

# TASCAM SS-R1/SS-CDR1

CONTROL I/O connector RS-232C Protocol Specification

> Ver.1.00 March 2008

**TEAC** Corporation

1. Overview

The REMOTE connector equipped on the SS-R1/SS-CDR1 enables you to control the SS-R1/SS-CDR1 from a computer or other external device. In this document, the SS-R1/SS-CDR1 is referred to as the "controlled device," and the external device that controls it is referred to as the "external controller."

2. Specifications

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 $\pm 3$ and 15V, the DC					
	resistance is between $3K\Omega$ and $7K\Omega$ .					
	Total load capacitance is less than 2500pF					
Open circuit voltage at t	ransmitter Less than 25V					
Open circuit voltage at r	eceiver Less than 2V					
Signal voltage	When the open circuit voltage at the receiver is 0V, the signal voltage is					
	between $\pm 5V$ and $\pm 15V$ for a load impedance of between 3K and 7K $\Omega$ .					
Signal discrimination	Logical "1" Less than -3V					
	Logical "0" More than +3V					
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 le	ength, parity bit, and stop bit settings are made on the SS-R1/SS-CDR1.)					

Connector pin-out Connector

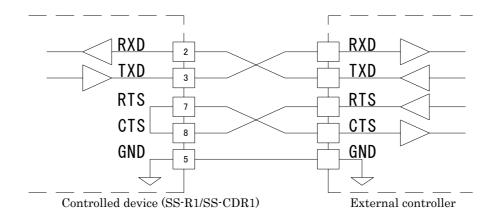
D-sub 9-pin female (metric thread)

## 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	In	RTS	Request To Send (input "request to transmit") *2
8	Out	CTS	Clear To Send (output "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.



#### 3. Command format

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
$\mathbf{LF}$	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	$\mathbf{LF}$	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	$\mathbf{LF}$	0	2	3	2	3	0	1	CR
HEX	0Ah	30h	32h	33h	32h	33h	30h	31h	0Dh

Machine ID

The SS-R1/SS-CDR1 uses Machine ID=0 to receive commands and transmit returns. If a command with an ID other than Machine ID=0 is received, that command is ignored. If an unsupported command is received, the SS-R1/SS-CDR1 will transmit ILLEGAL [F2].

Cont	trol/Preset/Sense Command	Return	n Command
0F	INFORMATION REQUEST	8F	INFORMATION RETURN
10	STOP		
12	PLAY		
13	RECORD		
14	READY		
16	SHUTTLE		
17	FLASH LOAD	97	FLASH LOAD ACKNOWLEDGE
18	EJECT		
1A	TRACK 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
27	CLOCK DATA PRESET	A7	CLOCK DATA RETURN
28	SYNC REC LEVEL PRESET	A8	SYNC REC LEVEL RETURN
2C	TIME SEARCH PRESET	-	
2D	KEY CONTROL DATA PRESET	AD	KEY CONTROL 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 MEDIA TIME SELECT	B3	EOM MEDIA 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
$4\mathrm{E}$	PLAY MODE SENSE	CE	PLAY MODE RETURN
50	MECHA STATUS SENSE	D0	MECHA STATUS RETURN
55	TRACK No. STATUS SENSE	D5	TRACK No. STATUS RETURN
56	MEDIA STATUS SENSE	D6	MEDIA STATUS RETURN
57	CURRENT TRACK INFORMATION	D7	CURRENT TRACK INFORMATION
	SENSE		RETURN
58	CURRENT TRACK TIME SENSE	D8	CURRENT TRACK TIME RETURN
59	NAME SENSE	D9	NAME RETURN
5D	TOTAL TRACK No./TOTAL TIME SENSE	DD	TOTAL TRACK No./TOTAL TIME
			RETURN
5E	PGM TOTAL TRACK No./TOTAL TIME	DE	PGM TOTAL TRACK No./TOTAL TIME
	SENSE		RETURN
5F	KEYBOARD TYPE SENSE	DF	KEYBOARD TYPE RETURN

List of commands A list of commands is given below.

