TASCAM
TEAC PROFESSIONAL

TASCAM HS-8

CONTROL I/O connector

RS-232C Protocol Specification

Ver. 1.30

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TEAC Corporation

1. Overview

The CONTROL I/O connector (RS-232C) on the HS-8 enables you to control the HS-8 from a computer or other external devices. In this document, the HS-8 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 ±3 and 15V, the DC resistance is between 3KΩ and 7KΩ. Total load capacitance is 2500pF or below.
Open circuit voltage at transmitter	25V or below
Open circuit voltage at receiver	2V or below
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" −3V or below Logical "0" +3V or more

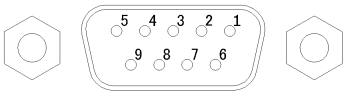
Communication format

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 HS-8.)

Connector pin-out

Connector D-sub 9-pin female (inch thread)

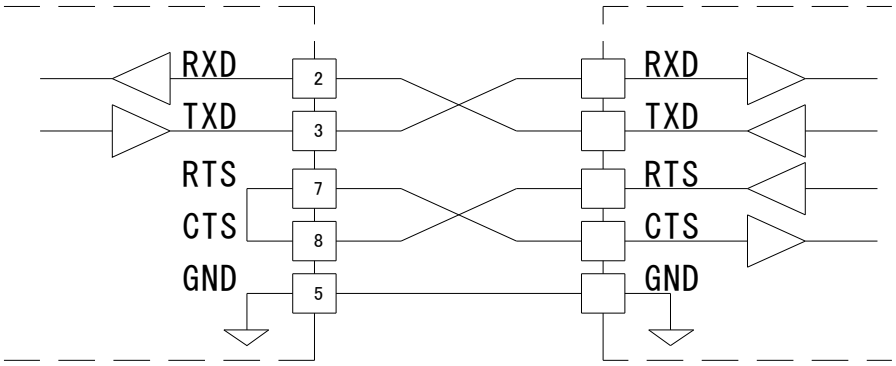


Terminal pin-out and input/output signals

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 RTS/CTS control is used, consider the design of the external controller.



Controlled device (HS-8)　　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
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 using 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 123 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 Play-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 take 123

The command "DIRECT TRACK (TAKE) SEARCH PRESET [23]" is transmitted to perform this action.

The data bytes consist of ASCII in two-byte units.

For the command "DIRECT TRACK (TAKE) SEARCH PRESET," the take number is specified as follows.

- Data 1 Tens digit of the specified take number
- Data 2 Ones digit of the specified take number
- Data 3 Thousands digit of the specified take number
- Data 4 Hundreds digit of the specified take number

Thus, the transmitted command is as follows.

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

Machine ID

The HS-8 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 HS-8 will transmit ILLEGAL [F2].

List of commands

A list of commands is given below.

Control/Preset/Sense Command		Return Command		Adapted F/W Ver.
0F	INFORMATION REQUEST	8F	INFORMATION RETURN	
10	STOP			
12	PLAY			
13	RECORD			
14	PAUSE			
15	SCRABBLE			
16	SEARCH			
17	FLASH LOAD	97	FLASH LOAD ACKNOWLEDGE	
19	FLASH START			
1A	SKIP			
1D	CALL			
20	AUTO CUE LEVEL PRESET	A0	AUTO CUE LEVEL RETURN	
23	DIRECT TRACK SEARCH PRESET			
27	CLOCK DATA PRESET	A7	CLOCK DATA RETURN	
2C	TIME SEARCH PRESET			
2F	DIGITAL VOLUME DATA PRESET	AF	DIGITAL VOLUME DATA RETURN	
30	AUTO CUE SELECT	B0	AUTO CUE SELECT RETURN	
36	AUTO READY SELECT	B6	AUTO READY SELECT RETURN	
37	REPEAT SELECT	B7	REPEAT SELECT RETURN	
3A	INCR PLAY SELECT	BA	INCR PLAY SELECT RETURN	
4C	REMOTE/LOCAL SELECT	CC	REMOTE/LOCAL SELECT RETURN	
4D	PLAY MODE SELECT			
4E	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	
57	CURRENT TRACK INFORMATION SENSE	D7	CURRENT TRACK INFORMATION RETURN	
58	CURRENT TRACK TIME SENSE	D8	CURRENT TRACK TIME RETURN	
59	TITLE SENSE	D9	TITLE RETURN	
5D	TOTAL TRACK No./TOTAL TIME SENSE	DD	TOTAL TRACK No./TOTAL TIME RETURN	
5F	KEYBOARD TYPE SENSE	DF	KEYBOARD TYPE RETURN	
		F2	ILLEGAL STATUS	
		F4	POWER ON STATUS	
		F6	CHANGE STATUS	
7F	VENDER COMMAND	FF	VENDER COMMAND RETURN	

List of vender commands

A list of vender commands (Command 7F / FF) is given below.

Command codes are a combination of command (2 bytes), category code (2 bytes) and sub command (2 bytes). For detailed information, see page 25 and following.

Control/Sense Command		Return Command		Adopted F/W Ver.
7F01	DEVICE SELECT	FF01	DEVICE SELECT RETURN	
7F0223	DIRECT FOLDER SEARCH PRESET			
7F0242	REBUILD	FF02C2	REBUILD ACK	1.30
7F0255	FOLDER No STATUS SENSE	FF02D5	FOLDER No RETURN	
7F0259	FOLDER NAME SENSE	FF02D9	FOLDER NAME RETURN	
7F025A	PROJECT NAME SENSE	FF02DA	PROJECT NAME RETURN	
7F025D	TOTAL FOLDER No SENSE	FF02DD	TOTAL FOLDER No RETURN	
7F025E	TOTAL PROJECT No SENSE	FF02DE	TOTAL PROJECT No RETURN	
7F031A	MARK SKIP			
7F0323	DIRECT MARK SKIP PRESET			
7F0355	MARK No. STATUS SENSE	FF03D5	MARK No. RETURN	
7F0358	MARK TIME SENSE	FF03D8	MARK TIME RETURN	
7F035D	TOTAL MARK No SENSE	FF03DD	TOTAL MARK No RETURN	
7F0400	FLASH PAGE SELECT	FF0480	FLASH PAGE RETURN	
7F041A	FLASH PAGE SKIP			
7F0457	CURRENT SLOT INFORMATION SENSE	FF04D7	CURRENT SLOT INFORMATION RETURN	
7F045D	FLASH READY SLOT SENSE	FF04DD	FLASH TRACK RETURN	
		FF04F6	CHANGE FLASH PAGE	
7F0511	ONLINE	FF0591	ONLINE RETURN	
7F0600	CHASE	FF0680	CHASE RETURN	1.20

Note) "Adopted F/W Ver" shows when a new command was added. Commands with no version listed are supported in all versions.

