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A C C M A I N T

V1.2, Henrietta May 10 Feb 1988

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1.0 **USERS MANUAL**

1.1 **INTRODUCTION**

ACCMAINT is a program of the Australia Telescope system designed
primarily to set up a link with a specified Antenna Control
Computer (ACC). It may then display in a convenient way the
changing values of up to 14 monitor points and/or set up and
change the value of any control points. The monitor point
information received may be saved in a log file.

ACCMAINT will initially to be used for hardware debugging via
datasets. It is intended to be similar to the maintenance program
which will be provided at Culgoora. Its commands and displays are
also intended to be as similar as possible to maintenance options
to be provided by the ACC at each antenna. In particular, the
same commands should be able to be issued.

New users are strongly advised to try the tutorial following
before reading the rest of this manual.

1.2 **INTRODUCTORY TUTORIAL FOR BEGINNERS**

Try running this before ploughing through the rest of this manual.
In following this procedure you can start up ACCMAINT, set up a
communications link to Culgoora Antenna 1 (CA01), display on the
screen the changing value of a phase angle in the 10MHz phase
rotator (UHFROT1_ANALOG_PHASE monitor point), then set a frequency
in the UHF synthesizer (UHFSYN1_FREQUENCY_1 control point) to a
new value.

$ @accmaint$prog:accmaint_init
        This does all the necessary assignments and defines.

$ accmaint
        To start the ACCMAINT program.
        The screen should be repainted with a 16 line display
        area, a status line, a scrolled command area, an
        input command line and an message/error line.

ACCMAINT> *link ca01*
        Establish a communications link to Culgoora antenna 1,
        which is known to the database as CA01.
        The following will appear in the scrolled area:
                Mailbox link made to ANTENNA_01_MAILBOX_A
                Initiated link to serial line CA01MAINT
        The following will appear in the status line:
                LINK : CA01
        If this is unsuccessful, it means the ACC or its ghost
        process in the host computer are not running and it is
        pointless to continue.

ACCMAINT> *display uhr1anph*
        To add the monitor point name to ACCMAINT's display list
        and request the ACC to send the point data back via the
        serial line. By default the point's value will be scaled
        before display according to the database entry.
        Note that UHR1ANPH is the short database name for the
        monitor point. The longname could also be used.
        As this is a delayed command it will not be executed
        unless followed by a DO command.

        The following information is retrieved from the database
        and will appear in the SHOW POINT window temporarily
        superimposed over the display area:
                UHFROT1_ANALOG_PHASE on dataset CA123,
                Ad: 3, Balanced Analog In, Ad: 0
                Offset: 0.0, Scale: 1.0, Units: "????????"
        The following will appear in the last line of the command
        scroll area:
                DISPLAY UHFROT1_ANALOG_PHASE *** ready for DO ***

ACCMAINT> *do*
        Execute the constructed DISPLAY command displayed in the
        last line of the command scroll area.
        The following will appear in the scrolled area:
                *** DONE ***

        The following will appear in the 1st line of the display

area and be updated every second (or as the monitor data
is received from the ACC) until a NODISPLAY command is
sent
or the program is stopped.
            UHFROT1_ANALOG_PHASE = 0.1   ??units??

ACCMAINT> *dsinit uhs1fre1*
        Enable the control point on its dataset. This must be
        done once before a point is used to set the dataset's
        non-volatile configuration memory. ie before a CONPT.
        Note that this command may later be unnecessary.
        Note that UHS1FRE1 is the short database name for the
        monitor point. The longname could also be used.
        As this is a delayed command it will not be executed
        unless followed by a DO command.

        The following will appear in the SHOW POINT window
        temporarily superimposed over the display area:
            UHFSYN1_FREQUENCY_1 on dataset CA0623, Ad: 3,
            Addressed 8 Bit Out, Ad: 100
            Offset:0.0, Scale:1.0, Units:"????????"
        The following will appear in the scrolled area:
            DSINIT UHFSYN1_FREQUENCY_1 *** ready for DO ***

ACCMAINT> *do*
        Execute the constructed DSINIT command displayed in the
        command scroll area.
        The following will appear in the scrolled area:
            *** DONE ***

ACCMAINT> *conpt uhs1fre1*
        Request that the control point definition be sent to the
        ACC. This must be done before any SETPT commands are
        issued for this control point.
        As this is a delayed command it will not be executed
        unless followed by a DO command.

