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# TASCAM SS-CDR250N／SS-R250N
# CONTROL I/O Terminals
# RS-232C／TELNET Protocol Specifications

**Ver. 1.11**

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**TEAC Corporation**

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## Overview

The SS-CDR250N/SS-R250N ("controlled device") can be controlled from an external device ("external controller"), such as a computer, through a serial RS-232C and ETHERNET (TELNET) connection.

**1.** ## Specifications

**Serial RS-232C**

### 2.1. Electrical Specifications

**2.**

| | |
|---|---|
| Standard | JIS X-5101 (equivalent to the former JIS-C-6361 and EIA RS-232C standards) |
| | Note that this is not compatible with the RS-422 used in professional VTRs. |
| Impedance at receiver | When measured with an applied voltage between -3 V and +3 V or between -15 V and +15 V, the DC resistance is between 3 k ohms and 7 k ohms. |
| | Total load capacitance is 2500 pF or less. |
| Open circuit voltage at transmitter | 25V or less |
| Open circuit voltage at receiver | 2V or less |
| Signal voltage | When the open circuit voltage at the receiver is 0 V, the signal voltage is between -5 V and +5 V or between -15 V and +15V against a load impedance between 3 k ohms and 7 k ohms. |
| Signal discrimination | Logic "1": -3V or less |
| | Logic "0": +3V or more |

### 2.2. Communication format

| | |
|---|---|
| Circuit type | 3-wire, Half-duplex |
| Transmission type | Digital binary serial |
| Data signal rate (baud rate) | 4800/9600/19200/38400/57600 bits/sec |
| Data bits | 7/8 bits |
| Parity bits | None/ODD/EVEN |
| Stop bits | 1/2 bit |

*Data signal rate, Data bits, Parity bits, and Stop bits can be set from the menu of the controlled device.

## 2.3. Connector pin-out

Connector                               D-sub 9pin female (Inch screw thread)
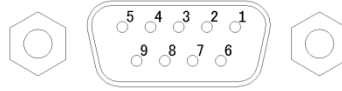


Terminal pin-out and input/output signals

| 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 | - | （Reserved） | Reserved |
| 5 | - | GND | Signal ground pin |
| 6 | - | （Reserved） | Reserved |
| 7 | Out | RTS | Short-circuit to Pin No. 8. |
| 8 | In | CTS | Short-circuit to Pin No. 7. |
| 9 | - | +12V Power | Power supply for separately sold dedicated remote control unit (RC-SS150). Maximum current 150mA |

*1: Make sure that a voltage applied to Pin No. 2 for Rx DATA conforms to the RS-232C standard.

*2: Pins No. 7 and 8 are short-circuited to receive or transmit RTS/CTS signals.
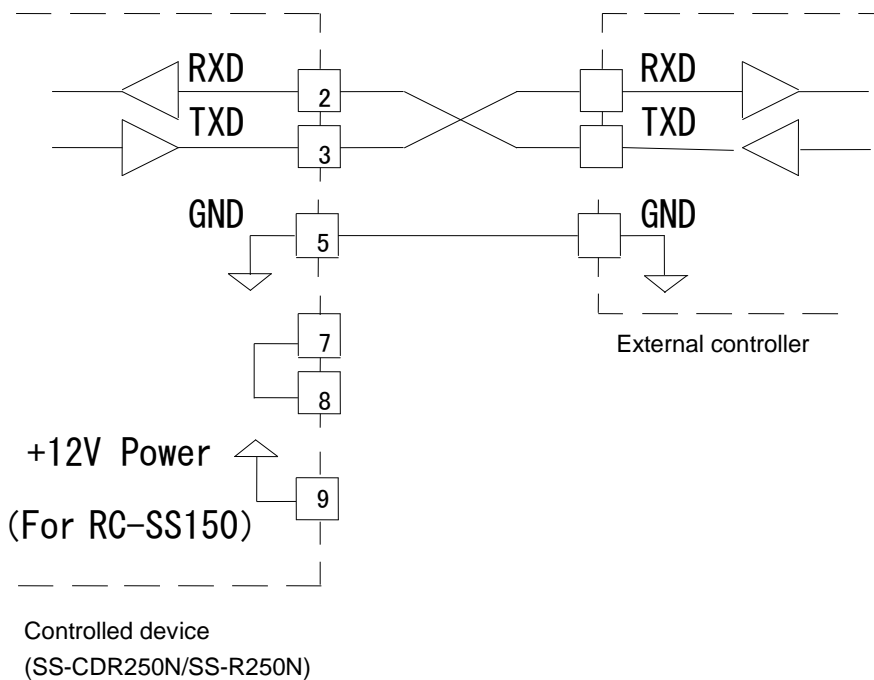
# Command Format

### 2.4.    Command Format Overview

The command format is as follows.

**Serial RS-232C**

| 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 |

A command uses a 2-byte ASCII format, starting with Line Field (LF), which is followed by machine ID, and ending with Carriage Return (CR).

For information about machine ID, see the section 3-2 Machine ID.

A command is followed by a byte string, which consists of data ranging from 0 bytes (if the command includes no data) to 98 bytes, maximum.

For detailed information about data, see each of the sections explaining commands. Note that capital letters are used for "A to F" for commands that use 0 to 9 and A to F as data values.

<u>**Command examples**</u>

Example 1: Sending the PLAY command to the controlled device with the machine ID=0

When the controlled device is in the stop or ready state, the PLAY command starts playing the controlled device.

The PLAY command is [12] and sent in the following format.

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

Example 2: Performing a direct search for the track 12 on the controlled device with the machine ID=0

To do a direct search for the track 12, DIRECT TRACK SEARCH PRESET command [23] is sent.

Data bytes consist of 2-byte ASCII characters.

A track number is specified in the DIRECT TRACK SEARCH PRESET command as shown below.