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	
			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.

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

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 HS-8 can use the following take numbers, folder numbers, and project numbers. However, if a number that does not exist is specified, it will be considered an invalid command.

Take number	999 maximum
Folder number	999 maximum
Project number	99 maximum

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

Places the controlled device into stop state.

Command 10
Machine ID 0
Data none
Return none

PLAY

Places the controlled device into play state.

To start recording while in record-ready state, use RECORD (Record).

Command 12
Machine ID 0
Data none
Return none

RECORD

Places the controlled device into record or record-ready state. During recording process, the command splits a track.

Command 13
Machine ID 0
Data 2 bytes

Data 1	Data 2	Description	Remarks
0	0	Record	Starts recording while in record-ready state.
0	1	Record Pause	Places the controlled device into record-ready state.
0	2	Take Increment	Splits a take during recording process.

・ If data other than the above is received, the HS-8 will transmit ILLEGAL [F2].

Return none

PAUSE

Places the controlled device into play-ready state.

To pause recording, use RECORD (Record Pause).

Command 14
Machine ID 0
Data 2 bytes

Data 1	Data 2	Description	Remarks
0	1	Pause On	Places the device into play-ready state.

・ If data other than the above is received, the HS-8 will transmit ILLEGAL [F2].

Return none

SCRABBLE

Controls Scrabble Playback mode for the controlled device. This command also performs scrabble operation.
(HS-8 Jog Mode)

Command 15
Machine ID 0
Data 2 bytes

Data 1	Data 2	Description	Remarks
0	0	Scrabble Off	Turns off Scrabble Playback mode.
0	1	Scrabble On	Turns on Scrabble Playback mode.
1	0	Scrabble +	Moves the playback position in the forward direction.
1	1	Scrabble −	Moves the playback position in the backward direction.

・ If data other than the above is received, the HS-8 will transmit ILLEGAL [F2].

Return none

SEARCH

Places the controlled device into search playback state.
The search playback state will continue until a command such as STOP, PLAY or PAUSE is received.

Command 16
Machine ID 0
Data 2 bytes

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

・ If data other than the above is received, the HS-8 will transmit ILLEGAL [F2].

Return none

FLASH LOAD

Performs flash load operation on the controlled device.

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

FLASH START

Causes the controlled device to flash-start the specified take.
If the take specified is not flash-loaded, a normal playback will be performed.

Command 19
Machine ID 0
Data 4 bytes

	Description	Remarks
Data 1	Tens digit of the take number	Take number Example) 1400: take 14
Data 2	Ones digit of the take number	
Data 3	Thousands digit of the take number	
Data 4	Hundreds digit of the take number	

・ If data other than the above is received, the HS-8 will transmit ILLEGAL [F2].

Return none

SKIP

Causes the controlled device to skip takes.

Causes the controlled device to skip marks.

After skipping, the device will maintain the state in which it was right before the operation was performed.

Command 1A

Machine ID 0

Data 2 bytes

Data 1	Data 2	Description	Remarks
0	0	Track Skip Next	Skips to the next take.
0	1	Track Skip Previous	If the current position is at the beginning of a take, skips to the beginning of the previous take. If the current position is not at the beginning of a take, skips to the beginning of the current take.
2	0	Mark Skip Next	Moves to the next mark.
2	1	Mark Skip Previous	Moves to the previous mark.

・ If data other than the above is received, the HS-8 will transmit ILLEGAL [F2].

Return none

CALL

Locates the controlled device to the call point and places the device into play-ready state.

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 function is turned on or off 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 HS-8 will transmit ILLEGAL [F2].

Return AUTO CUE LEVEL RETURN [A0]

DIRECT TRACK SEARCH PRESET

Makes a direct search for the specified take number.

The operation of the controlled device after a direct search depends on the data format (data length) of this command.

[4-byte data length]

If the controlled device is in Stop or Play mode when this command is received, it will enter Play mode after a direct search. If the controlled device is in any other mode, it will remain in that mode even after a direct search.

[6-byte data length]

The operation of the controlled device after a direct search is determined by Data 5 and 6 specified.

Command 23

Machine ID 0

Data 4 bytes or 6 bytes

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

[If the data length is 6 bytes, the following data will be added for operation-specified code.]

Data 5	Data 6	Operation	Remarks
1	0	STOP	
1	2	PLAY	
1	4	PAUSE	

- If the specified take number does not exist in the current folder, the HS-8 will transmit ILLEGAL [F2].
- If an operation-specified code that is not in the table above is specified, the HS-8 will transmit ILLEGAL [F2].

Return none

CLOCK DATA PRESET

Sets the date and time of the controlled device.

A return command is returned only if Sense [FF] is specified for Data 1 and Data2.

Command 27

Machine ID 0

Data 10 bytes or 2 bytes

	Description	Remarks
Data 1	Tens digit of year	Example) 0802231234 means February 23rd of year 2008 at 34 minutes past twelve o'clock.
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 hours	
Data 8	Ones digit of hours	
Data 9	Tens digit of minutes	
Data 10	Ones digit of minutes	

- If a date or time outside the possible range is set, the HS-8 will transmit ILLEGAL [F2].

Return CLOCK DATA PRESET RETURN [A7]

TIME SEARCH PRESET

Searches the specified take number and time.

The operation of the controlled device after a search depends on the data format (data length) of this command.

