Graph2D Library --- wxWidgets ---

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Chapter 1

Plot10 & Advanced Graphing II

Graph2D is written in Fortran2008/FTN77 and ANSI C++11/C90. Compilation instructions are available for Windows (MinGW) under "Additional Information".

1.0.0.1 How to build the library:

After copying the source files by "$getfiles.bat wx" into the /build subdirectory there are also the project files for CodeBlocks (Windows IDE) AND A LINUX BASHSCRIPT.

1.0.0.2 Using the library:

The main properties can be adjusted as follows:

- Initialization: By the WINLBL subroutine and/or $*$.xml files.
- Icons (Windows only): By linking a resource

1.0.0.3 Hardcopies

Default are proprietary ASCII-journalfiles with the default extension $*$.hdc. By choosing an other file extension bitmaps ($*$.bmp) and jpgs ($*$.jpg) are supported too.

Chapter 2

Compilersettings for Windows

2.0.1 Setup of the Windows IDE

2.0.1.1 MingGW for Windows 32bit and 64bit

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

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

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

2.0.1.2 Settings for own Applications

2.0.1.2.1 Fortran 64bit Compilerswitches:

- tbd.

2.0.1.2.2 Link

- tbd.

Chapter 3

Compilersettings for Linux

3.0.1 tbd.

Chapter 4

Data Type Index

4.1 Class Hierarchy

This inheritance list is sorted roughly, but not completely, alphabetically:

Chapter 5

Data Type Index

5.1 Data Types List

Here are the data types with brief descriptions:

Chapter 6

File Index

6.1 File List

Here is a list of all files with brief descriptions:

Chapter 7

Data Type Documentation

7.1 cTCScanvas Class Reference

Public Member Functions

- cTCScanvas (int iMode, wxFrame *parent, wxFrame *FrameToUse, wxStatusBar *StatusBarToUse)
- virtual ~cTCScanvas ()

Public Attributes

- wxFrame * TCSframe
- wxPanel * TCSpanel
- wxLogWindow * logWindow
- wxStatusBar * TCSstatusBar
- wxWindowID ID_TCSframe
- wxWindowID ID_TCSpanel
- wxWindowID ID_TCSstatus
- wxPen TCSpen
- wxBrush TCSbrush
- wxFont TCSfont
- bool ClippingNotActive = true
- int TCSpanelKeyPressed
- int TCSmouseButtonDown
- int TCSmouseX
- int TCSmouseY
- xJournalEntry_typ * xTCSJournal = NULL
- struct TKTRNX TekSav
- struct G2dAG2 AG2Sav
- int DefaultLinColSav
- int DefaultTxtColSav
- int DefaultBckColSav
- char HardcopyFileSav [TCS_FILE_NAMELEN]
- char sect0Sav [TCS_FILE_NAMELEN]

7.1.1 Detailed Description

Definition at line 83 of file TCSdrWXcpp.cpp.

7.1.2 Constructor & Destructor Documentation

7.1.2.1 cTCScanvas()

```
cTCScanvas::cTCScanvas (
            int iMode,
            wxFrame * parent,
            wxFrame * FrameToUse,
            wxStatusBar * StatusBarToUse )
```

Definition at line 848 of file TCSdrWXcpp.cpp.

7.1.2.2 ~cTCScanvas()

```
cTCScanvas::~cTCScanvas ( )  [virtual]
```

Definition at line 929 of file TCSdrWXcpp.cpp.

7.1.3 Member Data Documentation

7.1.3.1 AG2Sav

```
struct G2dAG2 cTCScanvas::AG2Sav
```

Definition at line 104 of file TCSdrWXcpp.cpp.

7.1.3.2 ClippingNotActive

```
bool cTCScanvas::ClippingNotActive = true
```

Definition at line 100 of file TCSdrWXcpp.cpp.

7.1.3.3 DefaultBckColSav

```
int cTCScanvas::DefaultBckColSav
```

Definition at line 108 of file TCSdrWXcpp.cpp.

7.1.3.4 DefaultLinColSav

```
int cTCScanvas::DefaultLinColSav
```

Definition at line 108 of file TCSdrWXcpp.cpp.

7.1.3.5 DefaultTxtColSav

```
int cTCScanvas::DefaultTxtColSav
```

Definition at line 108 of file TCSdrWXcpp.cpp.

7.1.3.6 HardcopyFileSav

```
char cTCScanvas::HardcopyFileSav[TCS_FILE_NAMELEN]
```

Definition at line 109 of file TCSdrWXcpp.cpp.

7.1.3.7 ID_TCSframe

```
wxWindowID cTCScanvas::ID_TCSframe
```

Definition at line 92 of file TCSdrWXcpp.cpp.

7.1.3.8 ID_TCSpanel

```
wxWindowID cTCScanvas::ID_TCSpanel
```

Definition at line 93 of file TCSdrWXcpp.cpp.

7.1.3.9 ID_TCSstatus

```
wxWindowID cTCScanvas::ID_TCSstatus
```

Definition at line 94 of file TCSdrWXcpp.cpp.

7.1.3.10 logWindow

```
wxLogWindow* cTCScanvas::logWindow
```

Definition at line 89 of file TCSdrWXcpp.cpp.

7.1.3.11 sect0Sav

```
char cTCScanvas::sect0Sav[TCS_FILE_NAMELEN]
```

Definition at line 109 of file TCSdrWXcpp.cpp.

7.1.3.12 TCSbrush

```
wxBrush cTCScanvas::TCSbrush
```

Definition at line 97 of file TCSdrWXcpp.cpp.

7.1.3.13 TCSfont

```
wxFont cTCScanvas::TCSfont
```

Definition at line 98 of file TCSdrWXcpp.cpp.

7.1.3.14 TCSframe

```
wxFrame* cTCScanvas::TCSframe
```

Definition at line 87 of file TCSdrWXcpp.cpp.

7.1.3.15 TCSmouseButtonDown

```
int cTCScanvas::TCSmouseButtonDown
```

Definition at line 102 of file TCSdrWXcpp.cpp.

7.1.3.16 TCSmouseX

```
int cTCScanvas::TCSmouseX
```

Definition at line 102 of file TCSdrWXcpp.cpp.

7.1.3.17 TCSmouseY

```
int cTCScanvas::TCSmouseY
```

Definition at line 102 of file TCSdrWXcpp.cpp.

7.1.3.18 TCSpanel

```
wxPanel* cTCScanvas::TCSpanel
```

Definition at line 88 of file TCSdrWXcpp.cpp.

7.1.3.19 TCSpanelKeyPressed

```
int cTCScanvas::TCSpanelKeyPressed
```

Definition at line 101 of file TCSdrWXcpp.cpp.

7.1.3.20 TCSpen

```
wxPen cTCScanvas::TCSpen
```

Definition at line 96 of file TCSdrWXcpp.cpp.

7.1.3.21 TCSstatusBar

```
wxStatusBar* cTCScanvas::TCSstatusBar
```

Definition at line 90 of file TCSdrWXcpp.cpp.

7.1.3.22 TekSav

```
struct TKTRNX cTCScanvas::TekSav
```

Definition at line 104 of file TCSdrWXcpp.cpp.

7.1.3.23 xTCSJournal

```
xJournalEntry_typ* cTCScanvas::xTCSJournal = NULL
```

Definition at line 104 of file TCSdrWXcpp.cpp.

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

- TCSdrWXcpp.cpp

7.2 TKTRNX Struct Reference

```
#include <TKTRNX.hpp>
```

Public Attributes

- int khomey
- int khorsz
- int kversz
- int kitalc
- int ksizef
- int klmrgn
- int krmrgn
- int kScrX
- int kScrY
- int kbeamx
- int kbeamy
- int kminsx
- int kminsy
- int kmaxsx
- int kmaxsy
- float tminvx
- float tminvy
- float tmaxvx
- float tmaxvy
- float trcosf
- float trsinf
- float trscal
- float xfac
- float yfac
- float xlog
- float ylog
- int kStCol
- int iLinCol
- int iBckCol
- int iTxtCol

7.2.1 Detailed Description

Definition at line 18 of file TKTRNX.hpp.

7.2.2 Member Data Documentation

7.2.2.1 iBckCol

```
int TKTRNX::iBckCol
```

Definition at line 33 of file TKTRNX.hpp.

7.2.2.2 iLinCol

```
int TKTRNX::iLinCol
```

Definition at line 33 of file TKTRNX.hpp.

7.2.2.3 iTxtCol

```
int TKTRNX::iTxtCol
```

Definition at line 33 of file TKTRNX.hpp.

7.2.2.4 kbeamx

```
int TKTRNX::kbeamx
```

Definition at line 24 of file TKTRNX.hpp.

7.2.2.5 kbeamy

```
int TKTRNX::kbeamy
```

Definition at line 24 of file TKTRNX.hpp.

7.2.2.6 khomey

```
int TKTRNX::khomey
```

Definition at line 20 of file TKTRNX.hpp.

7.2.2.7 khorsz

```
int TKTRNX::khorsz
```

Definition at line 21 of file TKTRNX.hpp.

7.2.2.8 kitalc

```
int TKTRNX::kitalc
```

Definition at line 22 of file TKTRNX.hpp.

7.2.2.9 klmrgn

```
int TKTRNX::klmrgn
```

Definition at line 23 of file TKTRNX.hpp.

7.2.2.10 kmaxsx

```
int TKTRNX::kmaxsx
```

Definition at line 25 of file TKTRNX.hpp.

7.2.2.11 kmaxsy

```
int TKTRNX::kmaxsy
```

Definition at line 25 of file TKTRNX.hpp.

7.2.2.12 kminsx

```
int TKTRNX::kminsx
```

Definition at line 25 of file TKTRNX.hpp.

7.2.2.13 kminsy

```
int TKTRNX::kminsy
```

Definition at line 25 of file TKTRNX.hpp.

7.2.2.14 krmrgn

```
int TKTRNX::krmrgn
```

Definition at line 23 of file TKTRNX.hpp.

7.2.2.15 kScrX

```
int TKTRNX::kScrX
```

Definition at line 23 of file TKTRNX.hpp.

7.2.2.16 kScrY

```
int TKTRNX::kScrY
```

Definition at line 23 of file TKTRNX.hpp.

7.2.2.17 ksizef

```
int TKTRNX::ksizef
```

Definition at line 22 of file TKTRNX.hpp.

7.2.2.18 kStCol

```
int TKTRNX::kStCol
```

Definition at line 32 of file TKTRNX.hpp.

7.2.2.19 kversz

```
int TKTRNX::kversz
```

Definition at line 21 of file TKTRNX.hpp.

7.2.2.20 tmaxvx

```
float TKTRNX::tmaxvx
```

Definition at line 28 of file TKTRNX.hpp.

7.2.2.21 tmaxvy

```
float TKTRNX::tmaxvy
```

Definition at line 28 of file TKTRNX.hpp.

7.2.2.22 tminvx

```
float TKTRNX::tminvx
```

Definition at line 28 of file TKTRNX.hpp.

7.2.2.23 tminvy

```
float TKTRNX::tminvy
```

Definition at line 28 of file TKTRNX.hpp.

7.2.2.24 trcosf

```
float TKTRNX::trcosf
```

Definition at line 29 of file TKTRNX.hpp.

7.2.2.25 trscal

```
float TKTRNX::trscal
```

Definition at line 29 of file TKTRNX.hpp.

7.2.2.26 trsinf

```
float TKTRNX::trsinf
```

Definition at line 29 of file TKTRNX.hpp.

7.2.2.27 xfac

```
float TKTRNX::xfac
```

Definition at line 30 of file TKTRNX.hpp.

7.2.2.28 xlog

```
float TKTRNX::xlog
```

Definition at line 30 of file TKTRNX.hpp.

7.2.2.29 yfac

```
float TKTRNX::yfac
```

Definition at line 30 of file TKTRNX.hpp.

7.2.2.30 ylog

```
float TKTRNX::ylog
```

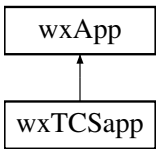
Definition at line 30 of file TKTRNX.hpp.

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

- TKTRNX.hpp

7.3 wxTCSapp Class Reference

Inheritance diagram for wxTCSapp:



Public Member Functions

- virtual bool OnInit ()
- virtual void OnIdle ()

7.3.1 Detailed Description

Definition at line 39 of file wxTCSmain.cpp.

7.3.2 Member Function Documentation

7.3.2.1 OnIdle()

```
void wxTCSapp::OnIdle ( )  [virtual]
```

Definition at line 75 of file wxTCSmain.cpp.

7.3.2.2 OnInit()

```
bool wxTCSapp::OnInit ( )  [virtual]
```

Definition at line 51 of file wxTCSmain.cpp.

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

- wxTCSmain.cpp

7.4 xJournalEntry_typ Struct Reference

Public Attributes

- struct xJournalEntry_typ * previous
- struct xJournalEntry_typ * next
- int action
- int i1
- int i2

7.4.1 Detailed Description

Definition at line 77 of file TCSdrWXcpp.cpp.

7.4.2 Member Data Documentation

7.4.2.1 action

```
int xJournalEntry_typ::action
```

Definition at line 79 of file TCSdrWXcpp.cpp.

7.4.2.2 i1

```
int xJournalEntry_typ::i1
```

Definition at line 79 of file TCSdrWXcpp.cpp.

7.4.2.3 i2

```
int xJournalEntry_typ::i2
```

Definition at line 79 of file TCSdrWXcpp.cpp.

7.4.2.4 next

```
struct xJournalEntry_typ* xJournalEntry_typ::next
```

Definition at line 78 of file TCSdrWXcpp.cpp.

7.4.2.5 previous

```
struct xJournalEntry_typ* xJournalEntry_typ::previous
```

Definition at line 77 of file TCSdrWXcpp.cpp.

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

- TCSdrWXcpp.cpp

Chapter 8

File Documentation

8.1 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)

8.1.1 Detailed Description

Graph2D: Tektronix Advanced Graphing II Emulation.

Version

(2023,135, x)

Author

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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.

8.1.2 Function/Subroutine Documentation

8.1.2.1 ag2lev()

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

Definition at line 94 of file AG2.for.

8.1.2.2 alfsetc()

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

Definition at line 2563 of file AG2.for.

8.1.2.3 bar()

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

Definition at line 1688 of file AG2.for.

8.1.2.4 binitt()

```
subroutine binitt
```

Definition at line 714 of file AG2.for.

8.1.2.5 bsyms()

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

Definition at line 1840 of file AG2.for.

8.1.2.6 calcon()

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

Definition at line 1326 of file AG2.for.

8.1.2.7 calpnt()

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

Definition at line 1271 of file AG2.for.

8.1.2.8 check()

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

Definition at line 798 of file AG2.for.

8.1.2.9 cmnmx()

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

Definition at line 920 of file AG2.for.

8.1.2.10 coptim()

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

Definition at line 1115 of file AG2.for.

8.1.2.11 cplot()

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

Definition at line 1538 of file AG2.for.

8.1.2.12 datget()

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

Definition at line 1660 of file AG2.for.

8.1.2.13 dinitx()

```
subroutine dinitx
```

Definition at line 644 of file AG2.for.

8.1.2.14 dinity()

```
subroutine dinity
```

Definition at line 658 of file AG2.for.

8.1.2.15 dlimx()

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

Definition at line 464 of file AG2.for.

8.1.2.16 dlimy()

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

Definition at line 476 of file AG2.for.

8.1.2.17 dsplay()

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

Definition at line 1524 of file AG2.for.

8.1.2.18 eformc()

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

Definition at line 2434 of file AG2.for.

8.1.2.19 esplit()

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

Definition at line 2467 of file AG2.for.

8.1.2.20 expoutc()

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

Definition at line 2487 of file AG2.for.

8.1.2.21 fformc()

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

Definition at line 2375 of file AG2.for.

8.1.2.22 filbox()

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

Definition at line 1755 of file AG2.for.

8.1.2.23 findge()

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

Definition at line 2922 of file AG2.for.

8.1.2.24 findle()

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

Definition at line 2941 of file AG2.for.

8.1.2.25 fonlyc()

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

Definition at line 2403 of file AG2.for.

8.1.2.26 frame()

```
subroutine frame
```

Definition at line 1510 of file AG2.for.

8.1.2.27 gline()

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

Definition at line 2173 of file AG2.for.

8.1.2.28 grid()

```
subroutine grid
```

Definition at line 1956 of file AG2.for.

8.1.2.29 hbarst()

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

Definition at line 672 of file AG2.for.

8.1.2.30 iformc()

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

Definition at line 2343 of file AG2.for.

8.1.2.31 infin()

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

Definition at line 142 of file AG2.for.

8.1.2.32 iother()

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

Definition at line 3066 of file AG2.for.

8.1.2.33 iubgc()

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

Definition at line 1473 of file AG2.for.

8.1.2.34 justerc()

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

Definition at line 2666 of file AG2.for.

8.1.2.35 keyset()

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

Definition at line 1634 of file AG2.for.

8.1.2.36 label()

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

Definition at line 2200 of file AG2.for.

8.1.2.37 leap()

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

Definition at line 1459 of file AG2.for.

8.1.2.38 line()

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

Definition at line 109 of file AG2.for.

8.1.2.39 locge()

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

Definition at line 2963 of file AG2.for.

8.1.2.40 locle()

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

Definition at line 2981 of file AG2.for.

8.1.2.41 logtix()

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

Definition at line 2042 of file AG2.for.

8.1.2.42 loptim()

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

Definition at line 988 of file AG2.for.

8.1.2.43 lwidth()

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

Definition at line 2732 of file AG2.for.

8.1.2.44 mnmx()

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

Definition at line 881 of file AG2.for.

8.1.2.45 monpos()

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

Definition at line 2159 of file AG2.for.

8.1.2.46 notatec()

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

Definition at line 2618 of file AG2.for.

8.1.2.47 npts()

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

Definition at line 155 of file AG2.for.

8.1.2.48 numsetc()

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

Definition at line 2316 of file AG2.for.

8.1.2.49 optim()

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

Definition at line 971 of file AG2.for.

8.1.2.50 oubgc()

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

Definition at line 1487 of file AG2.for.

8.1.2.51 place()

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

Definition at line 512 of file AG2.for.

8.1.2.52 remlab()

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

Definition at line 2807 of file AG2.for.

8.1.2.53 rescom()

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

Definition at line 3050 of file AG2.for.

8.1.2.54 rgchek()

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

Definition at line 854 of file AG2.for.

8.1.2.55 roundd()

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

Definition at line 2999 of file AG2.for.

8.1.2.56 roundu()

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

Definition at line 3015 of file AG2.for.

8.1.2.57 savcom()

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

Definition at line 3034 of file AG2.for.

8.1.2.58 setwin()

```
subroutine setwin
```

Definition at line 622 of file AG2.for.

8.1.2.59 sizel()

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

Definition at line 188 of file AG2.for.

8.1.2.60 sizes()

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

Definition at line 177 of file AG2.for.

8.1.2.61 slimx()

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

Definition at line 488 of file AG2.for.

8.1.2.62 slimy()

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

Definition at line 500 of file AG2.for.

8.1.2.63 spread()

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

Definition at line 2870 of file AG2.for.

8.1.2.64 stepl()

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

Definition at line 166 of file AG2.for.

8.1.2.65 steps()

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

Definition at line 131 of file AG2.for.

8.1.2.66 symbl()

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

Definition at line 120 of file AG2.for.

8.1.2.67 symout()

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

Definition at line 1857 of file AG2.for.

8.1.2.68 teksym()

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

Definition at line 1882 of file AG2.for.

8.1.2.69 teksym1()

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

Definition at line 1930 of file AG2.for.

8.1.2.70 tset()

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

Definition at line 2089 of file AG2.for.

8.1.2.71 tset2()

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

Definition at line 2127 of file AG2.for.

8.1.2.72 typck()

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

Definition at line 823 of file AG2.for.

8.1.2.73 vbarst()

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

Definition at line 692 of file AG2.for.

8.1.2.74 vlablc()

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

Definition at line 2643 of file AG2.for.

8.1.2.75 width()

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

Definition at line 2691 of file AG2.for.

8.1.2.76 xden()

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

Definition at line 312 of file AG2.for.

8.1.2.77 xetyp()

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

Definition at line 596 of file AG2.for.

8.1.2.78 xfrm()

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

Definition at line 390 of file AG2.for.

8.1.2.79 xlab()

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

Definition at line 290 of file AG2.for.

8.1.2.80 xlen()

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

Definition at line 364 of file AG2.for.

8.1.2.81 xloc()

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

Definition at line 246 of file AG2.for.

8.1.2.82 xloctp()

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

Definition at line 268 of file AG2.for.

8.1.2.83 xmfrm()

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

Definition at line 438 of file AG2.for.

8.1.2.84 xmtcs()

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

Definition at line 416 of file AG2.for.

8.1.2.85 xneat()

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

Definition at line 202 of file AG2.for.

8.1.2.86 xtics()

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

Definition at line 342 of file AG2.for.

8.1.2.87 xtype()

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

Definition at line 544 of file AG2.for.

8.1.2.88 xwdth()

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

Definition at line 570 of file AG2.for.

8.1.2.89 xzero()

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

Definition at line 224 of file AG2.for.

8.1.2.90 yden()

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

Definition at line 327 of file AG2.for.

8.1.2.91 yetyp()

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

Definition at line 609 of file AG2.for.

8.1.2.92 yfrm()

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

Definition at line 403 of file AG2.for.

8.1.2.93 ylab()

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

Definition at line 301 of file AG2.for.

8.1.2.94 ylen()

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

Definition at line 377 of file AG2.for.

8.1.2.95 yloc()

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

Definition at line 257 of file AG2.for.

8.1.2.96 ylocrt()

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

Definition at line 279 of file AG2.for.

8.1.2.97 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.

8.1.2.98 ymfrm()

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

Definition at line 451 of file AG2.for.

8.1.2.99 ymtcs()

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

Definition at line 427 of file AG2.for.

8.1.2.100 yneat()

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

Definition at line 213 of file AG2.for.

8.1.2.101 ytics()

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

Definition at line 353 of file AG2.for.

8.1.2.102 ytype()

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

Definition at line 557 of file AG2.for.

8.1.2.103 ywdth()

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

Definition at line 583 of file AG2.for.

8.1.2.104 yzero()

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

Definition at line 235 of file AG2.for.

8.2 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
```

8.3 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

8.3.1 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.

8.3.2 Function/Subroutine Documentation

8.3.2.1 alfset()

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

Definition at line 45 of file AG2Holerith.for.

8.3.2.2 comdmp()

```
subroutine comdmp
```

Definition at line 328 of file AG2Holerith.for.

8.3.2.3 comget()

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

Definition at line 271 of file AG2Holerith.for.

8.3.2.4 comset()

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

Definition at line 299 of file AG2Holerith.for.

8.3.2.5 eform()

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

Definition at line 173 of file AG2Holerith.for.

8.3.2.6 expout()

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

Definition at line 90 of file AG2Holerith.for.

8.3.2.7 fform()

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

Definition at line 189 of file AG2Holerith.for.

8.3.2.8 fonly()

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

Definition at line 205 of file AG2Holerith.for.

8.3.2.9 hlabel()

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

Definition at line 121 of file AG2Holerith.for.

8.3.2.10 hstrin()

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

Definition at line 112 of file AG2Holerith.for.

8.3.2.11 ibasec()

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

Definition at line 241 of file AG2Holerith.for.

8.3.2.12 ibasex()

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

Definition at line 251 of file AG2Holerith.for.

8.3.2.13 ibasey()

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

Definition at line 261 of file AG2Holerith.for.

8.3.2.14 iform()

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

Definition at line 221 of file AG2Holerith.for.

8.3.2.15 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.

8.3.2.16 notate()

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

Definition at line 30 of file AG2Holerith.for.

8.3.2.17 numset()

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

Definition at line 67 of file AG2Holerith.for.

8.3.2.18 vlabel()

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

Definition at line 139 of file AG2Holerith.for.

8.3.2.19 vstrin()

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

Definition at line 130 of file AG2Holerith.for.

8.4 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
```

8.5 AG2uline.for File Reference

Graph2D: Dummy User Routine.

Functions/Subroutines

- subroutine uline (x, y, i)

8.5.1 Detailed Description

Graph2D: Dummy User Routine.

Definition in file AG2uline.for.

8.5.2 Function/Subroutine Documentation

8.5.2.1 uline()

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

Definition at line 10 of file AG2uline.for.

8.6 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
```

8.7 AG2umnmx.for File Reference

Graph2D: Dummy User Routine.

Functions/Subroutines

- subroutine umnmx (array, amin, amax)

8.7.1 Detailed Description

Graph2D: Dummy User Routine.

Definition in file AG2umnmx.for.

8.7.2 Function/Subroutine Documentation

8.7.2.1 umnmx()

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

Definition at line 9 of file AG2umnmx.for.

8.8 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
```

8.9 AG2upoint.for File Reference

Graph2D: Dummy User Routine.

Functions/Subroutines

- real function upoint (arr, ii, oldone)

8.9.1 Detailed Description

Graph2D: Dummy User Routine.

Definition in file AG2upoint.for.

8.9.2 Function/Subroutine Documentation

8.9.2.1 upoint()

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

Definition at line 9 of file AG2upoint.for.

8.10 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
```

8.11 AG2users.for File Reference

Graph2D: Dummy User Routine.

Functions/Subroutines

- subroutine users (x, y, i)

8.11.1 Detailed Description

Graph2D: Dummy User Routine.

Definition in file AG2users.for.

8.11.2 Function/Subroutine Documentation

8.11.2.1 users()

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

Definition at line 9 of file AG2users.for.

8.12 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
```

8.13 AG2useset.for File Reference

Graph2D: Dummy User Routine.

Functions/Subroutines

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

8.13.1 Detailed Description

Graph2D: Dummy User Routine.

Definition in file AG2useset.for.

8.13.2 Function/Subroutine Documentation

8.13.2.1 useset()

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

Definition at line 9 of file AG2useset.for.

8.14 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
```

8.15 AG2usesetC.for File Reference

Graph2D: Dummy User Routine.

Functions/Subroutines

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

8.15.1 Detailed Description

Graph2D: Dummy User Routine.

Definition in file AG2usesetC.for.

8.15.2 Function/Subroutine Documentation

8.15.2.1 usesetc()

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

Definition at line 9 of file AG2usesetC.for.

8.16 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
```

8.17 AG2UsrSoftek.for File Reference

Graph2D: Dummy User Routine.

Functions/Subroutines

- subroutine softek (isym)

8.17.1 Detailed Description

Graph2D: Dummy User Routine.

Definition in file AG2UsrSoftek.for.

8.17.2 Function/Subroutine Documentation

8.17.2.1 softek()

```
subroutine softek (
              isym )
```

Definition at line 9 of file AG2UsrSoftek.for.

8.18 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
```

8.19 G2dAG2.fd File Reference

Graph2D: AG2 Common Block G2dAG2.

8.19.1 Detailed Description

Graph2D: AG2 Common Block G2dAG2.

Version

2.0

Author

(C) 2022 Dr.-Ing. Klaus Friedewald

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Definition in file G2dAG2.fd.

8.20 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
```

8.21 GetHDC.for File Reference

Restore Hardcopies.

Functions/Subroutines

- logical function gethdc (Filnam)

8.21.1 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.

8.21.2 Function/Subroutine Documentation

8.21.2.1 gethdc()

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

Parameters

FilNam	Hardcopyfie

Returns

(optional) .true. -> Error

Definition at line 15 of file GetHDC.for.