        The following will appear in the SHOW POINT window
        temporarily superimposed over the display area:
            UHFSYN1_FREQUENCY_1 on dataset CA0623, Ad: 3,
            Addressed 8 Bit Out, Ad: 100
            Offset:0.0, Scale:1.0, Units:"????????"
        The following will appear in the scrolled area:
            CONPT UHFSYN1_FREQUENCY_1 *** ready for DO ***

ACCMAINT> *do*
        Execute the constructed CONPT command displayed in the
        command scroll area.
        The following will appear in the scrolled area:
            *** DONE ***

ACCMAINT> *setpt uhs1fre1,522.8*
        Set a control point to a value. By default this will be
        scaled according to the database entry.
        Note that UHS1FRE1 is the short database name for the
        monitor point. The longname could also be used.
        As this is an immediate command it will be executed
        immediately.

        The following will appear in the scrolled area:
            SETPT UHFSYN1_FREQUENCY_1,522.8

ACCMAINT> *exit*
        Cancel any monitor points then leave the ACCMAINT program.

1.3 **SCREEN LAYOUT**

```
 longname of         its value,    units   limits test
 a monitor             scaled        |     entry blank
   point                 |           |     if OK, else
     |                   |           |     <or> limit
     |                   |           |     value   |
     V                   V           V             V
.-----------------------------------------------------
|         ANGLE_ERROR_A = 0.1       arc min            |
|         ANGLE_ERROR_B = 2055      arc min     > 2.0  |
| MAIN_COIL_CURRENT_B = 1.855       amps              |
|                                                     |
|        ... up to 14 monitor points ...             |
|                                                     |
|--------COMMUNICATIONS LINK STATUS LINE----------|
|                                                     |
|        ... scrolled command area ...               |
|                                                     |
|ACCMAINT> command input line                        |
|-------------------ACCMAINT message line----------|
 -----------------------------------------------------
```

1. The screen has

    1. a 14 line 'fixed' area to display up to 14 monitor
        elements. See introduction and the DISPLAY command.

    2. A 1 line status area.
                This line reflects program activity as
                        Link: 1, Commands: 2, Monitor: 3
                where field 1 is NO initially, then antenna
                                name when the LINK command succeeds,
                        field 2 is a count of commands sent,
                        field 3 is a count of monitor value
        messages
                                received.

    3. An 7 line interactive area, actually 1 line for input
        below 7 lines of scrolled output.

    4. A single line for messages.

    5. A window labelled 'SHOW POINT DISPLAY', for the display
        of control or monitor point database information,
        sometimes appears over the display area.

    6. A window for help information appears over the whole
        screen.

TDMS is used for screen handling.

1.4 **STARTUP**

The command file ACCMAINT_INIT.COM must be run before running
ACCMAINT. This does all the necessary assignments and defines.
The program ACCMAINT may then be run by typing *ACCMAINT*. Users
should insert a line to run accmaint_init into their login file.
```
        $ @accmaint$prog:accmaint_init          ! to initialize
        $ accmaint                              ! to run
```

1.5 **THE CONTROL/MONITOR DATABASE**

ACCMAINT's commands refer to monitor and control points by the
name given them in the control/monitor database. So use of
ACCMAINT will ensure that this database is up to date for use by
the observing software at Culgoora.

Database corrections will ALL be made by Lyn Newton at least
initially.

1.6 **PROGRAM INTERACTION**

There are 3 types of commands :

       1.   immediate, ie execute now, eg LINK, DO and HELP.

       2.   delayed, some display is required before 'do' is used to
             execute the command, these may have arguments which
             update saved argument values, or just use previous
             values. eg DISPLAY, CONPT.

       3.   argument, change a stored command argument value. eg
             NAME and VALUE.

A delayed command will be echoed in full, followed by '*** ready
for DO ***'. An additional command (do) must be issued to execute
these at which time the '*** ready for DO ***' will be overwritten
by '*** DONE ***'.

