marantz
PROFESSIONAL

CDR510

Combination CD Recorder/CD Player

RS-232 Serial Control Owners Manual

As found on pages 51-53 of the CDR510 User's Guide.

RS-232C control

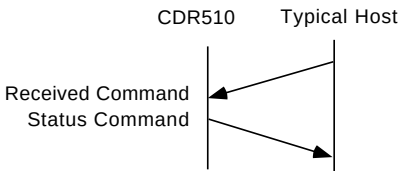
Connect a male (D-Sub 9 Pin) to female (D-Sub 9 Pin) straight cable for RS-232C external control by host equipment.

- The RS-232C host can control functions of the CDR510 externally
- The CDR510 automatically transmits status data when status is changed.
- The CDR510 will respond to status requests by transmitting the associated status data.

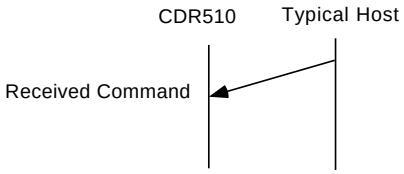
Control commands:

Command	CD command	CDR Command
0	"@12000"+CR	"@12600"+CR
1	"@12001"+CR	"@12601"+CR
2	"@12002"+CR	"@12602"+CR
3	"@12003"+CR	"@12603"+CR
4	"@12004+CR	"@12604"+CR
5	"@12005+CR	"@12605"+CR
6	"@12006"CR	"@12606"+CR
7	"@12007"+CR	"@12607"+CR
8	"@12008"+CR	"@12608"+CR
9	"@12009"+CR	"@12609"+CR
Display	"@12015"+CR	"@12615"+CR
Scroll	"@12011"+CR	"@12611"+CR
Repeat	"@12029"+CR	"@12629"+CR
Next	"@12032"+CR	"@12632"+CR
Previous	"@12033"+CR	"@12633"+CR
Pitch Reset	"@12037"+CR	-
Pitch Up Start	"@12038"+CR	-
Pitch Up Stop	"@1203801"+CR	-
Pitch Down Start	"@12039"+CR	-
Pitch Down Stop	"@1203901"+CR	-
Program	"@12036"+CR	"@12636"+CR
AMS	"@12043"+CR	"@12643"+CR
Open/Close	"@12045"+CR	"@12645"+CR
Pause	"@12048"+CR	"@12648"+CR
Cancel/Delete	"@12049"+CR	"@12649"+CR
Fast Backward Start	"@12050"+CR	"@12650"+CR
Fast Backward Stop	"@1205001"+CR	"@1265001"+CR
Fast Forward Start	"@12052"+CR	"@12652"+CR
Fast Forward Stop	"@1205201"+CR	"@1265201"+CR
Play	"@12053"+CR	"@12653"+CR
Stop	"@12054"+CR	"@12654"+CR
Random	"@12028"+CR	"@12628"+CR
Store/Menu	"@12082"+CR	"@12682"+CR
Enter	"@12087"+CR	"@12687"+CR
Select CD	"@12063"+CR	-
Select CDR	-	"@12663"+CR
Track Inc.	-	"@126114"+CR

Hand shake flow charts for control commands:



Host sends a command that causes a change in CDR510 status.



Host sends a command that causes no change in CDR510 status. For example, Host requests Play during Playback.

Commands Requesting Status

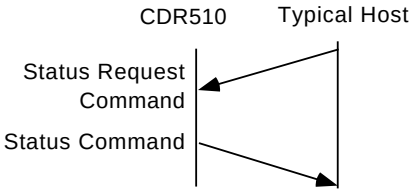
The following Request Commands from the host are received by the CDR510, then the status code is transmitted to the host.