8.22 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 swind1(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 swind1(kminsx,kminsy,kmaxsx,kmaxsy)
00111         else if (action.eq.17) then ! XACTION_CLIP2
00112           kmaxsx= i1
00113           kmaxsy= i2
00114           call swind1(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
```

8.23 Mainpage.dox File Reference

8.24 PlotHDC.f03 File Reference

Utility: Plot Journalfiles.

Functions/Subroutines

- program plothdc

8.24.1 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 ISO Fortran 2003 intrinsic procedures.

Note

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

Definition in file PlotHDC.f03.

8.24.2 Function/Subroutine Documentation

8.24.2.1 plothdc()

```
program plothdc
```

Definition at line 26 of file PlotHDC.f03.

8.25 PlotHDC.f03

```
00001 !> \file       PlotHDC.f03
00002 !> \brief      Utility: Plot Journalfiles
00003 !> \version    1.0-GCC
00004 !> \author     (C) 2023 Dr.-Ing. Klaus Friedewald
00005 !> \copyright  GNU LESSER GENERAL PUBLIC LICENSE Version 3
00006 !>
00007 !> \~german
00008 !> Hilfsprogramm zur Anzeige von Journal-Hardcopies von SDL2 und wX-Programmen.
00009 !> Diese koennen dann ueber Cut/Paste in andere Windowsprogramme uebernommen werden.
00010 !> Die Abfrage der Programmparameter erfolgt durch ISO-Fortran 2003 Intrinsics.
00011 !> \note \verbatim
00012 !>    Aufruf durch:
00013 !>     $> plothdc FileName
00014 !> \endverbatim
00015 !>
00016 !> \~english
00017 !> Utility to draw journal-hardcopies from SDL2 and wX programs.
00018 !> With cut/paste they could be used by other MS-win programs.
00019 !> Program parameters are optained by calling ISO Fortran 2003 intrinsic procedures.
00020 !> \note \verbatim
00021 !>    Invoke by:
00022 !>     $> plothdc FileName
00023 !> \endverbatim
00024 !> \~
00025 !>
00026       program plothdc
00027       implicit none
00028       integer itrimlen
00029       integer ipar
00030       character * 128 filnam
00031
00032       call initt (0)
00033       ipar = command_argument_count() ! FTN03 Standard
00034       call get_command_argument (1,filnam)
00035       if (ipar.gt.0) then
00036         call gethdc (filnam(1:itrimlen(filnam))//char(0))
00037       else
00038         call graphicerror (9, 'Please invoke by: PlotHDC FileName')
00039       end if
00040       call finitt
00041       end
```

8.26 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)

8.26.1 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.

8.26.2 Function/Subroutine Documentation

8.26.2.1 istringlen()

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

Definition at line 94 of file Strings.for.

8.26.2.2 itrimlen()

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

Definition at line 133 of file Strings.for.

8.26.2.3 printstring()

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

Definition at line 114 of file Strings.for.

8.26.2.4 substitute()

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

Definition at line 30 of file Strings.for.

8.27 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
```

8.28 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)

8.28.1 Detailed Description

TCS: Tektronix Plot 10 Emulation.

Version

4.0

Author

(C) 2022 Dr.-Ing. Klaus Friedewald

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System independent subroutines

Definition in file TCS.for.

8.28.2 Function/Subroutine Documentation

8.28.2.1 ancho()

```
subroutine ancho (
              ichar )
```

Definition at line 315 of file TCS.for.

8.28.2.2 anstr()

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

Definition at line 305 of file TCS.for.

8.28.2.3 baksp()

```
subroutine baksp
```

Definition at line 360 of file TCS.for.

8.28.2.4 cartn()

```
subroutine cartn
```

Definition at line 341 of file TCS.for.

8.28.2.5 dasha()

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

Definition at line 266 of file TCS.for.

8.28.2.6 dashr()

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

Definition at line 212 of file TCS.for.

8.28.2.7 drawa()

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

Definition at line 233 of file TCS.for.

8.28.2.8 drawr()

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

Definition at line 188 of file TCS.for.

8.28.2.9 dwindo()

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

Definition at line 438 of file TCS.for.

8.28.2.10 genflg()

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

Definition at line 534 of file TCS.for.

8.28.2.11 home()

```
subroutine home
```

Definition at line 494 of file TCS.for.

8.28.2.12 linef()

```
subroutine linef
```

Definition at line 350 of file TCS.for.

8.28.2.13 linhgt()

```
function linhgt (
              Numlin )
```

Definition at line 376 of file TCS.for.

8.28.2.14 lintrn()

```
subroutine lintrn
```

Definition at line 394 of file TCS.for.

8.28.2.15 linwdt()

```
function linwdt (
              NumChr )
```

Definition at line 384 of file TCS.for.

8.28.2.16 logtrn()

```
subroutine logtrn (
              IMODE )
```

Definition at line 404 of file TCS.for.

8.28.2.17 movea()

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

Definition at line 244 of file TCS.for.

8.28.2.18 mover()

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

Definition at line 196 of file TCS.for.

8.28.2.19 newlin()

```
subroutine newlin
```

Definition at line 333 of file TCS.for.

8.28.2.20 newpag()

```
subroutine newpag
```

Definition at line 368 of file TCS.for.

8.28.2.21 pointa()

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

Definition at line 255 of file TCS.for.

8.28.2.22 pointr()

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

Definition at line 204 of file TCS.for.

8.28.2.23 rel2ab()

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

Definition at line 220 of file TCS.for.

8.28.2.24 rescal()

```
subroutine rescal
```

Definition at line 457 of file TCS.for.

8.28.2.25 revcot()

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

Definition at line 290 of file TCS.for.

8.28.2.26 rrotat()

```
subroutine rrotat (
              Grad )
```

Definition at line 477 of file TCS.for.

8.28.2.27 rscale()

```
subroutine rscale (
              Faktor )
```

Definition at line 486 of file TCS.for.

8.28.2.28 seetrm()

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

Definition at line 512 of file TCS.for.

8.28.2.29 seetrn()

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

Definition at line 523 of file TCS.for.

8.28.2.30 setmrg()

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

Definition at line 503 of file TCS.for.

8.28.2.31 swindo()

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

Definition at line 426 of file TCS.for.

8.28.2.32 twindo()

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

Definition at line 419 of file TCS.for.

8.28.2.33 vcursr()

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

Definition at line 178 of file TCS.for.

8.28.2.34 vwindo()

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

Definition at line 445 of file TCS.for.

8.28.2.35 wincot()

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

Definition at line 277 of file TCS.for.

8.29 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
```

```
C                - DeletePen -> DeleteObject
C                - DeleteBrush -> DeleteObject
C                - GetStockBrush -> GetStockObject
C                - DeleteRgn -> DeleteObject
C                - SelectFont -> SelectObject
C                - DeleteFont -> DeleteObject
C
C      27.03.13 Version 3.0
C               Anpassung an Windows 7 und OpenWatcom 1.9
C               Anpassung an gfortran anstelle von g77 der GCC
C
C      22.12.05 Version 2.19
C               Elimination berechnetes GOTO in LOGTRN
C
C      18.10.05 Version 2.18
C               Anpassung der Windowsversionen zur gemeinsamen Verwendung SDL2:
C                 TCSdrWIN.for
C                 TCSdWINc.h
C                 - Überfuehrung der Deklaration aus TCSdWIN.c nach *.h:
C                   GraphicError und CreateMainWindow_IfNecessary
C                 - Definition der Fehlernummern als Konstante statt enum
C               Abhaengigkeit Watcom-Defaultwindowsystem eliminiert
C               - TCSdWINc.c: Kein Abbruch bei OpenWatcom > 1.3 und
C                 definiertem Symbol trace_calls
C
C      26.10.04 Version 2.17
C               Bugfix Windows-System: Größe und Defaultposition des Status-
C                fensters wird bei der Erzeugung berechnet -> 1. RESTORE nach
C                Verkleinern des Graphikfensters entspricht dem vorherigen
C                Bild. 2. Angleichung des Verhaltens von 16- und 32bit Windows
C               Bei Definition des Symbols STAT_WINDOW_PRIVATE erhält das
C                Statusfenster einen privaten Devicekontext.
C               Zusammenfuehrung Initialisierung der Windows-Library und
C                Windows-DLL -> zusaetzliche Sourcefiles
C                TCSinitt.for, CreateMainWindow.c, GetMainInstance.c
C
C      23.06.04 Version 2.16:
C               Anpassungen an GNU-Compiler fuer Win32. Zusätzliches Sourcefile
C                fuer die GNU-Version: WinMain.c
C               CSIZE in Windows-Version: Korrektur Rundungsfehler
C
C      08.06.04 Version 2.15:
C               Umbenennung lib$movc3 in lib_movc3 (entsprechend ANSI-Fortran)
C               Modul STRINGS.FOR: Version 1.24
C
C      27.06.03 Version 2.14:
C               Verarbeitung Steuerzeichen in ANCHO
C
C      21.10.02 Version 2.13:
C               Einheitliche Version CPM/DOS/Windows
C
CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC
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
CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC
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
CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC
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
CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC
C
C   Anpassungen an SDL2:
C
C       Änderungen gegenüber Windows-Version:
C               Fehlerausgabe in den Windows-Debug-Channel (bzw. *ix Fehlerkanal)
C               Statusfenster analog DOS nur einzeilig ohne Scrollmöglichkeit
C
C       Zugehörige Module:
C               TKTRNX.FOR    identisch mit Windows-Version
C               TKTRNX.h      identisch mit Windows-Version
C               TCSdrSDL.FOR  SDL2-spezifische API-Routinen
C               TCSdSDLc.c    SDL2-spezifische API-Routinen
C               TCSdSDLc.h    Compiler- und systemspezifische Deklarationen
C               STRINGS.FOR   identisch mit Windows-Version
C
C       27.11.20 Version 4.00: Dr.-Ing. K. Friedewald
C


C
C Graphic Input
C

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

C
C   Virtuelle Graphik, relativ
C

      subroutine drawr (X,Y)
      call rel2ab (x,y,xabs,yabs)
      call drawa (xabs,yabs)
      return
      end



      subroutine mover (X,Y)
      call rel2ab (x,y,xabs,yabs)
      call movea (xabs,yabs)
      return
      end

```

```
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
```

8.30 TCSdrWXcpp.cpp File Reference

wX Port: Low-Level Driver

```
#include <wx/string.h>
#include <wx/frame.h>
#include <wx/panel.h>
#include <wx/sizer.h>
#include <wx/dc.h>
#include <wx/dcclient.h>
#include <wx/dcsvg.h>
#include <wx/image.h>
#include <wx/dcmemory.h>
#include <wx/log.h>
#include <wx/msgdlg.h>
#include <wx/stdpaths.h>
#include <wx/filename.h>
#include <wx/xml/xml.h>
#include <wx/file.h>
#include "sglib.h"
#include "TCSdrWXcpp.hpp"
#include "TKTRNX.hpp"
#include "G2dAG2.hpp"
#include "graph2d.h"
```

Classes

- struct xJournalEntry_typ
- class cTCScanvas

Macros

- #define wxDEBUG_LEVEL 2
- #define MAX_COLOR_INDEX 15
- #define TMPSTRLEN TCS_FILE_NAMELEN
- #define TMPSTRLEN TCS_FILE_NAMELEN

Typedefs

- typedef struct xJournalEntry_typ xJournalEntry_typ
- typedef char ErrMsg[TCS_MESSAGELEN]

Functions

- void initt0 ()
- wxWindowID getCanvasID (wxWindowID win2search)
- void RepaintBuffer (wxDC &dc)
- void PresetProgPar ()
- void CustomizeProgPar ()
- void XMLreadProgPar (const char *filname)
- void winlbl0 (const char PloWinNam[ ], const char StatWinNam[ ], const char IniFilNam[ ])
- bool WINSELECT (wxWindowID *iD)
- void initt1 (int iMode, wxFrame *parent, wxFrame *FrameToUse, wxStatusBar *StatusBarToUse)
- void FINITT (int *ix, int *iy)
- void IOWAIT (int *iWait)

- void swind1_ (int *ix1, int *iy1, int *ix2, int *iy2)
- void ERASE (void)
- void MOVABS (int *ix, int *iy)
- void DRWABS (int *ix, int *iy)
- void DSHABS (int *ix, int *iy, int *iMask)
- void PNTABS (int *ix, int *iy)
- void BCKCOL (int *iCol)
- void LINCOL (int *iCol)
- void TXTCOL (int *iCol)
- void DEFAULTCOLOUR (void)
- void outgtext_ (char strng[ ])
- void ITALIC (void)
- void ITALIR (void)
- void DBLSIZ (void)
- void NRMSIZ (void)
- void BELL (void)
- void outtext_ (char strng[ ])
- void TCSGraphicError (int iErr, const char *msg)
- void DCURSR (int *ic, int *ix, int *iy)
- void TINPUT (int *ic)
- void HDCOPY (void)
- void SVSTAT (char dst[ ])
- void RESTAT (char src[ ])
- void lib_movc3_ (int *len, char sou[ ], char dst[ ])

Variables

- static char szTCSWindowName [TCS_WINDOW_NAMELEN] = TCS_WINDOW_NAME
- static char szTCSstatWindowName [TCS_WINDOW_NAMELEN] = TCS_STATWINDOW_NAME
- static char szTCSIniFile [TCS_FILE_NAMELEN] = TCS_INIFILE_NAME
- static char szTCSHardcopyFile [TCS_FILE_NAMELEN] = TCS_HDCFILE_NAME
- static char szTCSsect0 [TCS_FILE_NAMELEN] = TCS_INISECT0
- 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 TCSDefaultLinCol = TCS_INIDEF_LINCOL
- static int TCSDefaultTxtCol = TCS_INIDEF_TXTCOL
- static int TCSDefaultBckCol = TCS_INIDEF_BCKCOL
- static int iHardcopyCount = 1
- static ErrMsg szTCSErrorMsg [(int) MSG_MAXERRNO+1]
- static int TCSErrorLev [(int) MSG_MAXERRNO+1]
- static wxColour TCSColorTable [MAX_COLOR_INDEX+1]
- static cTCScanvas * ActiveCanvas = NULL
- static wxWindowID ActiveCanvasID = 0
- static cTCScanvas * OpenCanvases [MAX_OPEN_CANVAS] = {}

8.30.1 Detailed Description

wX Port: Low-Level Driver

Version

1.0

Author

(C) 2023 Dr.-Ing. Klaus Friedewald

Copyright

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system-specific subroutines of the Tektronix emulation

Note

```
Under wX several drawing windows can be used at the same time,
see the example wxDemo.
```

Definition in file TCSdrWXcpp.cpp.

8.30.2 Macro Definition Documentation

8.30.2.1 MAX_COLOR_INDEX

```
#define MAX_COLOR_INDEX 15
```

Definition at line 225 of file TCSdrWXcpp.cpp.

8.30.2.2 TMPSTRLEN [1/2]

```
#define TMPSTRLEN TCS_FILE_NAMELEN
```

8.30.2.3 TMPSTRLEN [2/2]

```
#define TMPSTRLEN TCS_FILE_NAMELEN
```

8.30.2.4 wxDEBUG_LEVEL

```
#define wxDEBUG_LEVEL 2
```

Definition at line 28 of file TCSdrWXcpp.cpp.

8.30.3 Typedef Documentation

8.30.3.1 ErrMsg

```
typedef char ErrMsg[TCS_MESSAGELEN]
```

Definition at line 164 of file TCSdrWXcpp.cpp.

8.30.3.2 xJournalEntry_typ

```
typedef struct xJournalEntry_typ xJournalEntry_typ
```

8.30.4 Function Documentation

8.30.4.1 BCKCOL()

```
void BCKCOL (
            int * iCol )
```

Definition at line 1442 of file TCSdrWXcpp.cpp.

8.30.4.2 BELL()

```
void BELL (
            void  )
```

Definition at line 1645 of file TCSdrWXcpp.cpp.

8.30.4.3 CustomizeProgPar()

```
void CustomizeProgPar ( )
```

Definition at line 546 of file TCSdrWXcpp.cpp.

8.30.4.4 DBLSIZ()

```
void DBLSIZ (
            void  )
```

Definition at line 1592 of file TCSdrWXcpp.cpp.

8.30.4.5 DCURSR()

```
void DCURSR (
            int * ic,
            int * ix,
            int * iy )
```

Definition at line 1709 of file TCSdrWXcpp.cpp.

8.30.4.6 DEFAULTCOLOUR()

```
void DEFAULTCOLOUR (
            void  )
```

Definition at line 1498 of file TCSdrWXcpp.cpp.

8.30.4.7 DRWABS()

```
void DRWABS (
            int * ix,
            int * iy )
```

Definition at line 1378 of file TCSdrWXcpp.cpp.

8.30.4.8 DSHABS()

```
void DSHABS (
            int * ix,
```

```
            int * iy,
            int * iMask )
```
Definition at line 1397 of file TCSdrWXcpp.cpp.

8.30.4.9 ERASE()

```
void ERASE (
            void  )
```
Definition at line 1311 of file TCSdrWXcpp.cpp.

8.30.4.10 FINITT()

```
void FINITT (
            int * ix,
            int * iy )
```
Definition at line 1225 of file TCSdrWXcpp.cpp.

8.30.4.11 getCanvasID()

```
wxWindowID getCanvasID (
            wxWindowID win2search )
```
Definition at line 292 of file TCSdrWXcpp.cpp.

8.30.4.12 HDCOPY()

```
void HDCOPY (
            void  )
```
Definition at line 1753 of file TCSdrWXcpp.cpp.

8.30.4.13 initt0()

```
void initt0 ( )
```
Definition at line 262 of file TCSdrWXcpp.cpp.

8.30.4.14 initt1()

```
void initt1 (
            int iMode,
            wxFrame * parent,
            wxFrame * FrameToUse,
            wxStatusBar * StatusBarToUse )
```
Definition at line 1130 of file TCSdrWXcpp.cpp.

8.30.4.15 IOWAIT()

```
void IOWAIT (
            int * iWait )
```
Definition at line 1255 of file TCSdrWXcpp.cpp.

8.30.4.16 ITALIC()

```
void ITALIC (
            void  )
```

Definition at line 1556 of file TCSdrWXcpp.cpp.

8.30.4.17 ITALIR()

```
void ITALIR (
            void  )
```

Definition at line 1574 of file TCSdrWXcpp.cpp.

8.30.4.18 lib_movc3_()

```
void lib_movc3_ (
            int * len,
            char sou[],
            char dst[] )
```

Definition at line 1856 of file TCSdrWXcpp.cpp.

8.30.4.19 LINCOL()

```
void LINCOL (
            int * iCol )
```

Definition at line 1461 of file TCSdrWXcpp.cpp.

8.30.4.20 MOVABS()

```
void MOVABS (
            int * ix,
            int * iy )
```

Definition at line 1359 of file TCSdrWXcpp.cpp.

8.30.4.21 NRMSIZ()

```
void NRMSIZ (
            void  )
```

Definition at line 1615 of file TCSdrWXcpp.cpp.

8.30.4.22 outgtext_()

```
void outgtext_ (
            char strng[] )
```

Definition at line 1515 of file TCSdrWXcpp.cpp.

8.30.4.23 outtext_()

```
void outtext_ (
            char strng[] )
```

Definition at line 1654 of file TCSdrWXcpp.cpp.

8.30.4.24 PNTABS()

```
void PNTABS (
            int * ix,
            int * iy )
```

Definition at line 1423 of file TCSdrWXcpp.cpp.

8.30.4.25 PresetProgPar()

```
void PresetProgPar ( )
```

Definition at line 525 of file TCSdrWXcpp.cpp.

8.30.4.26 RepaintBuffer()

```
void RepaintBuffer (
            wxDC & dc )
```

Definition at line 309 of file TCSdrWXcpp.cpp.

8.30.4.27 RESTAT()

```
void RESTAT (
            char src[] )
```

Definition at line 1839 of file TCSdrWXcpp.cpp.

8.30.4.28 SVSTAT()

```
void SVSTAT (
            char dst[] )
```

Definition at line 1828 of file TCSdrWXcpp.cpp.

8.30.4.29 swind1_()

```
void swind1_ (
            int * ix1,
            int * iy1,
            int * ix2,
            int * iy2 )
```

Definition at line 1271 of file TCSdrWXcpp.cpp.

8.30.4.30 TCSGraphicError()

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

Definition at line 1667 of file TCSdrWXcpp.cpp.

8.30.4.31 TINPUT()

```
void TINPUT (
            int * ic )
```

Definition at line 1731 of file TCSdrWXcpp.cpp.

8.30.4.32 TXTCOL()

```
void TXTCOL (
            int * iCol )
```
Definition at line 1480 of file TCSdrWXcpp.cpp.

8.30.4.33 winlbl0()

```
void winlbl0 (
            const char PloWinNam[],
            const char StatWinNam[],
            const char IniFilNam[] )
```
Definition at line 1022 of file TCSdrWXcpp.cpp.

8.30.4.34 WINSELECT()

```
bool WINSELECT (
            wxWindowID * iD )
```
Definition at line 1089 of file TCSdrWXcpp.cpp.

8.30.4.35 XMLreadProgPar()

```
void XMLreadProgPar (
            const char * filname )
```
Definition at line 579 of file TCSdrWXcpp.cpp.

8.30.5 Variable Documentation

8.30.5.1 ActiveCanvas

```
cTCScanvas* ActiveCanvas = NULL  [static]
```
Definition at line 249 of file TCSdrWXcpp.cpp.

8.30.5.2 ActiveCanvasID

```
wxWindowID ActiveCanvasID = 0  [static]
```
Definition at line 250 of file TCSdrWXcpp.cpp.

8.30.5.3 iHardcopyCount

```
int iHardcopyCount = 1  [static]
```
Definition at line 156 of file TCSdrWXcpp.cpp.

8.30.5.4 OpenCanvases

```
cTCScanvas* OpenCanvases[MAX_OPEN_CANVAS] = {}  [static]
```
Definition at line 251 of file TCSdrWXcpp.cpp.

8.30.5.5 szTCSErrorMsg

```
ErrMsg szTCSErrorMsg[(int) MSG_MAXERRNO+1]  [static]
```

Initial value:

```
=
                {"Element 0 unused","DOS",
                TCS_INIDEF_UNKNGRAPHCARD,
                TCS_INIDEF_NOFNTFIL,
                TCS_INIDEF_NOFNT,
                "DOS",
                TCS_INIDEF_HDCOPN,
                TCS_INIDEF_HDCWRT,
                "DOS",
                TCS_INIDEF_USR,
                TCS_INIDEF_HDCACT,
                TCS_INIDEF_USRWRN,
                TCS_INIDEF_EXIT,
                "Windows",
                "Windows",
                TCS_INIDEF_JOUCREATE,
                TCS_INIDEF_JOUENTRY,
                TCS_INIDEF_JOUADD,
                "JOUCLR unused",
                "JOUUNKWN unused",
                TCS_INIDEF_XMLPARSER,
                TCS_INIDEF_XMLOPEN,
                TCS_INIDEF_UNKNAUDIO,
                TCS_INIDEF_USR2,
                TCS_INIDEF_INI2,
                "Maxerr only for internal Use" }
```

Definition at line 165 of file TCSdrWXcpp.cpp.

8.30.5.6 szTCSHardcopyFile

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

Definition at line 139 of file TCSdrWXcpp.cpp.

8.30.5.7 szTCSIniFile

```
char szTCSIniFile[TCS_FILE_NAMELEN] = TCS_INIFILE_NAME  [static]
```

Definition at line 138 of file TCSdrWXcpp.cpp.

8.30.5.8 szTCSsect0

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

Definition at line 142 of file TCSdrWXcpp.cpp.

8.30.5.9 szTCSstatWindowName

```
char szTCSstatWindowName[TCS_WINDOW_NAMELEN] = TCS_STATWINDOW_NAME  [static]
```

Definition at line 137 of file TCSdrWXcpp.cpp.

8.30.5.10 szTCSWindowName

```
char szTCSWindowName[TCS_WINDOW_NAMELEN] = TCS_WINDOW_NAME  [static]
```

Definition at line 136 of file TCSdrWXcpp.cpp.

8.30.5.11 TCSColorTable

```
wxColour TCSColorTable[MAX_COLOR_INDEX+1]  [static]
```

Initial value:

```
= {
                    {240,240,240,wxALPHA_OPAQUE },
```

```
                  {  0,  0,  0,wxALPHA_OPAQUE },
                  {240, 80, 80,wxALPHA_OPAQUE },
                  { 80,240, 80,wxALPHA_OPAQUE },
                  { 80,240,240,wxALPHA_OPAQUE },
                  { 80, 80,240,wxALPHA_OPAQUE },
                  {240,240, 80,wxALPHA_OPAQUE },
                  {160,160,160,wxALPHA_OPAQUE },
                  {240, 80,240,wxALPHA_OPAQUE },
                  {160,  0,  0,wxALPHA_OPAQUE },
                  {  0,160,  0,wxALPHA_OPAQUE },
                  {  0,  0,160,wxALPHA_OPAQUE },
                  {  0,160,160,wxALPHA_OPAQUE },
                  {160, 80,  0,wxALPHA_OPAQUE },
                  { 80, 80, 80,wxALPHA_OPAQUE },
                  {160,  0,160,wxALPHA_OPAQUE }
                }
```

Definition at line 227 of file TCSdrWXcpp.cpp.

8.30.5.12 TCSDefaultBckCol

```
int TCSDefaultBckCol = TCS_INIDEF_BCKCOL  [static]
```

Definition at line 155 of file TCSdrWXcpp.cpp.

8.30.5.13 TCSDefaultLinCol

```
int TCSDefaultLinCol = TCS_INIDEF_LINCOL  [static]
```

Definition at line 153 of file TCSdrWXcpp.cpp.

8.30.5.14 TCSDefaultTxtCol

```
int TCSDefaultTxtCol = TCS_INIDEF_TXTCOL  [static]
```

Definition at line 154 of file TCSdrWXcpp.cpp.

8.30.5.15 TCSErrorLev

```
int TCSErrorLev[(int) MSG_MAXERRNO+1]  [static]
```

Initial value:

```
=
                {10,10,
                TCS_INIDEF_UNKNGRAPHCARDL,
                TCS_INIDEF_NOFNTFILL,
                TCS_INIDEF_NOFNTL,
                10,
                TCS_INIDEF_HDCOPNL,
                TCS_INIDEF_HDCWRTL,
                10,
                TCS_INIDEF_USRL,
                TCS_INIDEF_HDCACTL,
                TCS_INIDEF_USRWRNL,
                TCS_INIDEF_EXITL,
                10,
                10,
                TCS_INIDEF_JOUCREATEL,
                TCS_INIDEF_JOUENTRYL,
                TCS_INIDEF_JOUADDL,
                10,
                10,
                TCS_INIDEF_XMLPARSERL,
                TCS_INIDEF_XMLOPENL,
                TCS_INIDEF_UNKNAUDIOL,
                TCS_INIDEF_USR2L,
                TCS_INIDEF_INI2L,
                10}
```

Definition at line 192 of file TCSdrWXcpp.cpp.

8.30.5.16 TCSwindowIniXrelpos

```
int TCSwindowIniXrelpos = TCS_INIDEF_WINPOSX  [static]
```

Definition at line 145 of file TCSdrWXcpp.cpp.

8.30.5.17 TCSwindowIniXrelsiz

```
int TCSwindowIniXrelsiz = TCS_INIDEF_WINSIZX  [static]
```
Definition at line 147 of file TCSdrWXcpp.cpp.

8.30.5.18 TCSwindowIniYrelpos

```
int TCSwindowIniYrelpos = TCS_INIDEF_WINPOSY  [static]
```
Definition at line 146 of file TCSdrWXcpp.cpp.

8.30.5.19 TCSwindowIniYrelsiz

```
int TCSwindowIniYrelsiz = TCS_INIDEF_WINSIZY  [static]
```
Definition at line 148 of file TCSdrWXcpp.cpp.

8.31 TCSdrWXcpp.cpp

```
00001 /** ****************************************************************************
00002 \file       TCSdrWXcpp.cpp
00003 \brief      wX Port: Low-Level Driver
00004 \version    1.0
00005 \author     (C) 2023 Dr.-Ing. Klaus Friedewald
00006 \copyright  GNU LESSER GENERAL PUBLIC LICENSE Version 3
00007 \~german
00008          Systemnahe Graphikroutinen für die Tektronix Emulation
00009 \note \verbatim
00010           Unter wX können mehrere Zeichenfenster gleichzeitig verwendet werden,
00011           siehe das Beispiel wxDemo.
00012 \endverbatim
00013 \~english
00014          system-specific subroutines of the Tektronix emulation
00015 \note \verbatim
00016          Under wX several drawing windows can be used at the same time,
00017          see the example wxDemo.
00018 \endverbatim
00019 \~
00020 ***************************************************************************** */
00021
00022
00023 /*
00024 ------------------- Debug Switches ------------------------------------------
00025 */
00026
00027 // #define wxDEBUG_LEVEL 0
00028 #define wxDEBUG_LEVEL 2 // Debug: Output into the status window
00029 // #define TRACE_CALLS // additional debug output: journalpointer
00030
00031 /*
00032 ------------------- Headerfiles ---------------------------------------------
00033 */
00034
00035 // #include <wx/intl.h>
00036 #include <wx/string.h>
00037
00038 #include <wx/frame.h>      // needed for: class cTSCcanvas
00039 #include <wx/panel.h>
00040 #include <wx/sizer.h>
00041 // #include <wx/display.h>
00042 // #include <wx/gdicmn.h>
00043
00044 #include <wx/dc.h>         // needed for: subroutine RepaintBuffer
00045 #include <wx/dcclient.h>
00046
00047 #include <wx/dcsvg.h>
00048
00049 #include <wx/image.h>     // needed for bitmap hardcopies (not for *.bmp)
00050 #include <wx/dcmemory.h>
00051
00052 // #include <wx/metafile.h>
00053
00054 #include <wx/log.h>        // needed for: subroutine TCSGraphicError
```