[12-byte data length]

If the controlled device is in stop or play state when this command is received, it will start a playback operation after a search. If the controlled device is in any other state, it will remain in that state even after a search.

[14-byte data length]

The operation of the controlled device after a search is determined by Data 13 and 14 specified.

Command 2C

Machine ID 0

Data 12 bytes or 14 bytes

	Description	Remarks
Data 1	Tens digit of the take number	
Data 2	Ones digit of the take number	
Data 3	Thousands digit of the take number	
Data 4	Hundreds digit of the take number	
Data 5	Tens digit of the minutes	
Data 6	Ones digit of the minutes	
Data 7	Thousands digit of the minutes	
Data 8	Hundreds 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	

[If the data length is 14 bytes, the following data will be added for operation-specified code.]

Data 5	Data 6	Operation	Remarks
1	0	STOP	
1	2	PLAY	
1	4	PAUSE	

- If a take number not existing in the media is specified, the HS-8 will transmit ILLEGAL [F2].
- If data outside the operating range is received, the HS-8 will transmit ILLEGAL [F2].
- If an operation-specified code that is not in the table above is specified, the HS-8 will transmit ILLEGAL [F2].

Return none

DIGITAL VOLUME DATA PRESET

Sets the digital volume of a connected device in decibels (dB).

A return command is returned only if Sense [FF] is specified for Data 1 and Data2.

Command 2F

Machine ID 0

Data 4 bytes

	Description	Remarks
Data 1	Ones digit of the setting	Example: “0512”: -20.5dB
Data 2	First decimal place of the setting	
Data 3	+:0/−:1	
Data 4	Tens digit of the setting	

- If data outside the specification range is received, the connected device will transmit ILLEGAL (F2H).
- To set the volume to −∞ (minus infinity) dB, specify “AAAA” for Data 1 to Data 4.

Return DIGITAL VOLUME DATA RETURN [AF]

AUTO CUE SELECT

Turns on or off the Auto Cue function of the controlled device.
A return command is returned only if Sense [FF] is specified.
The Auto Cue Level setting is made using 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 current setting be returned.

・ If data other than the above is received, the HS-8 will transmit ILLEGAL [F2].
Return AUTO CUE SELECT RETURN [B0]

AUTO READY SELECT

Turns on or off the Auto Ready function 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 current setting be returned.

・ If data other than the above is received, the HS-8 will transmit ILLEGAL [F2].
Return AUTO READY SELECT RETURN [B6]

REPEAT SELECT

Turns on or off the Repeat Playback 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 current setting be returned.

・ If data other than the above is received, the HS-8 will transmit ILLEGAL [F2].
Return REPEAT SELECT RETURN [B7]

INCR PLAY SELECT

Turns on or off the Incremental Play function 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 current setting be returned.

・ If data other than the above is received, the HS-8 will transmit ILLEGAL [F2].
Return INCR PLAY SELECT RETURN [BA]

REMOTE/LOCAL SELECT

Enables or disables operation on the controlled device.

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 CONTROL I/O (RS-232C, RS-422, PARALLEL) will be enabled. Key operations on the device's panel will be disabled.
0	1	Local	Remote operation, and key operation on the device's panel will be enabled.
F	F	Sense	Requests that the current setting be returned.

・ If data other than the above is received, the HS-8 will transmit ILLEGAL [F2].

Return REMOTE/LOCAL SELECT RETURN [CC]

PLAY MODE SELECT

Sets Play mode for the controlled device.

To check the Play mode setting, use the command "PLAY MODE SENSE [4E]."

Command 4D

Machine ID 0

Data 2 bytes

Data 1	Data 2	Description	Remarks
0	0	All Take	Plays all takes in the current folder
0	1	One Take	Plays the current take only

・ If data other than the above is received, the HS-8 will transmit ILLEGAL [F2].

Return none

PLAY MODE SENSE

Requests that Play mode of the controlled device be returned.

Command 4E

Machine ID 0

Data none

Return PLAY MODE RETURN [CE]

MECHA STATUS SENSE

Requests that the operation status of the controlled device be returned.

Command 50

Machine ID 0

Data none

Return MECHA STATSU RETURN [D0]

TRACK No. STATUS SENSE

Requests that the current take number be returned.

Command 55

Machine ID 0

Data none

Return TRACK No. STATUS RETURN [D5]

CURRENT TRACK INFORMATION SENSE

Requests that the information about the current take be returned.

Command 57

Machine ID 0

Data none

Return CURRENT TRACK INFORMATION RETURN [D7]

CURRENT TRACK TIME SENSE

Requests the information about the play time for the current take (or take being recorded in record mode) in the following format. (MSF format = Minutes, Seconds, Frame / HMSF Format = Hours, Minutes, Seconds, Frames) When requesting MSF Format and the minutes is more than 9999, or in HMSF Format and the hours is greater than 100, then the entire time response contains "--".

Command 58
Machine ID 0
Data 2 bytes

Data 1	Data 2	Description	Remarks
0	0	Elapsed Time	Time since the beginning of the take in MSF Format.
0	1	Remain Time	Time remaining until the end of the take in MSF Format. (When Recording, time remaining until the max file size is reached)
0	2	Total Elapsed Time	Time since the beginning of all takes in the current folder in MSF Format.
0	3	Total Remain Time	Time remaining until the end of playback for all takes in the current folder in MSF Format. (For recording, the time until the media is full).
0	4	Timecode Time	Timecode time in MSF Format
1	0	Elapsed Time	Time since the beginning of the take in HMSF Format.
1	1	Remain Time	Time remaining until the end of the take in HMSF Format. (When Recording, time remaining until the max file size is reached)
1	2	Total Elapsed Time	Time since the beginning of all takes in the current folder in HMSF Format.
1	3	Total Remain Time	Time remaining until the end of playback for all takes in the current folder in HMSF Format. (For recording, the time until the media is full).
1	4	Timecode Time	Timecode time in HMSF Format

・ If data other than the above is received, the HS-8 will transmit ILLEGAL [F2].

