TASCAM

TEAC Professional Division

TASCAM CD-RW901

CONTROL I/O connector
RS-232C Protocol Specification

Ver.1.00
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TEAC Corporation

1. Overview

The CD-RW901's REMOTE connector can be used to control the CD-RW901 from a computer or other external device. In this document, the CD-RW901 is referred to as the "controlled device," and the external device that controls it is referred to as the "external controller."

2. Specifications

2.1. Electrical specifications

Conforms to standard	JIS X-5101 (equivalent to former JIS C-6361 and EIA RS-232C) (Not compatible with the RS-422A used in professional VTR units)
Impedance at receiver	When measured with an applied voltage of between ±3 and 15V, the DC resistance is between 3KΩ and 7KΩ. Total load capacitance is less than 2500pF
Open circuit voltage at transmitter	Less than 25V
Open circuit voltage at receiver	Less than 2V
Signal voltage	When the open circuit voltage at the receiver is 0V, the signal voltage is between ±5V and ±15V for a load impedance of between 3K and 7KΩ.
Signal discrimination	Logical "1" Less than -3V
	Logical "0" More than +3V

2.2. Communication format

Circuit type	3-wire, half-duplex
Transmission type	Digital binary serial
Data speed (baud rate)	4800/9600/19200/38400 bit/sec
Character length	7/8 bit
Parity bit	Odd/Even/None
Stop bit	1/2 bit

(Data speed, character length, parity bit, and stop bit settings are made on the CD-RW901.)

2.3. Connector pin-out

Connector   D-sub 9-pin female (metric thread)
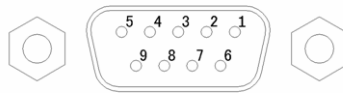
Terminal pin-out and input/output signals

Pin no.	In/Out	Signal name	Description
1	-	NC	Not connected
2	In	Rx Data	Data received at this pin *1
3	Out	Tx Data	Data transmitted from this pin
4	Out	(Reserved)	Reserved
5	-	GND	Ground
6	In	(Reserved)	Reserved
7	Out	RTS	Request To Send (output "request to transmit") *2
8	In	CTS	Clear To Send (input "ready to receive") *2
9	-	NC	Not connected

*1: A voltage that satisfies the RS-232C specification must be applied to Rx Data.
*2: RTS/CTS is loopback-connected within the controlled device. If using RTS/CTS control, consider the design of the external controller.

Controlled device (CD-RW901)   External controller
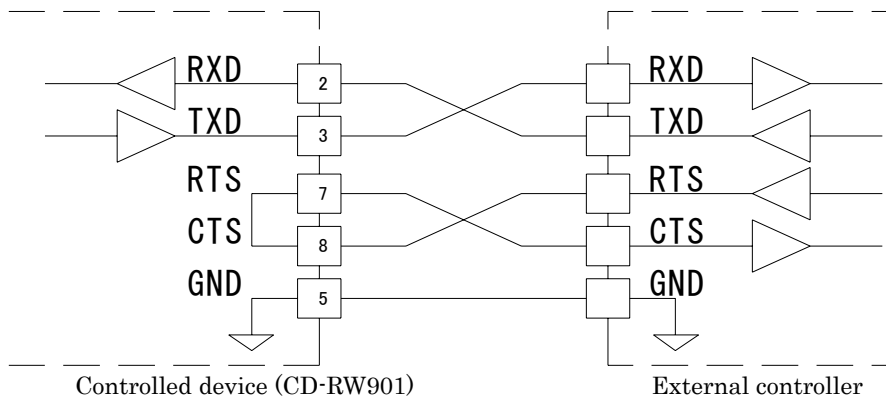
3.   Command format

3.1. Command format overview
The command format is as follows.

Byte 1	Byte 2	Byte 3	Byte 4	Byte 5	Byte 6	Byte 7	Byte 8	…	Byte n
LF	ID	Command		Data 1	Data 2	Data 3	Data 4	…	CR

Commands begin with a "line feed (LF)," end with a "carriage return (CR)," and are based on the ASCII format.
The type following the LF is the machine ID. The machine ID is described later.
Commands are expressed by two ASCII bytes.
The byte string following the command expresses the data, and is between 0 bytes (for a command that has no data) and a maximum of 98 bytes. For details on the data, refer to the detailed explanation for each command. For commands that use 0–9 and A–F as data values, uppercase characters are used for A–F.

Example commands
Example 1:   Transmitting a PLAY command to a controlled device of ID=0
     When the controlled device is in Stop or Ready mode, this command will initiate playback on the controlled device.
     The PLAY command is [12], and is transmitted as follows.

		ID	Command		
ASCII	LF	0	1	2	CR
HEX	0Ah	30h	31h	32h	0Dh

Example 2:   Telling a controlled device of ID=0 to perform a direct search for track 123
     The command "DIRECT TRACK SEARCH PRESET [23]" is transmitted to perform this action.
     The data bytes consist of ASCII in two-byte units.
     For the "DIRECT TRACK SEARCH PRESET" command, the track number is specified as follows.
          Data 1   Tens digit of the specified track number
          Data 2   Ones digit of the specified track number
          Data 3   Thousands digit of the specified track number
          Data 4   Hundreds digit of the specified track number
     Thus, the transmitted command will be as follows.

		ID	Command		Data：track 123			
ASCII	LF	0	2	3	2	3	0	1	CR
HEX	0Ah	30h	32h	33h	32h	33h	30h	31h	0Dh

Example 3:   Writing a title to track 23 of a controlled device whose ID=0
     The command "TEXT PRESET [29]" is transmitted to perform this action.
     This command allows up to eighty single-byte characters to be transmitted.
     For example, the command to write a title "Test" would be as follows.

		ID	Command		Track 23				Title：Test				
ASCII	LF	0	2	9	2	3	0	0	T	e	s	t	CR
HEX	0Ah	30h	32h	39h	32h	33h	30h	30h	54h	65h	73h	74h	0Dh

3.2. Machine ID
The CD-RW901 uses Machine ID=0 to receive commands and transmit returns.
Commands and returns using Machine ID=0 also exist, and these operations are described within this document.
If a command with an ID other than Machine ID=0 is received, that command is ignored.

If an unsupported command is received, the CD-RW901 will transmit ILLEGAL [F2].

3.3. List of commands

A list of commands is given below.

