

CLASSÉ

Module: Automation interface
Submodule: CDP-102, CDP-202,
CDP-300, CDP-502
and CDT-300

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Document Contents

1: Introduction.....	5
2: Protocol Definitions.....	5
2.1: Terminology definition.....	5
2.2: Connector definition.....	5
2.3: Data format.....	5
2.4: Command structure.....	5
2.5: Command Feedback.....	6
2.6: Status messages.....	6
3: Control commands.....	6
3.1: OPEN.....	6
3.2: CLOSE.....	6
3.3: EJCT.....	7
3.4: PLAY.....	7
3.5: STOP.....	7
3.6: PAUS.....	7
3.7: STEP.....	7
3.8: UNPS.....	7
3.9: NEXT.....	8
3.10: PREV.....	8
3.11: NEXT TITLE.....	8
3.12: PREV TITLE.....	8
3.13: FWD.....	8
3.14: REV.....	8
3.15: SFWD.....	9
3.16: SREV.....	9
3.17: FFWD.....	9
3.18: FREV.....	9
3.19: SPEED+.....	10
3.20: SPEED-.....	10
3.21: STILL+.....	10
3.22: STILL-.....	10
3.23: JUMP TIME.....	10
3.24: JUMP.....	10
3.25: TRACK.....	11
3.26: TITLE.....	11
3.27: SHFL.....	11
3.28: PRG+.....	11
3.29: PRG-.....	11
3.30: PCLR.....	12
3.31: PEMPTY.....	12
3.32: SAVE.....	12
3.33: 0...255.....	12

3.34: RPDC	12
3.35: RPTT	12
3.36: RPTK	13
3.37: RPAB	13
3.38: RPOF	13
3.39: MENU DISC.....	13
3.40: MENU TITLE.....	13
3.41: UP	13
3.42: DOWN.....	14
3.43: LEFT	14
3.44: RIGHT	14
3.45: SELECT.....	14
3.46: SUBT	14
3.47: AUDIO.....	14
3.48: SURR.....	15
3.49: ANGLE.....	15
3.50: ZOOM.....	15
3.51: ASPECT	15
3.52: VOLA	15
3.53: MVOL+	15
3.54: MVOL-	16
3.55: MUTE	16
3.56: UNMT.....	16
3.57: LSY+.....	16
3.58: LSY-.....	16
3.59: LSY	16
3.60: STBY	17
3.61: OPER	17
3.62: LCD0	17
3.63: LCD1	17
3.64: LCD2	17
3.65: LCD3	17
3.66: DSCE	17
3.67: DSCR.....	18
3.68: TRKE.....	18
3.69: TRKR.....	18
4: Status request commands.....	18
4.1: STAT SYST.....	18
4.2: STAT AUTO	18
4.3: STAT OFF	19
4.4: STAT DSCT	19
4.5: STAT TRKT	19
4.6: STAT DSCI	19
4.7: STAT TRKI.....	19
4.8: STAT TTL	19
4.9: STAT TRK	20

- 4.10: STAT MEDIA 20
- 4.11: STAT MAIN..... 20
- 4.12: STAT SUBT 20
- 4.13: STAT AUDIO..... 20
- 4.14: STAT VIDEO 21
- 4.15: STAT LSY 21
- 4.16: STAT RPT 21
- 4.17: STAT RNDM 21
- 4.18: STAT TMDE..... 21
- 4.19: STAT HDMI..... 21
- 5: System Status Messages 22
 - 5.1: SY status 22
 - 5.2: DT 22
 - 5.3: TT..... 23
 - 5.4: DI 23
 - 5.5: TI..... 23
 - 5.6: TTL 23
 - 5.7: TRK 24
 - 5.8: SY MEDIA 24
 - 5.9: SY VOLA 24
 - 5.10: SY VOLR 24
 - 5.11: SY SUBT 24
 - 5.12: SY AUDIO 25
 - 5.13: SY VIDEO..... 26
 - 5.14: SY LSY..... 26
 - 5.15: SY RPT..... 26
 - 5.16: SY RNDM 27
 - 5.17: SY TMDE..... 27
 - 5.18: SY HDMI..... 27

1: Introduction


The purpose of this document is to describe the RS-232 automation interface protocol and the command set applicable to the CDP-300 DVD player.


2: Protocol Definitions


2.1: Terminology definition

Values between <> are control characters. For example: <cr> represent carriage return and <lf> represent line feed.