Return CURRENT TRACK TIME RETURN [D8]

TITLE SENSE

Requests that the name of the specified take be returned.

Command 59
Machine ID 0
Data 4 bytes

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

・ If a take number not existing in the media is specified, the HS-8 will transmit ILLEGAL [F2].

Return TITLE RETURN [D9]

TOTAL TRACK No. / TOTAL TIME SENSE

Requests that the total number and the total time of takes in the current folder be returned.

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

KEYBOARD TYPE SENSE

Requests that the type of keyboard connected to the controlled device be returned.

Command 5F
Machine ID 0

Data	none
Return	KEYBOARD TYPE RETURN [DF]

VENDER COMMAND

This command controls the HS-8's unique functions. For detailed information about the vender information, see the page 24 and following.

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]

FLASH LOAD ACKNOWLEDGE

This is the return command in respond 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 respond 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]

CLOCK DATA RETURN

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

Command A7
Machine ID 0
Data 12 bytes

	Description	Remarks
Data 1	Tens digit of the year	
Data 2	Ones digit of the year	
Data 3	Tens digit of the month	
Data 4	Ones digit of the month	
Data 5	Tens digit of the day	
Data 6	Ones digit of the 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	Ones digit of the seconds	

Request/Preset CLOCK DATA PRESET [27]

DIGITAL VOLUME DATA RETURN

This is the return command in respond to the command "DIGITAL VOLUME DATA PRESET [2F]."
It returns the specified digital volume in decibels (dB).

Command AF
Machine ID 0
Data 4 bytes

	Description	Remarks
Data 1	Ones digit of the setting	Example: "0512": -20.5dB
Data 2	First decimal place of the setting	
Data 3	+:0/−:1	
Data 4	Tens digit of the setting	

・ If the volume is set to −∞ (minus infinity) dB, "AAAA" is transmitted to Data 1 to Data 4.

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 On/Off status of the auto cue function.

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 READY SELECT RETURN

This is the return command in response to the command "AUTO READY SELECT [36]."
It returns the On/Off status of the auto-ready function.
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 in response to the command "REPEAT SELECT [37]."
It returns the On/Off status of the repeat playback.
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]

INCR PLAY SELECT RETURN

This is the return command in response to the command "INCR PLAY SELECT [3A]."
It returns the On/Off status of the incremental play function.
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]

REMOTE/LOCAL SELECT RETURN

This is the return command in response to the command "REMOTE/LOCAL SELECT [4C]."
It returns the enabled or disabled status for key operation on the device's panel.
Command CC
Machine ID 0
Data 2 bytes

Data 1	Data 2	Description	Remarks
0	0	Remote	Only remote operation via CONTROL I/O (RS-232C, RS-422, PARALLEL) will be enabled. Key operation on the device's panel will be enabled.
0	1	Local	Remote operation, and key operation on the device's panel will be enabled.

Request/Preset REMOTE/LOCAL SELECT [4C]

PLAY MODE RETURN

This is the return command in response to 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	All Take	Play all takes in the current folder
0	1	One Take	Plays the current take only

Request/Preset PLAY MODE SENSE [4E]

MECHA STATUS RETURN

This is the return command in response to the command "MECHA STATUS SENSE [50]."
It returns the current operation status of the controlled d device.
Command D0
Machine ID 0
Data 2 bytes

Data 1	Data 2	Description	Remarks
0	0	No Media	No media is inserted
1	0	Stop	Stopped
1	1	Play	Playing
1	2	Ready On	In play-ready state
8	1	Record	Recording
8	2	Record Ready	In record-ready state
8	3	Information Writing	Writing various information
F	F	Other	In another state

Request/Preset MECHA STATUS SENSE [50]

TRACK No. STATUS RETURN

This is the return command in response to the command "TRACK No. STATUS SENSE [55]."
It returns the current take number.
Command D5
Machine ID 0
Data 6 bytes

	Description	Remarks
Data 1	00	Always returns the fixed value "00."
Data 2		
Data 3	Tens digit of the take number	
Data 4	Ones digit of the take number	
Data 5	Tens digit of the take number	
Data 6	Hundreds digit of the take number	

Request/Preset TRACK No. SENSE [55]

CURRENT TRACK INFORMATION RETURN

This is the return command in response to the command "CURRENT TRACK INFORMATION SENSE [57]."

Command D7

Machine ID 0

Data 12 bytes

	Description	Remarks
Data 1	Tens digit of the take number	
Data 2	Ones digit of the take number	
Data 3	Thousands digit of the take number	
Data 4	Hundreds digit of the take number	
Data 5	Tens digit of the minutes	
Data 6	Ones digit of the minutes	
Data 7	Thousands digit of the minutes	
Data 8	Hundreds 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 CURRENT TRACK INFORMATION SENSE [57]

CURRENT TRACK TIME RETURN

This is the return command in response to the command "CURRENT TRACK TIME SENSE [58]."

Contains information about the play time for the current take (or take being recorded in record mode) in the following format. (MSF format = Minutes, Seconds, Frame / HMSF Format = Hours, Minutes, Seconds, Frames) When requesting MSF Format and the minutes is more than 9999, or in HMSF Format and the hours is greater than 100, then the entire time response contains "--".