		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
$7\mathrm{F}$	VENDER COMMAND	FF	VENDER COMMAND RETURN

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.

	Comma	ind	State of controlled device
External controller		Controlled device	State of controlled device
			Stopped
PLAY	->		
	<-	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.

Comr	State of controlled device			
External controller	Controlled device	State of controlled device		
AUTO CUE LEVEL	_	AUTO CUE LEVEL set to		
PRESET (Preset -54dB)	-	-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.

Comm	State of controlled device	
External controller	Controlled device	State of 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.

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

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	<-	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

#### 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 SS-R1/SS-CDR1 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 (MP3/WAV MEDIA) Track number (audio CD)

maximum 999 maximum 99

## INFORMATION REQUEST

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

0F'
0
none
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. During recording, the command assigns a track. During the No Media status, it puts the controlled device in Input Monitor mode. Command 13

Command	15
Machina ID	Ο

machine ID	0
Data	2 hytes

Т	ata	2 D y	les	
	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.
	1	0	Input Monitor	Puts the device in Input Monitor mode during the No Media
				status.

If data other than the above is received, the SS-R1/SS-CDR1 will transmit ILLEGAL [F2].
 Return none

# READY

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

Command

14

0

Machine ID

	iaciiiic ii	, U		
Г	)ata	2  by	tes	
	Data 1	Data 2	Description	Remarks
	0	1	Ready On	Puts the device in PLAY-READY or RECORD-READY
				mode.

• If data other than the above is received, the SS-R1/SS-CDR1 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 160

Machine ID

2 bytes Data

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

• If data other than the above is received, the SS-R1/SS-CDR1 will transmit ILLEGAL [F2]. Return none

# FLASH LOAD

Puts the controlled device in FLASH LOAD mode.

Command	17
Machine ID	0
Data	none
Return	FLASH LOAD ACKNOWLEDGE [97]

# EJECT

Ejects CD media from the controlled device.

(If the SS-R1 receives this command, it will transmit ILLEGAL [F2].)

The command will be ignored if a device other than CD is selected on the controlled device.

Command	18
Machine ID	0
Data	none
Return	none

## SKIP

Causes the controlled device to skip tracks.

1A

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

Command

Machine ID 0

Γ	ata	$2 \mathrm{by}$	tes	
	Data 1	Data 2	Description	Remarks
	0	0	Track Skip Next	Skips to the next track.
	0	1	Track Skip	If the current position is at the beginning of a track,
			Previous	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

• If data other than the above is received, the SS-R1/SS-CDR1 will transmit ILLEGAL [F2]. Return none

# CALL

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

Command	$1\mathrm{D}$
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
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Machine	ID	0

Data	2 by	tes	
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 SS-R1/SS-CDR1 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

Machine ID

Data 2 bytes

-	<i>vata</i>	2 by	105	
	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 SS-R1/SS-CDR1 will transmit ILLEGAL [F2]. Return AUTO TRACK LEVEL RETURN [A1]

# DIRECT TRACK SEARCH PRESET

23

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

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	Example) 2301: track 123
	the track number	
Data 4	Hundreds digit of	
	the track number	

· If the specified track number does not exist on the disc, the SS-R1/SS-CDR1 will transmit ILLEGAL [F2].

Return none

# PITCH CONTROL DATA PRESET

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

The adjustable range is  $\pm 16.0\%$ .

This can be set independently of the step that is specified by the SS-R1/SS-CDR1'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.

25

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

Command

Machine ID 0 Dat

			-			
Γ	ata	2	4 bytes o	r 2 bytes	8	
	Data	Data	Data	Data	Description	Remarks
	1	2	3	4		
			0			Positive value
			1			Negative value
	N2	N3		N1	Preset %	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 SS-R1/SS-CDR1 will transmit ILLEGAL [F2].