Values between square brackets are optional. For example, if you see [speed] in a command description, you can omit the speed parameter.

 Represent a communication from the computer to the CDP-300.

 Represent a communication from the CDP-300 to the computer.

 Represent an information about the command or status.

2.2: Connector definition

The automation interface RS-232 port use a standard DB-9 connector configures as DCE. A regular serial cable can be used to connect to a computer.

2.3: Data format

The RS232 communication with the CDP-300 operates with a UART configured for 9600 baud, 8 bits, no parity, and one stop bit. The automation interface does not support flow control, so the terminal program should be configured accordingly.

There is no minimum time between bytes required, as the CDP-300 allows for a 16 byte FIFO. The PC or home controller system similarly must accept status data without delays between bytes from the CDP-300. All command and status data are ASCII bytes.

2.4: Command structure

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

For the CDP-300, the address field is “P300”. The address data and the period delimiter may be omitted if the controller/PC uniquely connects to the CDP-300. Any commands that are received without an address field are interpreted for local operation.

Example: “P300.PLAY<cr><lf>” or “PLAY<cr><lf>” would be valid commands.

2.5: Command Feedback

The CDP-300 will send a 3-character reply to acknowledge each recognized command. There is no leading address field to the command feedback. The feedback 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.

If the command is recognized by the CDP-300, The positive acknowledgement, which is composed of an exclamation point followed by a carriage return and line feed “!<cr><lf>”, will be sent out.

If the command is not recognized by the CDP-300, The negative acknowledgement, which is composed of an exclamation point followed by a carriage return and line feed “?<cr><lf>”, will be sent out.




If the command requires a response, that response will follow the format described in the status section of this document.

2.6: Status messages



The CDP-300 will generate different status messages autonomously. These automatic messages can be disabled using the “STAT OFF” command.


3: Control commands

3.1: OPEN




 OPEN<cr><lf>
 !<cr><lf>
 <i>Open the tray. This command is only valid on Tray Loader units.</i>

3.2: CLOSE




 CLOSE<cr><lf>
 !<cr><lf>

 <i>Close the tray. This command is only valid on Tray Loader units.</i>




3.3: EJCT

 EJCT<cr><lf>
 !<cr><lf>
 <i>Eject the disc from the loader. This command is only valid on Slot Loader units.</i>




3.4: PLAY

 PLAY<cr><lf>
 !<cr><lf>
 <i>Start playback of the disc.</i>




3.5: STOP

 STOP<cr><lf>
 !<cr><lf>
 <i>Stop playback of the disc.</i>




3.6: PAUS

 PAUS<cr><lf>
 !<cr><lf>
 <i>Pause playback of the currently selected track.</i>




3.7: STEP

 STEP<cr><lf>
 !<cr><lf>
 <i>Valid only during pause state on DVD-V disc. Will advance to the next video frame.</i>




3.8: UNPS

 UNPS<cr><lf>
 !<cr><lf>
 <i>Resume playback of the disc after pause.</i>




3.9: NEXT

 NEXT <cr><lf>
 !<cr><lf>
 <i>Skips to next track/chapter on disc or in program.</i>




3.10: PREV

 PREV <cr><lf>
 !<cr><lf>
 <i>Skips back to previous track/chapter on disc or in program.</i>










3.11: NEXT TITLE

 NEXT TITLE <cr><lf>
 !<cr><lf>
 <i>Skips to next title or group on DVD-V or DVD-A media.</i>


3.12: PREV TITLE









 PREV TITLE <cr><lf>
 !<cr><lf>
 <i>Skips to previous title or group on DVD-V or DVD-A media.</i>

3.13: FWD




 FWD [speed]<cr><lf>
 !<cr><lf>
 <i>Seek forward at specified speed. This command is only valid if the disc is currently playing. The speed parameter is optional and will default to 2X.</i>
 <i>Valid speed values for CDDA: 2X 4X 8X 16X</i>
 <i>Valid speed values for DVD-V: 1/8 1/4 1/2 2X 4X 8X 16X 30X 60X</i>
 <i>Valid speed values for DVD-A: 1/8 1/4 1/2 2X 4X 8X 16X 30X 60X</i>
 <i>Valid speed values for MP3: 4X</i>
 <i>Valid speed values for WMA: 4X</i>
 <i>Valid speed values for AAC: 4X</i>