Control/Preset/Sense Command		Return Command	
0F	INFORMATION REQUEST	8F	INFORMATION RETURN
10	STOP		
12	PLAY		
13	RECORD		
14	READY		
16	SHUTTLE		
18	TRAY		
1A	TRACK/INDEX SKIP		
1D	CALL		
20	AUTO CUE LEVEL PRESET	A0	AUTO CUE LEVEL RETURN
21	AUTO TRACK LEVEL PRESET	A1	AUTO TRACK LEVEL RETURN
23	DIRECT TRACK SEARCH PRESET		
25	PITCH DATA PRESET	A5	PITCH DATA RETURN
26	AUTO TRACK TIME PRESET	A6	AUTO TRACK TIME RETURN
28	SYNC REC LEVEL PRESET	A8	SYNC REC LEVEL RETURN
29	TEXT PRESET	A9	TEXT PRESET ACKNOWLEDGE
2C	TIME SEARCH PRESET		
2D	KEY CONTROL DATA PRESET	AD	KEY CONTROL DATA RETURN
2E	FADE IN/OUT TIME PRESET	AE	FADE IN/OUT TIME RETURN
2F	DIGITAL VOLUME DATA PRESET	AF	DIGITAL VOLUME DATA RETURN
30	AUTO CUE SELECT	B0	AUTO CUE SELECT RETURN
31	AUTO TRACK SELECT	B1	AUTO TRACK RETURN
32	EOM TRACK TIME SELECT	B2	EOM TRACK TIME RETURN
33	EOM DISC TIME SELECT	B3	EOM DISC TIME RETURN
35	PITCH CONTROL SELECT	B5	PITCH CONTROL SELECT RETURN
36	AUTO READY SELECT	B6	AUTO READY SELECT RETURN
37	REPEAT SELECT	B7	REPEAT SELECT RETURN
38	SYNC REC SELECT	B8	SYNC REC SELECT RETURN
3A	INCR PLAY SELECT	BA	INCR PLAY SELECT RETURN
3D	KEY CONTROL SELECT	BD	KEY CONTROL SELECT RETURN
4C	REMOTE/LOCAL SELECT	CC	REMOTE/LOCAL SELECT RETURN
4E	PLAY MODE SENSE	CE	PLAY MODE RETURN
50	MECHA STATUS SENSE	D0	MECHA STATUS RETURN
53	ISRC SENSE	D3	ISRC RETURN
55	TRACK No. SENSE	D5	TRACK No. STATUS RETURN
56	DISC STATUS SENSE	D6	DISC STATUS RETURN
57	CURRENT TRACK INFORMATION SENSE	D7	CURRENT TRACK INFORMATION RETURN
58	CURRENT TRACK TIME SENSE	D8	CURRENT TRACK TIME RETURN
59	TEXT SENSE	D9	TEXT RETURN
5D	TOTAL TRACK No./TOTAL TIME SENSE	DD	TOTAL TRACK No./TOTAL TIME RETURN
5E	PGM TOTAL TRACK No./TOTAL TIME SENSE	DE	PGM TOTAL TRACK No./TOTAL TIME RETURN
5F	KEYBOARD TYPE SENSE	DF	KEYBOARD TYPE RETURN

		F0	ERROR SENSE REQUEST
		F1	CAUTION SENSE REQUEST
		F2	ILLEGAL STATUS
		F4	POWER ON STATUS
		F6	CHANGE STATUS
78	ERROR SENSE	F8	ERROR SENSE RETURN
79	CAUTION SENSE	F9	CAUTION SENSE RETURN

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3.4. Command sequence

In most cases the controlled device will not send an ACK in response to transport control or data preset commands sent from the external controller.

The controlled device will send back a return command in response to data sense commands that request a data value specified on the controlled device.

When the status of the controlled device changes, such as from Stop to Play mode, or when an error etc. occurs, the controlled device will send a command indicating this to the external controller.

Examples of the command sequence are given below.

You must leave an interval of at least 20 ms between commands.

Example 1:　　　Controlling the transport of the controlled device

　　　This example describes the Play operation.

　　　When the controlled device receives the PLAY command and enters Play mode, it will transmit a CHANGED STATUS command.

　　　ACK is not transmitted for the PLAY command.

Command		State of controlled device
External controller	Controlled device	
PLAY　　　　　　　　　　　->		Stopped
	<-　CHANGED STATUS	Transmit when starting Play

Example 2:　　　Presetting data

　　　This example describes setting the AUTO CUE LEVEL.

　　　When the controlled device receives the AUTO CUE LEVEL PRESET (Preset) command, it will set its AUTO CUE LEVEL.

　　　ACK is not transmitted for this command.

Command		State of controlled device
External controller	Controlled device	
AUTO　　CUE　　LEVEL PRESET (Preset -54dB)　->		AUTO　CUE　LEVEL set to -54dB

Example 3:　　　Obtaining specified data

　　　This example describes obtaining the currently-set AUTO CUE LEVEL.

　　　When the controlled device receives the AUTO CUE LEVEL PRESET (Sense) command, it will return the currently-set AUTO CUE LEVEL.

Command		State of controlled device
External controller	Controlled device	
AUTO　　CUE　　LEVEL PRESET (Sense)　->		
	<-　AUTO　CUE　LEVEL RETURN	

Example 4:　　　Checking the status of the controlled device, and performing the next operation

　　　When the operating status of the controlled device changes, it will transmit CHANGED STATUS. By using CHANGED STATUS as a trigger for sending MECHA STATUS SENSE, the new operating status can be determined.

　　　This example shows how to check the record-ready status of the controlled device and then initiate recording..

Command		State of controlled device
External controller	Controlled device	
RECORD (Record Ready)　->		Stopped

	<-	CHANGED STATUS	Transmitted when entering record-ready status
MECHA STATUS SENSE	->		
	<-	MECHA STATUS RETURN	Returns record-ready status
RECORD (Record)	->		
	<-	CHANGES STATUS	Transmitted when entering record status

3.5. Command details

The commands, data, and machine IDs described here are characters (ASCII).

A command is two character bytes, a machine ID is one character byte, and each item of data is an individual character byte.

The CD-RW901 can use the following track numbers and group numbers. However if a number not existing on the disc is specified, it will be considered an invalid command.

Track number (audio CD)   maximum 99
Track number (MP3 CD)   maximum 999

INFORMATION REQUEST

Requests the controlled device to return information such as the software version.

Command   0F
Machine ID   0
Data   none
Return   INFORMATION RETURN [8F]

STOP

Puts the controlled device in STOP mode, and defeats input monitor mode.

Command   10
Machine ID   0
Data   none
Return   none

PLAY

Puts the controlled device in PLAY mode, or in RECORD mode if it is in record-ready mode.

Command   12
Machine ID   0
Data   none
Return   none

RECORD

Puts the controlled device in RECORD-READY mode. If it is currently recording, assigns a track. If the state is currently No Disc, puts the controlled device in Input Monitor mode.

Command   13
Machine ID   0
Data   2 bytes

Data 1	Data 2	Description	Remarks
0	1	Record Ready	Puts the device in record-ready mode.
0	2	Track Mark	Assigns a track during recording.
0	3	Input Monitor	Puts the device in Input Monitor mode while stopped.