PITCH DATA RETURN [A5] Return

# 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

	2		
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.
<b>TO 1</b>			

• If data outside the specified range is received, the controlled device will return ILLEGAL[F2]. AUTO TRACK TIME RETURN [A6] Return

#### CLOCK DATA PRESET

Sets the date and time of the controlled device. 27

Command

Command	<i>2</i> ,	
Machine ID	0	
Data	10 bytes or 2 bytes	
	Description	Remarks
Data 1	Tens digit of year	e.g., "0802231234" means February 23 <sup>rd</sup> of year
Data 2	Ones digit of year	2008 at 34 minutes past twelve o'clock.
Data 3	Tens digit of month	
Data 4	Ones digit of month	If both Data 1 and Data 2 are "F," "Sense" is
Data 5	Tens digit of day	specified and the SS-R1/SS-CDR1 requests that the
Data 6	Ones digit of day	currently programmed Clock Data be returned.
Data 7	Tens digit of the	e.g., FF
	hours	
Data 8	Ones digit of the	
	hours	
Data 9	Tens digit of the	
	minutes	
Data 10	Ones digit of the	
	minutes	

· If a date or time outside the possible range is set, the SS-R1/SS-CDR1 will return ILLEGAL [F2].

Return CLOCK DATA PRESET RETURN [A7]

## 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
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Machine ID	0
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Data	2 by	tes	
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 SS-R1/SS-CDR1 will return ILLEGAL [F2]. Return SYNC REC LEVEL RETURN [A8]

## TIME SEARCH PRESET

Command

Searches for the specified track number and time.

2C

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.

Iachine ID	0	
Data	12 bytes	Γ
	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 SS-R1/SS-CDR1 will transmit ILLEGAL [F2].

• If data outside the operating range is received, the SS-R1/SS-CDR1 will transmit ILLEGAL [F2].

Return none

## KEY CONTROL DATA PRESET

Specifies the playback key of controlled device.

A range of  $\pm 6$  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

Data 2 by
-----------

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.
	Data 1 0 1 F	0 1	0 Key Up 1 Key Down 0-6 Key Change

• If data outside the operating range is received, the SS-R1/SS-CDR1 will transmit ILLEGAL [F2].

Return KEY CONTROL DATA RETURN [AD]

## 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

0

Machine ID

Ι	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 SS-R1/SS-CDR1 will transmit ILLEGAL [F2]. AUTO CUE SELECT RETURN [B0] Return

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

• If data other than the above is received, the SS-R1/SS-CDR1 will transmit ILLEGAL [F2].

AUTO TRACK RETURN [B1] Return

## EOM TRACK TIME PRESET

Specifies the time (in seconds) at which the EOM (End Of Message) will give notice that the end of track is approaching.

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

D	ata	$2 \mathrm{by}$	tes		
	Data 1	Data 2	Description		Remarks
Ī	0	0	EOM T	rack	
			Off		
Ī	N1	N2	Number	of	N1:Tens digit of seconds, N2: Ones digit of seconds
			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].

EOM TRACK TIME RETURN [B2] Return

## EOM MEDIA TIME PRESET

Specifies the time (in seconds) at which the EOM (End Of Message) will give notice that the end of media is approaching.

The range is 1 to 99 seconds, or OFF.

0

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

Command 33

Machine ID

Γ	Data	2  by	tes	
	Data 1	Data 2	Description	Remarks
	0	0	EOM Media	
			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 MEDIA TIME RETURN [B3]

## 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 2 bytes Data

Т	ata	2 D y	tes	
	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 SS-R1/SS-CDR1 will transmit ILLEGAL [F2].

PITCH CONTROL SELECT RETURN [B5] Return

#### 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 hytes

 ata	2 DY	tes	
Data 1	Data 2	Description	Remarks
0	0	Auto Rea	dy
		Off	
0	1	Auto Rea	dy
		On	
F	F	Sense	Requests that the preset content be returned.

• If data other than the above is received, the SS-R1/SS-CDR1 will transmit ILLEGAL [F2]. AUTO READY SELECT RETURN [B6] Return

# REPEAT SELECT

Specifies the Repeat Mode setting of the controlled device.