```
00055 #include <wx/msgdlg.h>
00056
00057 #include <wx/stdpaths.h>   // needed for: winlbl
00058 #include <wx/filename.h>
00059
00060 #include <wx/xml/xml.h>    // Read inifiles
00061
00062 #include <wx/file.h>
00063
00064 #include "sglib.h"         // Journal for repaint / hardcopy
00065
00066 #include "TCSdrWXcpp.hpp"  // program configuration
00067 #include "TKTRNX.hpp"      // common block TCS
00068 #include "G2dAG2.hpp"      // common block AG2
00069 #include "graph2d.h"       // contains forward declarations
00070
00071
00072
00073 /*
00074 ------------------- Declarations ---------------------------------------------
00075 */
00076
00077 typedef struct xJournalEntry_typ {struct xJournalEntry_typ * previous;
00078                                   struct xJournalEntry_typ * next;
00079                                   int action; int i1; int i2;}
00080               xJournalEntry_typ;
00081
00082
00083 class cTCScanvas
00084 {
00085     public:
00086
00087         wxFrame* TCSframe; // windows
00088         wxPanel* TCSpanel;
00089         wxLogWindow* logWindow;
00090         wxStatusBar* TCSstatusBar;
00091
00092         wxWindowID ID_TCSframe;
00093         wxWindowID ID_TCSpanel;
00094         wxWindowID ID_TCSstatus;
00095
00096         wxPen      TCSpen; //resources
00097         wxBrush    TCSbrush;
00098         wxFont     TCSfont;
00099
00100         bool ClippingNotActive = true; // drawing status
00101         int TCSpanelKeyPressed;
00102         int TCSmouseButtonDown, TCSmouseX, TCSmouseY;
00103
00104         xJournalEntry_typ* xTCSJournal = NULL; // journal used as a drawing metafile
00105
00106         struct TKTRNX TekSav; // notepad for changing instances
00107         struct G2dAG2 AG2Sav;
00108         int    DefaultLinColSav, DefaultTxtColSav, DefaultBckColSav;
00109         char   HardcopyFileSav[TCS_FILE_NAMELEN], sect0Sav[TCS_FILE_NAMELEN];
00110
00111         cTCScanvas(int iMode, wxFrame* parent, wxFrame* FrameToUse, wxStatusBar* StatusBarToUse);
00112         virtual ~cTCScanvas();
00113
00114     protected:
00115
00116     private:
00117
00118         void CompleteCanvas (wxSize UseScreen, wxPoint PosScreen, wxSize MinScreen); // Add sizers,
      menues etc.
00119
00120         void OnTCSClose(wxCloseEvent& event); // event handlers
00121         void OnTCSpanelPaint(wxPaintEvent& event);
00122         void OnTCSpanelResize(wxSizeEvent& event);
00123         void OnTCSpanelKey(wxKeyEvent& event);
00124         void OnTCSmouseLeft(wxMouseEvent& event);
00125         void OnTCSmouseMiddle(wxMouseEvent& event);
00126         void OnTCSmouseRight(wxMouseEvent& event);
00127
00128 };
00129
00130
00131
00132 /*
00133 -------------------- Global Variables -------------------------------------------
00134 */
00135
00136 static char     szTCSWindowName[TCS_WINDOW_NAMELEN] = TCS_WINDOW_NAME,
00137                 szTCSstatWindowName[TCS_WINDOW_NAMELEN] = TCS_STATWINDOW_NAME,
00138                 szTCSIniFile[TCS_FILE_NAMELEN] = TCS_INIFILE_NAME,
00139                 szTCSHardcopyFile[TCS_FILE_NAMELEN] = TCS_HDCFILE_NAME,
00140 //                szTCSGraphicFont[TCS_FILE_NAMELEN] = TCS_INIDEF_FONT,
```

```
00141 //                szTCSSysFont[TCS_FILE_NAMELEN] = TCS_INIDEF_SYSFONT,
00142                 szTCSsect0[TCS_FILE_NAMELEN] = TCS_INISECT0;
00143
00144
00145 static  int     TCSwindowIniXrelpos = TCS_INIDEF_WINPOSX, // window size/position
00146                 TCSwindowIniYrelpos = TCS_INIDEF_WINPOSY, // at initt in % of Screen
00147                 TCSwindowIniXrelsiz = TCS_INIDEF_WINSIZX,
00148                 TCSwindowIniYrelsiz = TCS_INIDEF_WINSIZY,
00149 //                TCSstatWindowIniXrelpos = TCS_INIDEF_STATPOSX, // dito
00150 //                TCSstatWindowIniYrelpos = TCS_INIDEF_STATPOSY, // Statusfenster
00151 //                TCSstatWindowIniXrelsiz = TCS_INIDEF_STATSIZX,
00152 //                TCSstatWindowIniYrelsiz = TCS_INIDEF_STATSIZY,
00153                 TCSDefaultLinCol = TCS_INIDEF_LINCOL,
00154                 TCSDefaultTxtCol = TCS_INIDEF_TXTCOL,
00155                 TCSDefaultBckCol = TCS_INIDEF_BCKCOL,
00156                 iHardcopyCount = 1;  // Zähler zur Erzeugung Filenamen
00157
00158
00159
00160 /*
00161    Assign error numbers to error messages
00162 */
00163
00164 typedef char   ErrMsg[TCS_MESSAGELEN];
00165 static  ErrMsg  szTCSErrorMsg[(int) MSG_MAXERRNO+1] =
00166                  {"Element 0 unused","DOS",
00167                  TCS_INIDEF_UNKNGRAPHCARD, // Errno 2
00168                  TCS_INIDEF_NOFNTFIL,      // Errno 3
00169                  TCS_INIDEF_NOFNT,         // Errno 4
00170                  "DOS",
00171                  TCS_INIDEF_HDCOPN,        // Errno 6
00172                  TCS_INIDEF_HDCWRT,        // Errno 7
00173                  "DOS",
00174                  TCS_INIDEF_USR,           // Errno 9
00175                  TCS_INIDEF_HDCACT,        // Errno 10
00176                  TCS_INIDEF_USRWRN,        // Errno 11
00177                  TCS_INIDEF_EXIT,          // Errno 12
00178                  "Windows",
00179                  "Windows",
00180                  TCS_INIDEF_JOUCREATE,     // Errno 15
00181                  TCS_INIDEF_JOUENTRY,      // Errno 16
00182                  TCS_INIDEF_JOUADD,        // Errno 17
00183                  "JOUCLR unused",          // Errno 18
00184                  "JOUUNKWN unused",        // Errno 19
00185                  TCS_INIDEF_XMLPARSER,     // Errno 20
00186                  TCS_INIDEF_XMLOPEN,       // Errno 21
00187                  TCS_INIDEF_UNKNAUDIO,     // Errno 22
00188                  TCS_INIDEF_USR2,          // Errno 23
00189                  TCS_INIDEF_INI2,          // Errno 24
00190                  "Maxerr only for internal Use" };
00191
00192  static  int     TCSErrorLev[(int) MSG_MAXERRNO+1] =
00193                  {10,10,
00194                  TCS_INIDEF_UNKNGRAPHCARDL,// Errno 2
00195                  TCS_INIDEF_NOFNTFILL,     // Errno 3
00196                  TCS_INIDEF_NOFNTL,        // Errno 4
00197                  10,
00198                  TCS_INIDEF_HDCOPNL,       // Errno 6
00199                  TCS_INIDEF_HDCWRTL,       // Errno 7
00200                  10,
00201                  TCS_INIDEF_USRL,          // Errno 9
00202                  TCS_INIDEF_HDCACTL,       // Errno 10
00203                  TCS_INIDEF_USRWRNL,       // Errno 11
00204                  TCS_INIDEF_EXITL,         // Errno 12
00205                  10,
00206                  10,
00207                  TCS_INIDEF_JOUCREATEL,    // Errno 15
00208                  TCS_INIDEF_JOUENTRYL,     // Errno 16
00209                  TCS_INIDEF_JOUADDL,       // Errno 17
00210                  10,                       // Errno 18
00211                  10,                       // Errno 19
00212                  TCS_INIDEF_XMLPARSERL,    // Errno 20
00213                  TCS_INIDEF_XMLOPENL,      // Errno 21
00214                  TCS_INIDEF_UNKNAUDIOL,    // Errno 22
00215                  TCS_INIDEF_USR2L,         // Errno 23
00216                  TCS_INIDEF_INI2L,         // Errno 24
00217                  10};
00218
00219
00220 /*
00221    Assign colour numbers VGA palette coordinates
00222 */
00223
00224
00225 #define MAX_COLOR_INDEX 15
00226
00227  static wxColour TCSColorTable[MAX_COLOR_INDEX+1] = {
```

```
00228                   {240,240,240,wxALPHA_OPAQUE }, /* iCol= 00: weiss (DOS: 01) */
00229                   {  0,  0,  0,wxALPHA_OPAQUE }, /* iCol= 01: schwarz(DOS:00) */
00230                   {240, 80, 80,wxALPHA_OPAQUE }, /* iCol= 02: rot             */
00231                   { 80,240, 80,wxALPHA_OPAQUE }, /* iCol= 03: gruen           */
00232                   { 80,240,240,wxALPHA_OPAQUE }, /* iCol= 04: blau            */
00233                   { 80, 80,240,wxALPHA_OPAQUE }, /* iCol= 05: lila            */
00234                   {240,240, 80,wxALPHA_OPAQUE }, /* iCol= 06: gelb            */
00235                   {160,160,160,wxALPHA_OPAQUE }, /* iCol= 07: grau            */
00236                   {240, 80,240,wxALPHA_OPAQUE }, /* iCol= 08: violett         */
00237                   {160,  0,  0,wxALPHA_OPAQUE }, /* iCol= 09: mattrot         */
00238                   {  0,160,  0,wxALPHA_OPAQUE }, /* iCol= 10: mattgruen       */
00239                   {  0,  0,160,wxALPHA_OPAQUE }, /* iCol= 11: mattblau        */
00240                   {  0,160,160,wxALPHA_OPAQUE }, /* iCol= 12: mattlila        */
00241                   {160, 80,  0,wxALPHA_OPAQUE }, /* iCol= 13: orange          */
00242                   { 80, 80, 80,wxALPHA_OPAQUE }, /* iCol= 14: mattgrau        */
00243                   {160,  0,160,wxALPHA_OPAQUE }  /* iCol= 15: mattviolett     */
00244                };
00245
00246
00247 // static int      TCSEventFilterData; // Userdata, z.Zt. nicht verwendet
00248
00249 static cTCScanvas*     ActiveCanvas = NULL;
00250 static wxWindowID      ActiveCanvasID = 0;
00251 static cTCScanvas*     OpenCanvases[MAX_OPEN_CANVAS] = {};
00252
00253
00254
00255 // ---------------- Internal subroutines ------------------------------------
00256
00257
00258 /*
00259   Initialization COMMON TKTRNX before creating new object of class  cTCScanvas
00260 */
00261
00262 void initt0 ()
00263 {
00264   tktrnx_.iLinCol= TCSDefaultLinCol; // reset colours
00265   tktrnx_.iTxtCol= TCSDefaultTxtCol;
00266   tktrnx_.iBckCol= TCSDefaultBckCol;
00267
00268   tktrnx_.ksizef = 0; // Reset FONT
00269   tktrnx_.kitalc = 0;
00270
00271   tktrnx_.xlog= 255.; // call LINTRN
00272   tktrnx_.ylog= 255.;
00273   tktrnx_.kminsx= 0; // call SWINDO (0,1023,0,780)
00274   tktrnx_.kmaxsx= (int) TEK_XMAX;
00275   tktrnx_.kminsy= 0;
00276   tktrnx_.kmaxsy= (int) TEK_YMAX;
00277   tktrnx_.tminvx= 0.; // call VWINDO (0.,1023.,0.,780.)
00278   tktrnx_.tmaxvx= TEK_XMAX;
00279   tktrnx_.tminvy= 0.;
00280   tktrnx_.tmaxvy= TEK_YMAX;
00281   tktrnx_.xfac= 1.; // subroutine RESCAL, called from LINTRN...VWINDO
00282   tktrnx_.yfac= 1.;
00283   tktrnx_.trsinf= 0.; // call RROTAT (0.)
00284   tktrnx_.trcosf= 1.;
00285   tktrnx_.trscal= 1.; // call RSCALE (1.)
00286
00287   tktrnx_.klmrgn= 0; //  call SETMRG (0,1023)
00288   tktrnx_.krmrgn= (int) TEK_XMAX;
00289 }
00290
00291
00292 wxWindowID getCanvasID (wxWindowID win2search)
00293 {
00294   int i;
00295
00296     i= MAX_OPEN_CANVAS-1;
00297     while (i >= 0) {
00298       if (OpenCanvases[i] != nullptr) {
00299         if ( (OpenCanvases[i]->ID_TCSframe == win2search) ||
00300              (OpenCanvases[i]->ID_TCSpanel == win2search) ) return i;
00301       }
00302       i--;
00303     }
00304     return i; // i<0 -> window is not a member of any canvas
00305 }
00306
00307
00308
00309 void RepaintBuffer (wxDC& dc)
00310 {
00311   xJournalEntry_typ * xJournalEntry;
00312   int DashStyle;
00313   wxCoord w,h;
00314   int iStringLen, iStringActual;
```

```
00315   char szString [TCS_MESSAGELEN+1];
00316
00317     wxLogDebug ( wxT("RepaintBuffer> called"));
00318 #ifdef TRACE_CALLS
00319     wxLogDebug ( wxT("RepaintBuffer> xTCSJournal: Ptr= %p / Current Entry: Ptr= %p"),
       ActiveCanvas->xTCSJournal, xJournalEntry);
00320 #endif // TRACE_CALLS
00321
00322     SGLIB_DL_LIST_GET_LAST(xJournalEntry_typ, ActiveCanvas->xTCSJournal, previous, next,
       xJournalEntry)
00323     while (xJournalEntry != NULL) {
00324
00325 #ifdef TRACE_CALLS
00326      wxLogDebug ( wxT("RepaintBuffer> xTCSJournal: Ptr= %p"), ActiveCanvas->xTCSJournal);
00327      wxLogDebug ( wxT("RepaintBuffer> Current Entry: Ptr= %p / previous: Ptr= %p / next: Ptr= %p"),
00328                   xJournalEntry, xJournalEntry->previous, xJournalEntry->next);
00329      wxLogDebug ( wxT("RepaintBuffer> XACTION_??? = %i (i1= %i, i2= %i)"),
00330                   xJournalEntry->action, xJournalEntry->i1, xJournalEntry->i2 );
00331 #endif // TRACE_CALLS
00332
00333       switch (xJournalEntry->action) {
00334         case XACTION_INITT: {
00335           initt0 ();
00336
00337           ActiveCanvas->TCSpen.SetColour (TCSColorTable[tktrnx_.iLinCol]);
00338           ActiveCanvas->TCSpen.SetStyle (wxPENSTYLE_SOLID);
00339           dc.SetPen(ActiveCanvas->TCSpen); // Umbedingt Initialstift setzen !!!
00340
00341           tktrnx_.kbeamx = tktrnx_.klmrgn;  //  call HOME, first guess khomey in INITT1()
00342           tktrnx_.kbeamy = tktrnx_.khomey;
00343         } // continue with Erase
00344         case XACTION_ERASE: {
00345           ActiveCanvas->TCSbrush.SetColour (TCSColorTable[tktrnx_.iBckCol]);
00346           dc.SetBrush (ActiveCanvas->TCSbrush);
00347           dc.SetBackground (ActiveCanvas->TCSbrush);
00348           dc.Clear();
00349
00350           ActiveCanvas->TCSfont = wxFont(wxFONTSIZE_MEDIUM, wxFONTFAMILY_TELETYPE,
00351                                          wxFONTSTYLE_NORMAL, wxFONTWEIGHT_NORMAL, false);
00352           ActiveCanvas->TCSfont.SetFractionalPointSize
       (TEK_YMAX*TCS_REL_CHR_HEIGHT*(1+tktrnx_.ksizef));
00353           dc.SetFont(ActiveCanvas->TCSfont);
00354           dc.SetTextForeground (TCSColorTable[tktrnx_.iTxtCol]);
00355
00356           dc.GetTextExtent ("MMMMMMMMMM", &w, &h);
00357           tktrnx_.khorsz = (int) (w*0.1+0.5);
00358           tktrnx_.kversz = h;
00359           tktrnx_.khomey= (int) TEK_YMAX - tktrnx_.kversz;
00360
00361           break; // Erase don't change the cursor position
00362         }
00363         case XACTION_MOVABS: {
00364           tktrnx_.kbeamx= xJournalEntry->i1;
00365           tktrnx_.kbeamy= xJournalEntry->i2;
00366           break;
00367         }
00368         case XACTION_DRWABS: {
00369           if (!ActiveCanvas->ClippingNotActive) {
00370             dc.SetClippingRegion(tktrnx_.kminsx, tktrnx_.kminsy,
00371                tktrnx_.kmaxsx-tktrnx_.kminsx, tktrnx_.kmaxsy-tktrnx_.kminsy);
00372           }
00373           dc.DrawLine (tktrnx_.kbeamx,tktrnx_.kbeamy ,
00374                        xJournalEntry->i1, xJournalEntry->i2);
00375           tktrnx_.kbeamx= xJournalEntry->i1;
00376           tktrnx_.kbeamy= xJournalEntry->i2;
00377           dc.DrawPoint (tktrnx_.kbeamx, tktrnx_.kbeamy); // Set last point of line
00378           if (!ActiveCanvas->ClippingNotActive) dc.DestroyClippingRegion();
00379           break;
00380         }
00381         case XACTION_DSHSTYLE: {
00382           switch (xJournalEntry->i1) {
00383             case 0:  DashStyle= wxPENSTYLE_SOLID;
00384                      break;
00385             case 1:  DashStyle= wxPENSTYLE_DOT;
00386                      break;
00387             case 2:  DashStyle= wxPENSTYLE_DOT_DASH;
00388                      break;
00389             case 3:  DashStyle= wxPENSTYLE_LONG_DASH;
00390                      break;
00391             default: DashStyle= wxPENSTYLE_SOLID;
00392           }
00393           break;
00394         }
00395         case XACTION_DSHABS: {
00396           ActiveCanvas->TCSpen.SetStyle (DashStyle);
00397           dc.SetPen(ActiveCanvas->TCSpen);
00398           if (!ActiveCanvas->ClippingNotActive) {
```

```
00399             dc.SetClippingRegion(tktrnx_.kminsx, tktrnx_.kminsy,
00400                tktrnx_.kmaxsx-tktrnx_.kminsx, tktrnx_.kmaxsy-tktrnx_.kminsy);
00401           }
00402           dc.DrawLine (tktrnx_.kbeamx,tktrnx_.kbeamy ,
00403                        xJournalEntry->i1, xJournalEntry->i2);
00404           if (!ActiveCanvas->ClippingNotActive) dc.DestroyClippingRegion();
00405           ActiveCanvas->TCSpen.SetStyle (wxPENSTYLE_SOLID);
00406           dc.SetPen(ActiveCanvas->TCSpen); // reset to SOLID
00407 
00408           tktrnx_.kbeamx= xJournalEntry->i1;
00409           tktrnx_.kbeamy= xJournalEntry->i2;
00410           break;
00411         }
00412         case XACTION_PNTABS: {
00413           tktrnx_.kbeamx= xJournalEntry->i1;
00414           tktrnx_.kbeamy= xJournalEntry->i2;
00415           if (!ActiveCanvas->ClippingNotActive) {
00416             dc.SetClippingRegion(tktrnx_.kminsx, tktrnx_.kminsy,
00417                tktrnx_.kmaxsx-tktrnx_.kminsx, tktrnx_.kmaxsy-tktrnx_.kminsy);
00418           }
00419           dc.DrawPoint (tktrnx_.kbeamx, tktrnx_.kbeamy);
00420           if (!ActiveCanvas->ClippingNotActive) dc.DestroyClippingRegion();
00421           break;
00422         }
00423         case XACTION_BCKCOL: {
00424           tktrnx_.iBckCol= xJournalEntry->i1;
00425           ActiveCanvas->TCSbrush.SetColour (TCSColorTable[tktrnx_.iBckCol]);
00426           dc.SetBrush (ActiveCanvas->TCSbrush);
00427           dc.SetBackground (ActiveCanvas->TCSbrush);
00428           break;
00429         }
00430         case XACTION_LINCOL: {
00431           tktrnx_.iLinCol= xJournalEntry->i1;
00432           ActiveCanvas->TCSpen.SetColour (TCSColorTable[tktrnx_.iLinCol]);
00433           dc.SetPen(ActiveCanvas->TCSpen);
00434           break;
00435         }
00436         case XACTION_TXTCOL: {
00437           tktrnx_.iTxtCol= xJournalEntry->i1;
00438           dc.SetTextForeground (TCSColorTable[tktrnx_.iTxtCol]);
00439           break;
00440         }
00441         case XACTION_FONTATTR: {
00442           tktrnx_.kitalc= xJournalEntry->i1;
00443           if (tktrnx_.kitalc > 0) {
00444             ActiveCanvas->TCSfont.SetStyle (wxFONTSTYLE_ITALIC);
00445           } else {
00446             ActiveCanvas->TCSfont.SetStyle (wxFONTSTYLE_NORMAL);
00447           }
00448 
00449           if (tktrnx_.ksizef != xJournalEntry->i2) {
00450             tktrnx_.ksizef= xJournalEntry->i2;
00451             if (tktrnx_.ksizef > 0) {
00452               ActiveCanvas->TCSfont.SetFractionalPointSize (2.0* TEK_YMAX*TCS_REL_CHR_HEIGHT);
00453             } else {
00454               ActiveCanvas->TCSfont.SetFractionalPointSize (TEK_YMAX *TCS_REL_CHR_HEIGHT);
00455             }
00456           }
00457           dc.SetFont(ActiveCanvas->TCSfont);
00458           dc.GetTextExtent ("MMMMMMMMM", &w, &h);
00459           tktrnx_.khorsz = (int) (w*0.1+0.5);
00460           tktrnx_.kversz = h;
00461           tktrnx_.khomey= TEK_YMAX - tktrnx_.kversz;
00462           break;
00463         }
00464         case XACTION_GTEXT: {
00465             iStringActual= 0;
00466             iStringLen= xJournalEntry->i1;
00467             if (iStringLen > TCS_MESSAGELEN) iStringLen= TCS_MESSAGELEN;
00468             if (iStringLen == 0) break;
00469             szString[iStringActual++]= xJournalEntry->i2;
00470             if (iStringLen == 1) {
00471               szString[iStringActual]= '\0';
00472               dc.GetTextExtent (szString, &w, &h);
00473               dc.DrawText (szString, tktrnx_.kbeamx, tktrnx_.kbeamy+ TCS_REL_CHR_SPACING*h); // +h:
      Plot text from UPPER left corner
00474               tktrnx_.kbeamx += w; // move cursor to End of String
00475             }
00476         break;
00477         }
00478         case XACTION_ASCII: {
00479           if (iStringActual < iStringLen) {
00480             szString[iStringActual++]= xJournalEntry->i1;
00481             if (iStringActual < iStringLen) szString[iStringActual++]= xJournalEntry->i2;
00482             if (iStringActual >= iStringLen ) {
00483               szString[iStringActual]= '\0';
00484               dc.GetTextExtent (szString, &w, &h);
```

```
00485               dc.DrawText (szString, tktrnx_.kbeamx, tktrnx_.kbeamy+ TCS_REL_CHR_SPACING*h);
00486               tktrnx_.kbeamx += w;
00487             }
00488           }
00489           break;
00490         }
00491         case XACTION_NOOP: {
00492           break;
00493         }
00494         case XACTION_CLIP: {
00495           ActiveCanvas->ClippingNotActive= (xJournalEntry->i1 == 0);
00496           break;
00497         }
00498         case XACTION_CLIP1: {
00499           tktrnx_.kminsx= xJournalEntry->i1;
00500           tktrnx_.kminsy= xJournalEntry->i2;
00501           break;
00502         }
00503         case XACTION_CLIP2: {
00504           tktrnx_.kmaxsx= xJournalEntry->i1;
00505           tktrnx_.kmaxsy= xJournalEntry->i2;
00506           break;
00507         }
00508         default: {
00509           wxLogDebug (wxT("RepaintBuffer> XACTION_XXX"));
00510           break;
00511         }
00512       }
00513     xJournalEntry= xJournalEntry -> previous;
00514     }
00515 #ifdef TRACE_CALLS
00516     wxLogDebug ( wxT("RepaintBuffer> xTCSJournal: Ptr= %p / Last Entry: Ptr= %p"),
      ActiveCanvas->xTCSJournal, xJournalEntry);
00517 #endif // TRACE_CALLS
00518  }
00519
00520
00521 /*
00522   Setting default values before reading the initialization files
00523 */
00524
00525 void PresetProgPar ()
00526 {
00527     TCSDefaultLinCol= TCS_INIDEF_LINCOL;
00528     TCSDefaultTxtCol= TCS_INIDEF_TXTCOL;
00529     TCSDefaultBckCol= TCS_INIDEF_BCKCOL;
00530
00531     TCSwindowIniXrelpos= TCS_INIDEF_WINPOSX;
00532     TCSwindowIniYrelpos= TCS_INIDEF_WINPOSY;
00533     TCSwindowIniXrelsiz= TCS_INIDEF_WINSIZX;
00534     TCSwindowIniYrelsiz= TCS_INIDEF_WINSIZY;
00535
00536     // No reset of windownames and initialisation files
00537
00538     // No reset of hardcopyname and counter
00539
00540     // Error messages should be changed only once
00541
00542 }
00543
00544
00545
00546 void CustomizeProgPar ()
00547 #if (TCS_WINDOW_NAMELEN <= TCS_FILE_NAMELEN) // Get a safe buffer
00548   #define TMPSTRLEN TCS_FILE_NAMELEN
00549 #else
00550   #define TMPSTRLEN TCS_WINDOW_NAMELEN
00551 #endif
00552 {
00553   size_t iL;
00554   char* szTemp;
00555   char TmpStr[TMPSTRLEN];
00556   wxString wxTmpStr;
00557   wxFileName wxTmpFilNam;
00558
00559     szTemp= strstr (szTCSWindowName, PROGDIRTOKEN); // Default ProgDir?
00560     if (szTemp != NULL) {
00561       strncpy (TmpStr, szTCSWindowName, TMPSTRLEN);
00562       wxTmpFilNam= wxStandardPaths::Get().GetExecutablePath();
00563       wxTmpStr= wxTmpFilNam.GetFullName();
00564       iL= szTemp-szTCSWindowName+1;
00565       if ((TCS_WINDOW_NAMELEN-iL) > 1) {
00566         strncpy (szTemp, wxTmpStr, TCS_WINDOW_NAMELEN-iL);
00567         if ((TCS_WINDOW_NAMELEN-iL-wxTmpStr.length()) > 1) {
00568           strncpy (&szTCSWindowName[iL+wxTmpStr.length()-1],
00569                    &TmpStr[iL+strlen(PROGDIRTOKEN)-1], TCS_WINDOW_NAMELEN-iL-wxTmpStr.length());
00570         }
```