Command D8

Machine ID 0

Data 10 bytes

	Description	Remarks
Data 1	Time Mode	00:Time since the beginning of the take in MSF Format. 01:Time remaining until the end of the take in MSF Format. (When Recording, time remaining until the max file size is reached) 02:Time since the beginning of all takes in the current folder in MSF Format. 03:Time remaining until the end of playback for all takes in the current folder in MSF Format. (For recording, the time until the media is full). 04:Timecode time in MSF Format 10:Time since the beginning of the take in HMSF Format. 11:Time remaining until the end of the take in HMSF Format. (When Recording, time remaining until the max file size is reached) 12:Time since the beginning of all takes in the current folder in HMSF Format. 13:Time remaining until the end of playback for all takes in the current folder in HMSF Format. (For recording, the time until the media is full). 14:Timecode time in HMSF Format
Data 2		
Data 3	Tens digit of the minutes	For mode 00..04, the Tens and Ones digits of the minute

Data 4	Ones digit of the minutes	value. (MSF Format) For mode 10..14, the Tens and Ones digit of the hour value. (HMSF Format)
Data 5	Thousands digit of the minutes	For mode 00..04, the Hundreds and Thousands digits of the minutes value (MSF Format) For mode 10..14, the Tens and Ones digit of the Minutes value. (HMSF Format)
Data 6	Hundreds digit of the minutes	
Data 7	Tens digit of the seconds	
Data 8	Ones digit of seconds	
Data 9	Tens digit of the frames	
Data 10	Ones digit of the frames	

Request/Preset CURRENT TRACK TIME SENSE [58]

TITLE RETURN

This is the return command in response to the command "TITLE SENSE [59]."
It returns the specified take name.
If no name has been written for the take, or if the written name uses non-ASCII characters, the command "ILLEGAL SENSE REQUEST [F2]" is returned.
Command D9
Machine ID 0
Data none
Data 5 bytes to 123 bytes

	Description	Remarks
Data 1	Tens digit of the take number	
Data 2	Ones digit of the take number	
Data 3	Thousands digit of the take number	
Data 4	Hundreds digit of the take number	
Data 5 – Data123	Title text	One-byte alphanumeric characters

・ The title is between 1 byte and 119 bytes.

Request/Preset TITLE SENSE [59]

TOTAL TRACK No. / TOTAL TIME RETURN

This is the return command in response to the command "TOTAL TRACK No. / TOTAL TIME SENSE [5D]."
It returns the total number of takes and the total time of the selected playback area.
Command DD
Machine ID 0
Data 12 bytes

	Description	Remarks
Data 1	Tens digit of the total number of takes	If Data 1 to Data 4 is 0000, the folder contains no takes or no media is inserted.
Data 2	Ones digit of the total number of takes	
Data 3	Thousands digit of the total number of takes	
Data 4	Hundreds digit of the total number of takes	
Data 5	Tens digit of the minutes	
Data 6	Ones digit of the minutes	
Data 7	Thousands digit of the minutes	
Data 8	Hundreds 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]

KEYBOARD TYPE RETURN

This is the returned command in response to the command "KEYBOARD TYPE SENSE [5F]."
It returns the type of keyboard connected.
Command DF
Machine ID 0
Data 2 bytes

Data 1	Data 2	Description	Remarks
0	0	Japanese Keyboard	Japanese keyboard
0	1	US Keyboard	English keyboard

Request/Preset KEYBOARD TYPE SENSE [5F]

ILLEGAL STATUS

This command is returned when an invalid command or data is sent to the controlled device.

If this command is transmitted from the controlled device, the external controller device should re-transmit the command or data that meets the specifications.

Command F2
Machine ID 0
Data none
Request/Preset none

POWER ON STATUS

This command indicates that the controlled device has been turned on.

Command F4
Machine ID 0
Data none
Request/Preset none

CHANGE 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 operation status has changed.
0	3	Changed Track	The take number has changed.
1	0	Changed Online Status	The online status has changed.

Request/Preset none

VENDER COMMAND RETURN

This is the returned command in response to the command [7F]. See “Detailed Information about Vender Commands” on page 25 and following.

Detailed information about Vender Commands

Vender commands for the HS-8 have the following format.

Byte 1	Byte 2	Byte 3	Byte 4	Byte 5	Byte 6	Byte 7	Byte 8	Byte 9	…	Byte n
LF	ID	Command		Data 1	Data 2	Data 3	Data 4	Data 5	…	CR
LF	'0'	'7F' or 'FF'		Category Code		Sub Command		Parameter	…	CR

Category Code: category code (2-byte ASCII) used for classifying vender commands according to function

Sub Command: unique sub-command code (2-byte ASCII) within the category
DEVICE SELECT (01) is the only category has no sub command. Data 3 and data that follow are parameters for that command.

Parameter: parameter added to a command code (ASCII, length differs from sub command to sub command.)

Below is the list of category codes.

Category Code	Category classification	Description
01	DEVICE SELECT	Selects the device to be used (Slot 1 / 2)
02	FOLDER/PROJECT SELECT	Performs an operation relating to a folder or project
03	MARK	Performs an operation relating to a mark
04	FLASH START	Performs an operation relating to flash start
05	ONLINE	Selects Online mode

DEVICE SELECT

Selects the current slot.

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

Command 7F

Category Code 01

Machine ID 0

Parameter 2 bytes

Data 3	Data 4	Description	Remarks
0	0	SLOT 1	Selects SLOT 1 as the current slot.
0	1	SLOT 2	Selects SLOT 2 as the current slot.
F	F	Sense	Requests that the current slot be returned.

・ If data other than the above is received, the connected device will transmit ILLEGAL [F2].

Return DEVICE SELECT RETURN [FF01]

DIRECT FOLDER SEARCH PRESET

Moves to a folder by specifying the project number and the folder number.

After moving, the controlled device will maintain the state in which it was when the operation began.

Data 9 to 12 (project number) can be omitted. In that case, the controlled device will move from the current folder to the specified folder within the current project.

If "0000" is specified for Data 5 to 8 (folder number), this command is treated as the command "PROJECT SELECT" (to be explained later).

Command 7F

Category Code 02

Sub Command 23

Machine ID 0

Data 4 bytes or 8 bytes

	Description	Remarks
Data 5	Tens digit of the folder number	Folder number Example) 2301: folder 123
Data 6	Ones digit of the folder number	
Data 7	Thousands digit of the folder number	
Data 8	Hundreds digit of the folder number	

[If the data length is 8 bytes, the following data will be added.]

	Description	Remarks
Data 9	Tens digit of the project number	Project number Example) 5400: project 54
Data 10	Ones digit of the project number	
Data 11	Thousands digit of the project number	
Data 12	Hundreds digit of the project number	

・ If a folder number not existing in the project is specified, the connected device will transmit ILLEGAL [F2].

・ If the current folder number is specified for the folder number, the connected device will transmit ILLEGAL [F2].