3.14: REV




 REV [speed]<cr><lf>
--

 !<cr><lf>
 <i>Seek reverse at specified speed. This command is only valid if the disc is currently playing. The speed parameter is optional and will default to 2X.</i>
 <i>Valid speed values for CDDA: 2X 4X 8X 16X.</i>
 <i>Valid speed values for DVD-V: 1/8 1/4 1/2 2X 4X 8X 16X 30X 60X.</i>
 <i>Valid speed values for DVD-A: 1/8 1/4 1/2 2X 4X 8X 16X 30X 60X.</i>
 <i>Valid speed values for MP3: 4X.</i>
 <i>Valid speed values for WMA: 4X.</i>
 <i>Valid speed values for AAC: 4X.</i>




3.15: SFWD

 SFWD<cr><lf>
 !<cr><lf>
 <i>Slow forward at half speed. This command is only valid if a DVD-V disc is currently playing. If the disc is already in slow mode, this command will increase the speed.</i>




3.16: SREV

 SREV<cr><lf>
 !<cr><lf>
 <i>Slow reverse at half speed. This command is only valid if a DVD-V disc is currently playing. . If the disc is already in slow mode, this command will decrease the speed.</i>




3.17: FFWD

 FFWD<cr><lf>
 !<cr><lf>
 <i>Fast forward at double speed (quad speed for MP3, WMA and AAC). This command is only valid if a DVD-V disc is currently playing. . If the disc is already in fast mode, this command will increase the speed.</i>




3.18: FREV

 FREV<cr><lf>
 !<cr><lf>
 <i>Fast reverse at double speed (quad speed for MP3, WMA and AAC). This command is only valid if a DVD-V disc is currently playing. . If the disc is already in fast mode, this command will decrease the speed.</i>




3.19: SPEED+

 SPEED+<cr><lf>
 !<cr><lf>
 <i>This command will increase the search speed. This command is only valid if a disc is currently in search mode.</i>




3.20: SPEED-

 SPEED-<cr><lf>
 !<cr><lf>
 <i>This command will decrease the search speed. This command is only valid if a disc is currently in search mode.</i>







3.21: STILL+

 STILL+<cr><lf>
 !<cr><lf>
 <i>Go to the next still image. This command is only valid for DVD-A media.</i>



3.22: STILL-




 STILL-<cr><lf>
 !<cr><lf>
 <i>Go to the previous still image. This command is only valid for DVD-A media.</i>

3.23: JUMP TIME





 JUMP TIME [[hh:]mm:]ss<cr><lf>
 !<cr><lf>
 <i>Jump to a specific time on the disc.</i>
 <i>The hh parameter represent hour and can be from 0 to 99. If omitted, the format becomes mm:ss.</i>
 <i>The mm parameter represents minutes and can be between 0 and 59. If omitted, format becomes ss.</i>
 <i>The ss parameter represents the seconds and can be between 0 and 59.</i>

3.24: JUMP





 JUMP [tt:]ccc<cr><lf>
 !<cr><lf>

	<i>Jump to a specific title/chapter or group/track on the disc.</i>
	<i>The tt parameter represents title on a DVD-V and can be between 0 and 99. The tt parameter represents group on a DVD-A and can be between 0 and 9. If omitted, the format becomes ccc.</i>
	<i>The ccc parameter represent chapter on a DVD-V and can be between 0 and 225. The ccc parameter represent track on a CDDA and DVD-A and can be between 0 and 99.</i>




3.25: TRACK

	TRACK ccc<cr><lf>
	!<cr><lf>
	<i>Jump to a specific chapter or track on the disc.</i>
	<i>The ccc parameter represent chapter on a DVD-V and can be between 0 and 225. The ccc parameter represent track on a CDDA and DVD-A and can be between 0 and 99.</i>




3.26: TITLE

	TITLE tt<cr><lf>
	!<cr><lf>
	<i>Jump to a specific title or group on the disc.</i>
	<i>The tt parameter represents title on a DVD-V and can be between 0 and 99. The tt parameter represent group on a DVD-A and can be between 0 and 9.</i>




3.27: SHFL

	OPEN<cr><lf>
	!<cr><lf>
	<i>Begins shuffle play of disc. This command is only valid for CDDA media.</i>




3.28: PRG+

	PRG+<cr><lf>
	!<cr><lf>
	<i>Adds current selected track to program. This command is only valid for CDDA media.</i>




3.29: PRG-

	PRG-<cr><lf>
	!<cr><lf>
	<i>Removes current selected track to program. This command is only valid for CDDA media.</i>




3.30: PCLR

 PCLR <cr><lf>
 !<cr><lf>
 Clears (empties) the current playlist. This command is only valid for CDDA media.