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

Command

Machine ID 0

Data	2 bytes
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37

_		=,	•••	
	Data 1	Data 2	Description	Remarks
	0	0	Repeat Off	
	0	1	Repeat On	
	F	F	Sense	Requests that the preset content be returned.
	TC 1 /	.1 .1	.1 1 .	

 $\cdot\,$  If data other than the above is received, the SS-R1/SS-CDR1 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	<b>2</b> by	000	
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 SS-R1/SS-CDR1 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	ЗA
Machine ID	0
Data	0 1

L	Data	2 by	tes	
	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 SS-R1/SS-CDR1 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

 ala	2 D y	tes	
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 SS-R1/SS-CDR1 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
Commania	40

Machine	ID	0

Data	2 bytes
------	---------

 utu	<b>-</b> 5j	005	
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.
TC 1 /	.1 .1	.1 1 .	

• If data other than the above is received, the SS-R1/SS-CDR1 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.

50
0
none
MECHA STATUS RETURN [D0]

## TRACK No. SENSE

Requests that the current track number be returned.Command55Machine ID0DatanoneReturnTRACK No. RETURN [D5]

# MEDIA STATUS SENSE

Requests that the presence or absence of media and the type of media be returned.Command56Machine ID0DatanoneReturnMEDIA STATUS RETURN [D6]

## CURRENT TRACK INFORMATION SENSE

Requests that information for the current track be returned.			
57			
0			
none			
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	Descript	tion	Remarks
	0	0	Elapsed	Time	Elapsed track time
	0	1	Remain	Time	Remaining track time
	0	2	Total	Elapsed	Elapsed disc time
			Time		
	0	3	Total	Remain	Remaining disc time
			Time		

• If data other than the above is received, the SS-R1/SS-CDR1 will transmit ILLEGAL [F2]. Return CURRENT TRACK TIME RETURN [D8]

## NAME SENSE

Requests that the name 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	0001 – 0999 Specify a track name
Data 4	Hundreds digit of	
	the specified	
	number	
Data 5 – Dat	a Title	Single byte alphanumeric characters
124		

• If a track number not existing on the media is specified, the SS-R1/SS-CDR1 will transmit ILLEGAL [F2].

• If non-ASCII characters are used for the name of the specified track number, the SS-R1/SS-CDR1 will transmit ILLEGAL [F2].

Return NAME RETURN [D9]

# TOTAL TRACK No./TOTAL TIME SENSE

Requests that the	ne total number of tracks on the disc and the total time be returned.
Command	$5\mathrm{D}$
Machine ID	0
Data	none
Return	TOTAL TRACK No./TOTAL TIME RETURN [DD]

# PGM TOTAL TRACK No./TOTAL TIME SENSE

Requests that t	he total number of tracks for program playback and the total time be returned.
Command	$5\mathrm{E}$
Machine ID	0
Data	none
Return	PGM TOTAL TRACK No./TOTAL TIME RETURN [DE]

# **KEYBOARD TYPE SENSE**

Requests the typ	e of PS/2 keyboard connected to the controlled device.
Command	$5\mathrm{F}$
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

Commana	
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]

# VENDER COMMAND

This command controls the functions unique to the SS-1/CDR-1.

The values of Data 1 and Data 2 are used to identify the corresponding function. 7F

Command

Machine ID

Data -- byte

	Data 1	Data 2	Description	Remarks
ĺ	0	1	DEVICE SELECT	
Return VENDER COMMAND RETURN [		DER COMMAND RETURN	FF]	

Return

# > DEVICE SELECT

0

Switches devices on the controlled device.

(If the SS-R1 receives this command, it will transmit ILLEGAL [F2].)

Data 4byte

Data3	Data4	Description Remarks	
0	0	CF	Switches to CF device.
0	1	CD	Switches to CD device.
F	F	Sense	Requests that the current setting be returned.

# INFORMATION RETURN

8F

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

Command

Machine ID 0

Ι	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 Vers	sion 1.00
	Data 3	First decimal place of the software		
		version		
	Data 4	Second decimal place of the software		
		version		
F	Request IN	FORMATION REQUEST [0F]		

FLASH LOAD ACKNOWLEDGE

This is the return command in response to the command "FLASH LOAD [17]."