Data 1      tens digit of the track number to be specified
Data 2      ones digit of the track number to be specified
Data 3      thousands digit of the track number to be specified
Data 4      hundreds digit of the track number to be specified

Based on the above rule, the send command is described as follows.

| | | ID | Command | | Data: 12th track | | | |
|---|---|---|---|---|---|---|---|---|
| ASCII | LF | 0 | 2 | 3 | 1 | 2 | 0 | 0 | CR |
| HEX | 0Ah | 30h | 32h | 33h | 31h | 32h | 30h | 30h | 0Dh |

**ETHERNET (TELNET)**

| Byte 1 | 2 | 3 | 4 | 5 | 6 | 7 | ... | n-1 | n |
|--------|---|---|---|---|---|---|-----|-----|---|
| ID | Command | | Data 1 | Data 2 | Data 3 | Data 4 | ... | CR | LF |

Commands start with an "ID" and end with a carriage return (CR) and a linefeed (LF), and are based on ASCII format. Machine ID (ID) will be explained below.

Commands are expressed as two-byte ASCII.

For details about the data, see the explanation of each command. For commands that use data values from 0II format. Machine ID (ID) will be explained–F.

Command examples

Example 1:          Sending a PLAY command to a controlled device with Machine ID = 0

When stopped or in playback standby, this command will start playback on the controlled device.

The play command is "12" and is transmitted as follows.

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

Example 2:          Specifying a direct search for track 123 on a controlled device with Machine ID = 0

This will send the "DIRECT TRACK SEARCH PRESET0follows.start playback on the con

Data bytes are formed of two-byte ASCII units.

The track number specification for the "DIRECT TRACK (TAKE) SEARCH PRESET this operation.trolled dData 1

          Tens digit for specified track number

Data 2     Ones digit for specified track number

Data 3     Thousands digit for specified track number

Data 4     Hundreds digit for specified track number

Therefore, the transmitted command is as follows.

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

**2.5.   Machine ID**

   The Machine ID is fixed at [0]. A command with the machine ID other than [0] is ignored.

### 2.6.   Command Sequence

In most cases, the controlled device does not send an ACK command in response to a transport control command or data preset command that is sent from an external controller.

The controlled device sends a return command in response to a data sense command that requests the controlled device to return the controlled device's preset data values.

If the controlled device switches from one state to another - from stop state to playback state, for example, or if an error occurs, the controlled device sends a command to notify the external controller about the state transition. Examples of command sequences are shown below.

Make sure that commands are sent at a minimum of 20-millisecond intervals.

Example 1: Using a transport control of the controlled device (e.g. playback)
>  When entering the playback state after receiving the playback command, the controlled device sends the CHANGE STATUS command.
>  The controlled device does not send an ACK command in response to this command.

| Command | | | Status of the controlled device |
|---|---|---|---|
| **External controller** | | **Controlled device** | |
| | | | STOP |
| PLAY | -> | | |
| | <- | CHANGED STATUS | Sent when the controlled device enters the playback state |

Example 2: Presetting data (e.g. pitch control data)
>  When receiving the PITCH CONTROL DATA PRESET command, the controlled device sets the pitch control data. The controlled device does not send an ACK command in response to this command.

| Command | | | Status of the controlled device |
|---|---|---|---|
| **External controller** | | **Controlled device** | |
| PITCH CONTROL DATA PRESET (preset to -1.0 %) | -> | | Sets the pitch control data to -1.0% |

Example 3: Requesting currently set data (e.g. pitch control data)
>  When receiving the PITCH CONTROL DATA PRESET (Sense) command, the controlled device sends the set pitch control data.

| Command | | | Status of the controlled device |
|---|---|---|---|
| **External controller** | | **Controlled device** | |
| PITCH CONTROL DATA PRESET (Sense) | -> | | |
| | <- | PITCH CONTROL DATA RETURN | |

Example 4: Performing the next operation after checking the status of the controlled device

When switching from one mode to another, the controlled device sends the CHANGED STATUS command. Then, in response to the CHANGED STATUS command, the MECHA STATUS SENSE command is sent from the external controller so that the new operation mode can be checked.

The following table shows that recording is started on the external controller after the controlled device's record ready mode is confirmed.

| Command | | | Status of the controlled device |
|---|---|---|---|
| External controller | | Controlled device | |
| | | | STOP |
| RECORD (Record Ready) | -> | | |
| | <- | CHANGED STATUS | Sent when the controlled device enters record ready mode |
| MECHA STATUS SENSE | -> | | |
| | <- | MECHA STATUS RETURN | Returns the current status information (record ready) |
| RECORD (Record) | -> | | |
| | <- | CHANGES STATUS | Sent when the controlled device enters recording mode |

Command details

The commands, data and Machine ID given here are ASCII characters.

Commands are 2-byte characters, the Machine ID is a 1-byte character and Data are each 1-byte characters.

The specifications for take and project numbers that this unit can handle are as follows. If a number is specified for an item that does not exist, however, the command will be treated as invalid.