3.31: PEMPTY

 PEMPTY <cr><lf>
 !<cr><lf>
 Resets the playlist to disc's table of contents. This command is only valid for CDDA media.




3.32: SAVE

 SAVE<cr><lf>
 !<cr><lf>
 Saves the currently constructed program. This command is only valid for CDDA media.




3.33: 0...255

 ccc<cr><lf>
 !<cr><lf>
 Jump to a specific chapter or track on the disc.
 The ccc parameter represent chapter on a DVD-V and can be between 0 and 225. The ccc parameter represent track on a CDDA and DVD-A and can be between 0 and 99.




3.34: RPDC

 RPDC<cr><lf>
 !<cr><lf>
 Engage repeat disc function.




3.35: RPTT

 RPTT<cr><lf>
 !<cr><lf>
 Engage repeat title function on DVD-V and repeat group function on DVD-A.




3.36: RPTK

 RPTK<cr><lf>
 !<cr><lf>
 Engage repeat chapter function on DVD-V and repeat track function on other media types.




3.37: RPAB

 RPAB<cr><lf>
 !<cr><lf>
 Engage repeat A/B function. A first occurrence of the command set the begin point. Second occurrences marks the end position and start the repeat process. This command is only supported on DVD-V media.




3.38: RPOF

 RPOF<cr><lf>
 !<cr><lf>
 Turns off all repeat modes.




3.39: MENU DISC

 MENU DISC<cr><lf>
 !<cr><lf>
 Activate the Disc Menu. This command is only valid on DVD-V and DVD-A media.




3.40: MENU TITLE

 MENU TITLE<cr><lf>
 !<cr><lf>
 Activate the Title Menu. This command is only valid on DVD-V and DVD-A media.




3.41: UP

 UP<cr><lf>
 !<cr><lf>
 Move cursor up.




3.42: DOWN

 DOWN<cr><lf>
 !<cr><lf>
 <i>Move cursor down.</i>




3.43: LEFT

 LEFT<cr><lf>
 !<cr><lf>
 <i>Move cursor left.</i>




3.44: RIGHT

 RIGHT<cr><lf>
 !<cr><lf>
 <i>Move cursor right.</i>




3.45: SELECT

 SELECT<cr><lf>
 !<cr><lf>
 <i>Select the highlighted item of the menu..</i>




3.46: SUBT

 SUBT<cr><lf>
 !<cr><lf>
 <i>Select the next available subtitle track. This command is only available on DVD-V and DVD-A media.</i>




3.47: AUDIO

 AUDIO<cr><lf>
 !<cr><lf>
 <i>Select the next available audio track. This command is only available on DVD-V and DVD-A media.</i>




3.48: SURR

 SURR<cr><lf>
 !<cr><lf>
 <i>This command toggle between stereo and 5.1 modes.</i>




3.49: ANGLE

 ANGLE<cr><lf>
 !<cr><lf>
 <i>Select the next available camera angle. This command is only available on DVD-V and DVD-A media.</i>




3.50: ZOOM

 ZOOM<cr><lf>
 !<cr><lf>
 <i>Select the next available zoom ratio. This command is only available on DVD-V and DVD-A media.</i>





3.51: ASPECT

 ASPECT<cr><lf>
 !<cr><lf>
 <i>Select the next available aspect ratio (16:9 / 4:3 LB / 4:3 PS).</i>





3.52: VOLA

 VOLA vvv.v<cr><lf>
 !<cr><lf>
 <i>Sets volume to absolute vvv.v, or the nearest possible value. The vvv.v value can be between 0.0 and 100.0 in 0.5 dB steps. This command is only available if the volume control is enabled.</i>




3.53: MVOL+

 MVOL+<cr><lf>
 !<cr><lf>
 <i>Increment the volume. This command is only available if the volume control is enabled.</i>
 <i>Note that in order to use the system acceleration mode, the MVOL +/- commands must be received within 200ms of the system's reply.</i>




3.54: MVOL-

 MVOL-<cr><lf>
 !<cr><lf>
 <i>Decrement the volume. This command is only available if the volume control is enabled.</i>
 <i>Note that in order to use the system acceleration mode, the MVOL +/- commands must be received within 200ms of the system's reply.</i>