It is transmitted when the data reading is successfully completed.

Command	97
Machine ID	0
Data	none
Request/Preset	FLASH LOAD [17]

# 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

L	Data 2 bytes		tes		
	Data 1	Data 2	Description	Remarks	
	0	0	-24dB		
	0	1	-30dB		
	0	2	-36dB		
	0	3	-42dB		
	0	4	-48dB		
	0	<b>5</b>	-54dB		
	0	6	-60dB		
	0	7	-66dB		
	0	8	-72dB		

Request/Preset AUTO CUE LEVEL PRESET [20]

# AUTO TRACK LEVEL RETURN

A1

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

Command Machino ID

1115	achime	ID	
-			

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

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	Data	Data	Data	Description	Remarks
1	2	3	4		
		0			Positive value
		1			Negative value
N2	N3		N1	Preset %	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

oommana	
Machine I	D 0

9 hr-4-Data

Data		2 bytes		
	Data 1	Data 2	Description	Remarks
	N1	N2	Minutes	N1:Tens digit of the minutes, N2: Ones digit of the minutes
Б	Bogwoot/Dresst AUTO TRACK TIME DRESET [96]			

Request/Preset AUTO TRACK TIME PRESET [26]

# CLOCK DATA RETURN

A7

0

This is the return command in response to the command "CLOCK DATA PRESET [27]." It returns the currently specified date and time value.

Command

Machine ID

Data	1 2 bytes	
	Description	Remarks
Data 1	Tens digit of year	
Data 2	Ones digit of year	
Data 3	Tens digit of month	
Data 4	Ones digit of month	
Data 5	Tens digit of day	
Data 6	Ones digit of day	
Data 7	Tens digit of the	
	hours	
Data 8	Ones digit of the	
	hours	
Data 9	Tens digit of the	
	minutes	
Data 10	Ones digit of the	
	minutes	
Data 11	Tens digit of the	
	seconds	
Data 12	Tens digit of the	
	seconds	

Request/Preset CLOCK DATA PRESET [27]

# 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.

CommandA8Machine ID0Data2 bytes

ala	2 Dytes			
Data 1	Data 2	Description	Remarks	
0	0	Preset -24dB		
0	1	Preset -30dB		
0	2	Preset36dB		
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]

# 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 hyte

1	Data 2 bytes				
	Data 1	Data 2	Description	Remarks	
	0		Key Up		
	1		Key Down		
		0 - 6	Key Change	Semitone units	
т	Barrost/Dreast KEV CONTROL DATA DRECET [0D]				

Request/Preset KEY CONTROL DATA PRESET [2D]

#### AUTO CUE SELECT RETURN

This is the return command in response to the command "AUTO CUE SELECT [30]."

I	It returns the Auto Cue on/off status.					
C	Command	B0				
Machine ID 0						
Ι	Data	$2 \mathrm{by}$				
	Data 1	Data 2	Description	Remarks		
	0	0	Auto Cue Off			

Request/Preset AUTO CUE SELECT [30]

1 Auto Cue On

#### 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

oommania		
Machine ID	0	

0

Data 2 b		2  by	tes	
	Data 1	Data 2	Description	Remarks
0 0 Auto Track Off		Auto Track Off		
	0	1	Auto Track On	Auto Track is executed according to the specified AUTO
	(Level)		(Level)	TRACK LEVEL.
	0	2	Auto Track On	Auto Track is executed according to the track data within
		(Digital		the S/P DIF signal.
	Direct)		Direct)	
	0	3	Auto Track On	Auto Track is executed according to the specified AUTO
			(Time)	TRACK TIME.
Request/Preset_AUTO TRACK SELECT [31]			CT [31]	

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 approaching

track is approaching.					
Command B2					
Machine ID 0					
Data 2 bytes					
	Data 1	Data 2	Description	ı	Remarks
	0	0	EOM track	Off	
	N1	N2	Number	of	N1: Tens digit of seconds, N2: Ones digit of seconds
			seconds		

Request/Preset EOM TRACK TIME PRESET [32]

# EOM MEDIA TIME RETURN

This is the return command in response to the command "EOM MEDIA TIME PRESET [33]." It returns the time at which the EOM (End Of Message) function will give notice that the end of the media is approaching.