```
00571       }
00572       szTCSWindowName[TCS_WINDOW_NAMELEN-1]= '\0'; // just in case...
00573     }
00574 #undef TMPSTRLEN
00575 }
00576
00577
00578
00579 void XMLreadProgPar (const char * filname)
00580 {
00581   wxXmlDocument xmlDoc;
00582   wxXmlNode *node, *node1, *NodeSect0;
00583
00584   size_t iL;
00585
00586   long longTmp;
00587   wxString wxTmpStr;
00588
00589
00590     if (filname[0] != '\0') {
00591       if (!wxFileExists(filname)) {
00592          TCSGraphicError (ERR_XMLOPEN, filname); // No input file
00593          return; // give warning and continue with defaults
00594       }
00595       if (!xmlDoc.Load(filname)) {
00596         TCSGraphicError (ERR_XMLOPEN, filname); // Unknown file error
00597         return; // unexpected file error -> handle error in any case
00598       }
00599       if (xmlDoc.GetRoot() == nullptr) {
00600         TCSGraphicError (ERR_XMLOPEN, filname); // No root node
00601         return;
00602       }
00603       NodeSect0=  nullptr;
00604       if (xmlDoc.GetRoot()->GetName().IsSameAs(TCS_INISECT0)) {
00605         NodeSect0= xmlDoc.GetRoot() ;
00606       } else {
00607         node= xmlDoc.GetRoot()->GetChildren();
00608         while (node != nullptr) {
00609           if (node->GetName().IsSameAs(TCS_INISECT0)) {
00610             NodeSect0= node;
00611             break;
00612           }
00613           node= node->GetNext();
00614         }
00615       }
00616       if (NodeSect0 != nullptr) {
00617         node1= NodeSect0->GetChildren();
00618         while (node1 != nullptr) {
00619           if (node1->GetName().IsSameAs(TCS_INISECT1)) { // TCS_INISECT1: Names
00620             node= node1->GetChildren();
00621             while (node != nullptr) {
00622               if (node->GetName().IsSameAs(TCS_INIVAR_WINNAM)) {
00623                 iL= node->GetNodeContent().length();
00624                 if (iL > 0) {
00625                   wxTmpStr= node->GetNodeContent().Truncate(TCS_WINDOW_NAMELEN);
00626                   strncpy (szTCSWindowName, wxTmpStr.c_str(), TCS_WINDOW_NAMELEN);
00627                 }
00628               } else if (node->GetName().IsSameAs(TCS_INIVAR_STATNAM)) {
00629                 iL= node->GetNodeContent().length();
00630                 if (iL > 0) {
00631                   wxTmpStr= node->GetNodeContent().Truncate(TCS_WINDOW_NAMELEN);
00632                   strncpy (szTCSstatWindowName, wxTmpStr.c_str(), TCS_WINDOW_NAMELEN);
00633                 }
00634               } else if (node->GetName().IsSameAs(TCS_INIVAR_HDCNAM)) {
00635                 iL= node->GetNodeContent().length();
00636                 if (iL > 0) {
00637                   wxTmpStr= node->GetNodeContent().Truncate(TCS_FILE_NAMELEN);
00638                   strncpy (szTCSHardcopyFile, wxTmpStr.c_str(), TCS_FILE_NAMELEN);
00639                 }
00640               }
00641               node= node->GetNext();
00642             } // end dataloop TCS_INISECT1
00643
00644           } else if (node1->GetName().IsSameAs(TCS_INISECT2)) { // TCS_INISECT2: Layout
00645             node= node1->GetChildren();
00646             while (node != nullptr) {
00647               wxTmpStr= node->GetNodeContent();
00648               if (node->GetName().IsSameAs(TCS_INIVAR_WINPOSX)) {
00649                 if (wxTmpStr.IsNumber()) {
00650                   TCSwindowIniXrelpos= wxAtoi(wxTmpStr);
00651                 }
00652               } else if (node->GetName().IsSameAs(TCS_INIVAR_WINPOSY)) {
00653                 if (wxTmpStr.IsNumber()) {
00654                   TCSwindowIniYrelpos= wxAtoi(wxTmpStr);
00655                 }
00656               } else if (node->GetName().IsSameAs(TCS_INIVAR_WINSIZX)) {
00657                 if (wxTmpStr.IsNumber()) {
```

```
00658                   TCSwindowIniXrelsiz= wxAtoi(wxTmpStr);
00659                 }
00660               } else if (node->GetName().IsSameAs(TCS_INIVAR_WINSIZY)) {
00661                 if (wxTmpStr.IsNumber()) {
00662                   TCSwindowIniYrelsiz= wxAtoi(wxTmpStr);
00663                 }
00664 /*
00665               } else if (node->GetName().IsSameAs(TCS_INIVAR_STATPOSX)) {
00666                 if (wxTmpStr.IsNumber()) {
00667                   TCSstatWindowIniXrelpos= wxAtoi(wxTmpStr);
00668                 }
00669               } else if (node->GetName().IsSameAs(TCS_INIVAR_STATPOSY)) {
00670                 if (wxTmpStr.IsNumber()) {
00671                   TCSstatWindowIniYrelpos= wxAtoi(wxTmpStr);
00672                 }
00673               } else if (node->GetName().IsSameAs(TCS_INIVAR_STATSIZX)) {
00674                 if (wxTmpStr.IsNumber()) {
00675                   TCSstatWindowIniXrelsiz= wxAtoi(wxTmpStr);
00676                 }
00677               } else if (node->GetName().IsSameAs(TCS_INIVAR_STATSIZY)) {
00678                 if (wxTmpStr.IsNumber()) {
00679                   TCSstatWindowIniYrelsiz= wxAtoi(wxTmpStr);
00680                 }
00681 */
00682               } else if (node->GetName().IsSameAs(TCS_INIVAR_LINCOL)) {
00683                 if (wxTmpStr.IsNumber()) {
00684                   TCSDefaultLinCol= wxAtoi(wxTmpStr);
00685                 }
00686               } else if (node->GetName().IsSameAs(TCS_INIVAR_TXTCOL)) {
00687                 if (wxTmpStr.IsNumber()) {
00688                   TCSDefaultTxtCol= wxAtoi(wxTmpStr);
00689                 }
00690               } else if (node->GetName().IsSameAs(TCS_INIVAR_BCKCOL)) {
00691                 if (wxTmpStr.IsNumber()) {
00692                   TCSDefaultBckCol= wxAtoi(wxTmpStr);
00693                 }
00694               }
00695               node= node->GetNext();
00696             } // end dataloop TCS_INISECT2
00697           } else if (node1->GetName().IsSameAs(TCS_INISECT3)) { // TCS_INISECT3: Messages
00698             node= node1->GetChildren();
00699             while (node != nullptr) {
00700               wxTmpStr= node->GetNodeContent();
00701               if (node->GetName().IsSameAs(TCS_INIVAR_HDCOPN)) {
00702                 iL= node->GetNodeContent().length();
00703                 if (iL > 0) {
00704                   wxTmpStr= node->GetNodeContent().Truncate(TCS_MESSAGELEN);
00705                   strncpy (szTCSErrorMsg[WRN_HDCFILOPN], wxTmpStr.c_str(), TCS_MESSAGELEN);
00706                 }
00707               } else if (node->GetName().IsSameAs(TCS_INIVAR_HDCOPNL)) {
00708                 if (wxTmpStr.IsNumber()) {
00709                   TCSErrorLev[WRN_HDCFILOPN]= wxAtoi(wxTmpStr);
00710                 }
00711
00712               } else if (node->GetName().IsSameAs(TCS_INIVAR_HDCWRT)) {
00713                 iL= node->GetNodeContent().length();
00714                 if (iL > 0) {
00715                   wxTmpStr= node->GetNodeContent().Truncate(TCS_MESSAGELEN);
00716                   strncpy (szTCSErrorMsg[WRN_HDCFILWRT], wxTmpStr.c_str(), TCS_MESSAGELEN);
00717                 }
00718               } else if (node->GetName().IsSameAs(TCS_INIVAR_HDCWRTL)) {
00719                 if (wxTmpStr.IsNumber()) {
00720                   TCSErrorLev[WRN_HDCFILWRT]= wxAtoi(wxTmpStr);
00721                 }
00722
00723               } else if (node->GetName().IsSameAs(TCS_INIVAR_USR)) {
00724                 iL= node->GetNodeContent().length();
00725                 if (iL > 0) {
00726                   wxTmpStr= node->GetNodeContent().Truncate(TCS_MESSAGELEN);
00727                   strncpy (szTCSErrorMsg[MSG_USR], wxTmpStr.c_str(), TCS_MESSAGELEN);
00728                 }
00729               } else if (node->GetName().IsSameAs(TCS_INIVAR_USRL)) {
00730                 if (wxTmpStr.IsNumber()) {
00731                   TCSErrorLev[MSG_USR]= wxAtoi(wxTmpStr);
00732                 }
00733
00734               } else if (node->GetName().IsSameAs(TCS_INIVAR_HDCACT)) {
00735                 iL= node->GetNodeContent().length();
00736                 if (iL > 0) {
00737                   wxTmpStr= node->GetNodeContent().Truncate(TCS_MESSAGELEN);
00738                   strncpy (szTCSErrorMsg[MSG_HDCACT], wxTmpStr.c_str(), TCS_MESSAGELEN);
00739                 }
00740               } else if (node->GetName().IsSameAs(TCS_INIVAR_HDCACTL)) {
00741                 if (wxTmpStr.IsNumber()) {
00742                   TCSErrorLev[MSG_HDCACT]= wxAtoi(wxTmpStr);
00743                 }
00744
```

```
00745               } else if (node->GetName().IsSameAs(TCS_INIVAR_USRWRN)) {
00746                 iL= node->GetNodeContent().length();
00747                 if (iL > 0) {
00748                   wxTmpStr= node->GetNodeContent().Truncate(TCS_MESSAGELEN);
00749                   strncpy (szTCSErrorMsg[WRN_USRPRESSANY], wxTmpStr.c_str(), TCS_MESSAGELEN);
00750                 }
00751               } else if (node->GetName().IsSameAs(TCS_INIVAR_USRWRNL)) {
00752                 if (wxTmpStr.IsNumber()) {
00753                   TCSErrorLev[WRN_USRPRESSANY]= wxAtoi(wxTmpStr);
00754                 }
00755
00756               } else if (node->GetName().IsSameAs(TCS_INIVAR_EXIT)) {
00757                 iL= node->GetNodeContent().length();
00758                 if (iL > 0) {
00759                   wxTmpStr= node->GetNodeContent().Truncate(TCS_MESSAGELEN);
00760                   strncpy (szTCSErrorMsg[ERR_EXIT], wxTmpStr.c_str(), TCS_MESSAGELEN);
00761                 }
00762               } else if (node->GetName().IsSameAs(TCS_INIVAR_EXITL)) {
00763                 if (wxTmpStr.IsNumber()) {
00764                   TCSErrorLev[ERR_EXIT]= wxAtoi(wxTmpStr);
00765                 }
00766
00767               } else if (node->GetName().IsSameAs(TCS_INIVAR_JOUCREATE)) {
00768                 iL= node->GetNodeContent().length();
00769                 if (iL > 0) {
00770                   wxTmpStr= node->GetNodeContent().Truncate(TCS_MESSAGELEN);
00771                   strncpy (szTCSErrorMsg[WRN_JOUCREATE], wxTmpStr.c_str(), TCS_MESSAGELEN);
00772                 }
00773               } else if (node->GetName().IsSameAs(TCS_INIVAR_JOUCREATEL)) {
00774                 if (wxTmpStr.IsNumber()) {
00775                   TCSErrorLev[WRN_JOUCREATE]= wxAtoi(wxTmpStr);
00776                 }
00777
00778               } else if (node->GetName().IsSameAs(TCS_INIVAR_JOUENTRY)) {
00779                 iL= node->GetNodeContent().length();
00780                 if (iL > 0) {
00781                   wxTmpStr= node->GetNodeContent().Truncate(TCS_MESSAGELEN);
00782                   strncpy (szTCSErrorMsg[WRN_JOUENTRY], wxTmpStr.c_str(), TCS_MESSAGELEN);
00783                 }
00784               } else if (node->GetName().IsSameAs(TCS_INIVAR_JOUENTRYL)) {
00785                 if (wxTmpStr.IsNumber()) {
00786                   TCSErrorLev[WRN_JOUENTRY]= wxAtoi(wxTmpStr);
00787                 }
00788
00789               } else if (node->GetName().IsSameAs(TCS_INIVAR_JOUADD)) {
00790                 iL= node->GetNodeContent().length();
00791                 if (iL > 0) {
00792                   wxTmpStr= node->GetNodeContent().Truncate(TCS_MESSAGELEN);
00793                   strncpy (szTCSErrorMsg[WRN_JOUADD], wxTmpStr.c_str(), TCS_MESSAGELEN);
00794                 }
00795               } else if (node->GetName().IsSameAs(TCS_INIVAR_JOUADDL)) {
00796                 if (wxTmpStr.IsNumber()) {
00797                   TCSErrorLev[WRN_JOUADD]= wxAtoi(wxTmpStr);
00798                 }
00799
00800               } else if (node->GetName().IsSameAs(TCS_INIVAR_XMLOPEN)) {
00801                 iL= node->GetNodeContent().length();
00802                 if (iL > 0) {
00803                   wxTmpStr= node->GetNodeContent().Truncate(TCS_MESSAGELEN);
00804                   strncpy (szTCSErrorMsg[ERR_XMLOPEN], wxTmpStr.c_str(), TCS_MESSAGELEN);
00805                 }
00806               } else if (node->GetName().IsSameAs(TCS_INIVAR_XMLOPENL)) {
00807                 if (wxTmpStr.IsNumber()) {
00808                   TCSErrorLev[ERR_XMLOPEN]= wxAtoi(wxTmpStr);
00809                 }
00810
00811               } else if (node->GetName().IsSameAs(TCS_INIVAR_USR2)) {
00812                 iL= node->GetNodeContent().length();
00813                 if (iL > 0) {
00814                   wxTmpStr= node->GetNodeContent().Truncate(TCS_MESSAGELEN);
00815                   strncpy (szTCSErrorMsg[MSG_USR2], wxTmpStr.c_str(), TCS_MESSAGELEN);
00816                 }
00817               } else if (node->GetName().IsSameAs(TCS_INIVAR_USR2L)) {
00818                 if (wxTmpStr.IsNumber()) {
00819                   TCSErrorLev[MSG_USR2]= wxAtoi(wxTmpStr);
00820                 }
00821
00822               } else if (node->GetName().IsSameAs(TCS_INIVAR_INI2)) {
00823                 iL= node->GetNodeContent().length();
00824                 if (iL > 0) {
00825                   wxTmpStr= node->GetNodeContent().Truncate(TCS_MESSAGELEN);
00826                   strncpy (szTCSErrorMsg[WRN_INI2], wxTmpStr.c_str(), TCS_MESSAGELEN);
00827                 }
00828               } else if (node->GetName().IsSameAs(TCS_INIVAR_INI2L)) {
00829                 if (wxTmpStr.IsNumber()) {
00830                   TCSErrorLev[WRN_INI2]= wxAtoi(wxTmpStr);
00831                 }
```

```
00832
00833               }
00834               node= node->GetNext();
00835             } // end dataloop TCS_INISECT3
00836           }
00837           node1= node1->GetNext();
00838         }
00839       }
00840     }
00841  }
00842
00843
00844
00845 /* --------- Object cTCScanvas ------ */
00846
00847
00848 cTCScanvas::cTCScanvas(int iMode, wxFrame* parent, wxFrame* FrameToUse, wxStatusBar* StatusBarToUse)
00849 {
00850   wxRect Screen;
00851   wxSize UseScreen, MinScreen;
00852   wxPoint PosScreen;
00853
00854     if (iMode == 0) return;
00855
00856     if (FrameToUse == nullptr) {
00857       ID_TCSframe = wxNewId();  // TCSframe->GetID()
00858       TCSframe= new wxFrame(parent, ID_TCSframe, szTCSWindowName, wxDefaultPosition, wxDefaultSize,
      wxDEFAULT_FRAME_STYLE, wxString::Format(wxT("%i"),ID_TCSframe));
00859       TCSstatusBar= TCSframe->GetStatusBar();
00860     } else {
00861       TCSframe= FrameToUse; // Use given plot frame
00862       ID_TCSframe = FrameToUse->GetId();
00863     }
00864
00865     TCSstatusBar= StatusBarToUse;
00866     if ( StatusBarToUse != nullptr ) {
00867       ID_TCSstatus = TCSstatusBar->GetId();
00868     } else {
00869       ID_TCSstatus = wxID_NONE;
00870     }
00871
00872     if (iMode <= 2) { // New window: use screensize/title from TCS initialization
00873       Screen = wxGetClientDisplayRect (); // usable screen size
00874       if (TCSwindowIniYrelsiz > 0) {
00875         UseScreen.x = TCSwindowIniXrelsiz * Screen.width / 100;
00876         UseScreen.y = TCSwindowIniYrelsiz * Screen.height / 100;  // TCSframe->GetMaxClientSize()
00877         PosScreen.x = TCSwindowIniXrelpos * Screen.width / 100;
00878         PosScreen.y = TCSwindowIniYrelpos * Screen.height / 100;  // TCSframe->GetScreenPosition()
00879         MinScreen = wxSize(-1,-1); // No restriction
00880       }
00881       if (strlen(szTCSWindowName)>0) TCSframe->SetLabel(szTCSWindowName); // only for iMode=2 relevant
00882
00883       if (TCSstatusBar == nullptr) {
00884         ID_TCSstatus = wxNewId();
00885         TCSstatusBar = new wxStatusBar(TCSframe, ID_TCSstatus, wxSTB_DEFAULT_STYLE,
      wxString::Format(wxT("%i"),ID_TCSstatus));
00886         TCSstatusBar->SetFieldsCount(1);
00887         TCSframe->SetStatusBar(TCSstatusBar);
00888       }
00889     } else { // keep current screensize and title
00890       UseScreen = TCSframe->GetClientSize ();
00891       PosScreen = wxPoint(-1,-1); // x < 0 -> don't touch position
00892       MinScreen = UseScreen; // don't allow screensize 0
00893     }
00894     CompleteCanvas(UseScreen, PosScreen, MinScreen);
00895 }
00896
00897
00898
00899 void cTCScanvas::CompleteCanvas (wxSize UseScreen, wxPoint PosScreen, wxSize MinScreen)
00900 {
00901   wxBoxSizer* TCSBoxSizer;
00902     ID_TCSpanel = wxNewId();
00903     TCSpanel = new wxPanel(TCSframe, ID_TCSpanel, wxDefaultPosition, UseScreen, wxTAB_TRAVERSAL,
      wxString::Format(wxT("%i"),ID_TCSpanel));
00904     TCSpanel->SetMinSize(MinScreen);
00905     TCSpanel->SetMaxSize(wxSize(-1,-1));
00906     TCSBoxSizer = new wxBoxSizer(wxHORIZONTAL);
00907     TCSBoxSizer->Add(TCSpanel, 1, wxALL|wxEXPAND, 5);
00908     TCSframe->SetSizer(TCSBoxSizer);
00909     TCSBoxSizer->Fit(TCSframe);
00910     TCSBoxSizer->SetSizeHints(TCSframe);
00911
00912     TCSframe->SetClientSize (UseScreen);
00913     if (PosScreen.x > 0) {
00914      TCSframe->Move (PosScreen);
00915     }
```

```
00916
00917     TCSframe->Connect(wxID_ANY,wxEVT_CLOSE_WINDOW,(wxObjectEventFunction)&cTCScanvas::OnTCSClose);
00918
00919
      TCSpanel->Connect(wxEVT_PAINT,(wxObjectEventFunction)&cTCScanvas::OnTCSpanelPaint,0,this->TCSframe);
00920     TCSpanel->Connect(wxEVT_SIZE,
      (wxObjectEventFunction)&cTCScanvas::OnTCSpanelResize,0,this->TCSframe);
00921     TCSpanel->Connect(wxEVT_KEY_DOWN,(wxObjectEventFunction)&cTCScanvas::OnTCSpanelKey);
00922     TCSpanel->Connect(wxEVT_LEFT_DOWN ,(wxObjectEventFunction)&cTCScanvas::OnTCSmouseLeft);
00923     TCSpanel->Connect(wxEVT_MIDDLE_DOWN ,(wxObjectEventFunction)&cTCScanvas::OnTCSmouseMiddle);
00924     TCSpanel->Connect(wxEVT_RIGHT_DOWN ,(wxObjectEventFunction)&cTCScanvas::OnTCSmouseRight);
00925 }
00926
00927
00928
00929 cTCScanvas::~cTCScanvas()
00930 {
00931     finitt_ (NULL, NULL); // -> Destroy ();
00932 }
00933
00934
00935 void cTCScanvas::OnTCSClose(wxCloseEvent& event)
00936 {
00937     if ((event.GetId() == ActiveCanvas->ID_TCSframe) ||
00938                         (event.GetId() == ActiveCanvas->ID_TCSpanel)) {
00939       finitt_ (NULL, NULL); // -> Destroy ();
00940     }
00941 }
00942
00943
00944 void cTCScanvas::OnTCSpanelPaint(wxPaintEvent& event)
00945 {
00946   wxWindowID RequestingWindowID, WorkWindowID;
00947
00948     WorkWindowID = ActiveCanvasID; // store for further plotting
00949     RequestingWindowID = getCanvasID (event.GetId());
00950     if (RequestingWindowID >= 0) { // requested window belongs to a TCScanvas
00951       if (RequestingWindowID != WorkWindowID) WINSELECT (&RequestingWindowID);
00952       wxPaintDC dc (ActiveCanvas->TCSpanel);
00953       dc.GetSize (&tktrnx_.kScrX, &tktrnx_.kScrY);
00954       dc.SetAxisOrientation (true, true);       // y-axis bottom->up
00955       dc.SetDeviceOrigin (0., tktrnx_.kScrY);  // (0,0) lower left corner
00956       dc.SetLogicalScale (tktrnx_.kScrX/TEK_XMAX, tktrnx_.kScrY/TEK_YMAX);
00957       RepaintBuffer (dc);
00958       if (RequestingWindowID != WorkWindowID) WINSELECT (&WorkWindowID);
00959     }
00960 }
00961
00962
00963
00964 void cTCScanvas::OnTCSpanelResize(wxSizeEvent& event)
00965 {
00966   wxWindowID RequestingWindowID;
00967
00968     RequestingWindowID = getCanvasID (event.GetId());
00969     if (RequestingWindowID >= 0) { // requesting window belongs to a TCScanvas
00970       OpenCanvases[RequestingWindowID]->TCSpanel->Refresh (); // Redraw with new scale -> wxEVT_PAINT
00971     } // Only OnTCSpanelPaint() switches windows
00972 }
00973
00974
00975
00976 void cTCScanvas::OnTCSpanelKey(wxKeyEvent& event)
00977 {
00978     ActiveCanvas->TCSpanelKeyPressed= event.GetKeyCode();
00979     if ((!event.m_shiftDown) && (ActiveCanvas->TCSpanelKeyPressed > 0x40)
00980                              && (ActiveCanvas->TCSpanelKeyPressed < 0x5b) ) {
00981       ActiveCanvas->TCSpanelKeyPressed+= 0x20; // lower case ASCII
00982     }
00983 }
00984
00985
00986
00987 void cTCScanvas::OnTCSmouseLeft(wxMouseEvent& event)
00988 {
00989     ActiveCanvas->TCSmouseButtonDown= 1;
00990     event.GetPosition(&ActiveCanvas->TCSmouseX, &ActiveCanvas->TCSmouseY);
00991     ActiveCanvas->TCSmouseX= ActiveCanvas->TCSmouseX * TEK_XMAX/tktrnx_.kScrX;
00992     ActiveCanvas->TCSmouseY= TEK_YMAX - (ActiveCanvas->TCSmouseY * TEK_YMAX/tktrnx_.kScrY);
00993 }
00994
00995
00996
00997 void cTCScanvas::OnTCSmouseMiddle(wxMouseEvent& event)
00998 {
00999     ActiveCanvas->TCSmouseButtonDown= 4; // same as in DOS-port
01000     event.GetPosition(&ActiveCanvas->TCSmouseX, &ActiveCanvas->TCSmouseY);
```

```
01001     ActiveCanvas->TCSmouseX= ActiveCanvas->TCSmouseX * TEK_XMAX/tktrnx_.kScrX;
01002     ActiveCanvas->TCSmouseY= TEK_YMAX - (ActiveCanvas->TCSmouseY * TEK_YMAX/tktrnx_.kScrY);
01003 }
01004
01005
01006 void cTCScanvas::OnTCSmouseRight(wxMouseEvent& event)
01007 {
01008     ActiveCanvas->TCSmouseButtonDown= 2;
01009     event.GetPosition(&ActiveCanvas->TCSmouseX, &ActiveCanvas->TCSmouseY);
01010     ActiveCanvas->TCSmouseX= ActiveCanvas->TCSmouseX * TEK_XMAX/tktrnx_.kScrX;
01011     ActiveCanvas->TCSmouseY= TEK_YMAX - (ActiveCanvas->TCSmouseY * TEK_YMAX/tktrnx_.kScrY);
01012 }
01013
01014
01015
01016 /*
01017 ------------------- Userroutinen: Initialization -----------------------------
01018 */
01019
01020
01021 extern "C" {
01022     void winlbl0 (const char PloWinNam[], const char StatWinNam[], const char IniFilNam[])
01023 #if (TCS_WINDOW_NAMELEN <= TCS_FILE_NAMELEN) // Get a safe buffer
01024   #define TMPSTRLEN TCS_FILE_NAMELEN
01025 #else
01026   #define TMPSTRLEN TCS_WINDOW_NAMELEN
01027 #endif
01028     {
01029       size_t iL;
01030       char* szTemp;
01031       char  tmpstr[TMPSTRLEN], PathSeparator[2];
01032
01033         iL= strlen(PloWinNam);
01034         if (iL > (TCS_WINDOW_NAMELEN-1)) iL= TCS_WINDOW_NAMELEN-1;
01035         if (iL > 0) {
01036           strncpy( szTCSWindowName, PloWinNam, iL); // Destination is zero-padded
01037           szTCSWindowName[iL]= '\0'; // just in case iL>= TCS_WINDOW_NAMELEN
01038         }
01039
01040         iL= strlen(StatWinNam);
01041         if (iL > (TCS_WINDOW_NAMELEN-1)) iL= TCS_WINDOW_NAMELEN-1;
01042         if (iL > 0) {
01043           strncpy( szTCSstatWindowName, StatWinNam, iL);
01044           szTCSstatWindowName[iL]= '\0';
01045         }
01046
01047         iL= strlen(IniFilNam);
01048         if (iL > (TCS_FILE_NAMELEN-1)) iL= TCS_FILE_NAMELEN-1;
01049         if (iL > 0) {
01050           strncpy( szTCSIniFile, IniFilNam, iL);
01051           szTCSIniFile[iL]= '\0';
01052           szTemp= strstr (szTCSIniFile, "@"); // section Level0?
01053           if (szTemp != 0) {
01054             strncpy (szTCSsect0, &szTemp[1], iL); // len(szSect0)=TCS_FILE_NAMELEN --> iL o.k.
01055             szTemp[0]= '\0'; // cut of @Section0 in szTCSIniFile
01056           }
01057         }
01058         iL= strlen(szTCSIniFile); // perhaps shortened by @ processing
01059         if (iL > 0) {
01060           szTemp= strstr (szTCSIniFile, INIFILEXTTOKEN); // Default extension?
01061           if (szTemp != 0) {
01062             iL= TCS_FILE_NAMELEN + szTCSIniFile-szTemp;
01063             strncpy (szTemp, INIFILEXT, iL); // Sideeffect: szTCSIniFile with extension
01064             szTCSIniFile[TCS_FILE_NAMELEN-1]= '\0'; // just in case...
01065           }
01066         }
01067         iL= strlen(szTCSIniFile); // perhaps extended by .% processing
01068         if (iL > 0) {
01069           szTemp= strstr (szTCSIniFile, PROGDIRTOKEN); // Default ProgDir?
01070           if (szTemp == szTCSIniFile) {
01071             strncpy (tmpstr, szTCSIniFile, TCS_FILE_NAMELEN);
01072             strncpy (szTCSIniFile, wxStandardPaths::Get().GetDataDir(), TCS_FILE_NAMELEN);
01073             iL= strlen(szTCSIniFile);
01074             PathSeparator[0]= wxFileName::GetPathSeparator();
01075             PathSeparator[1]= char (0);
01076             strncpy (&szTCSIniFile[iL], PathSeparator, TCS_FILE_NAMELEN-iL-2); // -2: length Path
      separator
01077             iL= strlen(szTCSIniFile);
01078             strncpy (&szTCSIniFile[iL], &tmpstr[strlen(PROGDIRTOKEN)], TCS_FILE_NAMELEN-iL);
01079             szTCSIniFile[TCS_FILE_NAMELEN-1]= '\0'; // just in case...
01080           }
01081         }
01082      }
01083 #undef TMPSTRLEN
01084 }
01085
01086
```

