry.")
```
Definition at line 229 of file TCSdWINc.h.

6.38.2.54 TCS_INIDEF_JOUADDL

```
#define TCS_INIDEF_JOUADDL 5
```
Definition at line 231 of file TCSdWINc.h.

6.38.2.55 TCS_INIDEF_JOUCLR

```
#define TCS_INIDEF_JOUCLR _T("GRAPH2D Error Clearing Journal Entry.")
```
Definition at line 233 of file TCSdWINc.h.

6.38.2.56 TCS_INIDEF_JOUCLRL

```
#define TCS_INIDEF_JOUCLRL 5
```
Definition at line 235 of file TCSdWINc.h.

6.38.2.57 TCS_INIDEF_JOUCREATE

```
#define TCS_INIDEF_JOUCREATE _T("GRAPH2D Error Creating Journal.  Error-No:  %s.")
```
Definition at line 221 of file TCSdWINc.h.

6.38.2.58 TCS_INIDEF_JOUCREATEL

```
#define TCS_INIDEF_JOUCREATEL 5
```
Definition at line 223 of file TCSdWINc.h.

6.38.2.59 TCS_INIDEF_JOUENTRY

```
#define TCS_INIDEF_JOUENTRY _T("GRAPH2D Error Creating Journal Entry.")
```
Definition at line 225 of file TCSdWINc.h.

6.38.2.60 TCS_INIDEF_JOUENTRYL

```
#define TCS_INIDEF_JOUENTRYL 5
```
Definition at line 227 of file TCSdWINc.h.

6.38.2.61 TCS_INIDEF_JOUUNKWN

```
#define TCS_INIDEF_JOUUNKWN _T("GRAPH2D Unknown Journal Entry.")
```
Definition at line 237 of file TCSdWINc.h.

6.38.2.62 TCS_INIDEF_JOUUNKWNL

```
#define TCS_INIDEF_JOUUNKWNL 1
```
Definition at line 239 of file TCSdWINc.h.

6.38.2.63 TCS_INIDEF_LINCOL

```
#define TCS_INIDEF_LINCOL 1
```
Definition at line 177 of file TCSdWINc.h.

6.38.2.64 TCS_INIDEF_STATPOSX

```
#define TCS_INIDEF_STATPOSX 0
```
Definition at line 169 of file TCSdWINc.h.

6.38.2.65 TCS_INIDEF_STATPOSY

```
#define TCS_INIDEF_STATPOSY 0
```
Definition at line 171 of file TCSdWINc.h.

6.38.2.66 TCS_INIDEF_STATSIZX

```
#define TCS_INIDEF_STATSIZX 100
```
Definition at line 173 of file TCSdWINc.h.

6.38.2.67 TCS_INIDEF_STATSIZY

```
#define TCS_INIDEF_STATSIZY 100
```
Definition at line 175 of file TCSdWINc.h.

6.38.2.68 TCS_INIDEF_SYSFONT

```
#define TCS_INIDEF_SYSFONT _T("Arial Terminal")
```
Definition at line 157 of file TCSdWINc.h.

6.38.2.69 TCS_INIDEF_TXTCOL

```
#define TCS_INIDEF_TXTCOL 1
```
Definition at line 179 of file TCSdWINc.h.

6.38.2.70 TCS_INIDEF_USR

```
#define TCS_INIDEF_USR _T("%s")
```
Definition at line 197 of file TCSdWINc.h.

6.38.2.71 TCS_INIDEF_USR2

```
#define TCS_INIDEF_USR2 _T("%s")
```
Definition at line 249 of file TCSdWINc.h.

6.38.2.72 TCS_INIDEF_USR2L

```
#define TCS_INIDEF_USR2L 5
```
Definition at line 251 of file TCSdWINc.h.

6.38.2.73 TCS_INIDEF_USRL

```
#define TCS_INIDEF_USRL 5
```
Definition at line 199 of file TCSdWINc.h.

6.38.2.74 TCS_INIDEF_USRWRN

```
#define TCS_INIDEF_USRWRN _T("Press any key to continue.")
```
Definition at line 205 of file TCSdWINc.h.

6.38.2.75 TCS_INIDEF_USRWRNL

```
#define TCS_INIDEF_USRWRNL 5
```
Definition at line 207 of file TCSdWINc.h.

6.38.2.76 TCS_INIDEF_WINPOSX

```
#define TCS_INIDEF_WINPOSX 0
```
Definition at line 161 of file TCSdWINc.h.

6.38.2.77 TCS_INIDEF_WINPOSY

```
#define TCS_INIDEF_WINPOSY 0
```
Definition at line 163 of file TCSdWINc.h.

6.38.2.78 TCS_INIDEF_WINSIZX

```
#define TCS_INIDEF_WINSIZX 100
```
Definition at line 165 of file TCSdWINc.h.

6.38.2.79 TCS_INIDEF_WINSIZY

```
#define TCS_INIDEF_WINSIZY 100
```
Definition at line 167 of file TCSdWINc.h.

6.38.2.80 TCS_INIDEF_XMLOPEN

```
#define TCS_INIDEF_XMLOPEN _T("GRAPH2D Error opening %s")
```
Definition at line 245 of file TCSdWINc.h.

6.38.2.81 TCS_INIDEF_XMLOPENL

```
#define TCS_INIDEF_XMLOPENL 8
```
Definition at line 247 of file TCSdWINc.h.

6.38.2.82 TCS_INIDEF_XMLPARSER

```
#define TCS_INIDEF_XMLPARSER _T("GRAPH2D Error parsing XML-File:  %s")
```
Definition at line 241 of file TCSdWINc.h.

6.38.2.83 TCS_INIDEF_XMLPARSERL

```
#define TCS_INIDEF_XMLPARSERL 8
```
Definition at line 243 of file TCSdWINc.h.

6.38.2.84 TCS_INIFILE_NAME

```
#define TCS_INIFILE_NAME _T("Graph2D")
```
Definition at line 69 of file TCSdWINc.h.

6.38.2.85 TCS_INISECT0

```
#define TCS_INISECT0 "Graph2D"
```
Definition at line 131 of file TCSdWINc.h.

6.38.2.86 TCS_INISECT1

```
#define TCS_INISECT1 _T("Names")
```
Definition at line 133 of file TCSdWINc.h.

6.38.2.87 TCS_INISECT2

```
#define TCS_INISECT2 _T("Layout")
```
Definition at line 151 of file TCSdWINc.h.

6.38.2.88 TCS_INISECT3

```
#define TCS_INISECT3 _T("Messages")
```
Definition at line 183 of file TCSdWINc.h.

6.38.2.89 TCS_INIVAR_BCKCOL

```
#define TCS_INIVAR_BCKCOL _T("G2dBckCol")
```
Definition at line 180 of file TCSdWINc.h.

6.38.2.90 TCS_INIVAR_COPLCK