Command B3

Machine ID 0

Data 2 bytes

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

Request/Preset EOM MEDIA 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

		<b>-</b> 03	665		
Data 1 Data 2 Description		Description	Remarks		
	0	0	Pitch Control Off		
	0	1	Pitch Control On		
Т					

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			

Ε	)ata	2 by	tes		
	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.

-	Te repeat mode on on status.					
0	Command B7					
Ν	Machine ID 0					
Ι	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  $\operatorname{Rec}$  on/off status.

Co	mma	ınd	B8
		TD	

Machine ID 0 Data 2 bytes

Data			tes		
	Data 1	Data 2	Description	Remarks	
	0	0	Sync Rec Off		
	0	1	Sync Rec On		
т	Decryset/Dreast SVNC DEC SELECT [29]				

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.

BA 0

Command

Γ	ata	$2 \mathrm{by}$	tes	
	Data 1	Data 2	Description	Remarks
	0	0	INCR Play Off	
	0	1	INCR Play On	
Т				

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

L	Data	2 by	tes		
	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.	
Т					

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

Data	2 bytes

_	utu	<b>-</b> 83		
	Data 1	Data 2	Description	Remarks
	0	0	Continue	Play all tracks in the play area.
	0	1	Single	Play a single track
F	0	4	Program (Data	Program Play mode (with no tracks programmed)
			Empty)	
	0	5	Program	Program Play mode
ſ	0	6	Random	Random Play mode
			<b>r r</b>	

Request/Preset PLAY MODE SENSE [4E]

0

# 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

<b>2</b>	bytes
	<b>2</b>

Data	2 Dy	tes	
Data 1	Data 2	Description	Remarks
0	0	No Media	No media is inserted
0	1	Eject	Media is being ejected, or no media is recognized.
1	0	Stop	Stopped
1	1	Play	Playing
1	2	Ready On	Play-ready mode
8	0	Monitor	Input monitor status (no media is inserted)
8	1	Record	Recording
8	2	Record Ready	Record-ready mode
8	3	Information Writing	Writing various information
		OLLA ORABITO ODVOD [	

Request/Preset MECHA STATUS SENSE [50]

## 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	FOM Status	00:EOM indication not shown		
Data 2	EOM Status	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			
Data 6	Hundreds			
	digit			
D //D				

Request/Preset TRACK No. SENSE [55]

## MEDIA STATUS RETURN

This is the return command for the command "MEDIA STATUS SENSE [56]." It returns the presence/absence of media, and the type of media.

Command D6Machine ID 0

Data

Media Status	00:Media not present
	oo.meala not present
ileula Status	01:Media present
	00:CD-DA 01:CD-R (Audio) 02:CD-RW (Audio)
Media Type	10: CD-Data (Data CD) 11: CD-R (Data) 12: CD-RW (Data)
•	ledia Type

Request/Preset MEDIA 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

	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	Tens digit of the	
	frames	
Data 12	Ones digit of the	
	frames	

## CURRENT TRACK TIME RETURN

D8

0

This is the return command for the command "CURRENT TRACK TIME SENSE [58]." It returns the current track time or the media time.

Command

Machine ID

Machine ID	0	
Data	10 bytes	
	Description	Remarks
Data 1		00:Track elapsed time 01:Track remaining time
Data 2	Time Mode	02:Media elapsed time 03:Media remaining time
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	Tens digit of the frames	
Data 10	Ones digit of the frames	

Request/Preset CURRENT TRACK TIME SENSE [58]

## NAME RETURN

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

It returns the name of the track.

If no name has been written for the specified track, or if the written name uses non-ASCII characters, this returns the command "ILLEGAL SENSE REQUEST [F2]."