```
01087
01088 extern "C" {
01089     bool WINSELECT (wxWindowID* iD)
01090     {
01091       size_t numbytes;
01092
01093         if (*iD >= MAX_OPEN_CANVAS) {
01094           TCSGraphicError (WRN_INI2," ");
01095           return true; // Error handling !?
01096         } else {
01097           if (ActiveCanvas != nullptr) { // already active -> save status
01098             numbytes= sizeof (struct TKTRNX); // save TKTRNX
01099             memmove (&ActiveCanvas->TekSav.khomey, &tktrnx_.khomey, numbytes);
01100             numbytes= sizeof (struct G2dAG2); // save AG2
01101             memmove (&ActiveCanvas->AG2Sav.cline, &g2dag2_.cline, numbytes);
01102
01103             ActiveCanvas->DefaultLinColSav = TCSDefaultLinCol;
01104             ActiveCanvas->DefaultTxtColSav = TCSDefaultTxtCol;
01105             ActiveCanvas->DefaultBckColSav = TCSDefaultBckCol;
01106             memmove (ActiveCanvas->HardcopyFileSav, szTCSHardcopyFile, TCS_FILE_NAMELEN);
01107             memmove (ActiveCanvas->sect0Sav, szTCSsect0, TCS_FILE_NAMELEN);
01108           }
01109           if (OpenCanvases[*iD] != nullptr) { // restore TKTRNX
01110             numbytes= sizeof (struct G2dAG2);
01111             memmove (&tktrnx_.khomey, &OpenCanvases[*iD]->TekSav.khomey, numbytes);
01112             numbytes= sizeof (struct G2dAG2);
01113             memmove (&g2dag2_.cline, &OpenCanvases[*iD]->AG2Sav.cline, numbytes);
01114
01115             TCSDefaultLinCol = OpenCanvases[*iD]->DefaultLinColSav;
01116             TCSDefaultTxtCol = OpenCanvases[*iD]->DefaultTxtColSav;
01117             TCSDefaultBckCol = OpenCanvases[*iD]->DefaultBckColSav;
01118             memmove (szTCSHardcopyFile,&OpenCanvases[*iD]->HardcopyFileSav, TCS_FILE_NAMELEN);
01119             memmove (szTCSsect0, &OpenCanvases[*iD]->sect0Sav, TCS_FILE_NAMELEN);
01120           }
01121           ActiveCanvasID= *iD;
01122           ActiveCanvas= OpenCanvases[*iD];
01123       }
01124        return (OpenCanvases[*iD] == nullptr);
01125     }
01126 }
01127
01128
01129 extern "C" {
01130     void initt1 (int iMode, wxFrame* parent, wxFrame* FrameToUse, wxStatusBar* StatusBarToUse)
01131     {
01132        wxSize UseScreen;
01133        xJournalEntry_typ * xJournalEntry;
01134
01135         PresetProgPar(); // restore initialization after finitt()
01136         XMLreadProgPar (szTCSIniFile);
01137         CustomizeProgPar (); // substitute %: with program directory
01138         initt0(); // initialize COMMON TKTRNX
01139
01140         if (ActiveCanvas != NULL) { // Reset journal
01141           SGLIB_DL_LIST_MAP_ON_ELEMENTS (xJournalEntry_typ, ActiveCanvas->xTCSJournal,
01142                         xJournalEntry,previous,next, { free (xJournalEntry);}); // free all
01143           ActiveCanvas->xTCSJournal= NULL;
01144           xJournalEntry= (xJournalEntry_typ *)  malloc (sizeof (xJournalEntry_typ));
01145           if (xJournalEntry == NULL) TCSGraphicError (WRN_JOUCREATE,"");
01146           xJournalEntry->action=  XACTION_NOOP; // mark  beginning of the list with NOOP
01147           xJournalEntry->i1= 0;
01148           xJournalEntry->i2= 0;
01149           SGLIB_DL_LIST_ADD (xJournalEntry_typ, ActiveCanvas->xTCSJournal, xJournalEntry, previous,
      next)
01150           xJournalEntry= (xJournalEntry_typ *) malloc (sizeof (xJournalEntry_typ));
01151           if (xJournalEntry == NULL) TCSGraphicError (WRN_JOUENTRY,"");
01152           xJournalEntry->action=  XACTION_INITT;
01153           xJournalEntry->i1= 0;
01154           xJournalEntry->i2= 0;
01155           SGLIB_DL_LIST_ADD (xJournalEntry_typ, ActiveCanvas->xTCSJournal, xJournalEntry, previous,
      next)
01156           return; // Remaining reset will be done during redraw due to XACTION_INITT
01157         }
01158
01159         ActiveCanvas = new cTCScanvas (iMode, parent, FrameToUse, StatusBarToUse);
01160         OpenCanvases[ActiveCanvasID] = ActiveCanvas;
01161
01162         ActiveCanvas->TCSpen = wxPen(TCSColorTable[tktrnx_.iLinCol], TCS_LINEWIDTH,
      wxPENSTYLE_SOLID);
01163         ActiveCanvas->TCSbrush = wxBrush (TCSColorTable[tktrnx_.iBckCol], wxBRUSHSTYLE_SOLID);
01164         ActiveCanvas->TCSfont = wxFont(wxFONTSIZE_MEDIUM, wxFONTFAMILY_TELETYPE,
01165                                        wxFONTSTYLE_NORMAL, wxFONTWEIGHT_NORMAL, false);
01166
01167         UseScreen = ActiveCanvas->TCSpanel->GetClientSize ();
01168         tktrnx_.kversz = (int) (TEK_YMAX *TCS_REL_CHR_HEIGHT +0.5); // first guess
01169         tktrnx_.khorsz = (int) ((float)UseScreen.y/(float)UseScreen.x*(float)tktrnx_.kversz +0.5);
01170         ActiveCanvas->TCSfont.SetFractionalPointSize (TEK_YMAX *TCS_REL_CHR_HEIGHT);
```

```
01171
01172           tktrnx_.khomey= TEK_YMAX - tktrnx_.kversz;
01173           tktrnx_.kbeamx = tktrnx_.klmrgn;  //  call HOME
01174           tktrnx_.kbeamy = tktrnx_.khomey;
01175
01176           ActiveCanvas->TCSframe->Show();
01177
01178           //  Logging Window
01179
01180           ActiveCanvas->logWindow = new wxLogWindow(ActiveCanvas->TCSframe, szTCSstatWindowName, false,
       false);
01181           wxLog::SetActiveTarget(ActiveCanvas->logWindow);
01182           wxLog::SetTimestamp(""); // don't write timestamps before messages
01183           wxLogStatus ("); // without a first message wxLog::show() will crash
01184
01185           //  Create journal
01186
01187           ActiveCanvas->xTCSJournal = (xJournalEntry_typ*) NULL;
01188           wxLogDebug ( wxT("INITT1> xTCSJournal initialisiert: Ptr= %p"), ActiveCanvas->xTCSJournal);
01189
01190           xJournalEntry= (xJournalEntry_typ *)  malloc (sizeof (xJournalEntry_typ));
01191           if (xJournalEntry == NULL) TCSGraphicError (WRN_JOUCREATE,"");
01192 #ifdef TRACE_CALLS
01193           wxLogDebug ( wxT("INITT1> Nach 1. malloc: xJournalEntry: Ptr= %p"), xJournalEntry);
01194 #endif // TRACE_CALLS
01195
01196           xJournalEntry->action=  XACTION_NOOP; // mark  beginning of the list with NOOP
01197           xJournalEntry->i1= 0;
01198           xJournalEntry->i2= 0;
01199           SGLIB_DL_LIST_ADD (xJournalEntry_typ, ActiveCanvas->xTCSJournal, xJournalEntry, previous,
       next)
01200 #ifdef TRACE_CALLS
01201           wxLogDebug ( wxT("INITT1> LIST_ADD=Create Journal: xTCSJournal: Ptr= %p / xJournalEntry: Ptr=
       %p"), ActiveCanvas->xTCSJournal, xJournalEntry);
01202           wxLogDebug ( wxT("INITT1> previous: Ptr= %p / next: Ptr= %p"), xJournalEntry -> previous,
       xJournalEntry -> next);
01203           wxLogDebug ( wxT("INITT1> XACTION_??? = %i (i1= %i, i2= %i)"), xJournalEntry->action,
       xJournalEntry->i1, xJournalEntry->i2 );
01204 #endif // TRACE_CALLS
01205
01206           xJournalEntry= (xJournalEntry_typ *)  malloc (sizeof (xJournalEntry_typ));
01207           if (xJournalEntry == NULL) TCSGraphicError (WRN_JOUENTRY,"");
01208           xJournalEntry->action=  XACTION_INITT;
01209           xJournalEntry->i1= 0;
01210           xJournalEntry->i2= 0;
01211           SGLIB_DL_LIST_ADD (xJournalEntry_typ, ActiveCanvas->xTCSJournal, xJournalEntry, previous,
       next)
01212 #ifdef TRACE_CALLS
01213           wxLogDebug ( wxT("INITT1> Nach 2. LIST_ADD=Create Journal: xTCSJournal: Ptr= %p /
       xJournalEntry: Ptr= %p"), ActiveCanvas->xTCSJournal, xJournalEntry);
01214           wxLogDebug ( wxT("INITT1> previous: Ptr= %p / next: Ptr= %p"), xJournalEntry -> previous,
       xJournalEntry -> next);
01215           wxLogDebug ( wxT("INITT1> XACTION_??? = %i (i1= %i, i2= %i)"), xJournalEntry->action,
       xJournalEntry->i1, xJournalEntry->i2 );
01216 #endif // TRACE_CALLS
01217
01218           return;
01219       }
01220 }
01221
01222
01223
01224 extern "C" {
01225     void FINITT (int* ix, int* iy)
01226     {
01227       cTCScanvas* CanvasToKill;
01228       xJournalEntry_typ * xJournalEntry;
01229
01230         if (ActiveCanvas == NULL) return;
01231         CanvasToKill = ActiveCanvas; // Window could be changed due to user action
01232         do {
01233           if (ActiveCanvas == CanvasToKill) {
01234             TCSGraphicError (ERR_EXIT,""); // User can accept or change window here
01235           } else {
01236             wxYield(); // Allow processing in case of a changed window
01237           }
01238         } while (ActiveCanvas != CanvasToKill); // Don't kill a wrong window
01239
01240         SGLIB_DL_LIST_MAP_ON_ELEMENTS (xJournalEntry_typ, ActiveCanvas->xTCSJournal,
01241                         xJournalEntry,previous,next, { free (xJournalEntry);}); // free all
01242         ActiveCanvas->xTCSJournal= nullptr;
01243
01244         ActiveCanvas->TCSframe->Destroy();
01245         ActiveCanvas = nullptr;
01246         OpenCanvases[ActiveCanvasID] = nullptr;
01247
01248         return;
```

```
01249     }
01250 }
01251
01252
01253
01254 extern "C" {
01255     void IOWAIT (int* iWait)
01256     {
01257         ActiveCanvas->TCSpanel->Refresh(); // wxEVT_PAINT will be executed after wxYield()
01258         wxYield();                   // process event loop -> be aware of recursive loops!
01259     }
01260 }
01261
01262
01263
01264 /*
01265 ------------------- TCS API: Drawing -----------------------------------
01266 */
01267
01268
01269
01270 extern "C" {
01271     void swindl_ (int* ix1, int* iy1, int* ix2, int* iy2)
01272     {
01273       xJournalEntry_typ * xJournalEntry;
01274
01275         ActiveCanvas->ClippingNotActive = (*ix1==0) && (*iy1==0) &&
01276                                           (*ix2==TEK_XMAX) && (*iy2==TEK_YMAX);
01277         /* Same meaning of bool variable in DOS, SDL2 ... */
01278
01279         xJournalEntry= (xJournalEntry_typ *) malloc (sizeof (xJournalEntry_typ));
01280         if (xJournalEntry == NULL) TCSGraphicError (WRN_JOUADD,"");
01281         xJournalEntry->action=  XACTION_CLIP;
01282         if (ActiveCanvas->ClippingNotActive) {
01283           xJournalEntry->i1= 0;
01284         } else {
01285           xJournalEntry->i1= 1;
01286         }
01287         xJournalEntry->i2= 0;
01288         SGLIB_DL_LIST_ADD (xJournalEntry_typ, ActiveCanvas->xTCSJournal, xJournalEntry, previous,
      next)
01289
01290         if (!ActiveCanvas->ClippingNotActive) {
01291           xJournalEntry= (xJournalEntry_typ *) malloc (sizeof (xJournalEntry_typ));
01292           if (xJournalEntry == NULL) TCSGraphicError (WRN_JOUADD,"");
01293           xJournalEntry->action=  XACTION_CLIP1;
01294           xJournalEntry->i1= *ix1;
01295           xJournalEntry->i2= *iy1;
01296           SGLIB_DL_LIST_ADD (xJournalEntry_typ, ActiveCanvas->xTCSJournal, xJournalEntry, previous,
      next)
01297
01298           xJournalEntry= (xJournalEntry_typ *) malloc (sizeof (xJournalEntry_typ));
01299           if (xJournalEntry == NULL) TCSGraphicError (WRN_JOUADD,"");
01300           xJournalEntry->action=  XACTION_CLIP2;
01301           xJournalEntry->i1= *ix2;
01302           xJournalEntry->i2= *iy2;
01303           SGLIB_DL_LIST_ADD (xJournalEntry_typ, ActiveCanvas->xTCSJournal, xJournalEntry, previous,
      next)
01304         }
01305     }
01306 }
01307
01308
01309
01310 extern "C" {
01311     void ERASE (void)
01312     {
01313       xJournalEntry_typ * xJournalEntry;
01314
01315         SGLIB_DL_LIST_MAP_ON_ELEMENTS (xJournalEntry_typ, ActiveCanvas->xTCSJournal,
01316                         xJournalEntry,previous,next, {free (xJournalEntry);}); // free all
01317         ActiveCanvas->xTCSJournal= NULL; // create new journal
01318
01319         xJournalEntry= (xJournalEntry_typ *) malloc (sizeof (xJournalEntry_typ));
01320         if (xJournalEntry == NULL) TCSGraphicError (WRN_JOUADD,"");
01321         xJournalEntry->action=  XACTION_NOOP; // root element without predecessor;
01322         xJournalEntry->i1= 0;
01323         xJournalEntry->i2= 0;
01324         SGLIB_DL_LIST_ADD (xJournalEntry_typ, ActiveCanvas->xTCSJournal, xJournalEntry, previous,
      next)
01325
01326         xJournalEntry= (xJournalEntry_typ *) malloc (sizeof (xJournalEntry_typ));
01327         if (xJournalEntry == NULL) TCSGraphicError (WRN_JOUADD,"");
01328         xJournalEntry->action=  XACTION_LINCOL;
01329         xJournalEntry->i1= tktrnx_.iLinCol;
01330         xJournalEntry->i2= 0;
01331         SGLIB_DL_LIST_ADD (xJournalEntry_typ, ActiveCanvas->xTCSJournal, xJournalEntry, previous,
```

```
      next)
01332
01333         xJournalEntry= (xJournalEntry_typ *) malloc (sizeof (xJournalEntry_typ));
01334         if (xJournalEntry == NULL) TCSGraphicError (WRN_JOUADD,"");
01335         xJournalEntry->action=  XACTION_TXTCOL;
01336         xJournalEntry->i1= tktrnx_.iTxtCol;
01337         xJournalEntry->i2= 0;
01338         SGLIB_DL_LIST_ADD (xJournalEntry_typ, ActiveCanvas->xTCSJournal, xJournalEntry, previous,
      next)
01339
01340         xJournalEntry= (xJournalEntry_typ *) malloc (sizeof (xJournalEntry_typ));
01341         if (xJournalEntry == NULL) TCSGraphicError (WRN_JOUADD,"");
01342         xJournalEntry->action=  XACTION_BCKCOL;
01343         xJournalEntry->i1= tktrnx_.iBckCol;
01344         xJournalEntry->i2= 0;
01345         SGLIB_DL_LIST_ADD (xJournalEntry_typ, ActiveCanvas->xTCSJournal, xJournalEntry, previous,
      next)
01346
01347         xJournalEntry= (xJournalEntry_typ *) malloc (sizeof (xJournalEntry_typ));
01348         if (xJournalEntry == NULL) TCSGraphicError (WRN_JOUADD,"");
01349         xJournalEntry->action=  XACTION_ERASE;
01350         xJournalEntry->i1= 0;
01351         xJournalEntry->i2= 0;
01352         SGLIB_DL_LIST_ADD (xJournalEntry_typ, ActiveCanvas->xTCSJournal, xJournalEntry, previous,
      next)
01353     }
01354 }
01355
01356
01357
01358 extern "C" {
01359     void MOVABS (int* ix,int* iy)
01360     {
01361       xJournalEntry_typ * xJournalEntry;
01362
01363         tktrnx_.kbeamx= *ix;
01364         tktrnx_.kbeamy= *iy;
01365
01366         xJournalEntry= (xJournalEntry_typ *) malloc (sizeof (xJournalEntry_typ));
01367         if (xJournalEntry == NULL) TCSGraphicError (WRN_JOUADD,"");
01368         xJournalEntry->action=  XACTION_MOVABS;
01369         xJournalEntry->i1= *ix;
01370         xJournalEntry->i2= *iy;
01371         SGLIB_DL_LIST_ADD (xJournalEntry_typ, ActiveCanvas->xTCSJournal, xJournalEntry, previous,
      next)
01372     }
01373 }
01374
01375
01376
01377 extern "C" {
01378     void DRWABS (int* ix,int* iy)
01379     {
01380       xJournalEntry_typ * xJournalEntry;
01381
01382         tktrnx_.kbeamx= *ix;
01383         tktrnx_.kbeamy= *iy;
01384
01385         xJournalEntry= (xJournalEntry_typ *) malloc (sizeof (xJournalEntry_typ));
01386         if (xJournalEntry == NULL) TCSGraphicError (WRN_JOUADD,"");
01387         xJournalEntry->action=  XACTION_DRWABS;
01388         xJournalEntry->i1= *ix;
01389         xJournalEntry->i2= *iy;
01390         SGLIB_DL_LIST_ADD (xJournalEntry_typ, ActiveCanvas->xTCSJournal, xJournalEntry, previous,
      next)
01391     }
01392 }
01393
01394
01395
01396 extern "C" {
01397     void DSHABS (int* ix,int* iy, int* iMask)
01398     {
01399       xJournalEntry_typ * xJournalEntry;
01400
01401         tktrnx_.kbeamx= *ix;
01402         tktrnx_.kbeamy= *iy;
01403
01404         xJournalEntry= (xJournalEntry_typ *) malloc (sizeof (xJournalEntry_typ));
01405         if (xJournalEntry == NULL) TCSGraphicError (WRN_JOUADD,"");
01406         xJournalEntry->action=  XACTION_DSHSTYLE;
01407         xJournalEntry->i1= *iMask;
01408         xJournalEntry->i2= 0;
01409         SGLIB_DL_LIST_ADD (xJournalEntry_typ, ActiveCanvas->xTCSJournal, xJournalEntry, previous,
      next)
01410
01411         xJournalEntry= (xJournalEntry_typ *) malloc (sizeof (xJournalEntry_typ));
```

```
01412         if (xJournalEntry == NULL) TCSGraphicError (WRN_JOUADD,"");
01413         xJournalEntry->action=  XACTION_DSHABS;
01414         xJournalEntry->i1= *ix;
01415         xJournalEntry->i2= *iy;
01416         SGLIB_DL_LIST_ADD (xJournalEntry_typ, ActiveCanvas->xTCSJournal, xJournalEntry, previous,
       next)
01417     }
01418 }
01419
01420
01421
01422 extern "C" {
01423     void PNTABS (int* ix,int* iy)
01424     {
01425       xJournalEntry_typ * xJournalEntry;
01426
01427         tktrnx_.kbeamx= *ix;
01428         tktrnx_.kbeamy= *iy;
01429
01430         xJournalEntry= (xJournalEntry_typ *) malloc (sizeof (xJournalEntry_typ));
01431         if (xJournalEntry == NULL) TCSGraphicError (WRN_JOUADD,"");
01432         xJournalEntry->action=  XACTION_PNTABS;
01433         xJournalEntry->i1= *ix;
01434         xJournalEntry->i2= *iy;
01435         SGLIB_DL_LIST_ADD (xJournalEntry_typ, ActiveCanvas->xTCSJournal, xJournalEntry, previous,
       next)
01436     }
01437 }
01438
01439
01440
01441 extern "C" {
01442     void BCKCOL (int* iCol)
01443     {
01444       xJournalEntry_typ * xJournalEntry;
01445
01446         tktrnx_.iBckCol= *iCol;
01447         if (*iCol > MAX_COLOR_INDEX) tktrnx_.iBckCol= MAX_COLOR_INDEX;
01448
01449         xJournalEntry= (xJournalEntry_typ *) malloc (sizeof (xJournalEntry_typ));
01450         if (xJournalEntry == NULL) TCSGraphicError (WRN_JOUADD,"");
01451         xJournalEntry->action=  XACTION_BCKCOL;
01452         xJournalEntry->i1= tktrnx_.iBckCol;
01453         xJournalEntry->i2= 0;
01454         SGLIB_DL_LIST_ADD (xJournalEntry_typ, ActiveCanvas->xTCSJournal, xJournalEntry, previous,
       next)
01455     }
01456 }
01457
01458
01459
01460 extern "C" {
01461     void LINCOL (int* iCol)
01462     {
01463       xJournalEntry_typ * xJournalEntry;
01464
01465         tktrnx_.iLinCol= *iCol;
01466         if (*iCol > MAX_COLOR_INDEX) tktrnx_.iLinCol= MAX_COLOR_INDEX;
01467
01468         xJournalEntry= (xJournalEntry_typ *) malloc (sizeof (xJournalEntry_typ));
01469         if (xJournalEntry == NULL) TCSGraphicError (WRN_JOUADD,"");
01470         xJournalEntry->action=  XACTION_LINCOL;
01471         xJournalEntry->i1= tktrnx_.iLinCol;
01472         xJournalEntry->i2= 0;
01473         SGLIB_DL_LIST_ADD (xJournalEntry_typ, ActiveCanvas->xTCSJournal, xJournalEntry, previous,
       next)
01474     }
01475 }
01476
01477
01478
01479 extern "C" {
01480     void TXTCOL (int* iCol)
01481     {
01482       xJournalEntry_typ * xJournalEntry;
01483
01484         tktrnx_.iTxtCol= *iCol;
01485         if (*iCol > MAX_COLOR_INDEX) tktrnx_.iTxtCol= MAX_COLOR_INDEX;
01486
01487         xJournalEntry= (xJournalEntry_typ *) malloc (sizeof (xJournalEntry_typ));
01488         if (xJournalEntry == NULL) TCSGraphicError (WRN_JOUADD,"");
01489         xJournalEntry->action=  XACTION_TXTCOL;
01490         xJournalEntry->i1= tktrnx_.iTxtCol;
01491         xJournalEntry->i2= 0;
01492         SGLIB_DL_LIST_ADD (xJournalEntry_typ, ActiveCanvas->xTCSJournal, xJournalEntry, previous,
       next)
01493     }
```

```
01494 }
01495
01496
01497 extern "C" {
01498     void DEFAULTCOLOUR (void)
01499     {
01500       LINCOL (&TCSDefaultLinCol);
01501       TXTCOL (&TCSDefaultTxtCol);
01502       BCKCOL (&TCSDefaultBckCol);
01503     }
01504 }
01505
01506
01507
01508 /*
01509 ------------------- TCS API: Graphic text output ----------------------------------
01510 */
01511
01512
01513
01514 extern "C" {
01515     void outgtext_ (char strng[] )
01516     {
01517       int i, iL;
01518       struct xJournalEntry_typ    * xJournalEntry;
01519
01520         iL= strlen(strng);
01521         tktrnx_.kbeamx+= iL*tktrnx_.khorsz;
01522
01523         xJournalEntry= (xJournalEntry_typ *) malloc (sizeof (xJournalEntry_typ));
01524         if (xJournalEntry == NULL) TCSGraphicError (WRN_JOUADD,"");
01525         xJournalEntry->action=  XACTION_GTEXT;
01526         xJournalEntry->i1= iL;
01527         xJournalEntry->i2= strng[0];
01528         SGLIB_DL_LIST_ADD (xJournalEntry_typ, ActiveCanvas->xTCSJournal, xJournalEntry, previous,
      next)
01529
01530         i= 1;
01531         while (i < iL) {
01532           xJournalEntry= (xJournalEntry_typ *) malloc (sizeof (xJournalEntry_typ));
01533           if (xJournalEntry == NULL) TCSGraphicError (WRN_JOUADD,"");
01534           xJournalEntry->action=  XACTION_ASCII;
01535           xJournalEntry->i1= strng [i++];
01536           if ( i<iL ) {
01537             xJournalEntry->i2= strng[i++];
01538           } else {
01539             xJournalEntry->i2= 0;
01540           }
01541           SGLIB_DL_LIST_ADD (xJournalEntry_typ, ActiveCanvas->xTCSJournal, xJournalEntry, previous,
      next)
01542         }
01543
01544         xJournalEntry= (xJournalEntry_typ *) malloc (sizeof (xJournalEntry_typ));
01545         if (xJournalEntry == NULL) TCSGraphicError (WRN_JOUADD,"");
01546         xJournalEntry->action=  XACTION_MOVABS;
01547         xJournalEntry->i1= tktrnx_.kbeamx;
01548         xJournalEntry->i2= tktrnx_.kbeamy;
01549         SGLIB_DL_LIST_ADD (xJournalEntry_typ, ActiveCanvas->xTCSJournal, xJournalEntry, previous,
      next)
01550     }
01551 }
01552
01553
01554
01555 extern "C" {
01556     void ITALIC (void)
01557     {
01558       struct xJournalEntry_typ    * xJournalEntry;
01559
01560         tktrnx_.kitalc = 1;
01561
01562         xJournalEntry= (xJournalEntry_typ *) malloc (sizeof (xJournalEntry_typ));
01563         if (xJournalEntry == NULL) TCSGraphicError (WRN_JOUADD,"");
01564         xJournalEntry->action=  XACTION_FONTATTR;
01565         xJournalEntry->i1= tktrnx_.kitalc;
01566         xJournalEntry->i2= tktrnx_.ksizef;
01567         SGLIB_DL_LIST_ADD (xJournalEntry_typ, ActiveCanvas->xTCSJournal, xJournalEntry, previous,
      next)
01568     }
01569 }
01570
01571
01572
01573 extern "C" {
01574     void ITALIR (void)
01575     {
01576       struct xJournalEntry_typ    * xJournalEntry;
```