    Track number (MP3/WAV MEDIA )          999 maximum
    Track number (Audio CD)                99 maximum

### 2.7.  List of Commands

| Control/Preset/Sense Command | | Return Command | | Adopted F/W Ver |
|---|---|---|---|---|
| 0F | INFORMATION REQUEST | 8F | INFORMATION RETURN | |
| 10 | STOP | | | |
| 12 | PLAY | | | |
| 13 | RECORD | | | |
| 14 | READY | | | |
| 15 | JOG | | | |
| 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 CONTROL DATA PRESET | A5 | PITCH CONTROL DATA RETURN | |
| 26 | AUTO TRACK TIME PRESET | A6 | AUTO TRACK TIME RETURN | Ver1.10 |
| 27 | CLOCK DATA PRESET | A7 | CLOCK DATE RETURN | |
| 28 | SYNC REC LEVEL PRESET | A8 | SYNC REC LEVEL RETURN | |
| 29 | TEXT PRESET | | | Ver1.10 |
| 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 SELCT | B1 | AUTO TRACK SELECT RETURN | |
| 32 | EOM TRACK TIME PRESET | B2 | EOM TRACK TIME RETURN | |
| 33 | EOM MEDIA TIME PRESET | 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 | |
| 4D | PLAY MODE SELECT | | | |
| 4E | PLAY MODE SENSE | CE | PLAY MODE RETURN | |
| 50 | MECHA STATUS SENSE | D0 | MECHA STATUS RETURN | |
| 55 | TRACK NO. SENSE | D5 | TRACK NO. RETURN | |
| 56 | MEDIA STATUS SENSE | D6 | MEDIA STATUS RETURN | |
| 57 | CURRENT TRACK INFORMATION SENSE | D7 | CURRENT TRACK INFORMATION 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 SENSE | DE | PGM TOTAL TRACK NO./TOTAL TIME RETURN | |
| 5F | KEYBOARD TYPE SENSE | DF | KYBOARD TYPE RETURN | |
| | | F0 | ERROR SENSE REQUEST | |
| | | F1 | CAUTION SENSE REQUEST | |
| | | F2 | ILLEGAL STATUS | |
| | | F4 | POWER ON STATUS | |
| | | F6 | CHANGE STATUS | |

| 75 | POWER CONTROL | F5 | STANDBY STATUS | Ver1.30 |
|----|---------------|----|----------------|---------|
| 78 | ERROR SENSE | F8 | ERROR SENSE RETURN | |
| 79 | CAUTION SENSE | F9 | CAUTION SENSE RETURN | |
| 7F | ERROR SENSE | FF | ERROR SENSE RETURN | |

Caution: If no supported version is indicated in the "Adopted F/W Ver." column, ver. 1.00 or later is supported.

**Vender command list**

The list of vender commands (Command 7F/FF) is as follows.

Their command codes are indicated as a combination of Command (2-byte), Category Code (2-byte) and Sub Command (2-byte). For details, see the section starting page 41.

| Control/Sense Command | | Return Command | | Adopted F/W Ver |
|---|---|---|---|---|
| 7F01 | DEVICE SELECT | FF01 | DEVICE SELECT RETURN | |
| 7F02 | DIVIDE | | | |
| 7F03 | DELETE | | | |
| 7F0701 | TIME SKIP PRESET | | | Ver1.30 |
| 7F0702 | TIME SKIP SENSE | FF0702 | TIME SKIP RETURN | Ver1.30 |
| 7F074F | PLAY AREA SELECT | FF07CF | PLAY AREA SELECT RETURN | |
| 7F0823 | AUTO TRACK SIZE PRESET | FF08A3 | AUTO TRACK SIZE RETURN | |
| 7F1210 | INPUT SELECT | FF1290 | INPUT SELECT RETURN | Ver1.10 |
| 7F4200 | FILE RENAME | FF4280 | FILE RENAME ACK | Ver1.20 |
| 7F4A23 | CURRENT FOLDER SELECT | | | Ver1.20 |
| 7F4A40 | CREATE FOLDER | FF4AC0 | CREATE FOLDER ACK | Ver1.20 |
| 7F4A42 | RENAME FOLDER | FF4AC2 | RENAME FOLDER ACK | Ver1.20 |
| 7F4A55 | CURRENT FOLDER No. SENSE | FF4AD5 | CURRENT FOLDER No. RETURN | Ver1.20 |
| 7F4A56 | SEARCH FOLDER  No. | FF4AD6 | SEARCH FOLDER No. RETURN | Ver1.20 |
| 7F4A59 | FOLDER NAME SENSE | FF4AD9 | FOLDER NAME RETURN | Ver1.20 |
| 7F4A5A | FILE NAME SENSE | FF4ADA | FILE NAME RETURN | Ver1.20 |
| 7F4A5D | FOLDER COUNT SENSE | FF4ADD | FOLDER COUNT RETURN | Ver1.20 |
| 7F4A5E | FILE COUNT SENSE | FF4ADE | FILE COUNT RETURN | Ver1.20 |

Caution: If no supported version is indicated in the "Adopted F/W Ver." column, ver. 1.00 or later is supported.

**Command Details**

・**INFORMATION REQUEST**

INFORMATION REQUEST requests the controlled device to return information including the software version of the controlled device.

| | |
|---|---|
| Command | 0F |
| Data | None |
| Return | INFORMATION RETURN [8F] |

・**STOP**

STOP puts the controlled device into the stop state and also takes the controlled device out of input monitor mode.

| | |
|---|---|
| Command | 10 |
| Data | None |
| Return | None |

・**PLAY**

Play puts the controlled device into playback mode and also brings the controlled device from record ready mode to recording mode.

| | |
|---|---|
| Command | 12 |
| Data | None |
| Return | None |

・**RECORD**

RECORD puts the controlled device into record ready mode. It also numbers tracks during recording and puts the controlled device into input monitoring mode when no media is in the controlled device.

| | |
|---|---|
| Command | 13 |
| Data | 2 bytes |
| Return | None |

| Data 1 | Data 2 | Description | Remarks |
|---|---|---|---|
| 0 | 0 | Record | This starts recording |
| 0 | 1 | Record ready | Switches to record ready mode. |
| 0 | 2 | Track mark | Numbers tracks during recording |
| 1 | 0 | Input Monitor | Switches to input monitoring mode when no media is in the controlled device. |

・If the controlled device receives data other than the above data, it sends ILLEGAL (F2).

**・READY**

READY puts the controlled device into playback standby mode or record ready mode.