Command	nd D9						
Machine ID	0						
Data	none						
Data	$5 \mathrm{ bytes}{\sim} 124 \mathrm{ bytes}$						
	Description	Remarks					
Data 1	Tens digit of the						
	specified number						
Data 2	Ones digit of the						
	specified number						
Data 3	Thousands digit of	Thousands digit of 0001 – 0999 Track name					
	the specified	0001 – 0999 Track name					
	number	-					
Data 4	Hundreds digit of						
	the specified						
	number						
Data 5 – Dat	a Title	Single-byte alphanumeric characters					
124							

• The name is between 0 and 120 characters in length. Request/Preset NAME SENSE [59]

# TOTAL TRACK No./TOTAL TIME RETURN

0

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 selected play area. DD

Command

Machine ID Data

Data	12 bytes	
	Description	Remarks
Data 1	Tens digit of total	If Data 1 – Data 4 is 0000, the media is either blank, or no
	number of tracks	media 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	Tens digit of the	
	frames	
Data 12	Ones digit of the	
	frames	

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

## PGM TOTAL TRACK No./TOTAL TIME RETURN

DE

This is the return command for the command "PGM TOTAL TRACK No./TOTAL TIME SENSE  $\ensuremath{[5\mathrm{E}]}."$ 

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

Command

Machine ID 0 Data 12 bytes

ted.

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.

1	It returns the type of PS/2 Keyboard.					
Command DF						
Ν						
Data 2 bytes			tes			
	0 0 Japanese Keyboard		Description	Remarks		
			Japanese Keyboard	The setting when a Japanese keyboard is connected		
			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

F6

0

## CHANGED STATUS

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

Command Machine ID

Γ	Data	$2 \mathrm{by}$	tes		
	Data 1	Data 2	Description		Remarks
	0	0	Changed	Mechanical	The status of the mechanism has changed
			Status		
	0	3	Changed	Track/EOM	The track number has changed. The EOM
			Status		display/non-display state has changed.
D					

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 4 bytes						
N2	Error code (N1-N2N3)					
N3	1-01	Rec Error				
0	1-08	Stand-By Error				
N1	1-09	Information Write Error				
	N2 N3 0	N2         Error code (N1-N           N3         1-01           0         1-08				

Request/Preset ERROR SENSE [78]

0

#### CAUTION SENSE RETURN

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

It returns a caution code.

Command F9

Machine ID

Data	4 bytes			
Data 1	N2	Warning code	e (N1-N2N3)	
Data 1 Data 2	N3	1-03	Can't Undo	
Data 3	0	1-04	Sure? Text	
Data 4	N1	1-05	Eject Error	
		1-06	Media Full	
		1-07	Track Full	
		1-09	D-In Unlock	
		1-0A	No Call Point	
		1-0B	Can't REC	
		1-0C	Write Protected	
		1-0D	Not Execute	
		1-0F	Can't Edit	
		1-13	Can't Select	
		1-14	Track Protected	
		1-15	Not Fs Unmatch	
		1-16	Name Full	
		1-18	Play List Error	
		1-19	PGM Full	
		1-1A	PGM Empty	
		1-1B	Ext CLK Err	
		1-1D	Not Audio	
		1-1E	Decode Error	
		1-1F	Media Not Match	

Request/Preset none

# VENDER COMMAND RETURN

This is the return command for the command "VENDER COMMAND [7F]."

The values of Data 1 and Data 2 are used to identify the corresponding function.

Command  $\mathbf{FF}$ 0

Machine ID

Data -- byte

	Data 1	Data 2	Description	Remarks
	0	1	DEVICE SELECT SENSE	
Return VENDER COMMAND RETURN [F			DER COMMAND RETURN [	FF]

VENDER COMMAND RETURN [FF]

## > DEVICE SELECT SENSE RETURN

It returns the device select status of the controlled device.

(If the SS-R1 receives this command, it will transmit ILLEGAL [F2].)

Data 4byte

Dat	a3 Da	.ta4	Description	Remarks
0	0		CF	Returns the CF device status.
0	1		CD	Returns the CD device status.