```
#define TCS_INIVAR_COPLCK _T("G2dClipLock")
```
Definition at line 216 of file TCSdWINc.h.

6.38.2.91 TCS_INIVAR_COPLCKL

```
#define TCS_INIVAR_COPLCKL _T("G2dClipLockL")
```
Definition at line 218 of file TCSdWINc.h.

6.38.2.92 TCS_INIVAR_COPMEM

```
#define TCS_INIVAR_COPMEM _T("G2dNoMemory")
```
Definition at line 212 of file TCSdWINc.h.

6.38.2.93 TCS_INIVAR_COPMEML

```
#define TCS_INIVAR_COPMEML _T("G2dNoMemoryL")
```
Definition at line 214 of file TCSdWINc.h.

6.38.2.94 TCS_INIVAR_COPMEN

```
#define TCS_INIVAR_COPMEN _T("G2dSysMenuCopy")
```
Definition at line 152 of file TCSdWINc.h.

6.38.2.95 TCS_INIVAR_EXIT

```
#define TCS_INIVAR_EXIT _T("G2dExit")
```
Definition at line 208 of file TCSdWINc.h.

6.38.2.96 TCS_INIVAR_EXITL

```
#define TCS_INIVAR_EXITL _T("G2dExitL")
```
Definition at line 210 of file TCSdWINc.h.

6.38.2.97 TCS_INIVAR_FONT

```
#define TCS_INIVAR_FONT _T("G2dGraphicFont")
```
Definition at line 154 of file TCSdWINc.h.

6.38.2.98 TCS_INIVAR_HDCACT

```
#define TCS_INIVAR_HDCACT _T("G2dHdcActive")
```
Definition at line 200 of file TCSdWINc.h.

6.38.2.99 TCS_INIVAR_HDCACTL

```
#define TCS_INIVAR_HDCACTL _T("G2dHdcActiveL")
```
Definition at line 202 of file TCSdWINc.h.

6.38.2.100 TCS_INIVAR_HDCINT

```
#define TCS_INIVAR_HDCINT _T("G2dHdcIntern")
```
Definition at line 192 of file TCSdWINc.h.

6.38.2.101 TCS_INIVAR_HDCINTL

```
#define TCS_INIVAR_HDCINTL _T("G2dHdcInternL")
```
Definition at line 194 of file TCSdWINc.h.

6.38.2.102 TCS_INIVAR_HDCNAM

```
#define TCS_INIVAR_HDCNAM _T("G2dHardcopy")
```
Definition at line 138 of file TCSdWINc.h.

6.38.2.103 TCS_INIVAR_HDCOPN

```
#define TCS_INIVAR_HDCOPN _T("G2dHdcOpen")
```
Definition at line 184 of file TCSdWINc.h.

6.38.2.104 TCS_INIVAR_HDCOPNL

```
#define TCS_INIVAR_HDCOPNL _T("G2dHdcOpenL")
```
Definition at line 186 of file TCSdWINc.h.

6.38.2.105 TCS_INIVAR_HDCWRT

```
#define TCS_INIVAR_HDCWRT _T("G2dHdcWrite")
```
Definition at line 188 of file TCSdWINc.h.

6.38.2.106 TCS_INIVAR_HDCWRTL

```
#define TCS_INIVAR_HDCWRTL _T("G2dHdcWriteL")
```
Definition at line 190 of file TCSdWINc.h.

6.38.2.107 TCS_INIVAR_ICONNAM

```
#define TCS_INIVAR_ICONNAM _T("G2dIcon")
```
Definition at line 158 of file TCSdWINc.h.

6.38.2.108 TCS_INIVAR_INI2

```
#define TCS_INIVAR_INI2 _T("G2d2xInitt")
```
Definition at line 252 of file TCSdWINc.h.

6.38.2.109 TCS_INIVAR_INI2L

```
#define TCS_INIVAR_INI2L _T("G2d2xInittL")
```
Definition at line 254 of file TCSdWINc.h.

6.38.2.110 TCS_INIVAR_JOUADD

```
#define TCS_INIVAR_JOUADD _T("G2dJouAdd")
```
Definition at line 228 of file TCSdWINc.h.

6.38.2.111 TCS_INIVAR_JOUADDL

```
#define TCS_INIVAR_JOUADDL _T("G2dJouAddL")
```
Definition at line 230 of file TCSdWINc.h.

6.38.2.112 TCS_INIVAR_JOUCLR

```
#define TCS_INIVAR_JOUCLR _T("G2dJouClr")
```
Definition at line 232 of file TCSdWINc.h.

6.38.2.113 TCS_INIVAR_JOUCLRL

```
#define TCS_INIVAR_JOUCLRL _T("G2dJouClrL")
```
Definition at line 234 of file TCSdWINc.h.

6.38.2.114 TCS_INIVAR_JOUCREATE

```
#define TCS_INIVAR_JOUCREATE _T("G2dJouCreate")
```
Definition at line 220 of file TCSdWINc.h.

6.38.2.115 TCS_INIVAR_JOUCREATEL

```
#define TCS_INIVAR_JOUCREATEL _T("G2dJouCreateL")
```
Definition at line 222 of file TCSdWINc.h.

6.38.2.116 TCS_INIVAR_JOUENTRY

```
#define TCS_INIVAR_JOUENTRY _T("G2dJouEntry")
```
Definition at line 224 of file TCSdWINc.h.

6.38.2.117 TCS_INIVAR_JOUENTRYL

```
#define TCS_INIVAR_JOUENTRYL _T("G2dJouEntryL")
```
Definition at line 226 of file TCSdWINc.h.

6.38.2.118 TCS_INIVAR_JOUUNKWN

```
#define TCS_INIVAR_JOUUNKWN _T("G2dJouEntryUnknwn")
```
Definition at line 236 of file TCSdWINc.h.

6.38.2.119 TCS_INIVAR_JOUUNKWNL

```
#define TCS_INIVAR_JOUUNKWNL _T("G2dJouEntryUnknwnL")
```
Definition at line 238 of file TCSdWINc.h.

6.38.2.120 TCS_INIVAR_LINCOL

```
#define TCS_INIVAR_LINCOL _T("G2dLinCol")
```
Definition at line 176 of file TCSdWINc.h.

6.38.2.121 TCS_INIVAR_MAINWINNAM

```
#define TCS_INIVAR_MAINWINNAM _T("G2dMainWindow")
```
Definition at line 148 of file TCSdWINc.h.

6.38.2.122 TCS_INIVAR_STATNAM

```
#define TCS_INIVAR_STATNAM _T("G2dStatus")
```
Definition at line 136 of file TCSdWINc.h.

6.38.2.123 TCS_INIVAR_STATPOSX