Return none

PROJECT SELECT

Changes the current project to another project by specifying a project number.

Command 7F
Category Code 02
Sub Command 23
Machine ID 0
Data 8 bytes

	Description	Remarks
Data 5	0000	Specify the fixed value "0000" for PROJECT SELECT.
Data 6		
Data 7		
Data 8		
Data 9	Tens digit of project number	Project number Example) 5400: project 54
Data 10	Ones digit of the project number	
Data 11	Thousands digit of the project number	
Data 12	Hundreds digit of the project number	

- If a project number not existing in the media is specified, the connected device will transmit ILLEGAL [F2].
- If the current project number is specified for the project number, the connected device will transmit ILLEGAL [F2].

Return none

REBUILD

Causes the specified area of the currently selected media to be rebuild.
When requesting that the entire media be rebuilt, set the project and folder numbers to "0".
The command may be shortened by omitting some of the data bytes 5–12:
If data bytes 9–12 are omitted, the specified folder within the current project is rebuilt.
If data bytes 5–12 are omitted, the currently loaded folder with the current project is rebuilt.

Command 7F
Category Code 02
Sub Command 42
Machine ID 0
Data 8 bytes

	内容	備考
Data 5	Tens digit of the folder number	Folder number Example) 2301: folder 123
Data 6	Ones digit of the folder number	
Data 7	Thousands digit of the folder number	
Data 8	Hundreds digit of the folder number	
Data 9	Tens digit of project number	Project number Example) 5400: project 54
Data 10	Ones digit of the project number	
Data 11	Thousands digit of the project number	
Data 12	Hundreds digit of the project number	

- If the specified project or folder number does not exist in the media, the reply ILLEGAL [F2] is returned.

Return REBUILD ACK [FF02C2]

FOLDER No. STATUS SENSE

Requests that the current folder number be returned.

Command 7F
Category Code 02
Sub Command 55
Machine ID 0
Data none
Return FOLDER No. RETURN [FF02D5]

FOLDER NAME SENSE

Requests that the name of specified folder be returned.

Data 9 to 12 (project number) can be omitted. If they are omitted, the name of the specified folder within the current project will be called for.

Command 7F
Category Code 02
Sub Command 59
Machine ID 0
Data 4 bytes or 8 bytes

	Description	Remarks
Data 5	Tens digit of the folder number	Folder number Example) 2301: folder 123
Data 6	Ones digit of the folder number	
Data 7	Thousands digit of the folder number	
Data 8	Hundreds digit of the folder number	

[If the data length is 8 bytes, the following data will be added.]

	Description	Remarks
Data 9	Tens digit of the project number	Project number Example) 5400: project 54
Data 10	Ones digit of the project number	
Data 11	Thousands digit of the project number	
Data 12	Hundreds digit of the project number	

・ If a folder number not existing in the project is specified, the connected device will transmit ILLEGAL [F2].

Return FOLDER NAME RETURN [FF02D9]

PROJECT NAME SENSE

Requests that the name of specified project be returned.

Command 7F
Category Code 02
Sub Command 5A
Machine ID 0
Data 4 bytes

	Description	Remarks
Data 5	Tens digit of the project number	Project number Example) 5400: project 54
Data 6	Ones digit of the project number	
Data 7	Thousands digit of the project number	
Data 8	Hundreds digit of the project number	

・ If a project number not existing in the media is specified, the connected device will transmit ILLEGAL [F2].

Return PROJECT NAME RETURN [FF02DA]

TOTAL FOLDER No. SENSE

Requests that the total number of folders in the specified project be returned.

Data 5 to 8 (project number) can be omitted. If they are omitted, the number of folders within the current project will be called for.

Command 7F
Category Code 02
Sub Command 5D
Machine ID 0
Data none or 4 bytes

[If the data length is 4 bytes, the following data will be added.]

	Description	Remarks
Data 5	Tens digit of the project number	Project number Example) 2301: project 123
Data 6	Ones digit of the project number	
Data 7	Thousands digit of the project number	
Data 8	Hundreds digit of the project number	

Return TOTAL FOLDER No. RETURN [FF02DD]

TOTAL PROJECT No. SENSE

Requests that the total number of projects on the current media be returned.

Command 7F
Category Code 02
Sub Command 5E
Machine ID 0
Data none
Return TOTAL PROJECT No. RETURN [FF02DE]

MARK SKIP

Causes the controlled device to skip marks.

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

Command 7F
Category Code 03
Sub Command 1A
Machine ID 0
Parameter 2 bytes

Data 5	Data 6	Description	Remarks
0	0	Mark Skip Next	Moves to the next mark.
0	1	Mark Skip Previous	Moves to the previous mark

・ If data other than the above is received, the connected device will transmit ILLEGAL [F2].

Return none

DIRECT MARK SKIP PRESET

Causes the controlled device to skip marks by specifying the mark number.

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

Command 7F

Category Code 03

Sub Command 23

Machine ID 0

Data 4 bytes

	Description	Remarks
Data 5	Tens digit of the mark number	Mark number Example) 9900: mark 99
Data 6	Ones digit of the mark number	
Data 7	Thousands digit of the mark number	
Data 8	Hundreds digit of the mark number	

- If a mark number not existing in the current take is specified, the connected device will transmit ILLEGAL [F2].

Return none

MARK No. STATUS SENSE

Requests that the current mark number be returned.

Command 7F

Category Code 03

Sub Command 55

Machine ID 0

Data none

Return MARK No. RETURN [FF03D5]

MARK TIME SENSE

Requests that the specified mark time be returned.

Command 7F

Category Code 03

Sub Command 58

Machine ID 0

Data 4 bytes

	Description	Remarks
Data 5	Tens digit of the specified number	Mark number Example) 9900: mark 99
Data 6	Ones digit of the specified number	
Data 7	Thousands digit of the specified number	
Data 8	Hundreds digit of the specified number	

- If a mark number not existing in the current take is specified, the connected device will transmit ILLEGAL [F2].

Return MARK TIME RETURN [FF03D8]

TOTAL MARK No. SENSE

Requests that the total number of marks in the current take be returned.