・ If data other than the above is received, the CD-RW901 will transmit ILLEGAL [F2].

Return   none

READY

Puts the controlled device in PLAY-READY mode or RECORD-READY mode.

Command   14

Machine ID   0

Data   2 bytes

Data 1	Data 2	Description	Remarks
0	0	invalid	The command will be ignored in the case of this data. ILLEGAL will not be transmitted.
0	1	Ready On	

・ If data other than the above is received, the CD-RW901 will transmit ILLEGAL [F2].

Return   none

SHUTTLE

Puts the controlled device in SHUTTLE mode.

SHUTTLE mode will be maintained until a command such as STOP, PLAY, or READY is received.

Command   16
Machine ID   0
Data   2 bytes

Data 1	Data 2	Description	Remarks
0	0	Shuttle Forward	Shuttles in the forward direction.
0	1	Shuttle Reverse	Shuttles in the backward direction.

・ If data other than the above is received, the CD-RW901 will transmit ILLEGAL [F2].

Return   none

TRAY

Opens or closes the tray of the controlled device.

Command   18
Machine ID   0
Data   none
Return   none

SKIP

Causes the controlled device to skip tracks.

After skipping, the device will maintain the mode in which it was when the operation began.

Command   1A
Machine ID   0
Data   2 bytes

Data 1	Data 2	Description	Remarks
0	0	Track Skip Next	Skips to the next track.
0	1	Track Skip Previous	If the current position is at the beginning of a track, skips to the beginning of the previous track. If the current position is not at the beginning of a track, skips to the beginning of the current track..
1	0	Index Skip Next	Skips to the next index.
1	1	Index Skip Previous	If the current position is index 2 or higher, skips to the beginning of the previous index.

・ If data other than the above is received, the CD-RW901 will transmit ILLEGAL [F2].

Return   none

CALL

Causes the controlled device to locate to the call point and enter playback-ready mode.

Command   1D
Machine ID   0
Data   none
Return   none

AUTO CUE LEVEL PRESET

Sets the Auto Cue Level of the controlled device.
A return command is returned only if Sense [FF] is specified.
The Auto Cue Mode setting is made using the command "AUTO CUE SELECT [30]."
Command   20
Machine ID   0
Data   2 bytes

Data 1	Data 2	Description	Remarks
0	0	Preset –24dB	
0	1	Preset –30dB	
0	2	Preset –36dB	
0	3	Preset –42dB	
0	4	Preset –48dB	
0	5	Preset –54dB	
0	6	Preset –60dB	
0	7	Preset –66dB	
0	8	Preset –72dB	
F	F	Sense	Requests that the current preset level be returned.

・ If data other than the above is received, the CD-RW901 will transmit ILLEGAL [F2].
Return   AUTO CUE LEVEL RETURN [A0]

AUTO TRACK LEVEL PRESET

Sets the Auto Track Level of the controlled device.
A return command is returned only if Sense [FF] is specified.
The Auto Track Mode setting is made using the command "AUTO TRACK SELECT [31]."
Command   21
Machine ID   0
Data   2 bytes

Data 1	Data 2	Description	Remarks
0	0	Preset –24dB	
0	1	Preset –30dB	
0	2	Preset –36dB	
0	3	Preset –42dB	
0	4	Preset –48dB	
0	5	Preset –54dB	
0	6	Preset –60dB	
0	7	Preset –66dB	
0	8	Preset –72dB	
F	F	Sense	Requests that the current preset level be returned.

・ If data other than the above is returned, the CD-RW901 will transmit ILLEGAL [F2].
Return   AUTO TRACK LEVEL RETURN [A1]

DIRECT TRACK SEARCH PRESET

Searches for the specified track number.

When this command is received while in STOP mode or PLAY mode, the controlled device will enter PLAY mode after searching. If the controlled device had been in any other mode when searching began, it will remain in that mode after searching.

Command   23
Machine ID   0
Data   4 bytes

	Description	Remarks
Data 1	Tens digit of the track number	
Data 2	Ones digit of the track number	Track number
Data 3	Thousands digit of the track number	Example) 2301: track 123
Data 4	Hundreds digit of the track number	

・ If the specified track number does not exist on the disc, the CD-RW901 will transmit ILLEGAL [F2].

Return   none

PITCH CONTROL DATA PRESET

Specifies the playback pitch of the controlled device in % units.

The adjustable range is ±16.0%.

This can be set independently of the step that is specified by the CD-RW901's PITCH STEP? setting.

A return command is returned only if Sense [FF] is specified..

If Sense [FF] is specified, the data is two bytes.

The pitch control mode setting is made by the command "PITCH CONTROL SELECT [35]."

Command   25
Machine ID   0
Data   4 bytes or 2 bytes

Data 1	Data 2	Data 3	Data 4	Description	Remarks
N2	N3	0 1	N1	Preset %	Positive value Negative value N1:Tens digit, N2: Ones digit, N3:First decimal place Example) 2311:-12.3%
F	F	…		Sense	Requests that the currently preset pitch be returned.

・ If data other than the above or data outside the specified operating range is received, the CD-RW901 will transmit ILLEGAL [F2].

Return   PITCH DATA RETURN [A5]

AUTO TRACK TIME PRESET

Specifies the Auto Track Time setting of the controlled device.

The range that can be specified is 1 to 10 minutes.

A return command is returned only if Sense [FF] is specified.

The Auto Track Mode setting is made by the command "AUTO TRACK SELECT [31]."

Command   26
Machine ID   0
Data   2 bytes

Data 1	Data 2	Description	Remarks

N1	N2	Minutes	N1: Tens digit of minutes, N2: Ones digit of minutes
F	F	Sense	Requests that the currently preset time be returned.

・If data outside the specified range is received, the controlled device will return ILLEGAL[F2].

Return   AUTO TRACK TIME RETURN [A6]

SYNC REC LEVEL PRESET

Sets the Sync Rec Level of the controlled device.

A return command is returned only if Sense [FF] is specified.

The SYNC REC MODE setting is made by the command "SYNC REC SELECT [38]."

Command	28
Machine ID	0
Data	2 bytes

Data 1	Data 2	Description	Remarks
0	0	Preset −24dB	
0	1	Preset −30dB	
0	2	Preset −36dB	
0	3	Preset −42dB	
0	4	Preset −48dB	
0	5	Preset −54dB	
0	6	Preset −60dB	
0	7	Preset −66dB	
0	8	Preset −72dB	
F	F	Sense	Requests that the currently preset level be returned.

・ If data outside the above range is received, the CD-RW901 will return ILLEGAL [F2].

Return   SYNC REC LEVEL RETURN [A8]

TEXT PRESET

Specifies a title for the controlled device of up to 80 single-byte alphabetical or katakana characters.

To obtain the assigned title, transmit the command "TITLE SENSE [59]."