Request Command for CD		Response from CD	
Power	"@1?20POWE"+CR	Power On	"@120PRON"+CR
Tray Mode	"@1?20TRAY"+CR	Open	"@120OPEN"+CR
		Close	"@120CLOS"+CR
Play Mode	"@1?20PLAY"+CR	Toc Reading	"@120TOCR"+CR
		Stop	"@120STOP"+CR
		Play	"@120PLAY"+CR
		Pause	"@120PASE"+CR
		FF	"@120FASF"+CR
		REW	"@120FASR"+CR
Disc	"@1?20DISC"+CR	No Disc	"@120NODI"+CR
		ERROR	"@120ERDI"+CR
		CDDA	"@120CDDI"+CR
		MP3	"@120MPDI"+CR
Repeat Mode	"@1?20RPTM"+CR	OFF	"@120RTOF"+CR
		ON	"@120RTON"+CR
		ALL	"@120RTAL"+CR
Time Mode	"@1?20TMOD"+CR	Track	"@120TTRA"+CR
		Track Remain	"@120TTRE"+CR
		Total Remain	"@120TREM"+CR
		Total Lap	"@120TTLA"+CR
Album	"@1?20ALBU"+CR		"@120Axxx"+CR
Track	"@1?20TRAC"+CR		"@120Txxx"+CR
Current Display Time	"@1?20TIME"+CR		"@120Xxxx"+CR
End Warning	"@1?20WARN"+CR	Warning	"@120WARN"+CR
		No Warning	"@120NOTW"+CR

Request Command for CDR		Response from CDR	
Power	"@1?26POWE"+CR	Power On	"@126PRON"+CR
Tray Mode	"@1?26TRAY"+CR	Open	"@126OPEN"+CR
		Close	"@126CLOS"+CR
Play Mode	"@1?26PLAY"+CR	Toc Reading	"@126TOCR"+CR
		Stop	"@126STOP"+CR
		Play	"@126PLAY"+CR
		Pause	"@126PASE"+CR
		FF	"@126FASF"+CR
		REW	"@126FASR"+CR
Disc	"@1?26DISC"+CR	No Disc	"@126NODI"+CR
		ERROR	"@126ERDI"+CR
		CDDA	"@126CDDI"+CR
Repeat Mode	"@1?26RPTM"+CR	OFF	"@126RTOF"+CR
		ON	"@126RTON"+CR
		ALL	"@126RTAL"+CR
Time Mode	"@1?26TMOD"+CR	Track	"@126TTRA"+CR
		Track Remain	"@126TTRE"+CR
		Total Remain	"@126TREM"+CR
		Total Lap	"@126TTLA"+CR
Track	"@1?26TRAC"+CR		"@126Txxx"+CR
Current Display Time	"@1?26TIME"+CR		"@126Xxxx"+CR

Category	Status from CDR	
Power	Power On	"@126PRON"+CR
Tray Mode	Open	"@126OPEN"+CR
	Close	"@126CLOS"+CR
Play Mode	TOC Reading	"@126TOCR"+CR
	Stop	"@126STOP"+CR
	Play	"@126PLAY"+CR
	Pause	"@126PASE"+CR
	FF	"@126FASF"+CR
	REW	"@126FASR"+CR
Disc	No Disc	"@126NODI"+CR
	ERROR	"@126ERDI"+CR
	CDDA	"@126CDDI"+CR
Repeat Mode	OFF	"@126RTOF"+CR
	ON	"@126RTON"+CR
	ALL	"@126RTAL"+CR
Time Mode	Track	"@126TTRA"+CR
	Track Remain	"@126TTRE"+CR
	Total Remain	"@126TREM"+CR
	Total Lap	"@126TTLA"+CR

Hand shake flow chart for Commands Requesting Status:

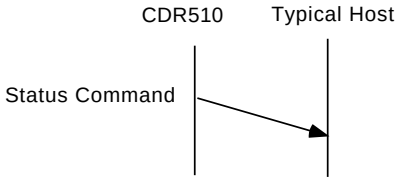


Status changes automatically transmitted.

The following status codes are automatically transmitted to the host.

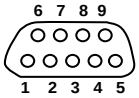
Category	Status from CD	
Power	Power On	"@120PRON"+CR
Tray Mode	Open	"@120OPEN"+CR
	Close	"@120CLOS"+CR
Play Mode	TOC Reading	"@120TOCR"+CR
	Stop	"@120STOP"+CR
	Play	"@120PLAY"+CR
	Pause	"@120PASE"+CR
	FF	"@120FASF"+CR
	REW	"@120FASR"+CR
	End of Track	"@120EOTR"+CR
	End Warning	"@120WARN"+CR
Disc	No Disc	"@120NODI"+CR
	ERROR	"@120ERDI"+CR
	CDDA	"@120CDDI"+CR
	MP3	"@120MPDI"+CR
Repeat Mode	OFF	"@120RTOF"+CR
	ON	"@120RTON"+CR
	ALL	"@120RTAL"+CR
Time Mode	Track	"@120TTRA"+CR
	Track Remain	"@120TTRE"+CR
	Total Remain	"@120TREM"+CR
	Total Lap	"@120TTLA"+CR