Command　　14
Data　　　　2 bytes
Return　　　None

| Data 1 | Data 2 | Description | Remarks |
|--------|--------|-------------|---------|
| 0 | 1 | Ready ON | Switches to playback standby mode or record ready mode. |

・If the controlled device receives data other than the above data, it sends ILLEGAL (F2).

**・JOG**

Enables JOG playback of the controlled device.

Command　　15
Data　　　　2 bytes
Return　　　None

| Data 1 | Data 2 | Description | Remarks |
|--------|--------|-------------|---------|
| 0 | 0 | OFF | Disables JOG playback. |
| 0 | 1 | ON | Enables JOG playback. |
| 1 | 0 | Jog forward | Frame accurate search in the forward direction |
| 1 | 1 | Jog reverse | Frame accurate search in the backward direction |

・If the controlled device receives data other than the above data, it sends ILLEGAL (F2).

**・SHUTTLE**

SHUTTLE puts the controlled device into the shuttle mode. The controlled device remains in the shuttle mode until it receives a command such as STOP, PLAY, or READY.

Command　　16
Data　　　　2 bytes
Return　　　None

| Data 1 | Data 2 | Description | Remarks |
|--------|--------|-------------|---------|
| 0 | 0 | Shuttle forward | Switches to the forward shuttle mode |
| 0 | 1 | Shuttle reverse | Switches to the backward shuttle mode |

・If the controlled device receives data other than the above data, it sends ILLEGAL (F2).

**・FLASH LOAD**

FLASH LOAD puts the controlled device into Flash Load mode.

Command　　17
Data　　　　None
Return　　　Flash Load Acknowledge [97]

**・EJECT**

EJECT ejects a CD Media from the controlled device.

(If the controlled device is SS-R250N, it returns ILLEGAL [F2].)

If the device selected on the controlled device is not CD, this command is ignored.

|         |      |
|---------|------|
| Command | 18   |
| Data    | None |
| Return  | None |

**・SKIP**

SKIP allows the controlled device to skip a track.

|         |         |
|---------|---------|
| Command | 1A      |
| Data    | 2 bytes |
| Return  | None    |

| Data 1 | Data 2 | Description | Remarks |
|--------|--------|-------------|---------|
| 0 | 0 | Track Skip Next | Skips to the next track |
| 0 | 1 | Track Skip Previous | If the current position is at the beginning of a track (or within one second of the beginning of a track), the controlled device skips to the beginning of the previous track. If the current position is not at the beginning of a track, the controlled device skips to the beginning of the current track. |
| 2 | 0 | Mark Skip Next | Moves to the next mark. |
| 2 | 1 | Mark Skip Previous | Moves to the previous mark. |
| 3 | 0 | Time Skip Next | When playing back or in playback standby, you can skip forward by the amount of time set using the time skip function. |
| 3 | 1 | Time Skip Previous | When playing back or in playback standby, you can skip backward by the amount of time set using the time skip function. |

・If the controlled device receives data other than the above data, it sends ILLEGAL (F2).

**・CALL**

CALL locates the controlled device to a call point and puts the controlled device into the ready state.

|         |      |
|---------|------|
| Command | 1D   |
| Data    | None |
| Return  | None |

・**AUTO CUE LEVEL PRESET**

AUTO CUE LEVEL PRESET sets the auto cue level of the controlled device.

Only when this command is sent with request data ([FF]), the controlled device sends the AUTO CUE LEVEL RETURN command [A0].

The auto cue mode can be turned on or off using the AUTO CUE SELECT command [30].

Command      20
Data      2 bytes
Return      AUTO CUE LEVEL RETURN [A0]

| Data 1 | Data 2 | Description | Remarks |
|--------|--------|-------------|---------|
| 0 | 0 | -24dB | Sets the auto-cue level to -24dB |
| 0 | 1 | -30dB | Sets the auto-cue level to -30dB |
| 0 | 2 | -36dB | Sets the auto-cue level to -36dB |
| 0 | 3 | -42dB | Sets the auto-cue level to -42dB |
| 0 | 4 | -48dB | Sets the auto-cue level to -48dB |
| 0 | 5 | -54dB | Sets the auto-cue level to -54dB |
| 0 | 6 | -60dB | Sets the auto-cue level to -60dB |
| 0 | 7 | -66dB | Sets the auto-cue level to -66dB |
| 0 | 8 | -72dB | Sets the auto-cue level to -72dB |
| F | F | SENSE | Requests the controlled device to return the current auto-cue level setting |

・If the controlled device receives data other than the above data, it sends ILLEGAL (F2).

・**AUTO TRACK LEVEL PRESET**

AUTO TRACK LEVEL PRESET sets the auto track level of the controlled device.

Only when this command is sent with request data ([FF]), the controlled device sends the AUTO TRACK LEVEL RETURN command [A1].

The auto track mode can be turned on or off using the AUTO TRACK SELECT command [31].

Command      21
Data      2 bytes
Return      AUTO TRACK LEVEL RETURN [A1]

| Data 1 | Data 2 | Description | Remarks |
|--------|--------|-------------|---------|
| 0 | 0 | -24dB | Sets the auto-track level to -24dB |
| 0 | 1 | -30dB | Sets the auto-track level to -30dB |
| 0 | 2 | -36dB | Sets the auto-track level to -36dB |
| 0 | 3 | -42dB | Sets the auto-track level to -42dB |
| 0 | 4 | -48dB | Sets the auto-track level to -48dB |
| 0 | 5 | -54dB | Sets the auto-track level to -54dB |
| 0 | 6 | -60dB | Sets the auto-track level to -60dB |
| 0 | 7 | -66dB | Sets the auto-track level to -66dB |
| 0 | 8 | -72dB | Sets the auto-track level to -72dB |
| F | F | SENSE | Requests the controlled device to return the current auto-track level setting |

・If the controlled device receives data other than the above data, it sends ILLEGAL (F2).