Arguments to commands will be remembered and may be altered
individually before execution of the whole command.

The display area will be updated during command execution at
intervals determined by the UPDATE command, NOT whenever the ACC
sends a new monitor dump. The initial update interval is 1
second.

For some commands the database description of the control or
monitor point will be displayed in the 'SHOW POINT DISPLAY'
window.

Commands are not case-dependant.

Commands may be abbreviated to the minimum necessary to avoid
ambiguity.

Control and monitor point names may be given as the database
longname or shortname but are always displayed as longname.

A dialog might proceed like this:

scrolled area   LOGGING OFF
scrolled area   Update interval 1.0 secs

input line	ACCMAINT> *link ca01*
scrolled area	Mailbox link made to ANTENNA_01_MAILBOX_A
scrolled area	Initiated link to serial line CA01MAINT
status line	LINK : CA01
input line	ACCMAINT> *display uhfrot1_analog_phase*
show window	UHFROT1_ANALOG_PHASE on dataset CA123, Ad: 3,
show window	Balanced Analog In, Ad: 0
show window	Offset: 0.0, Scale: 1.0, Units: "????????"
scrolled area	DISPLAY UHFROT1_ANALOG_PHASE *** ready for DO ***
input line	ACCMAINT> *do*
scrolled area	*** DONE ***
input line	ACCMAINT> *display atod1*
show window	A_TO_D_1 on dataset CA0100 Ad: 20,
show window	Balanced Analog In ,Ad: 0
show window	Offset:0.0 , Scale:1.0, Units:"????????"
scrolled area	DISPLAY A_TO_D_1 *** ready for DO ***
input line	ACCMAINT> *do*
scrolled area	*** DONE ***
input line	ACCMAINT> *conpt uhs1fre1*
show window	UHFSYN1_FREQUENCY_1 on dataset CA0623, Ad: 3,
show window	Addressed 8 Bit Out, Ad: 100
show window	Offset:0.0, Scale:1.0, Units:"????????"
scrolled area	CONPT UHFSYN1_FREQUENCY_1 *** ready for DO ***
input line	ACCMAINT> *do*
scrolled area	*** DONE ***
input line	ACCMAINT> *setpt uhs1fre1,522.8*
scrolled area	SETPT UHFSYN1_FREQUENCY_1,522.8
input line	ACCMAINT> *set*
scrolled area	SETPT UHFSYN1_FREQUENCY_1,522.8
input line	ACCMAINT> *val 523*
scrolled area	SETPT UHFSYN1_FREQUENCY_1,523.0
input line	ACCMAINT> *mode ra/dec*
scrolled area	MODE RADEC
input line	ACCMAINT> *goto 10,30*
scrolled area	MODE RADEC
scrolled area	GOTO 10:00:00.0 30:00:00.0 *** Ready for DO ***
input line	ACCMAINT> *goto 40:10:*
scrolled area	GOTO 40:10:00.0 30:00:00.0 *** Ready for DO ***
input line	ACCMAINT> *go ,-60:0:0*
scrolled area	GOTO 40:10:00.0 -60:00:00.0 *** Ready for DO ***
input line	ACCMAINT> *do*
scrolled area	*** DONE ***

1.7 ACCMAINT'S COMMANDS

NOTE

Commands marked with a * require a subsequent DO command
cause the command to be executed.

GENERAL COMMANDS

DO	to execute the displayed command.
EXIT	to leave ACCMAINT.
HELP	to see VMS-style help for ACCMAINT.
LINK target	to set up communications with an ACC.
NAME	to set point name argument for current delayed command.
VALUE	to set point value for current SETPT command and execute the SETPT.
SHOW monitor-or-control-point-name	to display database info about a point.

MONITOR POINT DISPLAY COMMANDS

*	CLEARDISP	to cancel all monitor points.
*	DSINIT monitor-point-name	to enable a point on its dataset.
*	DISPLAY monitor-point-name [/DEC] [/OCT] [/BIN] [/VOLT]	to initialize monitoring & display of a monitor point.
	LOGGING switch	to start/stop writing monitor info to a file.
*	NODISPLAY monitor-point-name	to cancel specified monitor point.
	UPDATE interval-in-secs	to specify interval between display updates.