```
#define TCS_INIVAR_STATPOSX _T("G2dStatusPosX")
```
Definition at line 168 of file TCSdWINc.h.

6.38.2.124 TCS_INIVAR_STATPOSY

```
#define TCS_INIVAR_STATPOSY _T("G2dStatusPosY")
```
Definition at line 170 of file TCSdWINc.h.

6.38.2.125 TCS_INIVAR_STATSIZX

```
#define TCS_INIVAR_STATSIZX _T("G2dStatusSizeX")
```
Definition at line 172 of file TCSdWINc.h.

6.38.2.126 TCS_INIVAR_STATSIZY

```
#define TCS_INIVAR_STATSIZY _T("G2dStatusSizeY")
```
Definition at line 174 of file TCSdWINc.h.

6.38.2.127 TCS_INIVAR_SYSFONT

```
#define TCS_INIVAR_SYSFONT _T("G2dSystemFont")
```
Definition at line 156 of file TCSdWINc.h.

6.38.2.128 TCS_INIVAR_TXTCOL

```
#define TCS_INIVAR_TXTCOL _T("G2dTxtCol")
```
Definition at line 178 of file TCSdWINc.h.

6.38.2.129 TCS_INIVAR_USR

```
#define TCS_INIVAR_USR _T("G2dUser")
```
Definition at line 196 of file TCSdWINc.h.

6.38.2.130 TCS_INIVAR_USR2

```
#define TCS_INIVAR_USR2 _T("G2dUser2")
```
Definition at line 248 of file TCSdWINc.h.

6.38.2.131 TCS_INIVAR_USR2L

```
#define TCS_INIVAR_USR2L _T("G2dUser2L")
```
Definition at line 250 of file TCSdWINc.h.

6.38.2.132 TCS_INIVAR_USRL

```
#define TCS_INIVAR_USRL _T("G2dUserL")
```
Definition at line 198 of file TCSdWINc.h.

6.38.2.133 TCS_INIVAR_USRWRN

```
#define TCS_INIVAR_USRWRN _T("G2dPressAny")
```
Definition at line 204 of file TCSdWINc.h.

6.38.2.134 TCS_INIVAR_USRWRNL

```
#define TCS_INIVAR_USRWRNL _T("G2dPressAnyL")
```
Definition at line 206 of file TCSdWINc.h.

6.38.2.135 TCS_INIVAR_WINNAM

```
#define TCS_INIVAR_WINNAM _T("G2dGraphic")
```
Definition at line 134 of file TCSdWINc.h.

6.38.2.136 TCS_INIVAR_WINPOSX

```
#define TCS_INIVAR_WINPOSX _T("G2dGraphicPosX")
```
Definition at line 160 of file TCSdWINc.h.

6.38.2.137 TCS_INIVAR_WINPOSY

```
#define TCS_INIVAR_WINPOSY _T("G2dGraphicPosY")
```
Definition at line 162 of file TCSdWINc.h.

6.38.2.138 TCS_INIVAR_WINSIZX

```
#define TCS_INIVAR_WINSIZX _T("G2dGraphicSizeX")
```
Definition at line 164 of file TCSdWINc.h.

6.38.2.139 TCS_INIVAR_WINSIZY

```
#define TCS_INIVAR_WINSIZY _T("G2dGraphicSizeY")
```
Definition at line 166 of file TCSdWINc.h.

6.38.2.140 TCS_INIVAR_XMLOPEN

```
#define TCS_INIVAR_XMLOPEN _T("G2dXMLopen")
```
Definition at line 244 of file TCSdWINc.h.

6.38.2.141 TCS_INIVAR_XMLOPENL

```
#define TCS_INIVAR_XMLOPENL _T("G2dXMLerrorL")
```
Definition at line 246 of file TCSdWINc.h.

6.38.2.142 TCS_INIVAR_XMLPARSER

```
#define TCS_INIVAR_XMLPARSER _T("G2dXMLerror")
```
Definition at line 240 of file TCSdWINc.h.

6.38.2.143 TCS_INIVAR_XMLPARSERL

```
#define TCS_INIVAR_XMLPARSERL _T("G2dXMLerrorL")
```
Definition at line 242 of file TCSdWINc.h.

6.38.2.144 TCS_MAINWINDOW_NAME

```
#define TCS_MAINWINDOW_NAME _T("%:")
```
Definition at line 149 of file TCSdWINc.h.

6.38.2.145 TCS_MENUENTRY_LEN

```
#define TCS_MENUENTRY_LEN 15
```
Definition at line 61 of file TCSdWINc.h.

6.38.2.146 TCS_MESSAGELEN

```
#define TCS_MESSAGELEN 80
```
Definition at line 60 of file TCSdWINc.h.

6.38.2.147 TCS_REL_CHR_HEIGHT

```
#define TCS_REL_CHR_HEIGHT 1.0f
```
Definition at line 55 of file TCSdWINc.h.

6.38.2.148 TCS_REL_CHR_SPACE

```
#define TCS_REL_CHR_SPACE 1.1f /* Zeilenabstand */
```
Definition at line 56 of file TCSdWINc.h.

6.38.2.149 TCS_STAT_WINDOWCLASS

```
#define TCS_STAT_WINDOWCLASS _T("Graph2DstatWindow")
```
Definition at line 67 of file TCSdWINc.h.

6.38.2.150 TCS_STATWINDOW_NAME

```
#define TCS_STATWINDOW_NAME _T("System Messages")
```
Definition at line 137 of file TCSdWINc.h.

6.38.2.151 TCS_WINDOW_ICON

```
#define TCS_WINDOW_ICON _T("Graph2DIcon")
```
Definition at line 70 of file TCSdWINc.h.

6.38.2.152 TCS_WINDOW_ICONS

```
#define TCS_WINDOW_ICONS _T("Graph2DIconS")
```
Definition at line 71 of file TCSdWINc.h.

6.38.2.153 TCS_WINDOW_NAME

```
#define TCS_WINDOW_NAME _T("Graphics")
```
Definition at line 135 of file TCSdWINc.h.

6.38.2.154 TCS_WINDOW_NAMELEN

```
#define TCS_WINDOW_NAMELEN 255
```
Definition at line 58 of file TCSdWINc.h.

6.38.2.155 TCS_WINDOWCLASS

```
#define TCS_WINDOWCLASS _T("Graph2DWindow")
```
Definition at line 66 of file TCSdWINc.h.

6.38.2.156 TCS_WM_COPY

```
#define TCS_WM_COPY 0x0401 /* Raum für Applikationen:  0x0400-0x7fff */
```
Definition at line 42 of file TCSdWINc.h.

6.38.2.157 TEK_XMAX

```
#define TEK_XMAX 1023
```
Definition at line 24 of file TCSdWINc.h.

6.38.2.158 TEK_YMAX

```
#define TEK_YMAX 780
```
Definition at line 25 of file TCSdWINc.h.

6.38.2.159 true