```
01577
01578         tktrnx_.kitalc = 0;
01579
01580         xJournalEntry= (xJournalEntry_typ *) malloc (sizeof (xJournalEntry_typ));
01581         if (xJournalEntry == NULL) TCSGraphicError (WRN_JOUADD,"");
01582         xJournalEntry->action=  XACTION_FONTATTR;
01583         xJournalEntry->i1= tktrnx_.kitalc;
01584         xJournalEntry->i2= tktrnx_.ksizef;
01585         SGLIB_DL_LIST_ADD (xJournalEntry_typ, ActiveCanvas->xTCSJournal, xJournalEntry, previous,
      next)
01586     }
01587 }
01588
01589
01590
01591 extern "C" {
01592     void DBLSIZ (void)
01593     {
01594       struct xJournalEntry_typ    * xJournalEntry;
01595
01596         if (tktrnx_.ksizef == 0) {
01597           tktrnx_.khorsz = tktrnx_.khorsz * 2;
01598           tktrnx_.kversz = tktrnx_.kversz * 2;
01599           tktrnx_.khomey= TEK_YMAX - tktrnx_.kversz;
01600         }
01601         tktrnx_.ksizef = 1;
01602
01603         xJournalEntry= (xJournalEntry_typ *) malloc (sizeof (xJournalEntry_typ));
01604         if (xJournalEntry == NULL) TCSGraphicError (WRN_JOUADD,"");
01605         xJournalEntry->action=  XACTION_FONTATTR;
01606         xJournalEntry->i1= tktrnx_.kitalc;
01607         xJournalEntry->i2= tktrnx_.ksizef;
01608         SGLIB_DL_LIST_ADD (xJournalEntry_typ, ActiveCanvas->xTCSJournal, xJournalEntry, previous,
      next)
01609     }
01610 }
01611
01612
01613
01614 extern "C" {
01615     void NRMSIZ (void)
01616     {
01617       struct xJournalEntry_typ    * xJournalEntry;
01618
01619
01620         if (tktrnx_.ksizef == 1) {
01621           tktrnx_.khorsz = tktrnx_.khorsz / 2;
01622           tktrnx_.kversz = tktrnx_.kversz / 2;
01623           tktrnx_.khomey= TEK_YMAX - tktrnx_.kversz;
01624         }
01625         tktrnx_.ksizef = 0;
01626
01627         xJournalEntry= (xJournalEntry_typ *) malloc (sizeof (xJournalEntry_typ));
01628         if (xJournalEntry == NULL) TCSGraphicError (WRN_JOUADD,"");
01629         xJournalEntry->action=  XACTION_FONTATTR;
01630         xJournalEntry->i1= tktrnx_.kitalc;
01631         xJournalEntry->i2= tktrnx_.ksizef;
01632         SGLIB_DL_LIST_ADD (xJournalEntry_typ, ActiveCanvas->xTCSJournal, xJournalEntry, previous,
      next)
01633     }
01634 }
01635
01636
01637
01638 /*
01639 ------------------- TCS API: Messages ---------------------------------
01640 */
01641
01642
01643
01644 extern "C" {
01645     void BELL (void)
01646     {
01647         wxBell();
01648     }
01649 }
01650
01651
01652
01653 extern "C" {
01654     void outtext_ (char strng[] )
01655     {
01656       if (ActiveCanvas != nullptr) {
01657         if (ActiveCanvas->TCSstatusBar != nullptr) {
01658           ActiveCanvas->TCSstatusBar->SetStatusText(strng);
01659         }
01660       }
```

```
01661     }
01662 }
01663
01664
01665
01666 extern "C" {
01667     void TCSGraphicError (int iErr, const char* msg)
01668     {
01669       char cBuf[TCS_MESSAGELEN];
01670       int i; // Dummyparameter
01671
01672         snprintf( cBuf, TCS_MESSAGELEN, szTCSErrorMsg[iErr], msg );
01673         if (ActiveCanvas == nullptr) { // TCS not initialized
01674           if  (TCSErrorLev[iErr] > 0) wxLogStatus (cBuf);
01675           return;
01676         } else {
01677             if ((ActiveCanvas->TCSstatusBar == nullptr) && (TCSErrorLev[iErr] > 0))  {
01678               wxLogStatus (cBuf); // no own space for logging
01679             } else {
01680               if (TCSErrorLev[iErr] > 0) {
01681                 wxBell ();
01682                 ActiveCanvas->TCSstatusBar->SetStatusText(cBuf);
01683                 if (TCSErrorLev[iErr] < 5) return;
01684                 if ((TCSErrorLev[iErr] == 5) || (TCSErrorLev[iErr] == 10)) {
01685                   tinput_ (&i); // Press Any Key
01686                   ActiveCanvas->TCSstatusBar->SetStatusText("");
01687                 } else if ((TCSErrorLev[iErr]==8) || (TCSErrorLev[iErr]==12)) {
01688                   wxMessageBox (cBuf, szTCSstatWindowName, wxOK||wxICON_ERROR,
      ActiveCanvas->TCSpanel,wxDefaultCoord);
01689                 }
01690                 if (TCSErrorLev[iErr] < 10) return;
01691                 if (iErr != ERR_EXIT) { // Error-Level of finitt() can be changed by XML-Initfile
01692                   finitt_ (&i,&i);        // Forced exit for all Levels >= 10 over finitt()
01693                 }
01694               }
01695             }
01696         }
01697     }
01698 }
01699
01700
01701
01702 /*
01703  ------------------- TCS API: User Input --------------------------------
01704 */
01705
01706
01707
01708  extern "C" {
01709     void DCURSR (int *ic,int* ix,int* iy)
01710     {
01711         ActiveCanvas->TCSmouseButtonDown= 0; // don't use old mouseclicks
01712         ActiveCanvas->TCSpanelKeyPressed= 0; // or old keystrokes
01713         ActiveCanvas->TCSpanel->Refresh();   // wxEVT_PAINT will be executed after wxYield()
01714         ActiveCanvas->TCSpanel->SetFocus();
01715         do {
01716           wxYield(); // process event loop -> be aware of recursive loops!
01717           wxMilliSleep(100); // wait for MOUSE_BUTTON_DOWN event
01718         } while ((ActiveCanvas->TCSmouseButtonDown == 0) && (ActiveCanvas->TCSpanelKeyPressed == 0));
01719         *ic= ActiveCanvas->TCSmouseButtonDown;
01720         if (*ic == 0) {
01721           *ic= ActiveCanvas->TCSpanelKeyPressed;
01722         }
01723         *ix= ActiveCanvas->TCSmouseX;
01724         *iy= ActiveCanvas->TCSmouseY;
01725     }
01726  }
01727
01728
01729
01730  extern "C" {
01731     void TINPUT (int *ic)
01732     {
01733         ActiveCanvas->TCSpanelKeyPressed= 0; // don't use old keystrokes
01734         ActiveCanvas->TCSpanel->Refresh();   // wxEVT_PAINT will be executed after wxYield()
01735         ActiveCanvas->TCSpanel->SetFocus();
01736         do {
01737           wxYield(); // process event loop -> be aware of recursive loops!
01738           wxMilliSleep(100); // wait for KEY_DOWN event
01739         } while (ActiveCanvas->TCSpanelKeyPressed == 0);
01740         *ic= ActiveCanvas->TCSpanelKeyPressed;
01741     }
01742  }
01743
01744
01745
01746 /*
```

```
01747 ------------------- TCS API: Hardcopy -----------------------------------
01748 */
01749
01750
01751
01752 extern "C" {
01753    void HDCOPY (void)
01754    {
01755       wxString FilNam, TmpString;
01756       wxFile HDCfile;
01757       struct xJournalEntry_typ *xJournalEntry;
01758
01759         do {
01760           FilNam.Printf(szTCSHardcopyFile,iHardcopyCount++);
01761         } while ((iHardcopyCount < MAX_HDCCOUNT) && (wxFileExists(FilNam)) );
01762         if (iHardcopyCount >= MAX_HDCCOUNT) {
01763           TCSGraphicError (WRN_HDCFILOPN, "???"); // no unused filename
01764         }
01765         TCSGraphicError (MSG_HDCACT, FilNam.c_str());
01766
01767         if (FilNam.Lower().EndsWith(".hdc")) { // ------ *.hdc -----> Journal File
01768           if (!HDCfile.Open (FilNam, wxFile::write, wxS_DEFAULT) ) {
01769             TCSGraphicError (WRN_HDCFILOPN, FilNam.c_str()); // error during open
01770           };
01771
01772           SGLIB_DL_LIST_GET_LAST(xJournalEntry_typ, ActiveCanvas->xTCSJournal, previous, next,
      xJournalEntry)
01773           while (xJournalEntry != NULL) {
01774             TmpString.Printf("%02i#%04i-%03i\n", xJournalEntry->action, xJournalEntry->i1,
      xJournalEntry->i2);
01775             if (!HDCfile.Write (TmpString) ) {
01776               TCSGraphicError (WRN_HDCFILWRT, FilNam.c_str());
01777             }
01778             xJournalEntry= xJournalEntry -> previous;
01779           }
01780           HDCfile.Close();
01781
01782
01783         } else if (false) { // ------ *.svg -----> Vector Hardcopy
01784           wxSVGFileDC dc(FilNam, TEK_XMAX, TEK_YMAX);
01785           dc.SetAxisOrientation (true, true);      // y-axis bottom->up
01786           dc.SetDeviceOrigin (0., -TEK_YMAX);      // (0,0) lower left corner
01787           RepaintBuffer (dc); // Bug in wx V3.1.5: Text will plotted upside down !!!
01788
01789 //      } else if (false) { // ------ *.wmf -----> Windows Metafile
01790 //        wxMetafileDC dc(FilNam, TEK_XMAX, TEK_YMAX);
01791 //        dc.SetAxisOrientation (true, true);      // y-axis bottom->up
01792 //        dc.SetDeviceOrigin (0., -TEK_YMAX);  // (0,0) lower left corner
01793 //           dc.SetBrush (*wxWHITE_BRUSH); // Testplot works
01794 //           dc.Clear();
01795 //           dc.SetPen (*wxBLACK_PEN);
01796 //           dc.DrawRectangle (10,10,40,40);
01797 //        RepaintBuffer (dc); // Doesn't work: textmeasure.cpp must not be used with non-native wxDCs
01798 //        dc.Close();
01799
01800         } else if (FilNam.Lower().EndsWith(".bmp") ||
01801                    FilNam.Lower().EndsWith(".jpg") ) { // ------ *.??? -----> Bitmaps
01802           wxBitmap *PixelMap= new wxBitmap (TEK_XMAX, TEK_YMAX, wxBITMAP_SCREEN_DEPTH);
01803           wxMemoryDC dc;
01804           dc.SelectObject (*PixelMap);
01805
01806           dc.SetAxisOrientation (true, true); // y-axis bottom->up
01807           dc.SetDeviceOrigin (0., TEK_YMAX);  // Origin moved in unmodified axis orientation!
01808           RepaintBuffer (dc);
01809           dc.SelectObject (wxNullBitmap); // unlock bitmap
01810
01811           if (FilNam.Lower().EndsWith(".bmp")) {
01812             PixelMap->SaveFile (FilNam, wxBITMAP_TYPE_BMP, (wxPalette*)NULL);
01813           } else if (FilNam.Lower().EndsWith(".jpg")) {
01814             if (wxImage::FindHandler(wxBITMAP_TYPE_JPEG) == nullptr) {
01815               wxImage::AddHandler(new wxJPEGHandler);
01816             }
01817             PixelMap->SaveFile (FilNam, wxBITMAP_TYPE_JPEG , (wxPalette*)NULL);
01818           }
01819           delete PixelMap;
01820
01821         } // Last format of hardcopies
01822     } // End of subroutine
01823 } // End of extern "C"
01824
01825
01826
01827 extern "C" {
01828    void SVSTAT (char dst[])
01829    {
01830      size_t numbytes;
01831        numbytes= sizeof (struct TKTRNX);
```

```
01832         memmove (dst, &tktrnx_.khomey, numbytes);
01833     }
01834 }
01835
01836
01837
01838 extern "C" {
01839     void RESTAT (char src[])
01840     {
01841       size_t numbytes;
01842         numbytes= sizeof (struct TKTRNX);
01843         memmove (&tktrnx_.khomey, src, numbytes);
01844         movabs_ (&tktrnx_.kbeamx, &tktrnx_.kbeamy);
01845     }
01846 }
01847
01848
01849
01850 /*
01851 ------------------- subroutine LIB_MOVC3 -----------------------------
01852       Subroutine is not used here, for downward compatibility only
01853 */
01854
01855 extern "C" {
01856     void lib_movc3_ (int *len,char sou[],char dst[])
01857     {
01858         memmove (dst, sou, (size_t) *len);
01859     }
01860 }
```

8.32 TCSdrWXcpp.hpp File Reference

WX Port: Headerfile.

Macros

- #define TEK_XMAX 1023.0
- #define TEK_YMAX 780.0
- #define TCS_LINEWIDTH 1
- #define MAX_OPEN_CANVAS 20
- #define STAT_MAXROWS 1
- #define TCS_REL_CHR_HEIGHT 0.018f
- #define TCS_REL_CHR_SPACING 0.7f
- #define TCS_WINDOW_NAMELEN 50
- #define TCS_FILE_NAMELEN 132
- #define TCS_MESSAGELEN 132
- #define MAX_HDCCOUNT 1000
- #define TCS_INIFILE_NAME ""
- #define INIFILEXT ".XML"
- #define INIFILEXTTOKEN ".%"
- #define PROGDIRTOKEN "%:"
- #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 XACTION_CLIP 15
- #define XACTION_CLIP1 16
- #define XACTION_CLIP2 17
- #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 "Names"
- #define TCS_INIVAR_WINNAM "G2dGraphic"
- #define TCS_WINDOW_NAME "Graphics"
- #define TCS_INIVAR_STATNAM "G2dStatus"
- #define TCS_STATWINDOW_NAME "System Messages"
- #define TCS_INIVAR_HDCNAM "G2dHardcopy"
- #define TCS_HDCFILE_NAME "HDC%03i.HDC"
- #define TCS_INISECT2 "Layout"
- #define TCS_INIVAR_WINPOSX "G2dGraphicPosX"
- #define TCS_INIDEF_WINPOSX 1
- #define TCS_INIVAR_WINPOSY "G2dGraphicPosY"
- #define TCS_INIDEF_WINPOSY 3
- #define TCS_INIVAR_WINSIZX "G2dGraphicSizeX"
- #define TCS_INIDEF_WINSIZX 98
- #define TCS_INIVAR_WINSIZY "G2dGraphicSizeY"
- #define TCS_INIDEF_WINSIZY 85
- #define TCS_INIVAR_LINCOL "G2dLinCol"
- #define TCS_INIDEF_LINCOL 1
- #define TCS_INIVAR_TXTCOL "G2dTxtCol"
- #define TCS_INIDEF_TXTCOL 1
- #define TCS_INIVAR_BCKCOL "G2dBckCol"
- #define TCS_INIDEF_BCKCOL 0
- #define TCS_INISECT3 "Messages"
- #define TCS_INIVAR_UNKNGRAPHCARD "G2dGraphCard"
- #define TCS_INIDEF_UNKNGRAPHCARD "GRAPH2D Video System: Error %s."
- #define TCS_INIVAR_UNKNGRAPHCARDL "G2dGraphCardL"

- #define TCS_INIDEF_UNKNGRAPHCARDL 10
- #define TCS_INIVAR_NOFNTFIL "G2dFntfilOpen"
- #define TCS_INIDEF_NOFNTFIL "GRAPH2D SDLTTF: Error opening Fontfile %s."
- #define TCS_INIVAR_NOFNTFILL "G2dFntfilOpenL"
- #define TCS_INIDEF_NOFNTFILL 10
- #define TCS_INIVAR_NOFNT "G2dFntfilOpen"
- #define TCS_INIDEF_NOFNT "GRAPH2D SDLTTF: Error -> %s."
- #define TCS_INIVAR_NOFNTL "G2dFntfilOpenL"
- #define TCS_INIDEF_NOFNTL 10
- #define TCS_INIVAR_HDCOPN "G2dHdcOpen"
- #define TCS_INIDEF_HDCOPN "GRAPH2D HARDCOPY: Error during OPEN."
- #define TCS_INIVAR_HDCOPNL "G2dHdcOpenL"
- #define TCS_INIDEF_HDCOPNL 5
- #define TCS_INIVAR_HDCWRT "G2dHdcWrite"
- #define TCS_INIDEF_HDCWRT "GRAPH2D HARDCOPY: Error during WRITE."
- #define TCS_INIVAR_HDCWRTL "G2dHdcWriteL"
- #define TCS_INIDEF_HDCWRTL 5
- #define TCS_INIVAR_USR "G2dUser"
- #define TCS_INIDEF_USR "%s"
- #define TCS_INIVAR_USRL "G2dUserL"
- #define TCS_INIDEF_USRL 5
- #define TCS_INIVAR_HDCACT "G2dHdcActive"
- #define TCS_INIDEF_HDCACT "Hardcopy in progress: File %s created."
- #define TCS_INIVAR_HDCACTL "G2dHdcActiveL"
- #define TCS_INIDEF_HDCACTL 1
- #define TCS_INIVAR_USRWRN "G2dPressAny"
- #define TCS_INIDEF_USRWRN "Press any key to continue."
- #define TCS_INIVAR_USRWRNL "G2dPressAnyL"
- #define TCS_INIDEF_USRWRNL 5
- #define TCS_INIVAR_EXIT "G2dExit"
- #define TCS_INIDEF_EXIT "Press any key to exit program."
- #define TCS_INIVAR_EXITL "G2dExitL"
- #define TCS_INIDEF_EXITL 10
- #define TCS_INIVAR_COPMEM "G2dNoMemory"
- #define TCS_INIDEF_COPMEM "GRAPH2D Clipboard Manager: Out of Memory."
- #define TCS_INIVAR_COPMEML "G2dNoMemoryL"
- #define TCS_INIDEF_COPMEML 1
- #define TCS_INIVAR_COPLCK "G2dClipLock"
- #define TCS_INIDEF_COPLCK "GRAPH2D Clipboard Manager: ClipBoard locked."
- #define TCS_INIVAR_COPLCKL "G2dClipLockL"
- #define TCS_INIDEF_COPLCKL 1
- #define TCS_INIVAR_JOUCREATE "G2dJouCreate"
- #define TCS_INIDEF_JOUCREATE "GRAPH2D Error Creating Journal. Error-No: %s."
- #define TCS_INIVAR_JOUCREATEL "G2dJouCreateL"
- #define TCS_INIDEF_JOUCREATEL 5
- #define TCS_INIVAR_JOUENTRY "G2dJouEntry"
- #define TCS_INIDEF_JOUENTRY "GRAPH2D Error Creating Journal Entry."
- #define TCS_INIVAR_JOUENTRYL "G2dJouEntryL"
- #define TCS_INIDEF_JOUENTRYL 5
- #define TCS_INIVAR_JOUADD "G2dJouAdd"
- #define TCS_INIDEF_JOUADD "GRAPH2D Error Appending Journal Entry."
- #define TCS_INIVAR_JOUADDL "G2dJouAddL"
- #define TCS_INIDEF_JOUADDL 5
- #define TCS_INIVAR_JOUCLR "G2dJouClr"
- #define TCS_INIDEF_JOUCLR "GRAPH2D Error Clearing Journal Entry."

- #define TCS_INIVAR_JOUCLRL "G2dJouClrL"
- #define TCS_INIDEF_JOUCLRL 5
- #define TCS_INIVAR_JOUUNKWN "G2dJouEntryUnknwn"
- #define TCS_INIDEF_JOUUNKWN "GRAPH2D Unknown Journal Entry."
- #define TCS_INIVAR_JOUUNKWNL "G2dJouEntryUnknwnL"
- #define TCS_INIDEF_JOUUNKWNL 5
- #define TCS_INIVAR_XMLPARSER "G2dXMLerror"
- #define TCS_INIDEF_XMLPARSER "GRAPH2D Error parsing XML-File: %s"
- #define TCS_INIVAR_XMLPARSERL "G2dXMLerrorL"
- #define TCS_INIDEF_XMLPARSERL 8
- #define TCS_INIVAR_XMLOPEN "G2dXMLopen"
- #define TCS_INIDEF_XMLOPEN "GRAPH2D Error opening %s"
- #define TCS_INIVAR_XMLOPENL "G2dXMLopenL"
- #define TCS_INIDEF_XMLOPENL 0
- #define TCS_INIVAR_UNKNAUDIO "G2dAudio"
- #define TCS_INIDEF_UNKNAUDIO "GRAPH2D Audio System: Error %s."
- #define TCS_INIVAR_UNKNAUDIOL "G2dAudioL"
- #define TCS_INIDEF_UNKNAUDIOL 5
- #define TCS_INIVAR_USR2 "G2dUser2"
- #define TCS_INIDEF_USR2 "%s"
- #define TCS_INIVAR_USR2L "G2dUser2L"
- #define TCS_INIDEF_USR2L 5
- #define TCS_INIVAR_INI2 "G2dInitt"
- #define TCS_INIDEF_INI2 "Error creating windows in subroutine INITT"
- #define TCS_INIVAR_INI2L "G2dInittL"
- #define TCS_INIDEF_INI2L 1

8.32.1 Detailed Description

WX Port: Headerfile.

Version

1.0

Author

Dr.-Ing. Klaus Friedewald

Headerfile for TCSdrWXcpp.cpp

Note

- Configuration of the library
- Defining default values

Definition in file TCSdrWXcpp.hpp.

8.32.2 Macro Definition Documentation

8.32.2.1 ERR_EXIT

```
#define ERR_EXIT 12
```

Definition at line 87 of file TCSdrWXcpp.hpp.

8.32.2.2 ERR_NOFNT

```
#define ERR_NOFNT 4
```
Definition at line 79 of file TCSdrWXcpp.hpp.

8.32.2.3 ERR_NOFNTFIL

```
#define ERR_NOFNTFIL 3
```
Definition at line 78 of file TCSdrWXcpp.hpp.

8.32.2.4 ERR_UNKNAUDIO

```
#define ERR_UNKNAUDIO 22
```
Definition at line 97 of file TCSdrWXcpp.hpp.

8.32.2.5 ERR_UNKNGRAPHCARD

```
#define ERR_UNKNGRAPHCARD 2
```
Definition at line 77 of file TCSdrWXcpp.hpp.

8.32.2.6 ERR_XMLOPEN

```
#define ERR_XMLOPEN 21
```
Definition at line 96 of file TCSdrWXcpp.hpp.

8.32.2.7 ERR_XMLPARSER

```
#define ERR_XMLPARSER 20
```
Definition at line 95 of file TCSdrWXcpp.hpp.

8.32.2.8 INIFILEXT

```
#define INIFILEXT ".XML"
```
Definition at line 46 of file TCSdrWXcpp.hpp.

8.32.2.9 INIFILEXTTOKEN

```
#define INIFILEXTTOKEN ".%"
```
Definition at line 47 of file TCSdrWXcpp.hpp.

8.32.2.10 MAX_HDCCOUNT

```
#define MAX_HDCCOUNT 1000
```
Definition at line 43 of file TCSdrWXcpp.hpp.

8.32.2.11 MAX_OPEN_CANVAS

```
#define MAX_OPEN_CANVAS 20
```
Definition at line 32 of file TCSdrWXcpp.hpp.

8.32.2.12 MSG_HDCACT

```
#define MSG_HDCACT 10
```
Definition at line 85 of file TCSdrWXcpp.hpp.

8.32.2.13 MSG_MAXERRNO

```
#define MSG_MAXERRNO 25
```
Definition at line 100 of file TCSdrWXcpp.hpp.

8.32.2.14 MSG_NOMOUSE

```
#define MSG_NOMOUSE 5
```
Definition at line 80 of file TCSdrWXcpp.hpp.

8.32.2.15 MSG_USR

```
#define MSG_USR 9
```
Definition at line 84 of file TCSdrWXcpp.hpp.

8.32.2.16 MSG_USR2

```
#define MSG_USR2 23
```
Definition at line 98 of file TCSdrWXcpp.hpp.

8.32.2.17 PROGDIRTOKEN

```
#define PROGDIRTOKEN "%:"
```
Definition at line 48 of file TCSdrWXcpp.hpp.

8.32.2.18 STAT_MAXROWS

```
#define STAT_MAXROWS 1
```
Definition at line 34 of file TCSdrWXcpp.hpp.

8.32.2.19 TCS_FILE_NAMELEN

```
#define TCS_FILE_NAMELEN 132
```
Definition at line 40 of file TCSdrWXcpp.hpp.

8.32.2.20 TCS_HDCFILE_NAME

```
#define TCS_HDCFILE_NAME "HDC%03i.HDC"
```
Definition at line 114 of file TCSdrWXcpp.hpp.

8.32.2.21 TCS_INIDEF_BCKCOL

```
#define TCS_INIDEF_BCKCOL 0
```
Definition at line 148 of file TCSdrWXcpp.hpp.

8.32.2.22 TCS_INIDEF_COPLCK

```
#define TCS_INIDEF_COPLCK "GRAPH2D Clipboard Manager:  ClipBoard locked."
```
Definition at line 192 of file TCSdrWXcpp.hpp.

8.32.2.23 TCS_INIDEF_COPLCKL

```
#define TCS_INIDEF_COPLCKL 1
```
Definition at line 194 of file TCSdrWXcpp.hpp.

8.32.2.24 TCS_INIDEF_COPMEM

```
#define TCS_INIDEF_COPMEM "GRAPH2D Clipboard Manager:  Out of Memory."
```
Definition at line 188 of file TCSdrWXcpp.hpp.

8.32.2.25 TCS_INIDEF_COPMEML

```
#define TCS_INIDEF_COPMEML 1
```
Definition at line 190 of file TCSdrWXcpp.hpp.

8.32.2.26 TCS_INIDEF_EXIT

```
#define TCS_INIDEF_EXIT "Press any key to exit program."
```
Definition at line 184 of file TCSdrWXcpp.hpp.

8.32.2.27 TCS_INIDEF_EXITL

```
#define TCS_INIDEF_EXITL 10
```
Definition at line 186 of file TCSdrWXcpp.hpp.

8.32.2.28 TCS_INIDEF_HDCACT

```
#define TCS_INIDEF_HDCACT "Hardcopy in progress:  File %s created."
```
Definition at line 176 of file TCSdrWXcpp.hpp.

8.32.2.29 TCS_INIDEF_HDCACTL

```
#define TCS_INIDEF_HDCACTL 1
```
Definition at line 178 of file TCSdrWXcpp.hpp.

8.32.2.30 TCS_INIDEF_HDCOPN

```
#define TCS_INIDEF_HDCOPN "GRAPH2D HARDCOPY: Error during OPEN."
```
Definition at line 164 of file TCSdrWXcpp.hpp.

8.32.2.31 TCS_INIDEF_HDCOPNL

```
#define TCS_INIDEF_HDCOPNL 5
```
Definition at line 166 of file TCSdrWXcpp.hpp.

8.32.2.32 TCS_INIDEF_HDCWRT

```
#define TCS_INIDEF_HDCWRT "GRAPH2D HARDCOPY: Error during WRITE."
```
Definition at line 168 of file TCSdrWXcpp.hpp.

8.32.2.33 TCS_INIDEF_HDCWRTL

```
#define TCS_INIDEF_HDCWRTL 5
```
Definition at line 170 of file TCSdrWXcpp.hpp.

8.32.2.34 TCS_INIDEF_INI2

```
#define TCS_INIDEF_INI2 "Error creating windows in subroutine INITT"
```
Definition at line 232 of file TCSdrWXcpp.hpp.

8.32.2.35 TCS_INIDEF_INI2L

```
#define TCS_INIDEF_INI2L 1
```
Definition at line 234 of file TCSdrWXcpp.hpp.

8.32.2.36 TCS_INIDEF_JOUADD

```
#define TCS_INIDEF_JOUADD "GRAPH2D Error Appending Journal Entry."
```
Definition at line 204 of file TCSdrWXcpp.hpp.

8.32.2.37 TCS_INIDEF_JOUADDL

```
#define TCS_INIDEF_JOUADDL 5
```
Definition at line 206 of file TCSdrWXcpp.hpp.

8.32.2.38 TCS_INIDEF_JOUCLR

```
#define TCS_INIDEF_JOUCLR "GRAPH2D Error Clearing Journal Entry."
```
Definition at line 208 of file TCSdrWXcpp.hpp.

8.32.2.39 TCS_INIDEF_JOUCLRL

```
#define TCS_INIDEF_JOUCLRL 5
```
Definition at line 210 of file TCSdrWXcpp.hpp.

8.32.2.40 TCS_INIDEF_JOUCREATE

```
#define TCS_INIDEF_JOUCREATE "GRAPH2D Error Creating Journal.  Error-No:  %s."
```
Definition at line 196 of file TCSdrWXcpp.hpp.

8.32.2.41 TCS_INIDEF_JOUCREATEL

```
#define TCS_INIDEF_JOUCREATEL 5
```
Definition at line 198 of file TCSdrWXcpp.hpp.

8.32.2.42 TCS_INIDEF_JOUENTRY

```
#define TCS_INIDEF_JOUENTRY "GRAPH2D Error Creating Journal Entry."
```
Definition at line 200 of file TCSdrWXcpp.hpp.

8.32.2.43 TCS_INIDEF_JOUENTRYL

```
#define TCS_INIDEF_JOUENTRYL 5
```
Definition at line 202 of file TCSdrWXcpp.hpp.

8.32.2.44 TCS_INIDEF_JOUUNKWN

```
#define TCS_INIDEF_JOUUNKWN "GRAPH2D Unknown Journal Entry."
```
Definition at line 212 of file TCSdrWXcpp.hpp.

8.32.2.45 TCS_INIDEF_JOUUNKWNL