3.55: MUTE

 MUTE<cr><lf>
 !<cr><lf>
 <i>Mute the unit. This command is only available if the volume control is enabled.</i>




3.56: UNMT

 UNMT<cr><lf>
 !<cr><lf>
 <i>Un-mute the unit. This command is only available if the volume control is enabled.</i>




3.57: LSY+

 LSY+<cr><lf>
 !<cr><lf>
 <i>Add 1millisecond to the lip-sync delay.</i>




3.58: LSY-

 LSY-<cr><lf>
 !<cr><lf>
 <i>Remove 1millisecond from the lip-sync delay.</i>




3.59: LSY

 LSY nnn<cr><lf>
 !<cr><lf>
 <i>Set the lip-sync delay to the specified value in milliseconds.</i>




3.60: STBY

 STBY<cr><lf>
 !<cr><lf>
 <i>Puts CDP-300 into standby.</i>




3.61: OPER

 OPER<cr><lf>
 !<cr><lf>
 <i>Puts CDP-300 into operate mode.</i>




3.62: LCD0

 LCD0<cr><lf>
 !<cr><lf>
 <i>Sets the front panel LCD off.</i>




3.63: LCD1

 LCD1<cr><lf>
 !<cr><lf>
 <i>Sets the front panel LCD to low intensity.</i>




3.64: LCD2

 LCD2<cr><lf>
 !<cr><lf>
 <i>Sets the front panel LCD to medium intensity.</i>




3.65: LCD3

 LCD3<cr><lf>
 !<cr><lf>
 <i>Sets the front panel LCD to high intensity.</i>




3.66: DSCE

 DSCE<cr><lf>
 !<cr><lf>
 Sets the display mode to elapsed time on disc.




3.67: DSCR

 DSCR<cr><lf>
 !<cr><lf>
 Sets the display mode to remaining time on disc (default mode when stopped).

3.68: TRKE





 DSCE <cr><lf>
 !<cr><lf>
 Sets the display mode to elapsed time on track.

3.69: TRKR




 DSCE <cr><lf>
 !<cr><lf>
 Sets the display mode to remaining time on track.

4: Status request commands




4.1: STAT SYST

 STAT SYST<cr><lf>
 !<cr><lf>
 [See system status message section]
 Status request for current system state.





4.2: STAT AUTO

 STAT AUTO<cr><lf>
 !<cr><lf>
 Enable the autonomous status messages. This is the default state of the unit.





4.3: STAT OFF

 STAT OFF<cr><lf>
 !<cr><lf>
 <i>Disable the autonomous status messages.</i>





4.4: STAT DSCT

 STAT DSCT<cr><lf>
 !<cr><lf>
 [See DT status message]
 <i>Status request for total disc time.</i>





4.5: STAT TRKT

 STAT TRKT<cr><lf>
 !<cr><lf>
 [See TT status message]
 <i>Status request for track current time. If stopped, will return total track time.</i>




4.6: STAT DSCI


 STAT DSCI<cr><lf>
 !<cr><lf>
 [See SY DSCI status message]
 <i>Status request for ASCII album title.</i>

4.7: STAT TRKI





 STAT TRKI<cr><lf>
 !<cr><lf>
 [See SY TRKI status message]
 <i>Status request for ASCII track title.</i>

4.8: STAT TTL





 STAT TTL<cr><lf>
 !<cr><lf>
 [See SY TTL status message]

 <i>Status request for current selected title or group. This command is only valid for DVD-V and DVD-A media.</i>
--





4.9: STAT TRK

 STAT TRK <cr><lf>
 !<cr><lf>
 [See SY TTL status message]
 <i>Status request for current selected chapter or track.</i>





4.10: STAT MEDIA

 STAT MEDIA <cr><lf>
 !<cr><lf>
 [See SY MEDIA status message]
 <i>Status request for current loaded media type.</i>





4.11: STAT MAIN

 STAT MAIN <cr><lf>
 !<cr><lf>
 [See SY VOLA and SY VOLR status message]
 <i>Status request for current main volume. This command is only available if volume control is enabled.</i>





4.12: STAT SUBT

 STAT SUBT <cr><lf>
 !<cr><lf>
 [See SY SUBT status message]
 <i>Status request for current subtitle track information. This command is only valid for DVD-V and DVD-A media.</i>