HARDWARE CONTROL POINT COMMANDS

*	DSINIT control-point-name	to enable a point on its dataset.
*	CONPT control-point-name	to send control point def to ACC.
	SETPT control-point-name, value [/DEC] [/OCT] [/BIN]	to set control point to specified val.

ANTENNA MOTION CONTROL COMMANDS

	MODE coord-mode	to specify coordinate mode of GOTOs.
*	GOTO coord1,coord2	to move telescope.
*	STOP	to stop motion.
*	STOW	to do normal stow.

SOFTWARE FUNCTION COMMANDS

*   OPERATE wrap-direction   to specify wrap direction/zone.
*   REMERR on-or-off   to enable/disable error reporting
                             to ANTENNA_nn.

HARDWARE MANIPULATION COMMANDS

*   RX receiver-name   to select receiver.
*   SUBR subreflector-position to select subreflector pos'n.

1.7.1 **CLEARDISP** -
CLEARDISP
Cancel all monitor points and clear the display list. Done by
CANCEL command to the ACC.

1.7.2 **CONPT** -
CONPT control-point-name
Request that a control point definition be sent to the ACC. This
must be done before any SETPT commands are issued for that control
point. A REQUEST CONTROL and DEFINE CONTROL command are sent to
the ACC.
Always a delayed command.

1.7.3 **DISPLAY** -
DISPLAY monitor-point-name [/DEC] [/OCT] [/BIN] [/VOLT]
Add the name to ACCMAINT's display list and request ACC to send
the point data back via the serial line if it is not already doing
so. By default the point's value will be scaled according to the
database entry. This can be bypassed by using one of the optional
switches to request decimal integer, octal integer, binary digits
display or voltage scaling.
Done by DEFINEMONITOR command to the ACC.
Delayed command.
If no switch was given then the value will be scaled as (value *
db_scale) + db_offset and checked against the db upper and lower
limits. If a switch is given the value should be displayed as
requested and the switch displayed as the units. For /VOLT show
(value - 4096) * 5.0 / 4096.0.

1.7.4 **DO** -
DO Execute the constructed command displayed in the command scroll
area.

1.7.5 **DSINIT** -
DSINIT control-or-monitor-point-name
Enable the particular point on its dataset. This must be done
once before a point is used to set the dataset's non-volatile
configuration memory. The name must exist in either the control
or monitor database. Note that this command is not necessary in
normal operation of ACCMAINT. The command sent to ACC is
REQUEST_CONTROL with .... The entry is pulled from the db and
displayed, On the 'do' 1st sends CONPT then DSINIT commands.
Delayed command.

1.7.6 **EXIT** -
EXIT
Leave the ACCMAINT program. Currently does not cancel points.

1.7.7 **GOTO** -
GOTO h m s, [-]d m s
Request an antenna position. The first coordinate will be
interpreted according to the MODE as time (h:m:s.s) or angle
([-]d:m:s). Also GOTO alone will redo the last GOTO... command,
GOTO h m s.s will use the second coordinate from the last command
and GOTO ,d m s will use the previous coord 1 value.
The current MODE command and completed GOTO will be displayed
with: *** Ready to do ***
The coordinates may be abbreviated as follows:
  . seconds may be real or integer
  . separators may be all spaces or all colons.
     If colons are used then
  . trailing fields and colons may be omitted
  . leading colons must be included but leading fields may be
     nul
Thus 30:00:00.0, 30 00 00, 30:: and 30 are the same and
00:00:10.0, 0 0 10, :0:10 and ::10 are the same.

1.7.8 **HELP** -
HELP
Display this help library using the VAX help procedures

1.7.9 **LINK** -
LINK target
Establish a communications link to the specified ACC. This is
required to request new display names or to alter control points.
Initially "target" will only be CA01. Thus the only commands
which may be done before LINK are HELP, SHOW, UPDATE, LOGGING and
EXIT.
TARGET up to 4 characters. CAnn means ANTENNA_01's mailbox.
Immediate command if TARGET is given. Successful link is reported
on the communications link status line.