```
#define true !false
```
Definition at line 19 of file TCSdWINc.h.

6.38.2.160 WRN_COPYLOCK

```
#define WRN_COPYLOCK 14
```
Definition at line 109 of file TCSdWINc.h.

6.38.2.161 WRN_COPYNOMEM

```
#define WRN_COPYNOMEM 13
```
Definition at line 108 of file TCSdWINc.h.

6.38.2.162 WRN_HDCFILOPN

```
#define WRN_HDCFILOPN 6
```
Definition at line 101 of file TCSdWINc.h.

6.38.2.163 WRN_HDCFILWRT

```
#define WRN_HDCFILWRT 7
```
Definition at line 102 of file TCSdWINc.h.

6.38.2.164 WRN_HDCINTERN

```
#define WRN_HDCINTERN 8
```
Definition at line 103 of file TCSdWINc.h.

6.38.2.165 WRN_INI2

```
#define WRN_INI2 24
```
Definition at line 119 of file TCSdWINc.h.

6.38.2.166 WRN_JOUADD

```
#define WRN_JOUADD 17
```
Definition at line 112 of file TCSdWINc.h.

6.38.2.167 WRN_JOUCLR

```
#define WRN_JOUCLR 18
```
Definition at line 113 of file TCSdWINc.h.

6.38.2.168 WRN_JOUCREATE

```
#define WRN_JOUCREATE 15
```
Definition at line 110 of file TCSdWINc.h.

6.38.2.169 WRN_JOUENTRY

```
#define WRN_JOUENTRY 16
```
Definition at line 111 of file TCSdWINc.h.

6.38.2.170 WRN_JOUUNKWN

```
#define WRN_JOUUNKWN 19
```
Definition at line 114 of file TCSdWINc.h.

6.38.2.171 WRN_NOMSG

```
#define WRN_NOMSG 1
```
Definition at line 96 of file TCSdWINc.h.

6.38.2.172 WRN_USRPRESSANY

```
#define WRN_USRPRESSANY 11
```
Definition at line 106 of file TCSdWINc.h.

6.38.2.173 XACTION_ASCII

```
#define XACTION_ASCII 9
```
Definition at line 85 of file TCSdWINc.h.

6.38.2.174 XACTION_BCKCOL

```
#define XACTION_BCKCOL 10
```
Definition at line 86 of file TCSdWINc.h.

6.38.2.175 XACTION_DRWABS

```
#define XACTION_DRWABS 4
```
Definition at line 80 of file TCSdWINc.h.

6.38.2.176 XACTION_DSHABS

```
#define XACTION_DSHABS 6
```
Definition at line 82 of file TCSdWINc.h.

6.38.2.177 XACTION_DSHSTYLE

```
#define XACTION_DSHSTYLE 5
```
Definition at line 81 of file TCSdWINc.h.

6.38.2.178 XACTION_ERASE

```
#define XACTION_ERASE 2
```
Definition at line 78 of file TCSdWINc.h.

6.38.2.179 XACTION_FONTATTR

```
#define XACTION_FONTATTR 13
```
Definition at line 89 of file TCSdWINc.h.

6.38.2.180 XACTION_GTEXT

```
#define XACTION_GTEXT 8
```
Definition at line 84 of file TCSdWINc.h.

6.38.2.181 XACTION_INITT

```
#define XACTION_INITT 1
```
Definition at line 77 of file TCSdWINc.h.

6.38.2.182 XACTION_LINCOL

```
#define XACTION_LINCOL 11
```
Definition at line 87 of file TCSdWINc.h.

6.38.2.183 XACTION_MOVABS

```
#define XACTION_MOVABS 3
```
Definition at line 79 of file TCSdWINc.h.

6.38.2.184 XACTION_NOOP

```
#define XACTION_NOOP 14
```
Definition at line 90 of file TCSdWINc.h.

6.38.2.185 XACTION_PNTABS

```
#define XACTION_PNTABS 7
```
Definition at line 83 of file TCSdWINc.h.

6.38.2.186 XACTION_TXTCOL

```
#define XACTION_TXTCOL 12
```
Definition at line 88 of file TCSdWINc.h.

6.38.3 Typedef Documentation

6.38.3.1 bool

```
typedef int bool
```
Definition at line 17 of file TCSdWINc.h.

6.38.3.2 PTCHAR

```
typedef char * PTCHAR
```
Definition at line 263 of file TCSdWINc.h.

6.38.3.3 TCHAR

```
typedef char TCHAR
```
Definition at line 263 of file TCSdWINc.h.

6.38.4 Function Documentation

6.38.4.1 bell()

```
void bell (
            void  )
```
Definition at line 3638 of file TCSdWINc.c.

6.38.4.2 finitt()

```
void finitt ( )
```

Definition at line 2520 of file TCSdWINc.c.

6.38.4.3 GraphicError()

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

Definition at line 3676 of file TCSdWINc.c.

6.38.4.4 outtext()

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

Definition at line 3646 of file TCSdWINc.c.

6.38.4.5 tinput()

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

Definition at line 3346 of file TCSdWINc.c.

6.39 TCSdWINc.h

```
00001 /** ****************************************************************************
00002 \file       TCSdWINc.h
00003 \brief      MS Windows Port: Low-Level Driver
00004 \version    1.9
00005 \author     (C) 2023 Dr.-Ing. Klaus Friedewald
00006 \copyright  GNU LESSER GENERAL PUBLIC LICENSE Version 3
00007 \~german
00008          Headerfile zu TCSdWINc.c
00009 \~english
00010          Headerfile for TCSdWIN.c
00011 \~
00012
00013
00014 ***************************************************************************** */
00015
00016
00017  typedef int bool; // Typdefinition analog Cpp
00018  #define false 0
00019  #define true !false
00020
00021
00022 /* ---- Zeichenbereich im Tektronix-Koordinatensystem ---------------------- */
00023
00024 #define TEK_XMAX 1023
00025 #define TEK_YMAX 780
00026
00027 /* ---- Erhoehung der Zeichenauflösung fuer hochaufloesende Bildschirme --- */
00028
00029 #if defined PixFac
00030  #define HiRes(iX) (iX*PixFac)
00031  #define LoRes(iX) (iX/PixFac)
00032 #else
00033  #define HiRes(iX) iX
00034  #define LoRes(iX) iX
00035 #endif
00036
00037 /* ----- Systemparameter ------------------------------------------------- */
00038
00039 #define MOUSE_XMAX 65535        /* Mousekoordinatensystem (Mickeys) */
00040 #define MOUSE_YMAX 65535        /* s. MS-Dokumentation mouse_event */
00041
00042 #define TCS_WM_COPY 0x0401      /* Raum für Applikationen: 0x0400-0x7fff */
00043
```