4.13: STAT AUDIO

 STAT AUDIO <cr><lf>
 !<cr><lf>
 [See SY AUDIO status message]
 <i>Status request for current audio track information. This command is valid for all media, but some information may not be applicable.</i>





4.14: STAT VIDEO

 STAT VIDEO <cr><lf>
 !<cr><lf>
 [See SY VIDEO status message]
 <i>Status request for current video information. This command is only valid for models equipped with a video interface.</i>





4.15: STAT LSY

 STAT LSY <cr><lf>
 !<cr><lf>
 [See SY LSY status message]
 <i>Status request for current lip-sync information.</i>





4.16: STAT RPT

 STAT RPT <cr><lf>
 !<cr><lf>
 [See SY RPT status message]
 <i>Status request for current repeat mode information.</i>





4.17: STAT RNDM

 STAT RNDM <cr><lf>
 !<cr><lf>
 [See SY RNDM status message]
 <i>Status request for current random mode information.</i>

4.18: STAT TMDE



 STAT TMDE <cr><lf>
 !<cr><lf>
 [See SY TMDE status message]
 <i>Status request for current display time mode information.</i>

4.19: STAT HDMI

 STAT HDMI <cr><lf>
 !<cr><lf>
 [See SY HDMI status message]
 <i>Status request for current HDMI interface information. This command is only valid on models equipped with an HDMI interface.</i>


5: System Status Messages




5.1: SY status

 SY status <cr><lf>
 <i>Report the current system state. This message can be triggered by the STAT SYST command or by a system state change if the autonomous messages are enabled. Valid values of status are described in the following table.</i>





Possible status parameter values	
OPEN	<i>The tray is open. Only available on unit equipped with a tray loader.</i>
TRAY	<i>The tray is moving. Only available on unit equipped with a tray loader.</i>
EJCT	<i>The media is being ejected. Only available on unit equipped with a slot loader.</i>
STBY	<i>The CDP-300 is in standby state.</i>
OPER	<i>The CDP-300 is in operating state.</i>
SPIN	<i>The disc is being detected and table of content being read.</i>
VOID	<i>There is no disc in the loader.</i>
PLAY	<i>The disc is playing.</i>
DVDMENU	<i>The DVD-V or DVD-A disc is executing the DVD Menu.</i>
PRESTOP	<i>The player is in pre-stop state.</i>
STOP	<i>The player is in stop state.</i>
PAUS	<i>The player is in pause state.</i>
FWD speed	<i>The player is searching forward at the specified speed. Valid speed values for CDDA: 2X 4X 8X 16X. Valid speed values for DVD-V: 1/8 1/4 1/2 2X 4X 8X 16X 30X 60X. Valid speed values for DVD-A: 1/8 1/4 1/2 2X 4X 8X 16X 30X 60X. Valid speed values for MP3: 4X. Valid speed values for WMA: 4X. Valid speed values for AAC: 4X.</i>
REV speed	<i>The player is searching reverse at the specified speed. Valid speed values for CDDA: 2X 4X 8X 16X. Valid speed values for DVD-V: 1/8 1/4 1/2 2X 4X 8X 16X 30X 60X. Valid speed values for DVD-A: 1/8 1/4 1/2 2X 4X 8X 16X 30X 60X. Valid speed values for MP3: 4X. Valid speed values for WMA: 4X. Valid speed values for AAC: 4X.</i>
ERR	<i>The player is in error state.</i>

5.2: DT




 DT tt hh:mm:ss <cr><lf>
--

- | |
|---|
|  Report the total disc time. This message can be triggered by the STAT DSCT command, on a disc insertion or on entering the stop state if the autonomous messages are enabled. |
|  The tt parameter represent the number of chapters or track on the media. It can have a value between 0 and 255. |
|  The hh:mm:ss parameter represent the total disc time. |




5.3: TT

- | |
|---|
|  TT ct hh:mm:ss <cr><lf> |
|  Report the track current time. If stopped, will return total track time. This message can be triggered by the STAT DSCI command, on a media insertion if the autonomous messages are enabled. |
|  The ct parameter represents the current chapter or track number. It can have a value between 0 and 255. |
|  The hh:mm:ss parameter represent the current track time. If stopped, it represent the total track time. |




5.4: DI

- | |
|---|
|  DI text <cr><lf> |
|  Report the album ASCII information. This message can be triggered by the STAT DSCI command, on a track selection and while the disc is playing if the autonomous messages are enabled. |
|  The text parameter represents the album name and artist name when available on the media. |