1.7.10 **LOGGING** -
LOGGING switch
When logging is switched on, monitor date received from the ACC is
written to a log file as well as being displayed on the screen.
The file name of the log file is 'target-acc-name'.log unless LINK
command has not been done, in which case log file is accmaint.log
. The maximum rate at which data is written to the file is set by
the UPDATE command.
The format of a log entry is :
time   point-name   scaled-value   units   limits
SWITCH may be ON or OFF

1.7.11 **MODE** -
MODE coord-mode
Defines the coordinate system for following GOTO commands.
Pointing corrections are still made in Az/El mode, including
atmospheric refraction. To remove the last effect set PARAM PRESS
0 ie set atmospheric pressure to 0 (the default is 750 mmHg).
Coord_name is:

RA/DEC	epoch is current date
MEAN	RA/Dec with epoch current year.5
J2000	RA/Dec with epoch Julian 2000.0
B1950	RA/Dec with epoch Besselian 1950.0
GALACTIC	L/B with epoch Besselian 1950.0
AZ/EL	

1.7.12 **NAME** -
NAME control-or-monitor-point-name
Used with delayed commands to set control or monitor point name in
current command. Modified command is displayed but not executed
until DO command.

1.7.13 **NODISPLAY** -
NODISPLAY monitor-point-name
Cancel a monitor point and remove it from the displayed list.
Done by CANCEL command to the ACC.
Immediate if complete.

1.7.14 **OPERATE** -
OPERATE where
To control entry to the overlap region of the cable wrap (Az +150
to +360).
Where is

        Q for quickest path,
        N to operate in the north, ie Az -210 to +150,
        S to operate in the south, ie Az   0 to +360.

1.7.15 **REMERR** -
REMERR switch
Enable (SWITCH ON) or disable (SWITCH OFF) the transmission of all
error messages to ANTENNA_nn as "INFORM" messages. When ON, "->"
appears at the right of the ACC's message line.

1.7.16 **REPAINT** -

Use Control-W to clear and re-write the screen contents.

1.7.17 **RX** -
RX name
Selects receiver ie turret position.
NAME as LS, CX, KQ or UHF.

1.7.18 **SETPT** -
SETPT control-point-name value [/DEC] [/OCT] [/BIN]
Set a control point to a value. By default this will be scaled
according to the database entry. This can be suppressed by one of
the optional switches. These force the value to be interpreted as
a decimal word, octal word or binary digits. A REQUEST CONTROL
command is sent to the ACC.
If no switch is given the value will be scaled according to the db
entries as (value * db_scale) + db_offset and send as type real.
If a switch is given the value should be converted as requested to
integer*2 and send as type integer.
VALUE may be integer or real (or characters, though this will NOT
be used initially). Immediate command if complete.

1.7.19 **SHOW** -
SHOW point-name
Display the database details about a point in the SHOW POINT
DISPLAY window. This is automatically done during other commands
including DSINIT, CONPT, DISPLAY.

1.7.20 **STOP** -
STOP
Send a dynamic stop request to the PCC. This stops antenna motion
without applying brakes or cutting motors. Following a stop (or
various states of the PCC, including emergency and manual) any
antenna motion request will result in the motion warning hooter
being sounded and antenna motion delayed for 30 sec.

1.7.21 **STOW** -
STOW
Send El to the zenith and Az to the stairs position (the PCC knows
where that is) then stop.

1.7.22 **SUBR** -
SUBR n
Request subreflector position. N *dd*.d in mm.

1.7.23 **UPDATE** -
UPDATE interval
Set the minimum time between updates of the monitor point display,
and logging if logging is enabled. Thus monitor data received
between these updates is discarded to avoid overloading the
program.
INTERVAL is in real seconds. The default value is 1.0 seconds.

1.7.24 **VALUE** -
VALUE control-point-value
Used with delayed commands to set control or monitor point value
in current SETPT command. Modified command is displayed and
executed.
VALUE may be integer or real.

2.0 **ACCMAINT PROGRAM DESCRIPTION**

2.1 **GENERAL**

ACCMAINT will change. New commands will be added as new ACC
functions are defined.