Command	29
Machine ID	0
Data	4 bytes～84 Bytes

	Description	Remarks
Data 1	Tens digit of specified number	
Data 2	Ones digit of specified number	0000 Specify the disc title
Data 3	Thousands digit of specified number	0001 – 0099 Specify a track title
Data 4	Hundreds digit of specified number	
Data 5 – Data 84	Title	Single-byte alphanumeric characters

・ If a track number not existing on the disc is specified, the CD-RW901 will transmit ILLEGAL [F2].

・ The title is between 0 bytes and 80 bytes. The characters up to the last one before CR will be used as the specified title.

Return   TEXT PRESET ACKNOWLEDGE [A9]

TIME SEARCH PRESET

Searches for the specified track number and time.

If this command is received while in STOP mode or PLAY mode, the device will enter PLAY mode following the search. If the device was in any other mode, it will remain in that mode following the search.

Command   2C
Machine ID   0
Data   12 bytes

	Description	Remarks
Data 1	Tens digit of track number	
Data 2	Ones digit of track number	
Data 3	Thousands digit of track number	
Data 4	Hundreds digit of track number	
Data 5	Tens digit of minutes	
Data 6	Ones digit of minutes	
Data 7	Hundreds digit of minutes	
Data 8	Thousands digit of minutes	
Data 9	Tens digit of seconds	
Data 10	Ones digit of seconds	
Data 11	0	Set to 0
Data 12	0	Set to 0

・ If a track number not existing on the disc is specified, the CD-RW901 will transmit ILLEGAL [F2].
・ If data outside the operating range is received, the CD-RW901 will transmit ILLEGAL [F2].

Return   none

KEY CONTROL DATA PRESET

Specifies the playback key of controlled device.

A range of ±6 semitones can be specified.

A return command is returned only if Sense [FF] is specified.

The KEY CONTROL MODE setting is made using the command "KEY CONTROL SELECT [3D]."

Command   2D
Machine ID   0
Data   2 bytes

Data 1	Data 2	Description	Remarks
0		Key Up	
1		Key Down	
	0 – 6	Key Change	Semitone units
F	F	Sense	Requests that the preset content be returned.

・ If data outside the operating range is received, the CD-RW901 will transmit ILLEGAL [F2].

Return   KEY CONTROL DATA RETURN [AD]

FADE IN/OUT TIME PRESET

Specifies the fade-in/out time used for the fade-in/out recording function of the controlled device.

A range of 1 to 30 seconds can be specified.

A return command is returned only if Sense [FF] is specified.

If Sense [FF] is specified, the data is two bytes.

Command   2E
Machine ID   0
Data   4 bytes or 2 bytes

Data 1	Data 2	Data 3	Data 4	Description	Remarks
0	0			IN Time	
	1			OUT Time	
		N1	N2	Preset Time	N1：Tens digit, N2： Ones digit
F	F		…	Sense	Requests that the preset content be returned.

・ If data outside the specified operating range is received, the controlled device will transmit ILLEGAL[F2].

Return   FADE IN/OUT TIME RETURN [AE]

DIGITAL VOLUME DATA PRESET

Specifies the digital volume of the controlled device.

The range that can be set is -54dB〜+18dB and -∞dB.

You can set the -54.0dB〜-24.0dB range is 6.0dB steps, the -24.0dB〜-12.0dB range in 4.0dB steps, the -12.0dB〜-6.0dB range is 2.0dB steps, the -6.0dB〜+6.0dB range in 0.5dB steps, and the +6.0dB 〜+18.0dB range in 1.0dB steps.

A return command is returned only if Sense [FF] is specified.

If Sense [FF] is specified, the data is two bytes.

Command   2F
Machine ID   0
Data   4 bytes or 2 bytes

Data 1	Data 2	Data 3	Data 4	Description	Remarks
N2	N3	0 1	N1	Preset Level	Positive value Negative value N1： Tens digit, N2： Ones digit, N3： First decimal place Example) 6011: -16.0dB
A	A	A	A	Preset -∞dB	
F	F		…	Sense	Requests that the preset content be returned

・ If data outside the specified operating range is received, the controlled device will transmit ILLEGAL[F2]

Return   DIGITAL VOLUME DATA RETURN [AF]

AUTO CUE SELECT

Specifies the auto cue mode setting of the controlled device.

A return command is returned only if Sense [FF] is specified.

The AUTO CUE LEVEL setting is made by the command "AUTO CUE LEVEL PRESET [20]."

Command   30
Machine ID   0
Data   2 bytes

Data 1	Data 2	Description	Remarks
0	0	Auto Cue Off	
0	1	Auto Cue On	
F	F	Sense	Requests that the preset content be returned.

・If data other than the above is received, the CD-RW901 will transmit ILLEGAL [F2].
Return   AUTO CUE SELECT RETURN [B0]

AUTO TRACK SELECT

Specifies the auto track mode of the controlled device.
A return command is returned only if Sense [FF] is specified.

Command   31
Machine ID   0
Data   2 bytes

Data 1	Data 2	Description	Remarks
0	0	Auto Track Off	
0	1	Auto Track On (Level)	Executes auto track according to the specified AUTO TRACK LEVEL.
0	2	Auto Track On (Digital Direct)	Executes auto track according to the track data within the S/P DIF signal.
0	3	Auto Track On (Time)	Executes auto track according to the specified AUTO TRACK TIME.
F	F	Sense	Requests that the preset content be returned.

・ If data other than the above is received, the CD-RW901 will transmit ILLEGAL [F2].

Return   AUTO TRACK RETURN [B1]

EOM TRACK TIME PRESET

Specifies the time (in seconds) at which the tally signal will be output by the EOM (End Of Message) function which outputs a tally signal when the track nears its end.
The range is 1 to 99 seconds, or OFF.
A return command is returned only if data [FF] is specified.

Command   32
Machine ID   0
Data   2 bytes

Data 1	Data 2	Description	Remarks
0	0	EOM Track Off	
N1	N2	Number of seconds	N1：Tens digit of seconds, N2：Ones digit of seconds
F	F	Sense	Requests that the preset content be returned.

・ If data outside the range specified above is received, the controlled device will transmit ILLEGAL[F2].

Return   EOM TRACK TIME RETURN [B2]

EOM DISC TIME PRESET

Specifies the time (in seconds) at which the tally signal will be output by the EOM (End Of Message) function which outputs a tally signal when the disc nears its end.
The range is 1 to 99 seconds, or OFF.
A return command is returned only if data [FF] is specified.

Command   33
Machine ID   0
Data   2 bytes

Data 1	Data 2	Description	Remarks
0	0	EOM Disc Off	
N1	N2	Number of seconds	N1：Tens digit of seconds, N2：Ones digit of seconds
F	F	Sense	Requests that the preset content be returned.

・ If data outside the range specified above is received, the controlled device will transmit ILLEGAL[F2].