5.5: TI

- | |
|--|
|  TI text <cr><lf> |
|  Report the current track ASCII information. This message can be triggered by the STAT TRKI command, on a track selection and while the disc is playing if the autonomous messages are enabled. |
|  The text parameter represents the track name when available on the media. |




5.6: TTL

- | |
|---|
|  TTL tt <cr><lf> |
|  Report the currently selected or playing title/group. This message can be triggered by the STAT TTL command and on a title or group selection if the autonomous messages are enabled. |
|  The tt parameter represents the title or group number or can be "-" if unknown at the moment. |

5.7: TRK




 TRK ccc <cr><lf>
 Report the currently selected or playing chapter/track. This message can be triggered by the STAT TRK command and on a chapter or track selection if the autonomous messages are enabled.
 The ccc parameter represents the chapter or track number or can be “- - -” if unknown at the moment.

5.8: SY MEDIA




 SY MEDIA mediatype <cr><lf>
 Report the currently loaded media type. This message can be triggered by the STAT MEDIA command and on a disc insertion if the autonomous messages are enabled.
 The mediatype parameter represents the current media type inserted in the loader. Valid values of mediatype are described in the following table.

Possible mediatype parameter values	
DONE	The loader is empty.
DVD	A DVD VIDEO disc is detected.
DVDA	A DVD AUDIO disc is detected.
CDDA	A CDDA disc is detected.
VCD	A VCD disc is detected.
SVCD	A SVCD disc is detected.
SACD	A SACD disc is detected.
DATA	A DATA disc (MP3, WMA, AAC) is detected.




5.9: SY VOLA

 SY VOLA vv [muted] <cr><lf>
 Report the current volume in absolute value. This message can be triggered by the STAT MAIN command and on a volume change if the autonomous messages are enabled.
 The vv volume value can be between 0 and 100 in 0.5 step. Parameter muted will be displayed only if unit is muted. This status is only available if the volume is enabled.

5.10: SY VOLR




 SY VOLR svv [muted] <cr><lf>
 Report the current volume in relative value. This message can be triggered by the STAT MAIN command and on a volume change if the autonomous messages are enabled.
 The svv volume value can be between -89.0 and +14.0 in 0.5 step. Parameter muted will be displayed only if unit is muted. This status is only available if the volume is enabled.

5.11: SY SUBT

 SY SUBT language <cr><lf>
 Report the currently selected subtitle language. This message can be triggered by the STAT SUBT command and when the subtitle language changes if the autonomous messages are enabled.
 The language parameter represents the current subtitle language. Valid values of language are described in the following table. This status is only valid for DVD-V and DVD-A media.

Possible language parameter values	
Language name	The current language of the subtitle. Valid only for DVD and DVD-A.

5.12: SY AUDIO

 SY AUDIO stream samplerate [nCH] [language] <cr><lf>
 Report the current audio stream information. This command is valid for all media, but some information may not be applicable. This message can be triggered by the STAT AUDIO command and when an audio parameter changes if the autonomous messages are enabled.
 Valid values of the parameters are described in the following tables.

Possible stream parameter values	
DOLBY	The current stream is in Dolby format.
WMA	The current stream is in WMA format.
MP3	The current stream is in MP3 format.
CDDA	The current stream is in CD-DA format.
DTS	The current stream is in DTS format.
LPCM	The current stream is in LPCM format.
DSDSTEREO	The current stream is in DSD Stereo format.
DSDMULTI	The current stream is in DSD Multichannel format.
DSDDOWNMIX	The current stream is in DSD Downmix format.
MUSICAM	The current stream is in Musicam format.
SDDS	The current stream is in SDDS format.
PCM	The current stream is in PCM format.
DMC	The current stream is in DMC format.
MLP	The current stream is in MLP format.
MPEG1	The current stream is in MPEG1 format.
MPEG2	The current stream is in MPEG2 format.
AAC	The current stream is in AAC format.
HDCD	The current stream is in HDCD format.
PNG	The current stream is in PNG format.
NONE	There is no audio stream.




Possible channel parameter values	
[1 .. 8]CH	The number of channels in the current audio stream (DVD and DVD-A only).

Possible samplerate parameter values	
8kHz	The sample rate is 8 kHz.
11.025kHz	The sample rate is 11.025 kHz.
12kHz	The sample rate is 12 kHz.
16kHz	The sample rate is 16 kHz.
22.05kHz	The sample rate is 22.05 kHz.
24kHz	The sample rate is 24 kHz.