ACCMAINT is written in Fortran using the TDMS package for screen
handling. All screen handling is done in the subroutine
accmaintreq.

Control and monitor point information is extracted from the
database using the data dictionary. See include file
accmaintdb.inc .

ACCMAINT communicates with the prototype Antenna Control Computer
("ACC") via a mailbox to a traffic-warden program ("ANTENNA_01").
The ACC is linked to a number of datasets via optical fibres.
Monitor information is sent back from the ACC to ACCMAINT
directly, using a serial line, ("CA01MAINT") NOT via ANTENNA_01.
Because of this only one copy of ACCMAINT may be run in the VAX at
a time.

2.2 **REFERENCE DOCUMENTS**

- JDA - ghosts - AT/25.1/023, AT/25.1/026
- JD - ACC command formats (remformat.rno)
- JD - ACC Generated Control and Monitor Points

2.3 **FILES**

- o ACCMAINT currently runs on NOEL because this is where the
  serial link to the ACC is located.
- o the logical ACCMAINT$PROG is the directory in which the
  program resides, currently CUL1:[MAY.ACCMAINT]. This is
  defined in SYS$MANAGER:SETUP_AT_LOGICALS.COM. Other
  logicals and symbols are set up in the initialization
  procedures following.
- o accmaint_init.com is the command procedure run by users
  before they can start ACCMAINT.
- o my_accmaint_init.com is the command procedure run by
  programmer before modifying ACCMAINT.
- o sources reside in the CMS library AT$CODE:[ACCMAINT_CODE]
  with copies possibly in ACCMAINT$PROG.
- o the object library is AT$CODE:ACCMAINT.OLB. Other object
  libraries used are at$library:utility.olb.
- o the AT control/monitor database is accessed via the
  logical atdbase$path.
- o building of ACCMAINT should always by done using the MMS
  procedure accmaint$prog:descrip.mms which uses lacc.com
  to do the linking.
- o the ACCMAINT help library is accmaint.hlb.

o   this users guide is accmaint.rno.

2.4 **REBUILD**

Building of ACCMAINT should always by done using the MMS procedure
accmaint$prog:descrip.mms which uses lacc.com to do the linking.

```
$ set def usr:[may.accmaint]
$ @my_accmaint_init
$ mms
```


2.5 **STARTUP**

The command file ACCMAINT$PROG:ACCMAINT_INIT.COM must be run
before running ACCMAINT. This does all the necessary assignments
and defines, including those to:

o   allow the program ACCMAINT to by run by typing
    'ACCMAINT'.
o   allow access to the Monitor point database, Dataset
    monitor db, Monitor limits db, Control point db, Dataset
    control db and the Dataset db. Lyn Newton is responsible
    for these.
o   Allocate the serial line for raw data to be transmitted
    as lines of text from the ACC.

Programmers intending to work on ACCMAINT should run
MY_ACCMAINT_INIT.COM instead of ACCMAINT_INIT.COM.

2.6 **COMMANDS.   SOME EXTRA INFORMATION**

o   LINK

    LINK target

    Establish a communications link to the specified ACC.
    This is required to request new display names or to alter
    control points. Initially "target" will only be CA01.
    Thus the only commands which may be done before LINK are
    HELP, SHOW, UPDATE, LOGGING and EXIT.

    TARGET up to 4 characters. CAnn means ANTENNA_01's
    mailbox.

    There MAY be a relation for short_name /
    ANTENNA_nn_mailbox_name / network_name. The input serial
    line name should be constructed as 'targetMAINT' eg
    CA1MAINT. All valid targets will need logicals like this
    defined.

    Immediate command if TARGET is given. Successful link is
    reported on the communications link status line. A
    'start' command is sent to ANTENNA_nn.

Each line of data received will contain a header ("HM"
for Hardware Maintenance), the name of the monitor point
(8 characters) and unscaled decimal integer value as
characters eg HMNOSEY   129

o DSINIT

DSINIT control-or-monitor-point-name

Enable the particular point on its dataset. This must be
done once before a point is used to set the dataset's
non-volatile configuration memory. The name must exist
in either the control or monitor database. Note that
this command is not necessary in normal operation of
ACCMAINT. The command sent to ACC is REQUEST_CONTROL
with .... Treat this like a CONPT command, followed
by a real DSINIT. The entry is pulled from the db and
displayed, On the 'do' 1st sends CONPT then DSINIT
commands.