・**DIRECT TRACK SEARCH PRESET**

DIRECT TRACK SEARCH RESET performs a search for a track on the controlled device by specifying the track number. If a track search is performed while the controlled device is in a playback state or a stop state, the controlled device starts playing the selected track first.

If a track search is performed while the controlled device is in a state other than the above two states, the controlled device switches back to the state where it was before starting a search and remains in that state.

| | | |
|---|---|---|
| Command | 23 | |
| Data | 4 bytes | |
| Return | None | |

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

If the track number specified does not exist in the media, it sends ILLEGAL [F2].

・**PITCH CONTROL DATA PRESET**

PITCH CONTROL DATA PRESET sets the pitch of playback of the controlled device. (%)

The setting range is ±16.0%.

Only when this command is sent with request data ([FF]), the controlled device sends the PITCH CONTROL DATA RETURN command [A5].

The pitch control mode can be turned on or off using the PITCH CONTROL SELECT command [35].

| | | |
|---|---|---|
| Command | 25 | |
| Data | 4 bytes or 2 bytes | |
| Return | Pitch Control Data Return [A5] | |

| Data1 | Data2 | Data3 | Data4 | Description | Remarks |
|---|---|---|---|---|---|
| | | 0 | | | Positive (+) value |
| | | 1 | | | Negative (-) value |
| N2 | N3 | | N1 | Preset % | N1: Tens digit of the pitch control value |
| | | | | | N2: Ones digit of the pitch control value |
| | | | | | N3: First decimal place of the pitch control value |
| | | | | | Example) 2310: -2.3% |
| F | F | … | | Sense | Requests the controlled device to return the current pitch control setting |

・If the specified data is out of range, the controlled device sends ILLEGAL [F2].

・**AUTO TRACK TIME PRESET**

AUTO TRACK TIME PRESET sets the duration time for the auto track increment (time mode) of the controlled device.

Setting ranges are 1 - 10 minutes (1 minute interval), 15 minutes, 30 minutes, 1 hour, 2 hours, 6 hours, 8 hours, 12 hours, and 24 hours.

If this command is sent with request data ([FF]), the controlled device sends the AUTO TRACK TIME RETURN command [A6].

The auto track mode can be turned on or off using the AUTO TRACK SELECT command [31].

Command    26
Data       4 bytes or 2 bytes
Return     Auto Track Time Return [A6]

| Data1 | Data2 | Data3 | Data4 | Description | Remarks |
|-------|-------|-------|-------|-------------|---------|
| N1 | N2 | N3 | N4 | Times | N1: Tens digit of the auto track time value (hours). N2: Ones digit of the auto track time value (hours). N3: Tens digit of the auto track time value (minutes). N4: Ones digit of the auto track time value (minutes). |
| F | F | … | | Sense | Requests the controlled device to return the current auto track time setting |

・If the specified data is out of range, the controlled device sends ILLEGAL [F2].

・**CLOCK DATA PRESET**

CLOCK DATA PRESET sets the date and time information for the controlled device.

Only when this command is sent with request data ([FF]), the controlled device sends the CLOCK DATA RETURN command [A7].

Command    27
Data       10 bytes or 2 bytes
Return     Clock Data Preset Return [A7]

| | Description | Remarks |
|---|-------------|---------|
| Data 1 | Tens digit of the year (A.D.). | |
| Data 2 | Ones digit of the year (A.D.). | |
| Data 3 | Tens digit of the month. | [Example] 0802231234: February 23, 2008 / 12:34 |
| Data 4 | Ones digit of the month. | |
| Data 5 | Tens digit of the date | |
| Data 6 | Ones digit of the date | If data 1 and data 2 are both "F", the controlled device returns the current Clock Data setting. |
| Data 7 | Tens digit of the hour. | |
| Data 8 | Ones digit of the hour | |
| Data 9 | Tens digit of the minute | |
| Data 10 | Ones digit of the minute | |

・if the specified data does not exist, the controlled device sends ILLEGAL [F2].

**・SYNC REC  LEVEL PRESET**

SYNC REC LEVEL PRESET sets the level of the sync recording of the controlled device.

Only when this command is sent with request data ([FF]), the controlled device sends the SYNC REC LEVEL RETURN command [A8].

The sync rec mode can be turned on or off using the SYNC REC SELECT command [38].

|  |  |  |  |
|---|---|---|---|
| Command | 28 | | |
| Data | 2 bytes | | |
| Return | Sync Rec Level Return [A8] | | |

| Data 1 | Data 2 | Description | Remarks |
|---|---|---|---|
| 0 | 0 | -24dB | Sync Rec level setting is -24 dB. |
| 0 | 1 | -30dB | Sync Rec level setting is -30 dB. |
| 0 | 2 | -36dB | Sync Rec level setting is -36 dB. |
| 0 | 3 | -42dB | Sync Rec level setting is -42 dB. |
| 0 | 4 | -48dB | Sync Rec level setting is -48 dB. |
| 0 | 5 | -54dB | Sync Rec level setting is -54 dB. |
| 0 | 6 | -60dB | Sync Rec level setting is -60 dB. |
| 0 | 7 | -66dB | Sync Rec level setting is -66 dB. |
| 0 | 8 | -72dB | Sync Rec level setting is -72 dB. |
| F | F | Sense | Requests the controlled device to return the current Sync Rec Level setting. |

・if the specified data is out of rage, the controlled device sends ILLEGAL [F2].

**・TEXT PRESET**

Specifies a CD-TEXT title for the controlled device of up to 80 single-byte alphanumeric  characters.