```
#define TCS_INIDEF_JOUUNKWNL 5
```
Definition at line 214 of file TCSdrWXcpp.hpp.

8.32.2.46 TCS_INIDEF_LINCOL

```
#define TCS_INIDEF_LINCOL 1
```
Definition at line 144 of file TCSdrWXcpp.hpp.

8.32.2.47 TCS_INIDEF_NOFNT

```
#define TCS_INIDEF_NOFNT "GRAPH2D SDLTTF: Error -> %s."
```
Definition at line 160 of file TCSdrWXcpp.hpp.

8.32.2.48 TCS_INIDEF_NOFNTFIL

```
#define TCS_INIDEF_NOFNTFIL "GRAPH2D SDLTTF: Error opening Fontfile %s."
```
Definition at line 156 of file TCSdrWXcpp.hpp.

8.32.2.49 TCS_INIDEF_NOFNTFILL

```
#define TCS_INIDEF_NOFNTFILL 10
```
Definition at line 158 of file TCSdrWXcpp.hpp.

8.32.2.50 TCS_INIDEF_NOFNTL

```
#define TCS_INIDEF_NOFNTL 10
```
Definition at line 162 of file TCSdrWXcpp.hpp.

8.32.2.51 TCS_INIDEF_TXTCOL

```
#define TCS_INIDEF_TXTCOL 1
```
Definition at line 146 of file TCSdrWXcpp.hpp.

8.32.2.52 TCS_INIDEF_UNKNAUDIO

```
#define TCS_INIDEF_UNKNAUDIO "GRAPH2D Audio System:  Error %s."
```
Definition at line 224 of file TCSdrWXcpp.hpp.

8.32.2.53 TCS_INIDEF_UNKNAUDIOL

```
#define TCS_INIDEF_UNKNAUDIOL 5
```
Definition at line 226 of file TCSdrWXcpp.hpp.

8.32.2.54 TCS_INIDEF_UNKNGRAPHCARD

```
#define TCS_INIDEF_UNKNGRAPHCARD "GRAPH2D Video System:  Error %s."
```
Definition at line 152 of file TCSdrWXcpp.hpp.

8.32.2.55 TCS_INIDEF_UNKNGRAPHCARDL

```
#define TCS_INIDEF_UNKNGRAPHCARDL 10
```
Definition at line 154 of file TCSdrWXcpp.hpp.

8.32.2.56 TCS_INIDEF_USR

```
#define TCS_INIDEF_USR "%s"
```
Definition at line 172 of file TCSdrWXcpp.hpp.

8.32.2.57 TCS_INIDEF_USR2

```
#define TCS_INIDEF_USR2 "%s"
```
Definition at line 228 of file TCSdrWXcpp.hpp.

8.32.2.58 TCS_INIDEF_USR2L

```
#define TCS_INIDEF_USR2L 5
```
Definition at line 230 of file TCSdrWXcpp.hpp.

8.32.2.59 TCS_INIDEF_USRL

```
#define TCS_INIDEF_USRL 5
```
Definition at line 174 of file TCSdrWXcpp.hpp.

8.32.2.60 TCS_INIDEF_USRWRN

```
#define TCS_INIDEF_USRWRN "Press any key to continue."
```
Definition at line 180 of file TCSdrWXcpp.hpp.

8.32.2.61 TCS_INIDEF_USRWRNL

```
#define TCS_INIDEF_USRWRNL 5
```
Definition at line 182 of file TCSdrWXcpp.hpp.

8.32.2.62 TCS_INIDEF_WINPOSX

```
#define TCS_INIDEF_WINPOSX 1
```
Definition at line 127 of file TCSdrWXcpp.hpp.

8.32.2.63 TCS_INIDEF_WINPOSY

```
#define TCS_INIDEF_WINPOSY 3
```
Definition at line 129 of file TCSdrWXcpp.hpp.

8.32.2.64 TCS_INIDEF_WINSIZX

```
#define TCS_INIDEF_WINSIZX 98
```
Definition at line 131 of file TCSdrWXcpp.hpp.

8.32.2.65 TCS_INIDEF_WINSIZY

```
#define TCS_INIDEF_WINSIZY 85
```
Definition at line 133 of file TCSdrWXcpp.hpp.

8.32.2.66 TCS_INIDEF_XMLOPEN

```
#define TCS_INIDEF_XMLOPEN "GRAPH2D Error opening %s"
```
Definition at line 220 of file TCSdrWXcpp.hpp.

8.32.2.67 TCS_INIDEF_XMLOPENL

```
#define TCS_INIDEF_XMLOPENL 0
```
Definition at line 222 of file TCSdrWXcpp.hpp.

8.32.2.68 TCS_INIDEF_XMLPARSER

```
#define TCS_INIDEF_XMLPARSER "GRAPH2D Error parsing XML-File:  %s"
```
Definition at line 216 of file TCSdrWXcpp.hpp.

8.32.2.69 TCS_INIDEF_XMLPARSERL

```
#define TCS_INIDEF_XMLPARSERL 8
```
Definition at line 218 of file TCSdrWXcpp.hpp.

8.32.2.70 TCS_INIFILE_NAME

```
#define TCS_INIFILE_NAME ""
```
Definition at line 45 of file TCSdrWXcpp.hpp.

8.32.2.71 TCS_INISECT0

```
#define TCS_INISECT0 "Graph2D"
```
Definition at line 106 of file TCSdrWXcpp.hpp.

8.32.2.72 TCS_INISECT1

```
#define TCS_INISECT1 "Names"
```
Definition at line 108 of file TCSdrWXcpp.hpp.

8.32.2.73 TCS_INISECT2

```
#define TCS_INISECT2 "Layout"
```
Definition at line 118 of file TCSdrWXcpp.hpp.

8.32.2.74 TCS_INISECT3

```
#define TCS_INISECT3 "Messages"
```
Definition at line 150 of file TCSdrWXcpp.hpp.

8.32.2.75 TCS_INIVAR_BCKCOL

```
#define TCS_INIVAR_BCKCOL "G2dBckCol"
```
Definition at line 147 of file TCSdrWXcpp.hpp.

8.32.2.76 TCS_INIVAR_COPLCK

```
#define TCS_INIVAR_COPLCK "G2dClipLock"
```
Definition at line 191 of file TCSdrWXcpp.hpp.

8.32.2.77 TCS_INIVAR_COPLCKL

```
#define TCS_INIVAR_COPLCKL "G2dClipLockL"
```
Definition at line 193 of file TCSdrWXcpp.hpp.

8.32.2.78 TCS_INIVAR_COPMEM

```
#define TCS_INIVAR_COPMEM "G2dNoMemory"
```
Definition at line 187 of file TCSdrWXcpp.hpp.

8.32.2.79 TCS_INIVAR_COPMEML

```
#define TCS_INIVAR_COPMEML "G2dNoMemoryL"
```
Definition at line 189 of file TCSdrWXcpp.hpp.

8.32.2.80 TCS_INIVAR_EXIT

```
#define TCS_INIVAR_EXIT "G2dExit"
```
Definition at line 183 of file TCSdrWXcpp.hpp.

8.32.2.81 TCS_INIVAR_EXITL

```
#define TCS_INIVAR_EXITL "G2dExitL"
```
Definition at line 185 of file TCSdrWXcpp.hpp.

8.32.2.82 TCS_INIVAR_HDCACT

```
#define TCS_INIVAR_HDCACT "G2dHdcActive"
```
Definition at line 175 of file TCSdrWXcpp.hpp.

8.32.2.83 TCS_INIVAR_HDCACTL

```
#define TCS_INIVAR_HDCACTL "G2dHdcActiveL"
```
Definition at line 177 of file TCSdrWXcpp.hpp.

8.32.2.84 TCS_INIVAR_HDCNAM

```
#define TCS_INIVAR_HDCNAM "G2dHardcopy"
```
Definition at line 113 of file TCSdrWXcpp.hpp.

8.32.2.85 TCS_INIVAR_HDCOPN

```
#define TCS_INIVAR_HDCOPN "G2dHdcOpen"
```
Definition at line 163 of file TCSdrWXcpp.hpp.

8.32.2.86 TCS_INIVAR_HDCOPNL

```
#define TCS_INIVAR_HDCOPNL "G2dHdcOpenL"
```
Definition at line 165 of file TCSdrWXcpp.hpp.

8.32.2.87 TCS_INIVAR_HDCWRT

```
#define TCS_INIVAR_HDCWRT "G2dHdcWrite"
```
Definition at line 167 of file TCSdrWXcpp.hpp.

8.32.2.88 TCS_INIVAR_HDCWRTL

```
#define TCS_INIVAR_HDCWRTL "G2dHdcWriteL"
```
Definition at line 169 of file TCSdrWXcpp.hpp.

8.32.2.89 TCS_INIVAR_INI2

```
#define TCS_INIVAR_INI2 "G2dInitt"
```
Definition at line 231 of file TCSdrWXcpp.hpp.

8.32.2.90 TCS_INIVAR_INI2L

```
#define TCS_INIVAR_INI2L "G2dInittL"
```
Definition at line 233 of file TCSdrWXcpp.hpp.

8.32.2.91 TCS_INIVAR_JOUADD

```
#define TCS_INIVAR_JOUADD "G2dJouAdd"
```
Definition at line 203 of file TCSdrWXcpp.hpp.

8.32.2.92 TCS_INIVAR_JOUADDL

```
#define TCS_INIVAR_JOUADDL "G2dJouAddL"
```
Definition at line 205 of file TCSdrWXcpp.hpp.

8.32.2.93 TCS_INIVAR_JOUCLR

```
#define TCS_INIVAR_JOUCLR "G2dJouClr"
```
Definition at line 207 of file TCSdrWXcpp.hpp.

8.32.2.94 TCS_INIVAR_JOUCLRL

```
#define TCS_INIVAR_JOUCLRL "G2dJouClrL"
```
Definition at line 209 of file TCSdrWXcpp.hpp.

8.32.2.95 TCS_INIVAR_JOUCREATE

```
#define TCS_INIVAR_JOUCREATE "G2dJouCreate"
```
Definition at line 195 of file TCSdrWXcpp.hpp.

8.32.2.96 TCS_INIVAR_JOUCREATEL

```
#define TCS_INIVAR_JOUCREATEL "G2dJouCreateL"
```
Definition at line 197 of file TCSdrWXcpp.hpp.

8.32.2.97 TCS_INIVAR_JOUENTRY

```
#define TCS_INIVAR_JOUENTRY "G2dJouEntry"
```
Definition at line 199 of file TCSdrWXcpp.hpp.

8.32.2.98 TCS_INIVAR_JOUENTRYL

```
#define TCS_INIVAR_JOUENTRYL "G2dJouEntryL"
```
Definition at line 201 of file TCSdrWXcpp.hpp.

8.32.2.99 TCS_INIVAR_JOUUNKWN

```
#define TCS_INIVAR_JOUUNKWN "G2dJouEntryUnknwn"
```
Definition at line 211 of file TCSdrWXcpp.hpp.

8.32.2.100 TCS_INIVAR_JOUUNKWNL

```
#define TCS_INIVAR_JOUUNKWNL "G2dJouEntryUnknwnL"
```
Definition at line 213 of file TCSdrWXcpp.hpp.

8.32.2.101 TCS_INIVAR_LINCOL

```
#define TCS_INIVAR_LINCOL "G2dLinCol"
```
Definition at line 143 of file TCSdrWXcpp.hpp.

8.32.2.102 TCS_INIVAR_NOFNT

```
#define TCS_INIVAR_NOFNT "G2dFntfilOpen"
```
Definition at line 159 of file TCSdrWXcpp.hpp.

8.32.2.103 TCS_INIVAR_NOFNTFIL

```
#define TCS_INIVAR_NOFNTFIL "G2dFntfilOpen"
```
Definition at line 155 of file TCSdrWXcpp.hpp.

8.32.2.104 TCS_INIVAR_NOFNTFILL

```
#define TCS_INIVAR_NOFNTFILL "G2dFntfilOpenL"
```
Definition at line 157 of file TCSdrWXcpp.hpp.

8.32.2.105 TCS_INIVAR_NOFNTL

```
#define TCS_INIVAR_NOFNTL "G2dFntfilOpenL"
```
Definition at line 161 of file TCSdrWXcpp.hpp.

8.32.2.106 TCS_INIVAR_STATNAM

```
#define TCS_INIVAR_STATNAM "G2dStatus"
```
Definition at line 111 of file TCSdrWXcpp.hpp.

8.32.2.107 TCS_INIVAR_TXTCOL

```
#define TCS_INIVAR_TXTCOL "G2dTxtCol"
```
Definition at line 145 of file TCSdrWXcpp.hpp.

8.32.2.108 TCS_INIVAR_UNKNAUDIO

```
#define TCS_INIVAR_UNKNAUDIO "G2dAudio"
```
Definition at line 223 of file TCSdrWXcpp.hpp.

8.32.2.109 TCS_INIVAR_UNKNAUDIOL

```
#define TCS_INIVAR_UNKNAUDIOL "G2dAudioL"
```
Definition at line 225 of file TCSdrWXcpp.hpp.

8.32.2.110 TCS_INIVAR_UNKNGRAPHCARD

```
#define TCS_INIVAR_UNKNGRAPHCARD "G2dGraphCard"
```
Definition at line 151 of file TCSdrWXcpp.hpp.

8.32.2.111 TCS_INIVAR_UNKNGRAPHCARDL

```
#define TCS_INIVAR_UNKNGRAPHCARDL "G2dGraphCardL"
```
Definition at line 153 of file TCSdrWXcpp.hpp.

8.32.2.112 TCS_INIVAR_USR

```
#define TCS_INIVAR_USR "G2dUser"
```
Definition at line 171 of file TCSdrWXcpp.hpp.

8.32.2.113 TCS_INIVAR_USR2

```
#define TCS_INIVAR_USR2 "G2dUser2"
```
Definition at line 227 of file TCSdrWXcpp.hpp.

8.32.2.114 TCS_INIVAR_USR2L

```
#define TCS_INIVAR_USR2L "G2dUser2L"
```
Definition at line 229 of file TCSdrWXcpp.hpp.

8.32.2.115 TCS_INIVAR_USRL

```
#define TCS_INIVAR_USRL "G2dUserL"
```
Definition at line 173 of file TCSdrWXcpp.hpp.

8.32.2.116 TCS_INIVAR_USRWRN

```
#define TCS_INIVAR_USRWRN "G2dPressAny"
```
Definition at line 179 of file TCSdrWXcpp.hpp.

8.32.2.117 TCS_INIVAR_USRWRNL

```
#define TCS_INIVAR_USRWRNL "G2dPressAnyL"
```
Definition at line 181 of file TCSdrWXcpp.hpp.

8.32.2.118 TCS_INIVAR_WINNAM

```
#define TCS_INIVAR_WINNAM "G2dGraphic"
```
Definition at line 109 of file TCSdrWXcpp.hpp.

8.32.2.119 TCS_INIVAR_WINPOSX

```
#define TCS_INIVAR_WINPOSX "G2dGraphicPosX"
```
Definition at line 126 of file TCSdrWXcpp.hpp.

8.32.2.120 TCS_INIVAR_WINPOSY

```
#define TCS_INIVAR_WINPOSY "G2dGraphicPosY"
```
Definition at line 128 of file TCSdrWXcpp.hpp.

8.32.2.121 TCS_INIVAR_WINSIZX

```
#define TCS_INIVAR_WINSIZX "G2dGraphicSizeX"
```
Definition at line 130 of file TCSdrWXcpp.hpp.

8.32.2.122 TCS_INIVAR_WINSIZY

```
#define TCS_INIVAR_WINSIZY "G2dGraphicSizeY"
```
Definition at line 132 of file TCSdrWXcpp.hpp.

8.32.2.123 TCS_INIVAR_XMLOPEN

```
#define TCS_INIVAR_XMLOPEN "G2dXMLopen"
```
Definition at line 219 of file TCSdrWXcpp.hpp.

8.32.2.124 TCS_INIVAR_XMLOPENL

```
#define TCS_INIVAR_XMLOPENL "G2dXMLopenL"
```
Definition at line 221 of file TCSdrWXcpp.hpp.

8.32.2.125 TCS_INIVAR_XMLPARSER

```
#define TCS_INIVAR_XMLPARSER "G2dXMLerror"
```
Definition at line 215 of file TCSdrWXcpp.hpp.

8.32.2.126 TCS_INIVAR_XMLPARSERL

```
#define TCS_INIVAR_XMLPARSERL "G2dXMLerrorL"
```
Definition at line 217 of file TCSdrWXcpp.hpp.

8.32.2.127 TCS_LINEWIDTH

```
#define TCS_LINEWIDTH 1
```
Definition at line 31 of file TCSdrWXcpp.hpp.

8.32.2.128 TCS_MESSAGELEN

```
#define TCS_MESSAGELEN 132
```
Definition at line 42 of file TCSdrWXcpp.hpp.

8.32.2.129 TCS_REL_CHR_HEIGHT

```
#define TCS_REL_CHR_HEIGHT 0.018f
```
Definition at line 36 of file TCSdrWXcpp.hpp.

8.32.2.130 TCS_REL_CHR_SPACING

```
#define TCS_REL_CHR_SPACING 0.7f
```
Definition at line 37 of file TCSdrWXcpp.hpp.

8.32.2.131 TCS_STATWINDOW_NAME

```
#define TCS_STATWINDOW_NAME "System Messages"
```
Definition at line 112 of file TCSdrWXcpp.hpp.

8.32.2.132 TCS_WINDOW_NAME

```
#define TCS_WINDOW_NAME "Graphics"
```
Definition at line 110 of file TCSdrWXcpp.hpp.

8.32.2.133 TCS_WINDOW_NAMELEN

```
#define TCS_WINDOW_NAMELEN 50
```
Definition at line 39 of file TCSdrWXcpp.hpp.

8.32.2.134 TEK_XMAX

```
#define TEK_XMAX 1023.0
```
Definition at line 24 of file TCSdrWXcpp.hpp.

8.32.2.135 TEK_YMAX

```
#define TEK_YMAX 780.0
```
Definition at line 25 of file TCSdrWXcpp.hpp.

8.32.2.136 WRN_COPYLOCK

```
#define WRN_COPYLOCK 14
```
Definition at line 89 of file TCSdrWXcpp.hpp.

8.32.2.137 WRN_COPYNOMEM

```
#define WRN_COPYNOMEM 13
```
Definition at line 88 of file TCSdrWXcpp.hpp.

8.32.2.138 WRN_HDCFILOPN

```
#define WRN_HDCFILOPN 6
```
Definition at line 81 of file TCSdrWXcpp.hpp.

8.32.2.139 WRN_HDCFILWRT

```
#define WRN_HDCFILWRT 7
```
Definition at line 82 of file TCSdrWXcpp.hpp.

8.32.2.140 WRN_HDCINTERN

```
#define WRN_HDCINTERN 8
```
Definition at line 83 of file TCSdrWXcpp.hpp.

8.32.2.141 WRN_INI2

```
#define WRN_INI2 24
```
Definition at line 99 of file TCSdrWXcpp.hpp.

8.32.2.142 WRN_JOUADD

```
#define WRN_JOUADD 17
```
Definition at line 92 of file TCSdrWXcpp.hpp.

8.32.2.143 WRN_JOUCLR

```
#define WRN_JOUCLR 18
```
Definition at line 93 of file TCSdrWXcpp.hpp.

8.32.2.144 WRN_JOUCREATE

```
#define WRN_JOUCREATE 15
```
Definition at line 90 of file TCSdrWXcpp.hpp.

8.32.2.145 WRN_JOUENTRY

```
#define WRN_JOUENTRY 16
```
Definition at line 91 of file TCSdrWXcpp.hpp.

8.32.2.146 WRN_JOUUNKWN

```
#define WRN_JOUUNKWN 19
```
Definition at line 94 of file TCSdrWXcpp.hpp.

8.32.2.147 WRN_NOMSG

```
#define WRN_NOMSG 1
```
Definition at line 76 of file TCSdrWXcpp.hpp.

8.32.2.148 WRN_USRPRESSANY

```
#define WRN_USRPRESSANY 11
```
Definition at line 86 of file TCSdrWXcpp.hpp.

8.32.2.149 XACTION_ASCII

```
#define XACTION_ASCII 9
```
Definition at line 62 of file TCSdrWXcpp.hpp.

8.32.2.150 XACTION_BCKCOL

```
#define XACTION_BCKCOL 10
```
Definition at line 63 of file TCSdrWXcpp.hpp.

8.32.2.151 XACTION_CLIP

```
#define XACTION_CLIP 15
```
Definition at line 68 of file TCSdrWXcpp.hpp.

8.32.2.152 XACTION_CLIP1

```
#define XACTION_CLIP1 16
```
Definition at line 69 of file TCSdrWXcpp.hpp.

8.32.2.153 XACTION_CLIP2

```
#define XACTION_CLIP2 17
```
Definition at line 70 of file TCSdrWXcpp.hpp.

8.32.2.154 XACTION_DRWABS

```
#define XACTION_DRWABS 4
```
Definition at line 57 of file TCSdrWXcpp.hpp.

8.32.2.155 XACTION_DSHABS

```
#define XACTION_DSHABS 6
```
Definition at line 59 of file TCSdrWXcpp.hpp.

8.32.2.156 XACTION_DSHSTYLE

```
#define XACTION_DSHSTYLE 5
```
Definition at line 58 of file TCSdrWXcpp.hpp.

8.32.2.157 XACTION_ERASE

```
#define XACTION_ERASE 2
```
Definition at line 55 of file TCSdrWXcpp.hpp.

8.32.2.158 XACTION_FONTATTR

```
#define XACTION_FONTATTR 13
```
Definition at line 66 of file TCSdrWXcpp.hpp.

8.32.2.159 XACTION_GTEXT

```
#define XACTION_GTEXT 8
```
Definition at line 61 of file TCSdrWXcpp.hpp.

8.32.2.160 XACTION_INITT

```
#define XACTION_INITT 1
```
Definition at line 54 of file TCSdrWXcpp.hpp.

8.32.2.161 XACTION_LINCOL

```
#define XACTION_LINCOL 11
```
Definition at line 64 of file TCSdrWXcpp.hpp.

8.32.2.162 XACTION_MOVABS

```
#define XACTION_MOVABS 3
```
Definition at line 56 of file TCSdrWXcpp.hpp.

8.32.2.163 XACTION_NOOP

```
#define XACTION_NOOP 14
```
Definition at line 67 of file TCSdrWXcpp.hpp.

8.32.2.164 XACTION_PNTABS

```
#define XACTION_PNTABS 7
```
Definition at line 60 of file TCSdrWXcpp.hpp.

8.32.2.165 XACTION_TXTCOL

```
#define XACTION_TXTCOL 12
```
Definition at line 65 of file TCSdrWXcpp.hpp.

8.33 TCSdrWXcpp.hpp

```
00001 /** ****************************************************************************
00002 \file    TCSdrWXcpp.hpp
00003 \brief   WX Port: Headerfile
00004 \version 1.0
00005 \author  Dr.-Ing. Klaus Friedewald
00006 \~german
00007          Headerfile zu TCSdrWXcpp.cpp
00008 \note
00009           - Konfiguration der Bibliothek
00010           - Definition der Defaultwerte
00011 \~english
00012          Headerfile for TCSdrWXcpp.cpp
00013 \note
00014           - Configuration of the library
00015           - Defining default values
00016 \~
00017
00018 ***************************************************************************** **/
00019
00020
00021
00022 /* -------------- Drawing area in Tektronix coordinates --------------------- */
00023
00024 #define TEK_XMAX 1023.0  // Double precision because of
00025 #define TEK_YMAX 780.0   // use in wx::SetLogicalScale ()
00026
00027
00028
00029 /* -------------- Program parameters ----------------------------------------- */
00030
00031 #define TCS_LINEWIDTH 1
00032 #define MAX_OPEN_CANVAS 20         // Maximum number of used canvases
00033
00034 #define STAT_MAXROWS 1             // Analogue to the other ports, not used here
00035
00036 #define TCS_REL_CHR_HEIGHT 0.018f  // Define size / vertical spacing of graphic text
00037 #define TCS_REL_CHR_SPACING 0.7f
00038
00039 #define TCS_WINDOW_NAMELEN 50
00040 #define TCS_FILE_NAMELEN 132
00041
00042 #define TCS_MESSAGELEN 132
00043 #define MAX_HDCCOUNT 1000          // parameter is bound to TCS_HDCFILE_NAME
00044
00045 #define TCS_INIFILE_NAME ""
00046 #define INIFILEXT ".XML"
00047 #define INIFILEXTTOKEN ".%"        // Token for parsing filenames
00048 #define PROGDIRTOKEN "%:"
00049
00050
```

```
00051
00052 /* Actioncodes of the journalfiles */
00053
00054 #define XACTION_INITT       1
00055 #define XACTION_ERASE       2
00056 #define XACTION_MOVABS      3
00057 #define XACTION_DRWABS      4
00058 #define XACTION_DSHSTYLE    5
00059 #define XACTION_DSHABS      6
00060 #define XACTION_PNTABS      7
00061 #define XACTION_GTEXT       8
00062 #define XACTION_ASCII       9
00063 #define XACTION_BCKCOL      10
00064 #define XACTION_LINCOL      11
00065 #define XACTION_TXTCOL      12
00066 #define XACTION_FONTATTR    13
00067 #define XACTION_NOOP        14
00068 #define XACTION_CLIP        15
00069 #define XACTION_CLIP1       16
00070 #define XACTION_CLIP2       17
00071
00072
00073
00074 /* Assign errornumbers */
00075
00076 #define WRN_NOMSG 1
00077 #define ERR_UNKNGRAPHCARD 2
00078 #define ERR_NOFNTFIL 3
00079 #define ERR_NOFNT 4
00080 #define MSG_NOMOUSE 5
00081 #define WRN_HDCFILOPN 6
00082 #define WRN_HDCFILWRT 7
00083 #define WRN_HDCINTERN 8
00084 #define MSG_USR 9
00085 #define MSG_HDCACT 10
00086 #define WRN_USRPRESSANY 11
00087 #define ERR_EXIT 12
00088 #define WRN_COPYNOMEM 13
00089 #define WRN_COPYLOCK 14
00090 #define WRN_JOUCREATE 15
00091 #define WRN_JOUENTRY 16
00092 #define WRN_JOUADD 17
00093 #define WRN_JOUCLR 18
00094 #define WRN_JOUUNKWN 19
00095 #define ERR_XMLPARSER 20
00096 #define ERR_XMLOPEN 21
00097 #define ERR_UNKNAUDIO 22
00098 #define MSG_USR2 23
00099 #define WRN_INI2 24
00100 #define MSG_MAXERRNO 25
00101
00102
00103
00104 /* Default initialization, can be changed by the ini-XML file */
00105
00106 #define TCS_INISECT0 "Graph2D" // Root-Section for XML, change with WINLBL()
00107
00108 #define TCS_INISECT1 "Names"
00109  #define TCS_INIVAR_WINNAM "G2dGraphic"
00110     #define TCS_WINDOW_NAME "Graphics"
00111  #define TCS_INIVAR_STATNAM "G2dStatus"
00112     #define TCS_STATWINDOW_NAME "System Messages"
00113  #define TCS_INIVAR_HDCNAM "G2dHardcopy"
00114     #define TCS_HDCFILE_NAME "HDC%03i.HDC"
00115
00116
00117
00118 #define TCS_INISECT2 "Layout"
00119 /* #define TCS_INIVAR_COPMEN "G2dSysMenuCopy"
00120     #define TCS_INIDEF_COPMEN "Copy"
00121  #define TCS_INIVAR_FONT "G2dGraphicFont"
00122     #define TCS_INIDEF_FONT PROGDIRTOKEN "graph2d"
00123  #define TCS_INIVAR_SYSFONT "G2dSystemFont"
00124     #define TCS_INIDEF_SYSFONT PROGDIRTOKEN "graph2d"
00125 */
00126  #define TCS_INIVAR_WINPOSX "G2dGraphicPosX"
00127     #define TCS_INIDEF_WINPOSX 1
00128  #define TCS_INIVAR_WINPOSY "G2dGraphicPosY"
00129     #define TCS_INIDEF_WINPOSY 3
00130  #define TCS_INIVAR_WINSIZX "G2dGraphicSizeX"
00131     #define TCS_INIDEF_WINSIZX 98
00132  #define TCS_INIVAR_WINSIZY "G2dGraphicSizeY"
00133     #define TCS_INIDEF_WINSIZY 85
00134 /* #define TCS_INIVAR_STATPOSX "G2dStatusPosX"
00135     #define TCS_INIDEF_STATPOSX 1
00136  #define TCS_INIVAR_STATPOSY "G2dStatusPosY"
00137     #define TCS_INIDEF_STATPOSY 91
```