Delayed command.

o DISPLAY

DISPLAY monitor-point-name [/DEC] [/OCT] [/BIN] [/VOLT]

Add the name to ACCMAINT's display list and request ACC
to send the point data back via the serial line if it is
not already doing so. By default the point's value will
be scaled according to the database entry. This can be
bypassed by using one of the optional switches to request
decimal integer, octal integer, binary digits display or
voltage scaling. Done by DEFINE_MONITOR command to the
ACC.

Delayed command.

If no switch was given then the value will be scaled as
(value * db_scale) + db_offset and checked against the db
upper and lower limits. If a switch is given the value
should be displayed as requested and the switch displayed
as the units. For /VOLT show (value - ·4096) * 5.0 /
4096.0.

Get the Monitor db entry. If access is dataset get the
Monitor dataset db entry and the Dataset entry. Check
for a Monitor limits db entry, there may not be one.
Display the details, then current command DISPLAY NAME...
On the 'do' send the hwmaint monitor point request.

o NODISPLAY

NODISPLAY monitor-point-name

Cancel a monitor point and remove it from the displayed
list. Done by CANCEL command to the ACC. Immediate if
complete.

Stop displaying the point and send a kill hardware point command.

o   CLEARDISP

CLEARDISP

Cancel all monitor points and clear the display list. Done by CANCEL command to the ACC. Execute NODISPLAYs for each requested point.

o   CONPT

CONPT control-point-name

Always a delayed command. Request that a control point definition be sent to the ACC. This must be done before any SETPT commands are issued for that control point. A REQUEST CONTROL and DEFINE CONTROL command are sent to the ACC.

Get the Control point database entry. If access is dataset get the Control dataset db entry and the Dataset entry. Display the details and the current command 'CONPT name' On the 'do' send a CONPT command.

o   DSINIT

DSINIT control-point-name

Always a delayed command.

Treat this like a CONPT command, followed by a real DSINIT. ie pull the entry from the db (see CONPT) and display it, then the current command. On the 'do' 1st send CONPT then DSINIT commands.

o   SETPT

SETPT control-point-name, value [/DEC] [/OCT] [/BIN]

VALUE may be integer or real (or characters, though this will NOT be used initially). Immediate command if complete. Set a control point to a value. By default this will be scaled according to the database entry. This can be suppressed by one of the optional switches. These force the value to be interpreted as a decimal word, octal word or binary digits.

A REQUEST CONTROL command is sent to the ACC.

If no switch is given the value should be scaled according to the db entries as (value * db_scale) + db_offset and send as type real. If a switch is given the value should be converted as requested to integer*2 and send as type integer.

o   DO

do Execute the current command.

Assisting commands:

o SHOW

SHOW control-or-monitor-point-name

Immediate only. Look for NAME in Control or Monitor db then display the database details about a point.

o LOGGING

LOGGING filename

Send each monitor dump to a file for subsequent analysis.

Future operations:

o ALLOCATE subsystem-name

Provide protective interlocks.

o DATE dd-mmm-yyyy

Will set the antenna date only if the AT clock is not functioning. (In which case the time display will include "M", for mains time) dd as 1 to 31, mmm as jan...dec, year as 1988...

o TIME hh mm ss.s

Will set the antenna time only if the AT clock is not functioning. (In which case the time display will include "M", for mains time)

o TRANSFER n,abnc

Request transfer switch settings.

o LO band, freq [,phase, rate, accel]

Set LO frequency. For CX and LS suply band and freq only. For L4, L2, U4 and U2 also need phase, rate and accel, which may be provided by separate commands.

o SAMPLER if, phase, rate, accel

Set sampler phase tracking.

o Message return from ACC via shared ghost and shared common. Could be displayed on last line.

o Display of current value of a control point.

o Error message if DSINIT or CONPT not done.