Return   EOM DISK TIME RETURN [B3]

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PITCH CONTROL SELECT

Specifies the Pitch Control mode of the controlled device.

A return command is returned only if Sens [FF] is specified.

The pitch control value is specified by the command "PITCH CONTROL DATA PRESET [25]."

Command   35

Machine ID   0

Data   2 bytes

Data 1	Data 2	Description	Remarks
0	0	Pitch Control Off	
0	1	Pitch Control On	
F	F	Sense	Requests that the preset content be returned.

・ If data other than the above is received, the CD-RW901 will transmit ILLEGAL [F2].

Return   PITCH CONTROL SELECT RETURN [B5]

AUTO READY SELECT

Specifies the Auto Ready mode setting of the controlled device.

A return command is returned only if Sense [FF] is specified.

Command   36

Machine ID   0

Data   2 bytes

Data 1	Data 2	Description	Remarks
0	0	Auto Ready Off	
0	1	Auto Ready On	
F	F	Sense	Requests that the preset content be returned.

・ If data other than the above is received, the CD-RW901 will transmit ILLEGAL [F2].

Return   AUTO READY SELECT RETURN [B6]

REPEAT SELECT

Specifies the Repeat Mode setting of the controlled device.

A return command is returned only if Sense [FF] is specified.

Command   37

Machine ID   0

Data   2 bytes

Data 1	Data 2	Description	Remarks
0	0	Repeat Off	
0	1	Repeat On	
F	F	Sense	Requests that the preset content be returned.

・ If data other than the above is received, the CD-RW901 will transmit ILLEGAL [F2].

Return   REPEAT SELECT RETURN [B7]

SYNC REC SELECT

Specifies the Sync Rec Mode setting of the controlled device.

A return command is returned only if Sense [FF] is specified.

The Sync Rec Level is specified by the command "SYNC REC LEVEL PRESET [28]."

Command   38

Machine ID   0

Data   2 bytes

Data 1	Data 2	Description	Remarks
0	0	Sync Rec Off	
0	1	Sync Rec On	
F	F	Sense	Requests that the preset content be returned.

・If data other than the above is received, the CD-RW901 will transmit ILLEGAL [F2].

Return   SYNC REC SELECT RETURN [B8]

INCR PLAY SELECT

Specifies the Incremental Play Mode of the controlled device.

A return command is returned only if Sense [FF] is specified.

Command   3A

Machine ID   0

Data   2 bytes

Data 1	Data 2	Description	Remarks
0	0	INCR Play Off	
0	1	INCR Play On	
F	F	Sense	Requests that the preset content be returned.

・If data other than the above is received, the CD-RW901 will transmit ILLEGAL [F2].

Return   INCR PLAY SELECT RETURN [BA]

KEY CONTROL SELECT

Specifies the Key Control Mode of the controlled device.

A return command is returned only if Sense [FF] is specified.

The key control value is set by the command "KEY CONTROL DATA PRESET [2D]."

Command   3D

Machine ID   0

Data   2 bytes

Data 1	Data 2	Description	Remarks
0	0	Key Control Off	
0	1	Key Control On	
F	F	Sense	Requests that the preset content be returned.

・If data other than the above is received, the CD-RW901 will transmit ILLEGAL [F2].

Return   KEY CONTROL SELECT RETURN [BD]

REMOTE/LOCAL SELECT

Enables or disables key operations on the controlled device's own panel.

A return command is returned only if Sense [FF] is specified.

Command   4C

Machine ID   0

Data   2 bytes

Data 1	Data 2	Description	Remarks
0	0	Remote	Only remote operation via RS-232C and wired remote control will be enabled. Key operations on the device's own panel will be disabled.
0	1	Local	Remote operation and key operations on the device's own panel will be enabled.
F	F	Sense	Requests that the preset content be returned.

・ If data other than the above is received, the CD-RW901 will transmit ILLEGAL [F2].

Return   REMOTE/LOCAL SELECT RETURN [CC]

PLAY MODE SENSE

Requests that the status of the controlled device's Play mode be returned.

Command   4E

Machine ID   0

Data   none

Return   PLAY MODE RETURN [CE]

MECHA STATUS SENSE

Requests that the status of the controlled device's mechanism be returned.

Command   50

Machine ID   0

Data   none

Return   MECHA STATUS RETURN [D0]

ISRC SENSE

Requests that the ISRC of the current track be returned.

Command   53

Machine ID   0

Data   none

Return   ISRC RETURN [D3]

TRACK No. SENSE

Requests that the current track number be returned.

Command   55

Machine ID   0

Data   none

Return   TRACK No. RETURN [D5]

DISC STATUS SENSE

Requests that the presence or absence of a disc and the type of disc be returned.

Command   56

Machine ID   0

Data   none

Return   DISC STATUS RETURN [D6]

CURRENT TRACK INFORMATION SENSE
Requests that information for the current track be returned.

Command   57
Machine ID   0
Data   none
Return   CURRENT TRACK INFORMATION RETURN [D7]

CURRENT TRACK TIME SENSE
Requests that the time information for the current track be returned in the specified form.

Command   58
Machine ID   0
Data   2 bytes

Data 1	Data 2	Description	Remarks
0	0	Elapsed Time	Elapsed track time
0	1	Remain Time	Remaining track time
0	2	Total Elapsed Time	Elapsed disc time
0	3	Total Remain Time	Remaining disc time

・ If data other than the above is received, the CD-RW901 will transmit ILLEGAL [F2].

Return   CURRENT TRACK TIME RETURN [D8]

TEXT SENSE
Requests that the title of the disc or of the specified track be returned.

Command   59
Machine ID   0
Data   4 bytes

	Description	Remarks
Data 1	Tens digit of the specified number	
Data 2	Ones digit of the specified number	
Data 3	Thousands digit of the specified number	0000　　　　　Specify the disc title
Data 4	Hundreds digit of the specified number	0001 – 0999　Specify a track title
Data 5 – Data 84	Title	Single byte alphanumeric characters

・ If a track number not existing on the disc is specified, the CD-RW901 will transmit ILLEGAL [F2].

Return   TEXT RETURN [D9]

TOTAL TRACK No./TOTAL TIME SENSE
Requests that the total number of tracks on the disc and the total time be returned.

Command   5D
Machine ID   0
Data   none
Return   TOTAL TRACK No./TOTAL TIME RETURN [DD]

PGM TOTAL TRACK No./TOTAL TIME SENSE
Requests that the total number of tracks for program playback and the total time be returned.

Command   5E
Machine ID   0
Data   none
Return   PGM TOTAL TRACK No./TOTAL TIME RETURN [DE]

KEYBOARD TYPE SENSE

Requests the type of PS/2 keyboard connected to the controlled device.