Hand shake flow chart for automatic status data:



RS-232C specifications:

Connector pin assignment

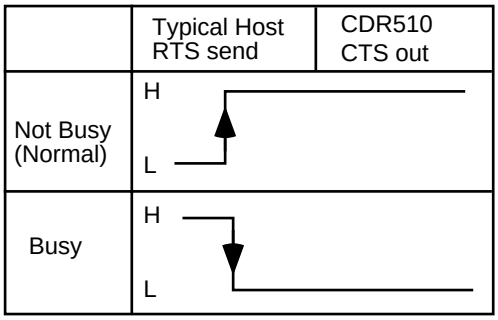


pin	use	CDR510	Typical Host
1	NC	Not Connected	Not Connected
2	TX	Transmit Data	Receive Data
3	RX	Receive Data	Transmit Data
4	NC	Not Connected	Not Connected
5	GND	Ground	Ground
6	NC	Not connected	Not connected
7	RTS	RTS receive	RTS send
8	CTS	CTS send	CTS receive
9	NC	Not Connected	Not Connected
cable connector		D-Sub 9 pin (male)	D-Sub 9 pin (female)

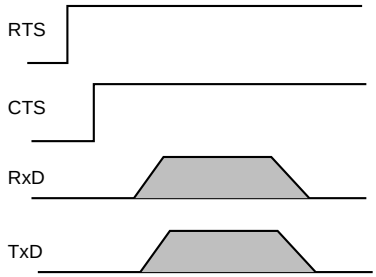
Physical specifications

Cable	Straight cable
Baud rate	9600 bps
Data bits	8 bits
Parity bit	None
Stop bit	1 bit
Flow control	CTS/RTS Hardware Flow

CTS/RTS hardware flow control



Timing chart



Control commands:

The control command packets have a data length of 7~10 bytes. ASCII codes from 0x00 to 0x7f are used to receive serial data. At the transmission end, take steps to convert the ASCII codes into HEX data to set the data in the data packets. CR (0x0d) is added as the data packet delimiter.

Example: Scroll command (ASCII code @12011)

@	1	2	0	1	1	CR
0x40	0x31	0x32	0x30	0x31	0x31	0x0d

When transmitting commands consecutively, put more than 100ms blank between commands.

Status data transmission:

The status data packets have a fixed data length of 8 bytes. ASCII codes from 0x00 to 0x7f are used to transmit serial data. For this reason, the ASCII codes are converted into HEX data before the data is set in the data packets and transmitted. CR (0x0d) is added as the data packet delimiter.

Example: Transmission "Power ON" (ASCII code @120PRON)

@	1	2	0	P	R	O	N	CR
0x40	0x31	0x32	0x30	0x50	0x57	0X4f	0x4e	0x0d

RC-5 Codes

Remote control Model RC330, (not supplied – available from Marantz Professional) can control the CDR510 using these RC-5 codes. The CDR510 receives the codes listed in the table below from the infrared remote control sensor on the front of the unit and also the REMOTE RC-5 IN/OUT jacks.

Function	CD code		CD-R code	
	System (dec)	Command (dec)	System (dec)	Command (dec)
0 _ Space	20	00	26	00
1 ABC	20	01	26	01
2 DEF	20	02	26	02
3 GHI	20	03	26	03
4 JKL	20	04	26	04
5 MN	20	05	26	05
6 OPQ	20	06	26	06
7 RST	20	07	26	07
8 UVW	20	08	26	08
9 XYZ	20	09	26	09
PLAY	20	53	26	53
STOP	20	54	26	54
PAUSE	20	48	26	48
NEXT	20	32	26	32
PREVIOUS	20	33	26	33
FF	20	52	26	52
REW	20	50	26	50
PROGRAM	20	36	26	36
CANCEL/DELETE	20	49	26	49
SCROLL	20	11	26	11
AMS (intro scan)	20	43	26	43
TEMPO RESET	20	37	-	-
REC	-	-	26	55
OPEN/CLOSE	20	45	26	45
DISPLAY	20	15	26	15
ENTER	20	87	26	87
MENU/STORE	20	82	26	82
REPEAT	20	29	26	29
CD	20	63	-	-
CD-R	-	-	26	63
TR.INCR	-	-	26	114