Command 7F
Category Code 03
Sub Command 5D
Machine ID 0
Data none
Return TOTAL MARK No. RETURN [FF03DD]

FLASH PAGE SELECT

Selects a flash page of the controlled device.

A return command is returned only if Sense [FF] is specified for Data 5 and Data 6.

Command 7F
Category Code 04
Sub Command 00
Machine ID 0
Parameter 2 bytes

	Description	Remarks
Data 5	Tens digit of the page number	Flash page number Example) 02: page 2
Data 6	Ones digit of the page number	

- If a page number not existing in the controlled device is specified, the connected device will transmit ILLEGAL [F2].

Return FLASH PAGE RETURN [FF0480]

FLASH PAGE SKIP

Skips a flash page of the controlled device.

Command 7F
Category Code 04
Sub Command 1A
Machine ID 0
Parameter 2 bytes

Data 5	Data 6	Description	Remarks
0	0	Flash Page Skip Next	Moves to the next page.
0	1	Flash Page Skip Previous	Moves to the previous page.

- If data other than the above is received, the connected device will transmit ILLEGAL [F2].

Return none

CURRENT SLOT INFORMATION SENSE

Requests that the current slot (take) number be returned.

Command 7F
Category Code 04
Sub Command 57
Machine ID 0
Data none
Return CURRENT SLOT INFORMATION RETURN [FF04D7]

FLASH READY SLOT SENSE

Requests that the information about the currently flash-loaded slot (take) be returned.

Command 7F
Category Code 04
Sub Command 5D
Machine ID 0
Data none
Return FLASH READY SLOT RETURN [FF04DD]

ONLINE

Turns on or off the Online mode of the controlled device. This setting is available only if the setting "ONLINE FUNCTION" of the HS-8 is enabled.

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

Command 7F
Category Code 05
Sub Command 11
Machine ID 0
Parameter 2 bytes

Data 5	Data 6	Description	Remarks
0	0	Online OFF	Online mode: off (monitor play)
0	1	Online ON	Online mode: on (online play)
F	F	Sense	Requests that the current setting be returned.

・ If data other than the above is received, the connected device will transmit ILLEGAL [F2].

Return ONLINE RETURN [FF0591]

CHASE

Turns on or off the Chase mode of the controlled device.

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

Command 7F
Category Code 06
Sub Command 00
Machine ID 0
Parameter 2 bytes

Data 5	Data 6	Description	Remarks
0	0	Chase OFF	Chase mode: off
0	1	Chase ON	Chase mode: on
F	F	Sense	Requests that the current setting be returned.

・ If data other than the above is received, the connected device will transmit ILLEGAL [F2].

Return CHASE RETURN [FF0680]

DEVICE SELECT RETURN

This is the return command in response to the command “DEVICE SELECT [7F01].”
It returns the current slot (SLOT 1 or SLOT 2).

Command FF
Category Code 01
Machine ID 0
Parameter 2 bytes

Data 3	Data 4	Description	Remarks
0	0	SLOT 1	SLOT 1
0	1	SLOT 2	SLOT 2

Request/Preset DEVICE SELECT [7F01]

REBULD ACKNOWLEDGE

This is the return status in response to the command ″REBUILD [7F0242]″
It is sent when the rebuild commences, and again when it finishes.

Command FF
Category Code 42
Sub Command C2
Machine ID 0
Parameter 2 bytes

Data 7	Data 8	Description	Remarks
0	0	Start	Rebuild has started
1	1	End (OK)	Rebuild finished successfully
1	2	End (NG)	Rebuild finished unsuccessfully

Request/Preset REBUILD [7F0242]

FOLDER No. RETURN

This is the return command in response to the command "FOLDER No. STATUS SENSE [7F0255]."
It returns the current folder number.

Command FF
Category Code 02
Sub Command D5
Machine ID 0
Data 8 bytes

	Description	Remarks
Data 5	Tens digit of the folder number	Folder number Example) 2301: folder 123
Data 6	Ones digit of the folder number	
Data 7	Thousands digit of the folder number	
Data 8	Hundreds digit of the folder number	

Request/Preset FOLDER No. STATUS SENSE [7F0255]

FOLDER NAME RETURN

This is the return command in response to the command "FOLDER NAME SENSE [7F0259]."
It returns the folder name.
If the folder name uses non-ASCII characters, the command "ILLEGAL SENSE REQUEST [F2]" is returned.

Command FF
Category Code 02
Sub Command D9
Machine ID 0
Data 5 bytes to 119 bytes

	Description	Remarks
Data 5	Tens digit of the folder number	Folder number Example) 2301: folder 123
Data 6	Ones digit of the folder number	
Data 7	Thousands digit of the folder number	
Data 8	Hundreds digit of the folder number	
Data 9 – Data123	Title	One-byte alphanumeric characters

・ The title is between 1 byte and 115 bytes.

Request/Preset FOLDER NAME SENSE [7F0259]

PROJECT NAME RETURN

This is the return command in response to the command "PROJECT NAME SENSE [7F025A]."
It returns the project name.
If the project name uses non-ASCII characters, the command "ILLEGAL SENSE REQUEST [F2]" is returned.

Command FF
Category Code 02
Sub Command DA
Machine ID 0
Data none
Data 5 bytes to 119 bytes

	Description	Remarks
Data 5	Tens digit of the project number	Project number Example) 5400: project 54
Data 6	Ones digit of the project number	
Data 7	Thousands digit of the project number	
Data 8	Hundreds digit of the project number	
Data 9 – Data123	Title	Alphanumeric characters

・ The title is between 1 byte and 115 bytes.

Request/Preset PROJECT NAME SENSE [7F025A]

TOTAL FOLDER No. RETURN

This is the return command in response to the command "TOTAL FOLDER No. SENSE [7F025D]."
It returns the total number of folders.

