CORONAL DIAGNOSTIC SPECTROMETER
SoHO

CDS SOFTWARE NOTE No. 8

Version 3 | 10 April 1995

CDS SOFTWARE AND DATA DIRECTORIES

C. D. Pike
Rutherford Appleton Laboratories
Chilton Didcot
Oxon OX11 0QX

cdp@astro1.bnsc.rl.ac.uk

1 Top-level directory and installation

At RAL the top directory is specified by /sohos1/cds although clearly the directories above /cds are site-specific. System managers should set up a soft-link (cs) to point to /xxxx/cds/soft. The /cs/ directory at RAL contains three important files. First there is the compressed tar file of all the current software (cds.tar.Z) and also two startup file (login and cshrc). These latter two should be sourced in the user's .login if a full cds setup is required.

To install the software try the following:

```
1) ftp the cds.tar.Z to a temporary (/temp, say) directory on your machine
2) uncompress cds.tar
3) cd to your top-level cds directory (eg cd /disk2/cds)
4) if creating an update then   rm -r soft/
5) cd /temp  (or whereever the tar file is)
6) tar -xvVf cds.tar /cs/
7) edit the files /cs/login and /cs/cshrc for local setup
```

2 Documentation

Each directory which contains some files should have a 'aaareadme.txt' file which explains the general purpose behind the files in that directory. Any file with that name is capable of being read by the IDL utility 'doc' under the heading of *INFO*.

Note that the one-line explanation of any routine can be extracted by the IDL routine 'purpose'. This routine can search the standard cds directories and produce a hardcopy if required.

3 Software directories

Under the main .../cds directory are two parallel directories /soft and /data. The /data directory is reserved for the observed CDS data when it finally arrives. Under the /soft directory there are five main software directories (/ops, /sci, /soho_util, /cds_util and /util) and a /data directory which holds small amounts of data needed by the software. The overall structure is therefore as follows:

```
   /site_specific/cds/soft/.....

                               /ops/plan/tech
                               .   .    /science
                               .   .    /database
                               .   .    /command
                               .   .
                               .   /data_handling/telem/engineering
```

```
.   .                   /science

.   .             /i_o/archive
.   .                 /fits/cds/calib
.   .
.   /data_anal/egse/cal
.   .         /egse/ops
.   .
.   .         /rtdisp


/sci/cal/vds/wave
.   .       /inten
.   .
.   .   /gis
.   .
.   /data_anal/ql/line_fit
.   .            /ql_disp
.   .            /interface
.   .            /serts
.   .            /manager
    .
.   /data_anal/int_inv
.   .
.   /data_handling/i_o/fits/fits/cds/cslib
    .
.   /data_handling/soho/sumer
.   .                  /cds


/cds_util/help
.        /misc
.        /string


/soho_util/time
.         /plan/image_tool/nlsqfit


/util/widget
.    /window
.    /numerical
.    /array
.    /struct
.    /time
.    /os
.    /device
.    /user
```

```
.    /coord
.    /misc
.    /string
.    /image
.    /graphics
.    /tape
.    /database
.    /c
.    /fits
.    /sw_maint
.    /help
.
/data/gbo/goes
.        /bb
.        /bbso
.        /cds
.        /kbou
.        /khmn
.        /kpno
.        /ksac
.        /lear
.        /mees
.        /yohk
.        /nobe
.        /mwno
.
.    /soho/sumer
.
.    /atomic
.
.    /gen/cal/int
.            /wav
.            /psf
.
.    /vds/cal/int
.            /wav
.        /model
.
.    /gds/cal/int
.            /wav
.        /model
.
.    /att/cal
.    /att
.    /nis
.    /gis

.    /info/vds_report
```

```
.         /swnote
.
.    /plan/command/cvt
.                 /ttc
.                 /ltb
.                 /misc
.         /raster
.         /sequence
.         /series
.         /lwin
.         /fwin
.         /tech
.         /database
.
.    /time
.    /test_fits
.
.
/2bconv/astlib
.      /yohkoh
.      /sdac
.      /jhu
.
/a2ps/man
.
.
/scripts
```

4 Associated data directories

In addition to the pure software directories we need somewhere to put data (not the observed solar data but auxiliary data and information of various kinds). This has been catered for by the inclusion of a /data directory under /cs. For portability, however, these directories should only be accessed from within the software by the use of environment variables which will be defined on each system.

```
                   Directory                       Environment variable
                   ---------                       --------------------

/cs/...

               /data/atomic                         CDS_ATOMIC
```

	(Atomic data needed by the s/w)
/data/att/cal	CDS_ATT_CAL (Calibration data relating to spacecraft/CDS attitude.)
/data/gbo/bb /goes /... etc	CDS_GBO_BB CDS_GBO_GOES (Data from non-SOHO expts)
/data/gds/cal/int /wav	CDS_GDS_CAL_INT CDS_GDS_CAL_WAV (Calibration data specific to SPAN detector)
/model	CDS_GDS_MODEL (Data for model/synthetic data from SPAN detector)
/data/gen/cal/int /psf /wav	CDS_GEN_CAL_INT CDS_GEN_CAL_PSF CDS_GEN_CAL_WAV (General calibration data)
/data/gis	CDS_GIS (Calibration data relating specifically to the optics in the spectrograph ie non-detector)
/data/info	CDS_INFO (General information ie where this note would go)
/info/swnote	CDS_INFO_NOTE (where this note is)
/info/vds_report	CDS_INFO_VDS (VDS calibration report)
/data/nis	CDS_NIS (Calibration data relating specifically to the optics in the spectrograph ie non-detector)
/data/plan/command	CDS_PLAN_COM

```
                                       (Command definition file)

          /fwin                        CDS_PLAN_FWIN
                                       (Flag windows files)

          /lwin                        CDS_PLAN_LWIN
                                       (Line windows files)

          /raster                      CDS_PLAN_RAS
                                       (Raster definition files)

          /sequence                    CDS_PLAN_SEQ
                                       (Sequence definition files)

          /series                      CDS_PLAN_SER
                                       (Series definition files)

/data/soho/sumer                       CDS_SOHO_SUMER
          /... etc
                                       (Data from other SOHO expts)

/data/time                             TIME_CONV
                                       (Details of leap secs, time
                                        anomalies etc.)

/data/vds/cal  /int                    CDS_VDS_CAL_INT
               /wav                    CDS_VDS_CAL_WAV
                                       (Calibration specific to VDS
                                        detector)

         /model                        CDS_VDS_MODEL
                                       (Data for VDS model/synthetic
                                        data)
```

For instance, the data files needed by the VDS_DUMMY program would be accessed from the program in an OS- and site-independent way by using

filename = concat_dir('$CDS_VDS_MODEL','pixels.dat')