```
00044
00045
00046
00047 /* ------------ Programmparameter ---------------------------------------- */
00048
00049 #define STAT_MAXROWS 25         /* Gemerkte Statuszeilen (scrollbar) */
00050 #define STAT_MAXCOLUMNS 80
00051 #define STAT_MINLINES 1         /* Default: Angezeigte Statuszeilen */
00052 #define STAT_ADDLINES 9         /* Zusätzlich durch Mausziehen anzeigbar */
00053 #define STAT_PAGESIZ 5          /* Scrollschritte bei großem Statusfenster */
00054
00055 #define TCS_REL_CHR_HEIGHT 1.0f
00056 #define TCS_REL_CHR_SPACE 1.1f  /* Zeilenabstand */
00057
00058 #define TCS_WINDOW_NAMELEN 255
00059 #define TCS_FILE_NAMELEN 128
00060 #define TCS_MESSAGELEN 80
00061 #define TCS_MENUENTRY_LEN 15
00062
00063 #define INIFILEXTTOKEN _T(".%")      /* Token fuer den Filenamenparser */
00064 #define PROGDIRTOKEN _T("%:")
00065
00066 #define TCS_WINDOWCLASS _T("Graph2DWindow")
00067 #define TCS_STAT_WINDOWCLASS _T("Graph2DstatWindow")
00068 #define TCS_DEFAULT_MAINWINDOWCLASS _T("WinMainFTN77")
00069 #define TCS_INIFILE_NAME _T("Graph2D")
00070 #define TCS_WINDOW_ICON _T("Graph2DIcon")
00071 #define TCS_WINDOW_ICONS _T("Graph2DIconS")
00072
00073
00074
00075 /* Actioncodes des Journalfiles */
00076
00077 #define XACTION_INITT       1
00078 #define XACTION_ERASE       2
00079 #define XACTION_MOVABS      3
00080 #define XACTION_DRWABS      4
00081 #define XACTION_DSHSTYLE    5
00082 #define XACTION_DSHABS      6
00083 #define XACTION_PNTABS      7
00084 #define XACTION_GTEXT       8
00085 #define XACTION_ASCII       9
00086 #define XACTION_BCKCOL      10
00087 #define XACTION_LINCOL      11
00088 #define XACTION_TXTCOL      12
00089 #define XACTION_FONTATTR    13
00090 #define XACTION_NOOP        14
00091
00092
00093
00094 /* Zuordnung Fehlernummern zu Meldungen */
00095
00096 #define WRN_NOMSG 1
00097 #define ERR_UNKNGRAPHCARD 2
00098 #define ERR_NOFNTFIL 3
00099 #define ERR_NOFNT 4
00100 #define MSG_NOMOUSE 5
00101 #define WRN_HDCFILOPN 6
00102 #define WRN_HDCFILWRT 7
00103 #define WRN_HDCINTERN 8
00104 #define MSG_USR 9
00105 #define MSG_HDCACT 10
00106 #define WRN_USRPRESSANY 11
00107 #define ERR_EXIT 12
00108 #define WRN_COPYNOMEM 13
00109 #define WRN_COPYLOCK 14
00110 #define WRN_JOUCREATE 15
00111 #define WRN_JOUENTRY 16
00112 #define WRN_JOUADD 17
00113 #define WRN_JOUCLR 18
00114 #define WRN_JOUUNKWN 19
00115 #define ERR_XMLPARSER 20
00116 #define ERR_XMLOPEN 21
00117 #define ERR_UNKNAUDIO 22
00118 #define MSG_USR2 23
00119 #define WRN_INI2 24
00120 #define MSG_MAXERRNO 25
00121
00122
00123
00124 /* Initialisierungskonstanten *.INI, werden sinngemaess auch bei der
00125     Registry und XML-Initialisierung verwendet.
00126     Bei Erweiterungen Variableninitialisierung szTCSErrorMsg und TCSErrorLev
00127     in TCSdWINc.c fuer Registry und XML-Initialisierung nicht vergessen und
00128     alle Parser (*.ini bei INITT1(), Registry bei StoreIni() und
00129     *.xml bei sax_callback() beruecksichtigen! */
00130
```