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

|  |  |  |
|---|---|---|
| Command | 29 | |
| Data | 4 bytes～84 Bytes | |
| Return | None | |

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

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

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

**・TIME SEARCH PRESET**

TIME SEARCH PRESET performs a search on the controlled device by specifying a track number and time. If the controlled device receives this command when in stop or playback mode, it enters a playback mode after having finished a search. If the controlled device receives this command when in a mode other than the above two modes, it switches back to the mode where it was before starting a search and remains in that mode.

| Command | 2C |
|---|---|
| Data | 12 bytes |
| Return | None |

|  | 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 | [Example] |
| **Data 4** | Hundreds digit of the track number | 050006002030: 05tr 06min10.30sec |
| **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** | 1/10 digit of the seconds | |
| **Data 12** | 1/100 digit of the seconds | |

・If the specified time does not exist in the media, the controlled device sends ILLEGAL [F2].
・If the specified data is out of range, the controlled device sends ILLEGAL [F2].

**・KEY CONTROL DATA PRESET**

KEY CONTROL DATA PRESET sets the key of playback of the controlled device. (semitone)
Setting ranges are ±6 semitones.
Only when this command is sent with request data ([FF]), the controlled device sends the KEY CONTROL DATA RETURN command [AD].
The key control mode can be turned on or off using the KEY CONTROL SELECT command [3D].

| Command | 2D |
|---|---|
| Data | 2 bytes |
| Return | KEY CONTROL DATA RETURN [AD] |

| Data 1 | Data 2 | Description | Remarks |
|---|---|---|---|
| 0 | | Key up | |
| 1 | | Key down | |
| | 0 - 6 | Key change | Set in semitones |
| F | F | Sense | Requests the controlled device to return the current Key control data setting. |

・If the specified data is out of range, the controlled device sends ILLEGAL [F2].

・**AUTO CUE SELECT**

AUTO CUE SELECT turns the Auto-cue mode of the controlled device on or off.

Only when this command is sent with request data ([FF]), the controlled device sends the AUTO-CUE SELECT RETURN command [B0].

The Auto-cue level can be set using the AUTO CUE LEVEL PRESET command [20].

Command     30
Data     2 bytes
Return     AUTO CUE SELECT RETURN [B0]

| Data1 | Data2 | Description | Remarks |
|-------|-------|-------------|---------|
| 0 | 0 | Auto-cue mode OFF | Turns the Auto-cue mode off |
| 0 | 1 | Auto-cue mode ON | Turns the Auto-cue mode on |
| F | F | Sense | Requests the controlled device to return the Auto-cue mode status |

・If the specified data is out of range, the controlled device sends ILLEGAL [F2].

・**AUTO TRACK SELECT**

AUTO TRACK SELECT turns the Auto-cue mode of the controlled device on or off.

Only when this command is sent with request data ([FF]), the controlled device sends the AUTO TRACK SELECT RETURN command [B1].

The auto track level can be set using the AUTO TRACK LEVEL PRESET command [21].

The auto track time can be set using the AUTO TRACK TIME PRESET command [26].

The auto track size can be set using the AUTO TRACK SIZE PRESET command [7F0823].

Command     31
Data     2 bytes
Return     AUTO TRACK SELECT RETURN [B1]

| Data1 | Data2 | Description | Remarks |
|-------|-------|-------------|---------|
| 0 | 0 | Auto Track OFF | |
| 0 | 1 | Auto Track ON (LEVEL) | Level Mode |
| 0 | 2 | Auto Track ON (Digital Direct) | Digital Direct Mode |
| 0 | 3 | Auto Track ON (TIME) | Time Mode |
| 0 | 4 | Auto Track ON (SIZE) | File size Mode |
| F | F | Sense | Requests the controlled device to return the Auto Track mode status |

・If the specified data is out of range, the controlled device sends ILLEGAL [F2].

・**EOM TRACK TIME PRESET**

EOM TRACK TIME PRESET sets the EOM (end-of-track-warning) time in seconds.

Only when this command is sent with request data ([FF]), the controlled device sends the EOM TRACK TIME RETURN command [B2].

Command        32
Data           2 bytes
Return         EOM TRACK TIME RETURN [B2]

| Data1 | Data2 | Description | Remarks |
|---|---|---|---|
| 0 | 0 | EOM Track OFF | |
| A | 0 | EOM Track ON (0sec) | |
| N1 | N2 | EOM Track ON | N1: Tens digit of the EOM Track Time.<br>N2: Ones digit of the EOM Track Time. |
| F | F | Sense | Requests the controlled device to return the EOM Track Time setting. |

・If the controlled device receives data other than the above data, it sends ILLEGAL (F2).

・**EOM MEDIA TIME PRESET**

EOM MEDIA TIME PRESET sets the EOM (end-of-track-warning) time in seconds.

The setting range is 1 to 99 seconds or the function can also be turned off using this command.

Only when this command is sent with request data ([FF]), the controlled device sends the EOM MEDIA TIME RETURN command [B3].

Command        33
Data           2 bytes
Return         EOM MEDIA TIME RETURN [B3]

| Data1 | Data2 | Description | Remarks |
|---|---|---|---|
| 0 | 0 | EOM Media OFF | |
| N1 | N2 | EOM Media ON | N1: Tens digit of the EOM Media Time.<br>N2: Ones digit of the EOM Media Time. |
| F | F | Sense | Requests the controlled device to return the EOM Media Time setting. |

・If the controlled device receives data other than the above data, it sends ILLEGAL (F2).

・**PITCH CONTROL SELECT**

PITCH CONTROL SELECT turns the pitch control mode of the controlled device on or off.

Only when this command is sent with request data [FF], the controlled device sends the PITCH CONTROL SELECT RETURN command [B5].

The pitch control data can be set using the PITCH CONTROL DATA PRESET command [25].

Command        35
Data           2 bytes
Return         PITCH CONTROL SELECT RETURN [B5]

| Data 1 | Data 2 | Description | Remarks |
|---|---|---|---|
| 0 | 0 | Pitch control OFF | |
| 0 | 1 | Pitch control ON | |
| F | F | Sense | Requests the controlled device to return the current pitch control mode setting |

・If the controlled device receives data other than the above data, it sends ILLEGAL (F2).