Command FF
Category Code 02
Sub Command DD
Machine ID 0
Data 4 bytes

	Description	Remarks
Data 5	Tens digit of the total number of folders	If Data 1 to Data 4 is 0000, the project contains no folders or no media is inserted.
Data 6	Ones digit of the total number of folders	
Data 7	Thousands digit of the total number of folders	
Data 8	Hundreds digit of the total number of folders	

Request/Preset TOTAL FOLDER No. SENSE [7F025D]

TOTAL PROJECT No. RETURN

This is the return command in response to the command "TOTAL PROJECT No. SENSE [7F025E]."
It returns the total number of projects.

Command FF
Category Code 02
Sub Command DE
Machine ID 0
Data 4 bytes

	Description	Remarks
Data 5	Tens digit of the total number of projects	If Data 1 to Data 4 is 0000, no project is contained or no media is inserted.
Data 6	Ones digit of the total number of projects	
Data 7	Thousands digit of the total number of projects	
Data 8	Hundreds digit of the total number of projects	

Request/Preset TOTAL PROJECT No. SENSE [7F025E]

MARK No. RETURN

This is the return command in response to the command "MARK No. STATUS SENSE [7F0355]."
It returns the current mark number.

Command FF
Category Code 03
Sub Command D5
Machine ID 0
Data 4 bytes

	Description	Remarks
Data 5	Tens digit of the mark number	Mark number Example) 9900: mark 99
Data 6	Ones digit of the mark number	
Data 7	Thousands digit of the mark number	
Data 8	Hundreds digit of the mark number	

Request/Preset MARK No. STATUS SENSE [7F0355]

MARK TIME RETURN

This is the return command in response to the command "MARK TIME SENSE [7F0358]."

Command FF
Category Code 03
Sub Command D8
Machine ID 0
Data 12 bytes

	Description	Remarks
Data 5	Tens digit of the mark number	Mark Example) 9900: mark 99
Data 6	Ones digit of the mark number	
Data 7	Thousands digit of the mark number	
Data 8	Hundreds digit of the mark number	
Data 9	Tens digit of the minutes	
Data 10	Ones digit of the minutes	
Data 11	Thousands digit of the minutes	
Data 12	Hundreds digit of the minutes	
Data 13	Tens digit of the seconds	
Data 14	Ones digit of he seconds	
Data 15	Tens digit of the frames	
Data 16	Ones digit of the frames	

Request/Preset MARK TIME SENSE [7F0358]

TOTAL MARK No. RETURN

This is the return command in response to the command "TOTAL MARK No. SENSE [7F035D]."
It returns the total number of marks.

Command FF
Category Code 03
Sub Command DD
Machine ID 0
Data 4 bytes

	Description	Remarks
Data 5	Tens digit of the total number of marks	If Data 1 to Data 4 is 0000, the take contains no marks or no media is inserted.
Data 6	Ones digit of the total number of marks	
Data 7	Thousands digit of the total number of marks	
Data 8	Hundreds digit of the total number of marks	

Request/Preset TOTAL MARK No. SENSE [7F035D]

FLASH PAGE RETURN

This is the return command in response to the command "FLASH PAGE SELECT [7F035D]."
It returns the current flash page number.

Command FF
Category Code 04
Sub Command 80
Machine ID 0
Parameter 2 bytes

	Description	Remarks
Data 5	Tens digit of the page number	Flash page number Example) 02: page 2
Data 6	Ones digit of the page number	

Request/Preset FLASH PAGE SELECT [7F0400]

CURRENT SLOT INFORMATION RETURN

This is the return command in response to the command "CURRENT SLOT INFORMATION SENSE [7F0457]."
It returns the current slot (take) number.

Command FF
Category Code 04
Sub Command D7
Machine ID 0
Data 4 bytes

	Description	Remarks
Data 5	Tens digit of the slot (take) number	If Data 1 to Data 4 is 0000, no media is inserted.
Data 6	Ones digit of the slot (take) number	
Data 7	Thousands digit of the slot (take) number	
Data 8	Hundreds digit of the slot (take) number	

Request/Preset CURRENT SLOT INFORMATION SENSE [7F0457]

FLASH READY SLOT RETURN

This is the return command in response to the command "FLASH READY SLOT SENSE [7F045D]."
It returns the information about the flash-loaded slot (take).

Command FF
Category Code 04
Sub Command DD
Machine ID 0
Data 4 bytes to 119 bytes

	Description	Remarks
Data 5	Tens digit of the slot (take) number	The starting slot (take) number about which information is provided Example) 2100: take 21
Data 6	Ones digit of the slot (take) number	
Data 7	Thousands digit of the slot (take) number	
Data 8	Hundreds digit of the slot (take) number	
Data 9 – Data123	Slot (Take) data	One-byte data (1 character) shows the loading status of the slot (take). "0" (30h): Not flash-loaded "1" (31h): Flash-loaded Example: To show the statuses of 20 slots (takes), 20 bytes (20 characters) of data "0" or "1" are contained.

- The slot (take) data is between 0 bytes and 115 bytes.
- A take preceding the starting slot (take) and a take that is not specified for the slot (take) data are "not flash-loaded."

Request/Preset FLASH READY SLOT SENSE [7F045D]

CHANGE FLASH PAGE

This command indicates that the flash page of the controlled device has been updated.

Command FF
Category Code 04
Sub Command F6
Machine ID 0
Data 0 bytes
Request/Preset none

ONLINE RETURN

This is the return command in response to the command "ONLINE [7F0511]."
It returns the On/Off state of the Online mode.

Command FF
Category Code 05
Sub Command 11
Machine ID 0
Parameter 2 bytes

Data 5	Data 6	Description	Remarks
0	0	Online OFF	Online mode: off (monitor play)
0	1	Online ON	Online mode: on (online play)

Request/Preset ONLINE [7F0511]

CHASE RETURN

This is the return command in response to the command “CHASE [7F0600].”
It returns the On/Off state of the Chase mode.

Command FF
Category Code 06
Sub Command 80
Machine ID 0
Parameter 2 bytes

Data 5	Data 6	Description	Remarks
0	0	Chase OFF	Chase mode: off
0	1	Chase ON	Chase mode: on

Request/Preset CHASE[7F0600]