CORONAL DIAGNOSTIC SPECTROMETER
SoHO

CDS SOFTWARE NOTE No. 30

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CDHS STATE DATABASE SOFTWARE

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1 General

1.1 Revisions

```
Version 0.0 : Draft for comment.
30/5/95
```

1.2 Distribution

```
RAL  : MKC, CDP, RAH.
GSFC : WT, DZ.
MSSL : ERB.
```

1.3 Referenced Documents

1. The UIT Database System V1.1 6/6/94
2. CDS catalog definitions V0.24 (CDS SN2) 26/7/94
3. Command preparation software design V1.1 30/5/95

1.4 Summary and Purpose

This document describes the current implementation of the CDHS state database software and provides a user guide to the CDHS state database tool.

2 Introduction

The CDHS state database contains information on quasi-static parameters which affect the operation of the CDS. This is needed for three reasons :

- to command the values of on-board parameters and settings where they differ from their defaults.
- to give the planning tools access to the current values of various parameters which affect science planning such as mechanism movement delays.
- to give the science software access to the history of parameter values which affect the science data such as VDS EHT settings.

The CDHS state database tool provides a widgetized interface which allows the user to add and retrieve information from the database and to generate a file containing the commands to set non-defaulted CDHS parameters.

3 CDHS state database tool

The CDHS state database tool is invoked from the IDL command line with the command :

```
IDL> cp_input_wd
```

Each entry in the CDHS state database contains information on a CDS parameter in the following form :

Field	Type	Description
DATE	C*20	String containing UTC date entry created
MNEMONIC	C*8	String containing command mnemonic
PNUMBER	I*2	Parameter number associated with this entry
NUMBERP	I*2	Number of parameters associated with this command mnemonic
LOAD	I*2	Flag indicating parameter should be loaded
ACTIVE	I*2	Current setting for parameter
DEFAULT	I*2	Default setting for parameter

It is intended that MNEMONIC is an EGSE command mnemonic and will be used directly in the command to the CDHS. However, the database may also be used to store values which are not commands in the above sense, provided the LOAD flag is set to zero preventing these values being entered into the command file. Some commands take a number of parameters. This is catered for by using a separate entry for each parameter with the same command mnemonic but with different parameter numbers : PNUMBER. The total number of parameters for the command is kept in : NUMBERP.

This tool provides a number of function buttons and text boxes for entering the values for each of the above database fields.

Functions :

- EXIT : Exit the CDHS state database tool.
- SAVE : Save current text box entries. Note that the date saved with the entry is the current time rather than the time in the date text box and the mnemonic is converted to uppercase. The display is updated with what was written to the database. At present the date text box is non-editable.
- RETRIEVE : Retrieves the latest entries in the database with the MNEMONIC in the mnemonic text box. If there is more than one PNUMBER for this mnemonic in the database then all of these are displayed in a separate text window and the display is updated with either the entry corresponding to the pnumber box or the first entry if the latter does not exist. If no entry can be found with the given mnemonic then returns the mnemonic : "Unknown" and a warning message.
- ALL : Retrieves all the latest entries in the database and displays these in a separate text window. If no entries can be found then produces a popup message.

- LOAD : Retrieves all the latest loadable entries from the database. Produces an output file containing the commands to be loaded and displays the commands in a text window. If there is any problem found with any of the loadable commands then an error message is produced and the command is not output (though the command is displayed in the text window). Previous update files are explicitly deleted.
- HISTORY : Retrieves the history for a given command mnemonic and parameter number.

4 LOAD file output

On using the LOAD command above a file containing the commands to change the default settings is produced. An environment variable $CDS_CP_UPDATE controls which directory the file is written to. The file name used is update.dt .

Within update.dt a simple SCC with only one parameter has the parameter and command enclosed in quotes so that they are treated as a single token by the perl script software eg. "CB5WAIT 0x4000". A script with multiple arguments has the arguments output in a separate file eg. CB2HVAL cb2hval.update.dt .

5 PERL script UPDATE

The PERL script UPDATE is used from the EGSE command line to load the commands in the file update.dt to the CDHS. The script expects the files to be available in the directory ./update .

The script is invoked with the command :

```
> run cpt/UPDATE
```

The option -file:filename allows a different update file to be specified, however the directory cannot be changed. The parameter files have the form command.update.dt and may be used by the corresponding PERL script if copied to the correct directory.