```
00138  #define TCS_INIVAR_STATSIZX "G2dStatusSizeX"
00139     #define TCS_INIDEF_STATSIZX 98
00140  #define TCS_INIVAR_STATSIZY "G2dStatusSizeY"
00141     #define TCS_INIDEF_STATSIZY 3
00142 */
00143  #define TCS_INIVAR_LINCOL "G2dLinCol"
00144     #define TCS_INIDEF_LINCOL 1
00145  #define TCS_INIVAR_TXTCOL "G2dTxtCol"
00146     #define TCS_INIDEF_TXTCOL 1
00147  #define TCS_INIVAR_BCKCOL "G2dBckCol"
00148     #define TCS_INIDEF_BCKCOL 0
00149
00150 #define TCS_INISECT3 "Messages"
00151  #define TCS_INIVAR_UNKNGRAPHCARD "G2dGraphCard"
00152     #define TCS_INIDEF_UNKNGRAPHCARD "GRAPH2D Video System: Error %s."
00153     #define TCS_INIVAR_UNKNGRAPHCARDL "G2dGraphCardL"
00154     #define TCS_INIDEF_UNKNGRAPHCARDL 10
00155  #define TCS_INIVAR_NOFNTFIL "G2dFntfilOpen"
00156     #define TCS_INIDEF_NOFNTFIL "GRAPH2D SDLTTF: Error opening Fontfile %s."
00157     #define TCS_INIVAR_NOFNTFILL "G2dFntfilOpenL"
00158     #define TCS_INIDEF_NOFNTFILL 10
00159  #define TCS_INIVAR_NOFNT "G2dFntfilOpen"
00160     #define TCS_INIDEF_NOFNT "GRAPH2D SDLTTF: Error -> %s."
00161     #define TCS_INIVAR_NOFNTL "G2dFntfilOpenL"
00162     #define TCS_INIDEF_NOFNTL 10
00163  #define TCS_INIVAR_HDCOPN "G2dHdcOpen"
00164     #define TCS_INIDEF_HDCOPN "GRAPH2D HARDCOPY: Error during OPEN."
00165     #define TCS_INIVAR_HDCOPNL "G2dHdcOpenL"
00166     #define TCS_INIDEF_HDCOPNL 5
00167  #define TCS_INIVAR_HDCWRT "G2dHdcWrite"
00168     #define TCS_INIDEF_HDCWRT "GRAPH2D HARDCOPY: Error during WRITE."
00169     #define TCS_INIVAR_HDCWRTL "G2dHdcWriteL"
00170     #define TCS_INIDEF_HDCWRTL 5
00171  #define TCS_INIVAR_USR "G2dUser"
00172     #define TCS_INIDEF_USR "%s"
00173     #define TCS_INIVAR_USRL "G2dUserL"
00174     #define TCS_INIDEF_USRL 5
00175  #define TCS_INIVAR_HDCACT "G2dHdcActive"
00176     #define TCS_INIDEF_HDCACT "Hardcopy in progress: File %s created."
00177     #define TCS_INIVAR_HDCACTL "G2dHdcActiveL"
00178     #define TCS_INIDEF_HDCACTL 1
00179  #define TCS_INIVAR_USRWRN "G2dPressAny"
00180     #define TCS_INIDEF_USRWRN "Press any key to continue."
00181     #define TCS_INIVAR_USRWRNL "G2dPressAnyL"
00182     #define TCS_INIDEF_USRWRNL 5
00183  #define TCS_INIVAR_EXIT "G2dExit"
00184     #define TCS_INIDEF_EXIT "Press any key to exit program."
00185     #define TCS_INIVAR_EXITL "G2dExitL"
00186     #define TCS_INIDEF_EXITL 10
00187  #define TCS_INIVAR_COPMEM "G2dNoMemory"
00188     #define TCS_INIDEF_COPMEM "GRAPH2D Clipboard Manager: Out of Memory."
00189     #define TCS_INIVAR_COPMEML "G2dNoMemoryL"
00190     #define TCS_INIDEF_COPMEML 1
00191  #define TCS_INIVAR_COPLCK "G2dClipLock"
00192     #define TCS_INIDEF_COPLCK "GRAPH2D Clipboard Manager: ClipBoard locked."
00193     #define TCS_INIVAR_COPLCKL "G2dClipLockL"
00194     #define TCS_INIDEF_COPLCKL 1
00195  #define TCS_INIVAR_JOUCREATE "G2dJouCreate"
00196     #define TCS_INIDEF_JOUCREATE "GRAPH2D Error Creating Journal. Error-No: %s."
00197     #define TCS_INIVAR_JOUCREATEL "G2dJouCreateL"
00198     #define TCS_INIDEF_JOUCREATEL 5
00199  #define TCS_INIVAR_JOUENTRY "G2dJouEntry"
00200     #define TCS_INIDEF_JOUENTRY "GRAPH2D Error Creating Journal Entry."
00201     #define TCS_INIVAR_JOUENTRYL "G2dJouEntryL"
00202     #define TCS_INIDEF_JOUENTRYL 5
00203  #define TCS_INIVAR_JOUADD "G2dJouAdd"
00204     #define TCS_INIDEF_JOUADD "GRAPH2D Error Appending Journal Entry."
00205     #define TCS_INIVAR_JOUADDL "G2dJouAddL"
00206     #define TCS_INIDEF_JOUADDL 5
00207  #define TCS_INIVAR_JOUCLR "G2dJouClr"
00208     #define TCS_INIDEF_JOUCLR "GRAPH2D Error Clearing Journal Entry."
00209     #define TCS_INIVAR_JOUCLRL "G2dJouClrL"
00210     #define TCS_INIDEF_JOUCLRL 5
00211  #define TCS_INIVAR_JOUUNKWN "G2dJouEntryUnknwn"
00212     #define TCS_INIDEF_JOUUNKWN "GRAPH2D Unknown Journal Entry."
00213     #define TCS_INIVAR_JOUUNKWNL "G2dJouEntryUnknwnL"
00214     #define TCS_INIDEF_JOUUNKWNL 5
00215  #define TCS_INIVAR_XMLPARSER "G2dXMLerror"
00216     #define TCS_INIDEF_XMLPARSER "GRAPH2D Error parsing XML-File: %s"
00217     #define TCS_INIVAR_XMLPARSERL "G2dXMLerrorL"
00218     #define TCS_INIDEF_XMLPARSERL 8
00219  #define TCS_INIVAR_XMLOPEN "G2dXMLopen"
00220     #define TCS_INIDEF_XMLOPEN "GRAPH2D Error opening %s"
00221     #define TCS_INIVAR_XMLOPENL "G2dXMLopenL"
00222     #define TCS_INIDEF_XMLOPENL 0 // no errormessage due to wxTCSmain.cpp
00223  #define TCS_INIVAR_UNKNAUDIO "G2dAudio"
00224     #define TCS_INIDEF_UNKNAUDIO "GRAPH2D Audio System: Error %s."
```

```
00225     #define TCS_INIVAR_UNKNAUDIOL "G2dAudioL"
00226     #define TCS_INIDEF_UNKNAUDIOL 5
00227  #define TCS_INIVAR_USR2 "G2dUser2"
00228     #define TCS_INIDEF_USR2 "%s"
00229     #define TCS_INIVAR_USR2L "G2dUser2L"
00230     #define TCS_INIDEF_USR2L 5
00231  #define TCS_INIVAR_INI2 "G2dInitt"
00232     #define TCS_INIDEF_INI2 "Error creating windows in subroutine INITT"
00233     #define TCS_INIVAR_INI2L "G2dInittL"
00234     #define TCS_INIDEF_INI2L 1
```

8.34 TCSdrWXfor.f08 File Reference

wX Port: High-Level Driver

Functions/Subroutines

- subroutine tcslev (LEVEL)
- subroutine winlbl (PloWinNam, StatWinNam, IniFilNam)
- subroutine initt (iDummy)
- 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 csize (ixlen, iylen)
- subroutine statst (String)
- subroutine graphicerror (iErr, Mssg)
- subroutine anmode

  Entry dummy routines.

8.34.1 Detailed Description

wX Port: High-Level Driver

Version

(2023,243,8)

Author

(C) 2023 Dr.-Ing. Klaus Friedewald

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wX specific subroutines

Note

```
Supplement to Tektronix:
 subroutine TOUTSTC (String): Ausgabe Fortran-String
 subroutine LINCOL (iCol): Setzen Linienfarbe (iCol=0..15)
 subroutine TXTCOL (iCol): Setzen Textfarbe
 subroutine BCKCOL (iCol): Hintergrundfarbe (nach ERASE sichtbar)
 subroutine DefaultColour: Wiederherstellung Defaultfarben
```

Definition in file TCSdrWXfor.f08.

8.34.2 Function/Subroutine Documentation

8.34.2.1 anmode()

```
subroutine anmode
```

Entry dummy routines.
AlfMod
pClipt
alpha
Definition at line 247 of file TCSdrWXfor.f08.

8.34.2.2 csize()

```
subroutine csize (
              ixlen,
              iylen )
```

Definition at line 197 of file TCSdrWXfor.f08.

8.34.2.3 drwrel()

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

Definition at line 114 of file TCSdrWXfor.f08.

8.34.2.4 dshrel()

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

Definition at line 124 of file TCSdrWXfor.f08.

8.34.2.5 graphicerror()

```
subroutine graphicerror (
             integer iErr,
             character *(*) Mssg )
```

Definition at line 224 of file TCSdrWXfor.f08.

8.34.2.6 initt()

```
subroutine initt (
             integer iDummy )
```

Definition at line 70 of file TCSdrWXfor.f08.

8.34.2.7 movrel()

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

Definition at line 94 of file TCSdrWXfor.f08.

8.34.2.8 pntrel()

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

Definition at line 104 of file TCSdrWXfor.f08.

8.34.2.9 seeloc()

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

Definition at line 138 of file TCSdrWXfor.f08.

8.34.2.10 statst()

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

Definition at line 206 of file TCSdrWXfor.f08.

8.34.2.11 tcslev()

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

Definition at line 39 of file TCSdrWXfor.f08.

8.34.2.12 toutpt()

```
subroutine toutpt (
             integer iChr )
```

Definition at line 151 of file TCSdrWXfor.f08.

8.34.2.13 toutst()

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

Definition at line 169 of file TCSdrWXfor.f08.

8.34.2.14 toutstc()

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

Definition at line 180 of file TCSdrWXfor.f08.

8.34.2.15 winlbl()

```
subroutine winlbl (
             character*(*) PloWinNam,
             character*(*) StatWinNam,
             character*(*) IniFilNam )
```

Definition at line 53 of file TCSdrWXfor.f08.

8.35 TCSdrWXfor.f08

```
00001 !> \file       TCSdrWXfor.f08
00002 !> \brief      wX Port: High-Level Driver
00003 !> \version    (2023,243,8)
00004 !> \author     (C) 2023 Dr.-Ing. Klaus Friedewald
00005 !> \copyright  GNU LESSER GENERAL PUBLIC LICENSE Version 3
00006 !>
00007 !> \~german
00008 !> wX-spezifische TCS-Routinen
00009 !> \note \verbatim
00010 !>    Erweiterungen gegenüber Tektronix:
00011 !>     subroutine TOUTSTC (String): Ausgabe Fortran-String
00012 !>     subroutine LINCOL (iCol): Setzen Linienfarbe (iCol=0..15)
00013 !>     subroutine TXTCOL (iCol): Setzen Textfarbe
00014 !>     subroutine BCKCOL (iCol): Hintergrundfarbe (nach ERASE sichtbar)
00015 !>     subroutine DefaultColour: Wiederherstellung Defaultfarben
00016 !> \endverbatim
00017 !>
00018 !>
00019 !> \~english
00020 !> wX specific subroutines
00021 !> \note \verbatim
00022 !>    Supplement to Tektronix:
00023 !>     subroutine TOUTSTC (String): Ausgabe Fortran-String
00024 !>     subroutine LINCOL (iCol): Setzen Linienfarbe (iCol=0..15)
00025 !>     subroutine TXTCOL (iCol): Setzen Textfarbe
00026 !>     subroutine BCKCOL (iCol): Hintergrundfarbe (nach ERASE sichtbar)
00027 !>     subroutine DefaultColour: Wiederherstellung Defaultfarben
00028 !> \endverbatim
00029 !> \~
00030 !>
00031
00032
00033 ! FTN 77 linkbare Unterprogramme / Wrapper
00034
00035 !
00036 !  Ausgabe der Softwareversion
00037 !
00038
00039       subroutine tcslev(LEVEL)
00040       integer LEVEL(3)
00041       level(1)=2023     ! Aenderungsjahr
00042       level(2)= 243     ! Aenderungstag
00043       level(3)=   8     ! System= wX
00044       return
00045       end
00046
00047
00048
00049 !
00050 !  Initialization
00051 !
00052
00053       subroutine winlbl (PloWinNam, StatWinNam, IniFilNam)
00054       use, intrinsic :: iso_c_binding
00055       implicit none
00056
00057       character*(*) PloWinNam, StatWinNam, IniFilNam
00058       interface
00059         subroutine winlbl0 (PloWinNam0, StatWinNam0, IniFilNam0) bind(C, name='winlbl0')
00060         use, intrinsic                        :: iso_c_binding, only: c_char
00061         character(kind= c_char), dimension(*) :: PloWinNam0, StatWinNam0, IniFilNam0
00062         end subroutine winlbl0
00063       end interface
00064
00065       call winlbl0 (plowinnam//c_null_char, statwinnam//c_null_char, inifilnam//c_null_char)
00066       end
00067
00068
00069
00070       subroutine initt (iDummy)
00071       use, intrinsic :: iso_c_binding
00072       implicit none
00073
00074       integer iDummy
00075       integer (c_intptr_t), parameter :: NULLPTR = 0
00076       interface
00077         subroutine initt1 (iMode, iParent, iFrame, iStatus) bind(C)
00078           use, intrinsic              :: iso_c_binding
00079           integer (c_int), value      :: iMode
00080           integer (c_intptr_t), value :: iParent, iFrame, iStatus
00081         end subroutine initt1
```

```
00082       end interface
00083
00084       call initt1 (0, nullptr, nullptr, nullptr) ! 0 => no Parent Window
00085       return
00086       end
00087
00088
00089
00090 !
00091 !  Relative drawing
00092 !
00093
00094       subroutine movrel (iX, iY)
00095       include 'Tktrnx.fd'
00096       ixx= kbeamx + ix
00097       iyy= kbeamy + iy
00098       call movabs (ixx, iyy)
00099       return
00100       end
00101
00102
00103
00104       subroutine pntrel (iX, iY)
00105       include 'Tktrnx.fd'
00106       ixx= kbeamx + ix
00107       iyy= kbeamy + iy
00108       call pntabs (ixx, iyy)
00109       return
00110       end
00111
00112
00113
00114       subroutine drwrel (iX, iY)
00115       include 'Tktrnx.fd'
00116       ixx= kbeamx + ix
00117       iyy= kbeamy + iy
00118       call drwabs (ixx, iyy)
00119       return
00120       end
00121
00122
00123
00124       subroutine dshrel (iX, iY, iMask)
00125       include 'Tktrnx.fd'
00126       ixx= kbeamx + ix
00127       iyy= kbeamy + iy
00128       call dshabs (ixx, iyy, imask)
00129       return
00130       end
00131
00132
00133
00134  !
00135  !  Ersatz SEELOC der CP/M-Version (wie MS Windows, DOS)
00136  !
00137
00138        subroutine seeloc (IX,IY)
00139        include 'Tktrnx.fd'
00140        ix= kbeamx
00141        iy= kbeamy
00142        return
00143        end
00144
00145
00146
00147 !
00148 !  Graphic text output
00149 !
00150
00151       subroutine toutpt (iChr)
00152       use, intrinsic :: iso_c_binding
00153       implicit none
00154       integer iChr
00155
00156       interface
00157         subroutine outgtext (strng) bind(C, name='outgtext_')
00158         use, intrinsic                        :: iso_c_binding, only: c_char
00159         character(kind= c_char), dimension(*) :: strng
00160         end subroutine outgtext
00161       end interface
00162
00163       call outgtext (char(ichr)//c_null_char)
00164       return
00165       end
00166
00167
00168
```

```
00169       subroutine toutst (nChr, iChrArr)
00170       integer iChrArr (1)
00171       if (nchr.eq.0) return
00172       do 10 i=1,nchr
00173        call toutpt (ichrarr(i))
00174 10    continue
00175       return
00176       end
00177
00178
00179
00180       subroutine toutstc (String)
00181       implicit none
00182
00183       character *(*) String
00184       interface
00185         subroutine outgtext (strng) bind(C, name='outgtext_')
00186         use, intrinsic                        :: iso_c_binding, only: c_char
00187         character(kind= c_char), dimension(*) :: strng
00188         end subroutine outgtext
00189       end interface
00190
00191       call outgtext (string//char(0))
00192       return
00193       end
00194
00195
00196
00197       subroutine csize (ixlen,iylen)
00198       include 'Tktrnx.fd'
00199       ixlen= khorsz
00200       iylen= kversz
00201       return
00202       end
00203
00204
00205
00206       subroutine statst (String)
00207       use, intrinsic :: iso_c_binding
00208       implicit none
00209
00210       character *(*) String
00211       interface
00212         subroutine outtext (cString) bind(C, name='outtext_')
00213         use, intrinsic                        :: iso_c_binding, only: c_char
00214         character(kind= c_char), dimension(*) :: cString
00215         end subroutine outtext
00216       end interface
00217
00218       call outtext (string//c_null_char)
00219       return
00220       end
00221
00222
00223
00224       subroutine graphicerror (iErr,Mssg) ! Bis jetzt genutzt: TCSGraphicError in Cpp
00225       use, intrinsic :: iso_c_binding
00226       implicit none
00227
00228       integer iErr
00229       character *(*) Mssg
00230       interface
00231         subroutine tcsgraphicerror (i, cString) bind(C, name='TCSGraphicError')
00232         use, intrinsic                        :: iso_c_binding
00233         integer(kind=c_int), value            :: i
00234         character(kind= c_char), dimension(*) :: cString
00235         end subroutine tcsgraphicerror
00236       end interface
00237
00238       call tcsgraphicerror (ierr,mssg//c_null_char)
00239       return
00240       end
00241
00242
00243
00244 !
00245 !>  Entry dummy routines
00246 !
00247       subroutine  anmode
00248 !> AlfMod
00249       entry       alfmod
00250 !> pCliptt
00251       entry       pclipt
00252 !> alpha
00253       entry       alpha
00254       return
00255       end
```

8.36 Tktrnx.fd File Reference

wX Port: TCS Common Block TKTRNX

8.36.1 Detailed Description

wX Port: TCS Common Block TKTRNX

Version

1.0

Author

Dr.-Ing. Klaus Friedewald

Header belonging to TKTRNX.hpp. The Source Format complies to the requirements of FTN77 Fixed Formar as well as Fortran08 Free Form.

Note

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

Definition in file Tktrnx.fd.

8.37 Tktrnx.fd

```
00001 !> \file Tktrnx.fd
00002 !> \brief   wX Port: TCS Common Block TKTRNX
00003 !> \version 1.0
00004 !> \author  Dr.-Ing. Klaus Friedewald
00005 !> \~german
00006 !> Header passend zu TKTRNX.hpp. Das Quelltextformat ist sowohl zum FTN77 Fixed
00007 !> Format als auch zum Ftn08 Free Format kompatibel.
00008 !> \note
00009 !> Da die folgende Definition kein Bestandteil eines Moduls
00010 !> ist, versagt der DOXYGEN-Parser bei der Kombination von
00011 !> COMMON und INTEGER. Workaraound: \\cond ... \\endcond.
00012 !> \~english
00013 !> Header belonging to TKTRNX.hpp. The Source Format complies to the
00014 !> requirements of FTN77 Fixed Formar as well as Fortran08 Free Form.
00015 !> \note
00016 !> Because the following definition not being part of a module, the
00017 !> DOXYGEN parser is not able to handle the combination of COMMON
00018 !> and INTEGER declarations.  Workaround: \\cond ... \\endcond.
00019 !> \~
00020 !> \cond
00021
00022       use iso_c_binding, only: c_int, c_float, c_sizeof
00023
00024       integer (c_int)                                                  &
00025      & khomey,                                                         &
00026      & khorsz,kversz,                                                  &
00027      & kitalc,ksizef,                                                  &
00028      & klmrgn,krmrgn, kScrX,kScrY,                                     &
00029      & kbeamx,kbeamy,                                                  &
00030      & kminsx,kminsy,kmaxsx,kmaxsy
00031       real (c_float)                                                   &
00032      & tminvx,tminvy,tmaxvx,tmaxvy,                                    &
00033      & trcosf,trsinf,trscal,                                           &
00034      & xfac,yfac,xlog,ylog
00035       integer (c_int)                                                  &
00036      & kStCol,                                                         &
00037      & iLinCol, iBckCol, iTxtCol
00038
00039
00040        COMMON /tktrnx/                                                 &
00041      & khomey,                                                         &
00042      & khorsz,kversz,                                                  &
00043      & kitalc,ksizef,                                                  &
00044      & klmrgn,krmrgn, kscrx,kscry,                                     &
00045      & kbeamx,kbeamy,                                                  &
00046      & kminsx,kminsy,kmaxsx,kmaxsy,tminvx,tminvy,tmaxvx,tmaxvy,        &
00047      & trcosf,trsinf,trscal,                                           &
00048      & xfac,yfac,xlog,ylog,kstcol,                                     &
00049      & ilincol, ibckcol, itxtcol
```

```
00050
00051       SAVE /tktrnx/
00052       bind(c, name='tktrnx_') :: /tktrnx/
00053
00054 !> \endcond
00055
00056
```

8.38 TKTRNX.hpp File Reference

wX Port: TCS Common Block TKTRNX

Classes

- struct TKTRNX

Variables

- struct TKTRNX tktrnx_

8.38.1 Detailed Description

wX Port: TCS Common Block TKTRNX

Version

1.0

Author

Dr.-Ing. Klaus Friedewald

C header belonging to TKTRNX.fd

Note

wX-Version auf Basis der SDL-Version 1.2

Definition in file TKTRNX.hpp.

8.38.2 Variable Documentation

8.38.2.1 tktrnx_

```
struct TKTRNX tktrnx_
```

8.39 TKTRNX.hpp

```
00001 /** ****************************************************************************
00002 \file    TKTRNX.hpp
00003 \brief   wX Port: TCS Common Block TKTRNX
00004 \version 1.0
00005 \author  Dr.-Ing. Klaus Friedewald
00006 \~german
00007          C Header passend zu TKTRNX.fd
00008 \~english
00009          C header belonging to TKTRNX.fd
00010 \~
00011
00012 \note
00013    wX-Version auf Basis der SDL-Version 1.2
00014
00015 ******************************************************************************* */
00016
00017 extern "C" {
00018   extern struct TKTRNX {
```

```
00019     int
00020      khomey,
00021      khorsz,kversz,
00022      kitalc,ksizef,
00023      klmrgn,krmrgn, kScrX,kScrY,
00024      kbeamx,kbeamy,
00025      kminsx,kminsy,kmaxsx,kmaxsy;
00026
00027     float
00028      tminvx,tminvy,tmaxvx,tmaxvy,
00029      trcosf,trsinf,trscal
00030      ,xfac,yfac,xlog,ylog;
00031     int
00032      kStCol,
00033      iLinCol, iBckCol, iTxtCol;
00034   } tktrnx_; // use gfortran FTN77 name mangling
00035 }
00036
```

8.40 wxTCSmain.cpp File Reference

Initialization of wxWidgets.

```
#include <wx/wx.h>
#include <wx/filename.h>
#include <wx/stdpaths.h>
#include "graph2d.h"
```

Classes

- class wxTCSapp

Macros

- #define MainProgram MAIN__

Functions

- void _gfortran_set_args (int argc, char *argv[])

8.40.1 Detailed Description

Initialization of wxWidgets.

Version

1.0

Author

(C) 2023 Dr.-Ing. Klaus Friedewald

Copyright

GNU LESSER GENERAL PUBLIC LICENSE Version 3

wxTCSapp for executing Fortran console programs Since the windows are created before the Fortran program is executed (and thus before a call to WINLBL), an initialization file with the name of the main program is used.
Definition in file wxTCSmain.cpp.

8.40.2 Macro Definition Documentation

8.40.2.1 MainProgram

```
void MainProgram MAIN__
```

Definition at line 20 of file wxTCSmain.cpp.

8.40.3 Function Documentation

8.40.3.1 _gfortran_set_args()

```
void _gfortran_set_args (
            int argc,
            char * argv[] )
```

8.41 wxTCSmain.cpp

```
00001 /** ****************************************************************************
00002 \file       wxTCSmain.cpp
00003 \brief      Initialization of wxWidgets
00004 \version    1.0
00005 \author     (C) 2023 Dr.-Ing. Klaus Friedewald
00006 \copyright  GNU LESSER GENERAL PUBLIC LICENSE Version 3
00007 \~german
00008          wxTCSapp zur Ausführung von Fortran-Konsolenprogrammen
00009          Da die Fenster vor dem Ausführen des Fortranprogrammes (und somit vor
00010          einem Aufruf von WINLBL) erstellt werden, wird eine Initialisierungsdatei
00011          mit dem Namen des Hauptprogrammes verwendet.
00012 \~english
00013          wxTCSapp for executing Fortran console programs
00014          Since the windows are created before the Fortran program is executed
00015          (and thus before a call to WINLBL), an initialization file with the
00016          name of the main program is used.
00017 \~
00018 ******************************************************************************* */
00019
00020 #define MainProgram MAIN__
00021 // #define MainProgram ftnmain2sub_
00022
00023 #include <wx/wx.h>
00024 #include <wx/filename.h>
00025 #include <wx/stdpaths.h>
00026 #include "graph2d.h"
00027
00028
00029 extern "C" {
00030     void MainProgram (); // subroutine plot f1
00031 }
00032
00033 extern "C" {
00034     void _gfortran_set_args (int argc, char *argv[]);
00035 }
00036
00037
00038
00039 class wxTCSapp : public wxApp
00040 {
00041 public:
00042     virtual bool OnInit();
00043     virtual void OnIdle();
00044 private:
00045     bool MainStarted = false;
00046     wxFrame* wxAppframe;
00047 };
00048
00049 IMPLEMENT_APP(wxTCSapp)
00050
00051 bool wxTCSapp::OnInit() // Build wx Event Loop
00052 {
00053   wxString wxTmpStr;
00054   wxFileName wxTmpFilNam;
00055
00056
00057     wxAppframe = new wxFrame((wxFrame*) NULL, -1, GetAppDisplayName(),
      wxDefaultPosition,wxDefaultSize, wxDEFAULT_FRAME_STYLE);
00058     wxAppframe->Show(true);
00059     SetTopWindow(wxAppframe);
00060
```

```
00061     _gfortran_set_args (wxAppConsole::argc, wxAppConsole::argv); // Initialize FTN command-line
      intrinsics
00062
00063     Connect(wxEVT_IDLE,(wxObjectEventFunction)&wxTCSapp::OnIdle);
00064
00065     wxTmpFilNam= wxStandardPaths::Get().GetExecutablePath();
00066     wxTmpStr= wxTmpFilNam.GetName();
00067     wxTmpStr.Prepend("%:");  wxTmpStr.Append(".%");
00068
00069     winlbl0 ("","", wxTmpStr.c_str() ); // read default inifile before creating windows
00070     initt1 (2, nullptr, wxAppframe, nullptr); // use wxAppframe for plotting
00071
00072     return true;
00073 }
00074
00075 void wxTCSapp::OnIdle()
00076 {
00077     if (!MainStarted) {
00078       MainStarted= true; // 1st statement to avoid recursive invocation, e.g. due to wxYield() in
      tinput
00079       MainProgram();
00080       wxAppframe->Refresh();
00081     }
00082     return;
00083 }
```

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