Command	5F
Machine ID	0
Data	none
Return	KEYBOARD TYPE RETURN [DF]

ERROR SENSE

Requests that error data be returned from the controlled device.
If the controlled device issues an "ERROR SENSE REQUEST [F0]," you should use this command to check the content of the error.

Command	78
Machine ID	0
Data	none
Return	ERROR SENSE RETURN [F8]

CAUTION SENSE

Requests that caution data be returned from the controlled device.
If the controlled device issues a "CAUTION SENSE REQUEST [F1]," you should use this command to check the content of the error.

Command	79
Machine ID	0
Data	none
Return	CAUTION SENSE RETURN [F9]

INFORMATION RETURN

This is the return command in response to the command "INFORMATION REQUEST [0F]."
It returns the software version of the controlled device.

Command   8F
Machine ID   0
Data   4 bytes

Data 1	Tens digit of the software version	Example of Data 1 – Data 4
Data 2	Ones digit of the software version	0100 Version 1.00
Data 3	First decimal place of the software version	
Data 4	Second decimal place of the software version	

Request   INFORMATION REQUEST [0F]

AUTO CUE LEVEL RETURN

This is the return command in response to the command "AUTO CUE LEVEL PRESET [20]."
It returns the currently specified auto cue level.

Command   A0
Machine ID   0
Data   2 bytes

Data 1	Data 2	Description	Remarks
0	0	–24dB	
0	1	–30dB	
0	2	–36dB	
0	3	–42dB	
0	4	–48dB	
0	5	-54dB	
0	6	–60dB	
0	7	–66dB	
0	8	–72dB	

Request/Preset   AUTO CUE LEVEL PRESET [20]

AUTO TRACK LEVEL RETURN

This is the return command in response to the command "AUTO TRACK LEVEL PRESET [21]."
It returns the currently specified auto track level.

Command   A1
Machine ID   0
Data   2 bytes

Data 1	Data 2	Description	Remarks
0	0	–24dB	
0	1	-30dB	
0	2	-36dB	
0	3	–42dB	
0	4	–48dB	
0	5	–54dB	
0	6	–60dB	
0	7	–66dB	
0	8	–72dB	

Request/Preset   AUTO TRACK LEVEL PRESET [21]

PITCH CONTROL DATA RETURN

This is the return command in response to the command "PITCH CONTROL DATA PRESET [25]."
It returns the currently specified pitch control value.

Command A5
Machine ID 0
Data   4 bytes

Data 1	Data 2	Data 3	Data 4	Description	Remarks
N2	N3	0 1	N1	Preset %	Positive value Negative value N1: Tens digit, N2: Ones digit, N3: First decimal place digit Example) 2311:-12.3%

Request/Preset PITCH CONTROL DATA PRESET [25]

AUTO TRACK TIME RETURN

This is the return command in response to the command "AUTO TRACK TIME PRESET [26]."
It returns the currently specified auto track time.

Command A6
Machine ID 0
Data   2 bytes

Data 1	Data 2	Description	Remarks
N1	N2	Minutes	N1:Tens digit of the minutes, N2: Ones digit of the minutes

Request/Preset AUTO TRACK TIME PRESET [26]

SYNC REC LEVEL RETURN

This is the return command in response to the command "SYNC REC LEVEL PRESET [28]."
It returns the currently specified Sync Rec level.

Command A8
Machine ID 0
Data   2 bytes

Data 1	Data 2	Description	Remarks
0	0	Preset –24dB	
0	1	Preset –30dB	
0	2	Preset –36dB	
0	3	Preset –42dB	
0	4	Preset –48dB	
0	5	Preset –54dB	
0	6	Preset –60dB	
0	7	Preset –66dB	
0	8	Preset –72dB	

Request/Preset SYNC REC LEVEL PRESET [28]

TEXT PRESET ACKNOWLEDGE

This is the return command in response to the command "TEXT PRESET [29]."
It is returned when the specified title has been successfully written.

Command A9
Machine ID 0
Data   none
Request/Preset TEXT PRESET [29]

KEY CONTROL DATA RETURN

This is the return command in response to the command "KEY CONTROL DATA PRESET [2D]."
It returns the currently specified key control value.

Command   AD
Machine ID   0
Data   2 bytes

Data 1	Data 2	Description	Remarks
0		Key Up	
1		Key Down	
	0 – 6	Key Change	Semitone units

Request/Preset   KEY CONTROL DATA PRESET [2D]

FADE IN/OUT TIME RETURN

This is the return command in response to the command "FADE IN/OUT TIME PRESET [2E]."
It returns the currently specified fade-in/out time.

Command   AE
Machine ID   0
Data   4 bytes

Data 1	Data 2	Data 3	Data 4	Description	Remarks
N1	N2			IN Time	N1：Tens digit, N2：Ones digit
		N3	N4	OUT Time	N3：Tens digit, N4：Ones digit

Request/Preset   FADE IN/OUT TIME PRESET [2E]

DIGITAL VOLUME DATA RETURN

This is the return command in response to the command "DIGITAL VOLUME DATA PRESET [2F]."
It returns the currently specified digital volume value.

Command   AF
Machine ID   0
Data   4 bytes

Data 1	Data 2	Data 3	Data 4	Description	Remarks
N2	N3	0 1	N1	Preset Level	Positive value Negative value N1: Tens digit, N2: Ones digit, N3: First decimal place digit Example) 6011：-16.0dB
A	A	A	A	Preset -∞dB	

Request/Preset   DIGITAL VOLUME DATA PRESET [2F]

AUTO CUE SELECT RETURN

This is the return command in response to the command "AUTO CUE SELECT [30]."
It returns the Auto Cue on/off status.

Command   B0
Machine ID   0
Data   2 bytes

Data 1	Data 2	Description	Remarks
0	0	Auto Cue Off	
0	1	Auto Cue On	

Request/Preset   AUTO CUE SELECT [30]

AUTO TRACK SELECT RETURN

This is the return command in response to the command "AUTO TRACK SELECT [31]."

It returns the Auto Track on/off status.

Command   B1
Machine ID   0
Data   2 bytes

Data 1	Data 2	Description	Remarks
0	0	Auto Track Off	
0	1	Auto Track On (Level)	Auto Track is executed according to the specified AUTO TRACK LEVEL.
0	2	Auto Track On (Digital Direct)	Auto Track is executed according to the track data within the S/P DIF signal.
0	3	Auto Track On (Time)	Auto Track is executed according to the specified AUTO TRACK TIME.

Request/Preset   AUTO TRACK SELECT [31]

EOM TRACK TIME RETURN

This is the return command in response to the command "EOM TRACK TIME PRESET [32]."

It returns the time at which the EOM (End Of Message) function will give notice that the end of the track is near.