・**AUTO READY SELECT**

AUTO READY SELECT turns the auto ready mode of the controlled device on or off.

Only when this command is sent with request data [FF], the controlled device sends the AUTO READY SELECT RETURN command [B6].

Command　　　36
Data　　　　　2 bytes
Return　　　　AUTO READY SELECT RETURN [B6]

| Data 1 | Data 2 | Description | Remarks |
|--------|--------|-------------|---------|
| 0 | 0 | Auto-ready OFF | |
| 0 | 1 | Auto-ready ON | |
| F | F | Sense | Requests the controlled device to return the current auto-ready mode setting |

・If the controlled device receives data other than the above data, it sends ILLEGAL (F2).

・**REPEAT SELECT**

REPEAT SELECT turns the repeat mode of the controlled device on or off.

Only when this command is sent with request data [FF], the controlled device sends the REPEAT SELECT RETURN command [B7].

Command　　　37
Data　　　　　2 bytes
Return　　　　REPEAT SELECT RETURN [B7]

| Data 1 | Data 2 | Description | Remarks |
|--------|--------|-------------|---------|
| 0 | 0 | Repeat OFF | |
| 0 | 1 | Repeat ON | |
| F | F | Sense | Requests the controlled device to return the current repeat mode setting |

・If the controlled device receives data other than the above data, it sends ILLEGAL (F2).

・**SYNC REC SELECT**

SYNC REC SELECT turns the sync rec mode of the controlled device on or off.

Only when this command is sent with request data [FF], the controlled device sends the SYNC REC SELECT RETURN command [B8].

The sync rec level can be set using the SYNC REC LEVEL PRESET command [28].

Command　　　38
Data　　　　　2 bytes
Return　　　　SYNC REC SELECT RETURN [B8]

| Data 1 | Data 2 | Description | Remarks |
|--------|--------|-------------|---------|
| 0 | 0 | sync rec OFF | |
| 0 | 1 | Sync rec ON | |
| F | F | Sense | Requests the controlled device to return the current sync rec mode setting |

・If the controlled device receives data other than the above data, it sends ILLEGAL (F2).

**·INCR PLAY SELECT**

INCR PLAY SELECT turns the incremental playback mode of the controlled device on or off.

Only when this command is sent with request data [FF], the controlled device sends the INCR PLAY SELECT RETURN command [BA].

Command        3A
Data           2 bytes
Return         INCR PLAY SELECT RETURN [BA]

| Data 1 | Data 2 | Description | Remarks |
|--------|--------|-------------|---------|
| 0 | 0 | Incremental playback OFF | |
| 0 | 1 | Incremental playback ON | |
| F | F | Sense | Requests the controlled device to return the current incremental playback mode setting |

·If the controlled device receives data other than the above data, it sends ILLEGAL (F2).

**·KEY CONTROL SELECT**

KEY CONTROL SELECT turns the key control mode of the controlled device on or off.

Only when this command is sent with request data [FF], the controlled device sends the KEY CONTROL SELECT RETURN command [BD].

The key control data can be set using the KEY CONTROL DATA PRESET command [2D].

Command        3D
Data           2 bytes
Return         KEY CONTROL SELECT RETURN [BD]

| Data 1 | Data 2 | Description | Remarks |
|--------|--------|-------------|---------|
| 0 | 0 | Key control mode OFF | |
| 0 | 1 | Key control mode ON | |
| F | F | Sense | Requests the controlled device to return the current key control mode setting |

·If the controlled device receives data other than the above data, it sends ILLEGAL (F2).

・**REMOTE/LOCAL SELECT**

REMOTE/LOCAL SELECT enables or disables key operation on the controlled device.

Only when this command is sent with request data [FF], the controlled device sends the REMOTE/LOCAL RETURN command [CC].

Command      4C
Data         2 bytes
Return       REMOTE LOACAL [CC]

| Data 1 | Data 2 | Description | Remarks |
|--------|--------|-------------|---------|
| 0 | 0 | Only remote | Enables only remote operation through an RS-232C, PARALLEL connector, ETHERNET and remote control connected to the REMOTE jack and a USB keyboard. Key operation on the controlled device is disabled |
| 0 | 1 | Remote and Front key | Enables remote operation and key operation on the controlled device |
| F | F | Sense | Requests the controlled device to return the current remote/local mode setting |

・If the controlled device receives data other than the above data, it sends ILLEGAL (F2).

・**PLAY MODE SELECT**

PLAY MODE SELECT sets the playback mode of the controlled device.

The playback mode setting can be checked using the PLAY MODE SENSE command [4E].

Command      4D
Data         2 bytes
Return       None

| Data 1 | Data 2 | Description | Remarks |
|--------|--------|-------------|---------|
| 0 | 0 | Continuous | Continuous playback |
| 0 | 1 | Single | Single playback |
| 0 | 4 | Program | Programmed playback |
| 0 | 6 | Random | Random playback |

・**PLAY MODE SENSE**

PLAY MODE SENSE requests the controlled device to return the current playback mode setting of the controlled device.

Command      4E
Data         None
Return       PLAY MODE RETURN [CE]

・**MECHA STATUS SENSE**

MECHA STATUS SENSE requests the controlled device to return the status of the specified mechanism of the controlled device.

Command      50
Data         None
Return       MECHA STATSU RETURN [D0]

・**TRACK No. SENSE**

TRACK No. SENSE requests the controlled device to return the current track number.

Command:        55
Data:           None
Return:         TRACK No. STATUS RETURN [D5]

・**MEDIA STATUS SENSE**

MEDIA STATUS SENSE requests the controlled device to return information about the presence or absence and the type of a media in the controlled device.