```
00131 #define TCS_INISECT0 "Graph2D" // Root-Section, derzeit nur bei XML verwendet
00132
00133 #define TCS_INISECT1 _T("Names")
00134  #define TCS_INIVAR_WINNAM _T("G2dGraphic")
00135     #define TCS_WINDOW_NAME _T("Graphics")
00136  #define TCS_INIVAR_STATNAM _T("G2dStatus")
00137     #define TCS_STATWINDOW_NAME _T("System Messages")
00138  #define TCS_INIVAR_HDCNAM _T("G2dHardcopy")
00139     #if (JOURNALTYP ==1)
00140        #define TCS_HDCFILE_NAME _T("HDC%03i.WMF")
00141     #elif (JOURNALTYP ==2)
00142        #define TCS_HDCFILE_NAME _T("HDC%03i.EMF")
00143     #elif (JOURNALTYP ==3)
00144        #define TCS_HDCFILE_NAME _T("HDC%03i.HDC")
00145     #else
00146        #define TCS_HDCFILE_NAME _T("HDC%03i.UNKNOWN")
00147     #endif
00148  #define TCS_INIVAR_MAINWINNAM _T("G2dMainWindow")
00149     #define TCS_MAINWINDOW_NAME _T("%:")
00150
00151 #define TCS_INISECT2 _T("Layout")
00152  #define TCS_INIVAR_COPMEN _T("G2dSysMenuCopy")
00153     #define TCS_INIDEF_COPMEN _T("Copy")
00154  #define TCS_INIVAR_FONT _T("G2dGraphicFont")
00155     #define TCS_INIDEF_FONT _T("Arial Terminal")
00156  #define TCS_INIVAR_SYSFONT _T("G2dSystemFont")
00157     #define TCS_INIDEF_SYSFONT _T("Arial Terminal")
00158  #define TCS_INIVAR_ICONNAM _T("G2dIcon")
00159     #define TCS_ICONFILE_NAME _T("")
00160  #define TCS_INIVAR_WINPOSX _T("G2dGraphicPosX")
00161     #define TCS_INIDEF_WINPOSX 0
00162  #define TCS_INIVAR_WINPOSY _T("G2dGraphicPosY")
00163     #define TCS_INIDEF_WINPOSY 0
00164  #define TCS_INIVAR_WINSIZX _T("G2dGraphicSizeX")
00165     #define TCS_INIDEF_WINSIZX 100
00166  #define TCS_INIVAR_WINSIZY _T("G2dGraphicSizeY")
00167     #define TCS_INIDEF_WINSIZY 100
00168  #define TCS_INIVAR_STATPOSX _T("G2dStatusPosX")
00169     #define TCS_INIDEF_STATPOSX 0
00170  #define TCS_INIVAR_STATPOSY _T("G2dStatusPosY")
00171     #define TCS_INIDEF_STATPOSY 0
00172  #define TCS_INIVAR_STATSIZX _T("G2dStatusSizeX")
00173     #define TCS_INIDEF_STATSIZX 100
00174  #define TCS_INIVAR_STATSIZY _T("G2dStatusSizeY")
00175     #define TCS_INIDEF_STATSIZY 100
00176  #define TCS_INIVAR_LINCOL _T("G2dLinCol")
00177     #define TCS_INIDEF_LINCOL 1
00178  #define TCS_INIVAR_TXTCOL _T("G2dTxtCol")
00179     #define TCS_INIDEF_TXTCOL 1
00180  #define TCS_INIVAR_BCKCOL _T("G2dBckCol")
00181     #define TCS_INIDEF_BCKCOL 0
00182
00183 #define TCS_INISECT3 _T("Messages")
00184  #define TCS_INIVAR_HDCOPN _T("G2dHdcOpen")
00185     #define TCS_INIDEF_HDCOPN _T("GRAPH2D HARDCOPY: Error during OPEN.")
00186     #define TCS_INIVAR_HDCOPNL _T("G2dHdcOpenL")
00187     #define TCS_INIDEF_HDCOPNL 5
00188  #define TCS_INIVAR_HDCWRT _T("G2dHdcWrite")
00189     #define TCS_INIDEF_HDCWRT _T("GRAPH2D HARDCOPY: Error during WRITE.")
00190     #define TCS_INIVAR_HDCWRTL _T("G2dHdcWriteL")
00191     #define TCS_INIDEF_HDCWRTL 5
00192  #define TCS_INIVAR_HDCINT _T("G2dHdcIntern")
00193     #define TCS_INIDEF_HDCINT _T("GRAPH2D HARDCOPY: Internal Error.")
00194     #define TCS_INIVAR_HDCINTL _T("G2dHdcInternL")
00195     #define TCS_INIDEF_HDCINTL 5
00196  #define TCS_INIVAR_USR _T("G2dUser")
00197     #define TCS_INIDEF_USR _T("%s")
00198     #define TCS_INIVAR_USRL _T("G2dUserL")
00199     #define TCS_INIDEF_USRL 5
00200  #define TCS_INIVAR_HDCACT _T("G2dHdcActive")
00201     #define TCS_INIDEF_HDCACT _T("Hardcopy in progress: File %s created.")
00202     #define TCS_INIVAR_HDCACTL _T("G2dHdcActiveL")
00203     #define TCS_INIDEF_HDCACTL 1
00204  #define TCS_INIVAR_USRWRN _T("G2dPressAny")
00205     #define TCS_INIDEF_USRWRN _T("Press any key to continue.")
00206     #define TCS_INIVAR_USRWRNL _T("G2dPressAnyL")
00207     #define TCS_INIDEF_USRWRNL 5
00208  #define TCS_INIVAR_EXIT _T("G2dExit")
00209     #define TCS_INIDEF_EXIT _T("Press any key to exit program.")
00210     #define TCS_INIVAR_EXITL _T("G2dExitL")
00211     #define TCS_INIDEF_EXITL 10
00212  #define TCS_INIVAR_COPMEM _T("G2dNoMemory")
00213     #define TCS_INIDEF_COPMEM _T("GRAPH2D Clipboard Manager: Out of Memory.")
00214     #define TCS_INIVAR_COPMEML _T("G2dNoMemoryL")
00215     #define TCS_INIDEF_COPMEML 1
00216  #define TCS_INIVAR_COPLCK _T("G2dClipLock")
00217     #define TCS_INIDEF_COPLCK _T("GRAPH2D Clipboard Manager: ClipBoard locked.")
```

```
00218     #define TCS_INIVAR_COPLCKL _T("G2dClipLockL")
00219     #define TCS_INIDEF_COPLCKL 1
00220  #define TCS_INIVAR_JOUCREATE _T("G2dJouCreate")
00221     #define TCS_INIDEF_JOUCREATE _T("GRAPH2D Error Creating Journal. Error-No: %s.")
00222     #define TCS_INIVAR_JOUCREATEL _T("G2dJouCreateL")
00223     #define TCS_INIDEF_JOUCREATEL 5
00224  #define TCS_INIVAR_JOUENTRY _T("G2dJouEntry")
00225     #define TCS_INIDEF_JOUENTRY _T("GRAPH2D Error Creating Journal Entry.")
00226     #define TCS_INIVAR_JOUENTRYL _T("G2dJouEntryL")
00227     #define TCS_INIDEF_JOUENTRYL 5
00228  #define TCS_INIVAR_JOUADD _T("G2dJouAdd")
00229     #define TCS_INIDEF_JOUADD _T("GRAPH2D Error Appending Journal Entry.")
00230     #define TCS_INIVAR_JOUADDL _T("G2dJouAddL")
00231     #define TCS_INIDEF_JOUADDL 5
00232  #define TCS_INIVAR_JOUCLR _T("G2dJouClr")
00233     #define TCS_INIDEF_JOUCLR _T("GRAPH2D Error Clearing Journal Entry.")
00234     #define TCS_INIVAR_JOUCLRL _T("G2dJouClrL")
00235     #define TCS_INIDEF_JOUCLRL 5
00236  #define TCS_INIVAR_JOUUNKWN _T("G2dJouEntryUnknwn")
00237     #define TCS_INIDEF_JOUUNKWN _T("GRAPH2D Unknown Journal Entry.")
00238     #define TCS_INIVAR_JOUUNKWNL _T("G2dJouEntryUnknwnL")
00239     #define TCS_INIDEF_JOUUNKWNL 1
00240  #define TCS_INIVAR_XMLPARSER _T("G2dXMLerror")
00241     #define TCS_INIDEF_XMLPARSER _T("GRAPH2D Error parsing XML-File: %s")
00242     #define TCS_INIVAR_XMLPARSERL _T("G2dXMLerrorL")
00243     #define TCS_INIDEF_XMLPARSERL 8
00244  #define TCS_INIVAR_XMLOPEN _T("G2dXMLopen")
00245     #define TCS_INIDEF_XMLOPEN _T("GRAPH2D Error opening %s")
00246     #define TCS_INIVAR_XMLOPENL _T("G2dXMLerrorL")
00247     #define TCS_INIDEF_XMLOPENL 8
00248  #define TCS_INIVAR_USR2 _T("G2dUser2")
00249     #define TCS_INIDEF_USR2 _T("%s")
00250     #define TCS_INIVAR_USR2L _T("G2dUser2L")
00251     #define TCS_INIDEF_USR2L 5
00252  #define TCS_INIVAR_INI2 _T("G2d2xInitt")
00253     #define TCS_INIDEF_INI2 _T("%s")
00254     #define TCS_INIVAR_INI2L _T("G2d2xInittL")
00255     #define TCS_INIDEF_INI2L 5
00256
00257
00258
00259 /* ------------------ Kompatibilität 16/32bit ----------------------------- */
00260
00261 #if !defined(__WIN32__) && !defined(_WIN32)
00262
00263  typedef char TCHAR, *PTCHAR;
00264  #define LPTSTR LPSTR
00265
00266  #define EXPORT16 __export /* __export bei virtuellem Adressraum unnötig */
00267  #define SM_CXMAXIMIZED SM_CXFULLSCREEN  /* notduerftiger Ersatz für ... */
00268  #define SM_CYMAXIMIZED SM_CYFULLSCREEN  /* ...Win32 Funktion */
00269  #define GetCommandLine() "WinApp"       /* dito */
00270
00271 #else
00272  #define EXPORT16
00273 #endif
00274
00275
00276
00277 /* ------------ Compilerspezifische Definitionen -------------------------- */
00278
00279 // _________________________________ Open-Watcom ___________________________________
00280 #if defined __WATCOMC__
00281  #ifdef _UNICODE
00282   #error "Watcom Ftn77 basiert nicht auf UNICODE !!!"
00283  #endif
00284
00285  #if !defined(__WIN32__) && !defined(_WIN32)
00286   #define TCSLEV3SYS 3 // TCSLEV(3) = 3 fuer Watcom/16 bit Windows
00287  #else
00288   #define TCSLEV3SYS 4 // TCSLEV(3) = 4 fuer Watcom/32 bit Windows
00289  #endif
00290
00291  /* Deklaration Parameteruebergabe Fortran <-> C */
00292  typedef long int LOGICAL;
00293  typedef long int FTNINT;
00294  typedef float FTNREAL;
00295  typedef double FTNDOUBLE;
00296  typedef struct {float real, imag;} FTNCOMPLEX;
00297  typedef char FTNCHAR;
00298  typedef unsigned FTNCHARLEN;
00299  typedef struct { FTNCHAR * addr; FTNCHARLEN len; } FTNSTRDESC;
00300  typedef FTNSTRDESC FTNSTRPAR;
00301  #define FTNSTRPAR_TAIL(ftns)
00302  #define FTNSTRPARA(ftns) ftns->addr
00303  #define FTNSTRPARL(ftns) ftns->len
00304  #define CALLFTNSTRA(ftns) & ftns
```