Command   B2
Machine ID   0
Data   2 bytes

Data 1	Data 2	Description	Remarks
0	0	EOM Track Off	
N1	N2	Number of seconds	N1: Tens digit of seconds, N2: Ones digit of seconds

Request/Preset   EOM TRACK TIME PRESET [32]

EOM DISC TIME RETURN

This is the return command in response to the command "EOM DISC TIME PRESET [33]."

It returns the time at which the EOM (End Of Message) function will give notice that the end of the disc is near.

Command   B3
Machine ID   0
Data   2 bytes

Data 1	Data 2	Description	Remarks
0	0	EOM Disc Off	
N1	N2	Number of seconds	N1: Tens digit of seconds, N2: Ones digit of seconds

Request/Preset   EOM DISC TIME PRESET [33]

PITCH CONTROL SELECT RETURN

This is the return command for the command "PITCH CONTROL SELECT [35]."

It returns the Pitch Control on/off status.

Command   B5
Machine ID   0
Data   2 bytes

Data 1	Data 2	Description	Remarks
0	0	Pitch Control Off	
0	1	Pitch Control On	

Request/Preset　PITCH CONTROL SELECT [35]

AUTO READY SELECT RETURN

This is the return command for the command "AUTO READY SELECT [36]."
It returns the Auto Ready on/off status.

Command   B6
Machine ID   0
Data   2 bytes

Data 1	Data 2	Description	Remarks
0	0	Auto Ready Off	
0	1	Auto Ready On	

Request/Preset   AUTO READY SELECT [36]

REPEAT SELECT RETURN

This is the return command for the command "REPEAT SELECT [37]."
It returns the Repeat Mode on/off status.

Command   B7
Machine ID   0
Data   2 bytes

Data 1	Data 2	Description	Remarks
0	0	Repeat Off	
0	1	Repeat On	

Request/Preset   REPEAT SELECT [37]

SYNC REC SELECT RETURN

This is the return command for the command "SYNC REC SELECT [38]."
It returns the Sync Rec on/off status.

Command   B8
Machine ID   0
Data   2 bytes

Data 1	Data 2	Description	Remarks
0	0	Sync Rec Off	
0	1	Sync Rec On	

Request/Preset   SYNC REC SELECT [38]

INCR PLAY SELECT RETURN

This is the return command for the command "INCR PLAYSYNC SELECT [3A]."
It returns the Incremental Play on/off status.

Command   BA
Machine ID   0
Data   2 bytes

Data 1	Data 2	Description	Remarks
0	0	INCR Play Off	
0	1	INCR Play On	

Request/Preset   INCR PLAY SELECT [3A]

KEY CONTROL SELECT RETURN

This is the return command for the command "KEY CONTROL SELECT [3D]."

It returns the Key Control on/off status.

Command   BD
Machine ID   0
Data   2 bytes

Data 1	Data 2	Description	Remarks
0	0	Key Control Off	
0	1	Key Control On	

Request/Preset   KEY CONTROL SELECT [3D]

REMOTE/LOCAL SELECT RETURN

This is the return command for the command "REMOTE/LOCAL SELECT [4C]."

It returns the enabled or disabled status for operation of the device's panel keys.

Command   CC
Machine ID   0
Data   2 bytes

Data 1	Data 2	Description	Remarks
0	0	Remote	Only remote operations via RS-232C and the wired remote control unit are valid. Key operations on the device's own panel are disabled.
0	1	Local	Remote operations as well as operations of the device's own panel are valid.

Request/Preset   REMOTE/LOCAL SELECT [4C]

PLAY MODE RETURN

This is the return command for the command "PLAY MODE SENSE [4E]."

It returns the current Play mode.

Command   CE
Machine ID   0
Data   2 bytes

Data 1	Data 2	Description	Remarks
0	0	Continue	Play all tracks on the disc
0	1	Single	Play a single track
0	4	Program (Data Empty)	Program Play mode (with no tracks programmed)
0	5	Program	Program Play mode
0	6	Random	Random Play mode

Request/Preset   PLAY MODE SENSE [4E]

MECHA STATUS RETURN

This is the return command for the command "MECHA STATUS SENSE [50]."

It returns the current operating status of the mechanism.

Command   D0

Machine ID   0

Data   2 bytes

Data 1	Data 2	Description	Remarks
0	0	No Disc	No disc is inserted
0	1	Tray	Tray is being opened or closed
0	2	Open	Tray is open
1	0	Stop	Stopped
1	1	Play	Playing
1	2	Ready On	Play-ready mode
8	0	Monitor	Input monitor status (no disc is inserted)
8	1	Record	Recording
8	2	Record Ready	Record-ready mode
8	3	TOC Writing	Writing the TOC / Erasing or Finalizing

Request/Preset   MECHA STATUS SENSE [50]

ISRC RETURN

This is the return command for the command "ISRC SENSE [53]."

It returns the ISRC code for the current track number.

Command   D3

Machine ID   0

Data   12 bytes

	Description	Remarks
Data 1 – Data 12	ISRC code	Single-byte alphanumeric characters (If no ISRC code is stored, returns all zeros.)

Request/Preset   ISRC SENSE [53]

TRACK No. RETURN

This is the return command for the command "TRACK No. SENSE [55]."

It returns whether the current track number and EOM are shown.

If Group mode is on, the group number is returned.

Command   D5

Machine ID   0

Data   6 bytes

	Description	Remarks	
Data 1	EOM Status	00：EOM indication not shown	
Data 2		01：EOM is displayed	
Data 3	Tens digit	0000	Stopped, and track is not cued, etc.
Data 4	Ones digit	0001 – 0999	Track number
Data 5	Thousands digit	1000	Group mode is on, but no group has been created
Data 6	Hundreds digit	1001 - 1099	Group number

・ The group number is returned with 1000 added.

Request/Preset   TRACK No. SENSE [55]

DISC STATUS RETURN

This is the return command for the command "DISC STATUS SENSE [56]."

It returns the presence/absence of a disc, and the type of disc.

Command   D6

Machine ID   0

Data   4 bytes

Data 1	Disc Status	00：Disc not present
Data 2		01：Disc present
Data 3	Disc Type	00：CD-DA
Data 4		01：CD-R (Audio)
		02：CD-RW (Audio)
		10：CD-Data (MP3 CD)
		11：CD-R (Data)
		12：CD-RW (Data)

Request/Preset   DISC STATUS SENSE [56]

CURRENT TRACK INFORMATION RETURN

This is the return command for the command "CURRENT TRACK INFORMATION SENSE [57]."

If the Play mode is Program mode, this returns the program number. For any other Play mode, it returns the track number.

Command   D7

Machine ID   0

Data   12 bytes

	Description	Remarks
Data 1	Tens digit of the track number	
Data 2	Ones digit of the track number	
Data 3	Thousands digit of the track number	
Data 4	Hundreds digit of the track number	
Data 5	Tens digit of the minutes	
Data 6	Ones digit of the minutes	
Data 7	Hundreds digit of the minutes	
Data 8	Thousands digit of the minutes	
Data 9	Tens digit of the seconds	
Data 10	Ones digit of the seconds	
Data 11	0	0 is returned.
Data 12	0	0 is returned.

