

RS232 Specification for Classe Audio CDP-100

Rev 1.23 2 March 2005

Rev History:

- 1.1 Added IR code command and LCD low power control, selectable baud
- 1.2 Made IRC code a 3 digit command code
- 1.21 Added the SY PWRUP and SY OPER notifications
- 1.22 Added the CLRPLST and RSTPLST commands
- 1.23 Removed CLRPLST and RSTPLST commands from previous version (had undocumented duplicates). Added undocumented PCLR. Added PEMPTY command.

Data format

The RS232 communication with the CDP-100 operates with a UART configuration for 9600 baud, 8 bits, no parity, with one stop bit. There is no minimum time between bytes required, as the CDP-100 allows for a 16 byte FIFO. The PC or home controller system similarly must accept status data without delays between bytes from the CDP-100. All command and status data are ASCII bytes.

Command structure

All commands and status strings follow a format which include 4 leading bytes which serve as the address of the command. The address and command fields are separated by a period and zero or more space characters. The end of the command line is identified by a carriage return/line feed.

For the CDP-100, the address field is "P100". The address data and the period delimiter may be omitted if the controller/PC uniquely connects to the CDP-100. Any commands that are received without an address field are interpreted for local operation.

Command strings

The command strings consist of all ASCII characters between the period and carriage return. Leading blanks in the command string are ignored. The following list of commands are recognized by the CDP-100:

OPEN	Opens the tray
CLOS	Closes the tray, spins up disc if present
PLAY	Context sensitive – begins play of currently selected track
STOP	Stops play, resets to start of disc/program
PAUS	Pauses disc play
XTPS	Extended pause. Disc stops with position saved. This is currently not available on the CDP-100.
UNPS	Resume play after pause
NEXT	Skips to next track on disc or in program
PREV	Skips back to previous track on disc or in program

FREV	Begins fast reverse if disc currently playing
FFWD	Begins fast forward if disc currently playing
RNDM	Begins random play of disc
PRG+	Adds current selected track to program
PRG-	Removes current selected track from program
PCLR	Resets the playlist to disc's table of contents
PEMPTY	Clears (empties) the current playlist
SAVE	Saves the currently constructed program for this disc
0...99	Number entry to change current selected track
RPDC	Repeat disc engaged
RPTK	Repeat track engaged
RPAB	Repeat A/B begun. A second RPAB marks the B position within current track
RPOF	Turns off all repeat modes
STBY	Puts CDP-100 into standby. The tray will close if it is currently open.
OPER	Puts CDP-100 into operate mode
LCD0	Sets the front panel LCD to low power "screen saver" mode
LCD1	Sets the front panel LCD to low intensity
LCD2	Sets the front panel LCD to medium intensity
LCD3	Sets the front panel LCD to high intensity
IRC nnn	Passes IR code nn, where nnn is the code identified in the CDP-100 IR code table
DSCE	Sets the display mode to elapsed time on disc
DSCR	Sets the display mode to remaining time on disc (default mode when stopped)
TRKE	Sets the display mode to elapsed time on track
TRKR	Sets the display mode to remaining time on track
STAT DSCT	Status request for disc time
STAT TRKT	Status request for current track time
STAT DSCI	Status request for disc's ASCII info (title, artist,..)
STAT TRKI tn	Status request for track tn's (1-99) ASCII info. current track if tn omitted.
STAT SYST	Request for system status
STAT AUTO	Status requests for automatic status updates
STAT OFF	Disables automatic status updates

Replies and Status

The CDP-100 will send a 3 character reply to acknowledge each recognized command. The acknowledgement character is an exclamation point (!) followed by a carriage return and line feed. There is no leading address field for this reply. If the command received by the CDP-100 is not recognized, a question mark character replaces the exclamation point. The reply is generated within 100ms of the receipt of the last command termination character (line feed). If no reply is received at the PC/controller host after 100ms., the command should be reissued.

Normal prompted and unprompted (automatic) disc and track status messages from the CDP-100 follow the same format. The following disc/track time status messages are typically reported:

DT tt hh:mm:ss Disc's total tracks and total time (hh hours, mm minutes, and ss seconds).
 TT ct hh:mm:ss current track and current time. If hh is zero, then time starts with minutes.

Note that the reported time in the above messages follow the current display mode setting for time. The automatic status updates will report as a (DT...) message if the disc is currently stopped, a TT if the disc is playing or a (current) track has been selected by the user.

Disc and track information is reported as it is represented on the disc. This information is reported by the CDP-100 only as a result of the STAT DSCI or STAT TRKI prompt. If any carriage return or line feed characters are present in the ASCII information string, the CDP-100 will insert a leading backslash (\). As in all other status messages, a carriage return and line feed operate as termination characters. The information status messages look like:

DI sss where sss is the disc's ASCII information
 TI tn sss where sss is track tn's ASCII information

If the CDP-100 does not return an ASCII string in the sss position, then there is no ASCII data available for the disc.

System status messages are reported automatically or as a result of the STAT SYST command. Those messages include:

SY OPEN	Tray is open
SY STOP	Disc loaded, but not playing
SY PAUS	Disc play has been paused
SY TRAY	Tray is moving
SY SPIN	Disc is being read
SY ERR	A disc error has been detected
SY VOID	No disc is loaded
SY PWRUP	CDP-100 has completed power up
SY STBY	CDP-100 is in standby
SY OPER	CDP-100 is in operate
SY PLAY	A disc is playing
SY FFWD	CDP-100 is fast forwarding
SY FREV	CDP-100 is fast reversing

Example

Here's an example of the communication that would take place when the tray is open, the user inserts a disc and sends commands that start to play the disc from track #2. Note that it should not be necessary for the PC/controller to wait for status feedback before sending its next command. That is the CLOS command can be immediately followed with a 2 and then a PLAY. Also, in this example, the system has stopped spinning the disc after the disc's TOC was read and no other commands had been sent. If the PLAY command was sent within Xms. then the disc would not have been stopped.

SY OPEN

CLOS

SY TRAY

SY SPIN

DT 12 47:30

TT 1 4:12

SY STOP

2

TT 2 3:45

PLAY

SY PLAY