```
00305  #define CALLFTNSTRL(ftns)
00306  #define FWRDFTNSTRA(ftns) ftns
00307  #define FWRDFTNSTRL(ftns)
00308
00309  #pragma aux TKTRNX "^"; /* Fortran Naming Convention */
00310  #pragma aux tcslev3 "^";
00311  #pragma aux initt1 "^";
00312  #pragma aux finitt "^";
00313  #pragma aux GraphicError "^";
00314  #pragma aux winlbl "^";
00315  #pragma aux erase "^";
00316  #pragma aux swindl "^";
00317  #pragma aux movabs "^";
00318  #pragma aux drwabs "^";
00319  #pragma aux dshabs "^";
00320  #pragma aux pntabs "^";
00321  #pragma aux bckcol "^";
00322  #pragma aux lincol "^";
00323  #pragma aux txtcol "^";
00324  #pragma aux DefaultColour "^"
00325  #pragma aux outgtext "^";
00326  #pragma aux italic "^";
00327  #pragma aux italir "^";
00328  #pragma aux dblsiz "^";
00329  #pragma aux nrmsiz "^";
00330  #pragma aux bell "^";
00331  #pragma aux outtext "^";
00332  #pragma aux tinput "^";
00333  #pragma aux dcursr "^";
00334  #pragma aux csize "^";
00335  #pragma aux hdcopy "^";
00336  #pragma aux lib_movc3 "^";
00337
00338 /* Deklarationen von durch C aufgerufenen FTN77-Unterprogrammen */
00339  #pragma aux igetarg "^"   // nur WATCOM: F77-Library
00340  FTNINT igetarg (FTNINT *iNo, FTNSTRDESC *Par);
00341
00342  #pragma aux initt2 "^"   // nur WATCOM: F77-Library
00343  void INITT2 (void);
00344
00345  #pragma aux SUBSTITUTE "^"        // aus STRINGS.FOR
00346  void SUBSTITUTE (FTNSTRPAR *Src, FTNSTRPAR *Dst, FTNSTRPAR *old, FTNSTRPAR *n
00347                                   FTNSTRPAR_TAIL(Src) FTNSTRPAR_TAIL(Dst)
00348                                   FTNSTRPAR_TAIL(old) FTNSTRPAR_TAIL(n));
00349
00350
00351 // _____________________________ GNU-CC ____________________________________
00352 #elif defined __GNUC__
00353  #ifdef _UNICODE
00354   #error "GNU f77 basiert nicht auf UNICODE !!!"
00355  #endif
00356
00357  #if defined (WINVER)
00358   #if defined (_WIN64)
00359    #define TCSLEV3SYS 7 // TCSLEV(3) = 7 fuer GCC / 64bit Windows
00360   #else
00361    #define TCSLEV3SYS 5 // TCSLEV(3) = 5 fuer GCC / Windows
00362   #endif // defined
00363  #else
00364   #define TCSLEV3SYS 0 // TCSLEV(3) = 0 fuer unknown
00365  #endif
00366
00367 /* Deklaration Parameteruebergabe Fortran <-> C */
00368
00369  //  #include <g2c.h> // nur fuer g77, fuer gfortran s.u.
00370  typedef long int logical; // 3 (mit ftnlen) plattformabhaengige Definitionen
00371  typedef long int integer; // Ersatz fuer g2c.h: evtl. ueberpruefen
00372
00373  typedef logical LOGICAL;
00374  typedef integer FTNINT;
00375  typedef float FTNREAL;
00376  typedef double FTNDOUBLE;
00377  typedef struct {float real, imag;} FTNCOMPLEX;
00378
00379  typedef TCHAR FTNCHAR;
00380  #if __GNUC__ > 7  // GCC V7: size_t definiert, bei win64 8 Byte, nicht 4!
00381   typedef size_t ftnlen;  // Ersatz fuer g2c.h
00382   typedef size_t FTNCHARLEN;
00383  #else
00384   typedef long int ftnlen;  // Ersatz fuer g2c.h
00385   typedef ftnlen FTNCHARLEN; // size_t erst ab GCC > 7 definiert
00386  #endif
00387
00388  typedef struct { FTNCHAR * addr; FTNCHARLEN len; } FTNSTRDESC;
00389  typedef FTNCHAR FTNSTRPAR;
00390  #define FTNSTRPAR_TAIL(ftns) , FTNCHARLEN ftns##_len
00391  #define FTNSTRPARA(ftns) ftns
```