Request/Preset   CURRENT TRACK INFORMATION SENSE [57]

CURRENT TRACK TIME RETURN

This is the return command for the command "CURRENT TRACK TIME SENSE [58]."

It returns the current track time or the disc time.

Command   D8
Machine ID   0
Data   10 bytes

	Description	Remarks
Data 1	Time Mode	00：Track elapsed time 01：Track remaining time 02：Disc elapsed time 03：Disc remaining time
Data 2		
Data 3	Tens digit of the minutes	
Data 4	Ones digit of the minutes	
Data 5	Hundreds digit of the minutes	
Data 6	Thousands digit of the minutes	
Data 7	Tens digit of the seconds	
Data 8	Ones digit of the seconds	
Data 9	0	0 is returned.
Data 10	0	0 is returned.

Request/Preset   CURRENT TRACK TIME SENSE [58]

TEXT RETURN

This is the return command for the command "TEXT SENSE [59]."

It returns the title of the track or disc.

If no title has been written for the specified track or the disc, this returns the command "ILLEGAL SENSE REQUEST [F2]."

Command   D9
Machine ID   0
Data   none
Data   5 bytes～84 bytes

	Description	Remarks
Data 1	Tens digit of the specified number	
Data 2	Ones digit of the specified number	
Data 3	Thousands digit of the specified number	0000 Disc title 0001 – 0999 Track title
Data 4	Hundreds digit of the specified number	
Data 5 – Data 84	Title	Single-byte alphanumeric characters

・The title is between 0 and 80 characters in length.

Request/Preset   TEXT SENSE [59]

TOTAL TRACK No./TOTAL TIME RETURN

This is the return command for the command "TOTAL TRACK No./TOTAL TIME SENSE [5D]."

It returns the total number of tracks and the total time of the disc.

Command   DD
Machine ID   0
Data   12 bytes

	Description	Remarks
Data 1	Tens digit of total number of tracks	If Data 1 – Data 4 is 0000, the disc is either a blank disc, or no disc is inserted.
Data 2	Ones digit of total number of tracks	
Data 3	Thousands digit of total number of tracks	
Data 4	Hundreds digit of total number of tracks	
Data 5	Tens digit of minutes	
Data 6	Ones digit of the minutes	
Data 7	Hundreds digit of the minutes	
Data 8	Thousands digit of the minutes	
Data 9	Tens digit of the seconds	
Data 10	Ones digit of the seconds	
Data 11	0	0 is returned.
Data 12	0	0 is returned.

Request/Preset   TOTAL TRACK No./TOTAL TIME SENSE [5D]

PGM TOTAL TRACK No./TOTAL TIME RETURN

This is the return command for the command "PGM TOTAL TRACK No./TOTAL TIME SENSE [5E]."

It returns the total number of tracks and total disc time for Program Play mode.

Command   DE
Machine ID   0
Data   12 bytes

	Description	Remarks
Data 1	Tens digit of total number of tracks	If Data 1 – Data 4 is 0000, no program has been created.
Data 2	Ones digit of total number of tracks	
Data 3	Thousands digit of total number of tracks	
Data 4	Hundreds digit of total number of tracks	

Data 5	Tens digit of the minutes	
Data 6	Ones digit of the minutes	
Data 7	Hundreds digit of the minutes	
Data 8	Thousands digit of the minutes	
Data 9	Tens digit of the seconds	
Data 10	Ones digit of the seconds	
Data 11	0	0 is returned.
Data 12	0	0 is returned.

Request/Preset   PGM TOTAL TRACK No./TOTAL TIME SENSE [5E]

KEYBOARD TYPE RETURN
This is the return command for the command "KEYBOARD TYPE SENSE[5F]."
It returns the type of PS/2 keyboard.
Command   DF
Machine ID   0
Data   2 bytes

Data 1	Data 2	Description	Remarks
0	0	Japanese Keyboard	The setting when a Japanese keyboard is connected
0	1	US Keyboard	The setting with an English keyboard is connected

Request/Preset   KEYBOARD TYPE SENSE [5F]

ERROR SENSE REQUEST
This is transmitted when the controlled device is in an error condition.
If this command is transmitted from the controlled device, the external controller device should transmit the command "ERROR SENSE [78]" to determine the content of the error.
Command   F0
Machine ID   0
Data   none
Request/Preset   none

CAUTION SENSE REQUEST
This is transmitted when the controlled device is in a caution condition.
If this command is transmitted from the controlled device, the external controller device should transmit the command "CAUTION SENSE [79]" to determine the content of the warning.
Command   F1
Machine ID   0
Data   none
Request/Preset   none

ILLEGAL STATUS
This command is returned when an invalid command or data has been sent to the controlled device.
If this command is transmitted from the controlled device, the external controller device should re-transmit the correct command or data in compliance with the specifications.
Command   F2
Machine ID   0
Data   none
Request/Preset   none

POWER ON STATUS

This command indicates that the controlled device has been powered-on.

Command   F4

Machine ID   0

Data   none

Request/Preset none

CHANGED STATUS

This command indicates that the operation or mode of the controlled device has changed.

Command   F6

Machine ID   0

Data   2 bytes

Data 1	Data 2	Description	Remarks
0	0	Changed Mechanical Status	The status of the mechanism has changed
0	3	Changed Track/EOM Status	The track number has changed. The EOM display/non-display state has changed.

Request/Preset none

ERROR SENSE RETURN

This is the return command for the command "ERROR SENSE [78]."

It returns an error code.

Command   F8

Machine ID   0

Data   4 bytes

Data 1	N2	Error code (N1-N2N3)	
Data 2	N3	1–01	Rec Error
Data 3	0	1-02	Drive Error
Date 4	N1	1-12	Disc Error
		1-1F	Format Error

Request/Preset   ERROR SENSE [78]

CAUTION SENSE RETURN

This is the return command for the command "CAUTION SENSE [79]."

It returns a caution code.

Command   F9

Machine ID   0

Data   4 bytes

Data 1	N2	Warning code (N1-N2N3)	
Data 2	N3	1-04	Sure? Text
Data 3	0	1-05	Tray Error
Data 4	N1	1-06	Disc Full
		1-07	Track Full
		1-09	D-In Unlock
		1-0B	Can't REC
		1-0F	Can't Edit
		1-13	Can't Select
		1-15	Not Fs44.1k
		1-16	Text Full
		1-19	PGM Full
		1-1A	PGM Empty
		1-1B	Ext CLK Err
		1-1D	Not Audio
		1-1E	Decode Error

Request/Preset   none