32kHz	<i>The sample rate is 32 kHz.</i>
44.1kHz	<i>The sample rate is 44.1 kHz.</i>
48kHz	<i>The sample rate is 48 kHz.</i>
64kHz	<i>The sample rate is 64 kHz.</i>
88.2kHz	<i>The sample rate is 88.2 kHz.</i>
96kHz	<i>The sample rate is 96 kHz.</i>
128kHz	<i>The sample rate is 128 kHz.</i>
176.4kHz	<i>The sample rate is 176.4 kHz.</i>
192kHz	<i>The sample rate is 192 kHz.</i>
SPDIF	<i>The sample rate is unknown because it come from SPDIF.</i>
NONE	<i>There is no audio stream.</i>

Possible language parameter values	
Language name	<i>The current language of the track. Valid only for DVD and DVD-A.</i>




5.13: SY VIDEO

 SY VIDEO aspect scanning <cr><lf>
 <i>Report the current video stream information. This command is valid for all media, but some information may not be applicable. This message can be triggered by the STAT VIDEO command and when a video parameter changes if the autonomous messages are enabled.</i>
 <i>Valid values of the parameters are described in the following tables.</i>


Possible aspect parameter values	
4:3PS	<i>The current aspect ratio is 4:3 pan-scan.</i>
16:9	<i>The current aspect ratio is 16:9 pan-scan.</i>
4:3LB	<i>The current aspect ratio is 4:3 Letterbox.</i>
NONE	<i>The parameter is nor applicable.</i>


Possible scanning parameter values	
PROG	<i>The current video stream is progressive.</i>
INT	<i>The current video stream is interlaced.</i>
NONE	<i>The parameter is nor applicable.</i>


5.14: SY LSY

 SY LSY svvv <cr><lf>
 <i>Report the current lip-sync delay value. This message can be triggered by the STAT LSY command and on change of lip-sync delay if the autonomous messages are enabled.</i>
 <i>The svvv lip-sync value can be between -100 and 100 in 1 millisecond step. Parameter muted will be displayer only if unit is muted. This status is only available if the volume is enabled.</i>

5.15: SY RPT


 SY RPT repeat <cr><lf>


 Report the current repeat mode information. This message can be triggered by the *STAT RPT* command and when repeat mode changes if the autonomous messages are enabled.


 Valid values of the parameters are described in the following tables.

Possible repeat parameter values	
RPDC	The current repeat mode is repeat disc.
RPTK	The current repeat mode is repeat track or chapter.
RPA	The current repeat mode is repeat A-B where only start point is selected.
RPAB	The current repeat mode is repeat A-B.
RPTT	The current repeat mode is repeat title or group. This mode is only applicable to DVD-V and DVD-A media.
OFF	The current repeat mode is off.

5.16: SY RNDM


 **SY RNDM random**<cr><lf>


 Report the current random mode information. This message can be triggered by the *STAT RNDM* command and when random mode changes if the autonomous messages are enabled.


 Valid values of the parameters are described in the following tables.

Possible random parameter values	
RNDM	The current random mode is random play.
SHFL	The current random mode is shuffle play.
OFF	The current random mode is off.

5.17: SY TMDE


 **SY TMDE timemode**<cr><lf>


 Report the current display time mode information. This message can be triggered by the *STAT TMDE* command and when display time mode changes if the autonomous messages are enabled.


 Valid values of the parameters are described in the following tables.

Possible timemode parameter values	
TRKE	The current display timemode is track elapsed time.
TRKR	The current display timemode is track remaining time.
DSCE	The current display timemode is disc elapsed time.
DSCR	The current display timemode is disc remaining time.
OFF	The current display timemode is off.

5.18: SY HDMI

 **SY HDMI status [resolution]**<cr><lf>

 Report the current HDMI interface information. This status is only valid on models equipped with an HDMI interface. This message can be triggered by the STAT HDMI command and when the HDMI status or resolution changes if the autonomous messages are enabled.

 Valid values of the parameters are described in the following tables.

Possible status parameter values	
INACTIVE	<i>The HDMI interface is currently inactive.</i>
	<i>This table is to be completed.</i>

Possible resolution parameter values	
UNKNOWN	<i>The HDMI interface resolution is currently unknown.</i>
	<i>This table is to be completed.</i>