```
00392  #define FTNSTRPARL(ftns) ftns##_len
00393  #define CALLFTNSTRA(ftns) ftns.addr
00394  #define CALLFTNSTRL(ftns) , ftns.len
00395  #define FWRDFTNSTRA(ftns) ftns
00396  #define FWRDFTNSTRL(ftns) , ftns##_len
00397
00398  #define TKTRNX tktrnx_ /* Fortran Naming Convention */
00399  #define tcslev3 tcslev3_
00400  #define initt1 initt1_
00401  #define finitt finitt_
00402  #define GraphicError graphicerror_
00403  #define winlbl winlbl_
00404  #define erase erase_
00405  #define swind1 swind1_
00406  #define movabs movabs_
00407  #define drwabs drwabs_
00408  #define dshabs dshabs_
00409  #define pntabs pntabs_
00410  #define bckcol bckcol_
00411  #define lincol lincol_
00412  #define txtcol txtcol_
00413  #define DefaultColour defaultcolour_
00414  #define outgtext outgtext_
00415  #define italic italic_
00416  #define italir italir_
00417  #define dblsiz dblsiz_
00418  #define nrmsiz nrmsiz_
00419  #define bell bell_
00420  #define outtext outtext_
00421  #define tinput tinput_
00422  #define dcursr dcursr_
00423  #define csize csize_
00424  #define hdcopy hdcopy_
00425  #define lib_movc3 lib_movc3_
00426
00427 /* Deklarationen von durch C aufgerufenen FTN77-Unterprogrammen */
00428  #define getarg getarg_       // aus GNU F77-Library
00429  FTNINT GETARG (FTNINT *iNo, FTNCHAR *line, FTNCHARLEN line_len);
00430
00431  #define initt2 initt2_
00432  void INITT2 (void);
00433
00434  #define SUBSTITUTE substitute_ // universeller Aufruf Watcom/GNU moeglich
00435  void SUBSTITUTE (FTNSTRPAR *Src, FTNSTRPAR *Dst, FTNSTRPAR *old, FTNSTRPAR *new
00436                                          FTNSTRPAR_TAIL(Src) FTNSTRPAR_TAIL(Dst)
00437                                          FTNSTRPAR_TAIL(old) FTNSTRPAR_TAIL(new));
00438
00439 #endif
00440 // ____________Ende systemabhaengige Deklarationen_____________________
00441
00442
00443 /* Forward Deklarationen: Codiert in C und auch in C verwendet */
00444
00445 void bell (void); //  -> Forward Deklaration
00446 void outtext(FTNSTRPAR * ftn_string FTNSTRPAR_TAIL(ftn_string) );
00447 void GraphicError (FTNINT *iErr, FTNSTRPAR *ftn_string,
00448                    FTNINT *iL  FTNSTRPAR_TAIL(ftn_string));
00449 // void dcursr (FTNINT *ic,FTNINT *ix,FTNINT *iy);
00450 void tinput (FTNINT *ic);
00451 void finitt (); // ueberpruefen !!!
00452
```

6.40 TCSinitt.for File Reference

MS Windows Port: initialization.

Functions/Subroutines

- subroutine initt (iDummy)

  MS Windows specific subroutines.

6.40.1 Detailed Description

MS Windows Port: initialization.

Version

1.4

Author

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Definition in file TCSinitt.for.

6.40.2 Function/Subroutine Documentation

6.40.2.1 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.

6.41 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 CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC   Changelog   CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC
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
```

6.42 TKTRNX.fd File Reference

MS Windows Port: TCS Common Block TKTRNX.

6.42.1 Detailed Description

MS Windows Port: TCS Common Block TKTRNX.

Version

1.4

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.

6.43 TKTRNX.fd

```
00001 C> \file       TKTRNX.fd
00002 C> \brief      MS Windows Port: TCS Common Block TKTRNX
00003 C> \version    1.4
00004 C> \author     (C) 2023 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,
00030 C           kScrX,kScrY,
00031 C           ktblsz,khorzt(10),kvertt(10),
00032      & kbeamx,kbeamy,
00033 C           kmovef,kpchar(4),kdasht,
00034      & kminsx,kminsy,kmaxsx,kmaxsy,tminvx,tminvy,tmaxvx,tmaxvy,
00035 C      trealx,trealy,timagx,timagy,
00036      & trcosf,trsinf,trscal
00037      & ,xfac,yfac,xlog,ylog,kstcol,
00038      & ilincol, ibckcol, itxtcol, imouse
00039
00040       SAVE /tktrnx/
00041       integer iTktrnxL
00042       parameter(itktrnxl=29) ! +11)
00043
00044 C Neue Variablen:
00045 C     kHorSz,kVerSz: Buchstabengröße im (1024/780) Koordinatensystem
00046 C     kBeamX, kBeamY: Aktuelle Strahlposition im (1024/780) Koordinatensystem
00047 C     kStCol: Maximale Zeichenzahl in der Statuszeile
00048 C     iLinCol, iBckCol, iTxtCol: Farbindices
00049 C     iMouse: Anzahl der Maustasten. iMouse=0: keine Maus vorhanden
00050 C
00051 C Achtung:
00052 C       Anpassung Parameter iTktrnxL der Routinen SVSTAT, RESTAT aus TCS.FOR!
00053 C     Vorsicht, bei Integer*2 Variablen zählen Real-Variablen doppelt (*4!)
00054 C
00055 C> \endcond
```

6.44 TKTRNX.h File Reference

MS Windows Port: TCS Common Block TKTRNX.

Classes

- struct TKTRNXcommonBlock

Variables

- struct TKTRNXcommonBlock TKTRNX

6.44.1 Detailed Description

MS Windows Port: TCS Common Block TKTRNX.

Version

1.4

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.

6.44.2 Variable Documentation

6.44.2.1 TKTRNX

```
struct TKTRNXcommonBlock TKTRNX
```

6.45 TKTRNX.h

```
00001 /** ****************************************************************************
00002 \file       TKTRNX.h
00003 \brief      MS Windows Port: TCS Common Block TKTRNX
00004 \version    1.4
00005 \author     (C) 2023 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,
00032 //           kScrX,kScrY,
00033 //           ktblsz,khorzt(10),kvertt(10),
00034      kBeamX,kBeamY,
00035 //           kmovef,kpchar(4),kdasht,
00036      kminsx,kminsy,kmaxsx,kmaxsy;
00037
00038 FTNREAL
00039      tminvx,tminvy,tmaxvx,tmaxvy,
00040 //      trealx,trealy,timagx,timagy,
00041      trcosf,trsinf,trscal
00042      ,xfac,yfac,xlog,ylog;
00043 FTNINT
00044     kStCol,
00045     iLinCol, iBckCol, iTxtCol, iMouse;
00046 } FAR TKTRNX;
00047
```

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