Command         56
Data            None
Return          MEDIA STATUS RETURN [D6]

・**CURRENT TRACK INFORMATION SENSE**

CURRENT TRACK INFORMAITON SENSE requests the controlled device to return information about the current track.

Command         57
Data            None
Return          CURRENT TRACK INFORMATION RETURN [D7]

・**CURRENT TRACK TIME SENSE**

CURRENT TRACK TIME SENSE requests the controlled device to return the selected time information about the current track or the whole media, when in a playback or a ready state.

Command         58
Data            2 bytes
Return          CURRENT TRACK TIME RETURN [D8]

| Data 1 | Data 2 | Description | Remarks |
|--------|--------|-------------|---------|
| 0 | 0 | Track elapsed time | |
| 0 | 1 | Track remaining time | |
| 0 | 2 | Total elapsed time on the media | |
| 0 | 3 | Total remaining time on the media | |

・If the controlled device receives data other than the above data, it sends ILLEGAL (F2).

・**NAME SENSE**

NAME SENSE requests the controlled device to return the specified track name.

Command         59
Data            4 bytes
Return          NAME RETURN [D9]

|        | Description | Remarks | |
|--------|-------------|---------|---|
| **Data 1** | Tens digit of the track number | | |
| **Data 2** | Ones digit of the track number | 0000 | Specifies the disc title(Only for CD-TEXT) |
| **Data 3** | Thousands digit of the track number | 0001 – 0999 | Specifies a track name (title) |
| **Data 4** | Hundreds digit of the track number | | |

・If the specified track number does not exist in the media, it sends ILLEGAL [F2].

・If the name of specified track number contains a character that is not ASCII, it sends ILLEGAL [F2].

・**TOTAL TRACK No./TOTAL TIME SENSE**

TOTAL TRACK No./TOTAL TIME SENSE requests the controlled device to return the total number of tracks on the media and the total running time of the media in the controlled device.

Command         5D
Data            None
Return          TOTAL TRACK No./TOTAL TIME RETURN [DD]

・**PGM TOTAL TRACK No./TOTAL TIME SENSE**

PGM TOTAL TRACK No./TOTAL TIME SENSE requests the controlled device to return the total number and the total running time of the programmed tracks.

For MP3/WAV, only the total number of tracks is returned.

Command         5E
Data            None
Return          PGM TOTAL TRACK No./TOTAL TIME RETURN [DE]

・**KEYBOARD TYPE SENSE**

KEYBOARD TYPE SENSE requests the controlled device to return the current keyboard type setting of the controlled device.

Command         5F
Data            None
Return          KEYBOARD TYPE RETURN [DF]

・**POWER CONTORL**

POWER CONTROL turns ON / OFF (standby) the power of the controlled device.

When turning on from OFF, the REMOTE POWER CONTROL setting of the controlled device must be ON.

Command          75
Data             None
Return           STANDBY STATUS [F5]

| Data 1 | Data 2 | Description | Remarks |
|--------|--------|-------------|---------|
| 0 | 0 | Power On | Power on from the standby state. |
| 1 | 1 | Power Off | The controlled device enters the standby state. |
| 8 | 0 | Reset | The controlled device restarts. |

If the controlled device does not stop, it sends ILLEGAL [F2].

・**ERROR SENSE**

ERROR SENSE requests the controlled device to return information about an error that occurred on the controlled device. Be sure to determine the error by using this command if the ERROR SENSE REQUEST command [F0] is issued from the controlled device.

Command:          78
Data:             None
Return:           ERROR SENSE RETURN [F8]

・**CAUTION SNESE**

CAUTION SENSE requests the controlled device to return information about a caution that is shown on the controlled device. Be sure to check the caution by using this command if the CAUTION SENSE REQUEST command [F1] is issued from the controlled device.

Command:          79
Data:             None
Return:           CAUTION SENSE RETURN [F9]

・**VENDER COMMAND**

This command controls a function unique to this unit. For details, see **"Vender command details"** on page 39.

Command:          7F
Return:           VENDER COMMAND RETURN [FF]

**・INFORMATION RETURN**

INFORMATION RETURN is sent in response to the INFORMATION REQUEST command [0F] to show the software version.

| Command | 8F |
|---|---|
| Data | 4 bytes |
| Request command | INFORMATION REQUEST [0F] |

| | Description | Remarks |
|---|---|---|
| **Data 1** | Tens digit of the software version | Example) 0123: Version 01.23 |
| **Data 2** | Ones digit of the software version | |
| **Data 3** | First decimal place of the software version | |
| **Data 4** | Second decimal place of the software version | |

**・FLASH LOAD ACKNOWLEDGE**

FLASH LOAD ACKNOWLEDE is sent in response to the FLASH LOAD command [17] to show the data loading has been successful.

| Command: | 97 |
|---|---|
| Data: | None |
| Request command | FLASH LOAD [17] |

**・AUTO CUE LEVEL RETURN**

AUTO CUE LEVEL RETURN is sent in response to the AUTO CUE LEVEL PRESET command [20] to show the current Auto cue level setting.

| Command | A0 |
|---|---|
| Data | 2 bytes |
| Request command | AUTO CUE LEVEL PRESET [20] |

| Data 1 | Data 2 | Description | Remarks |
|---|---|---|---|
| 0 | 0 | -24dB | Auto cue level setting is -24 dB. |
| 0 | 1 | -30dB | Auto cue level setting is -30 dB. |
| 0 | 2 | -36dB | Auto cue level setting is -36 dB. |
| 0 | 3 | -42dB | Auto cue level setting is -42 dB. |
| 0 | 4 | -48dB | Auto cue level setting is -48 dB. |
| 0 | 5 | -54dB | Auto cue level setting is -54 dB. |
| 0 | 6 | -60dB | Auto cue level setting is -60 dB. |
| 0 | 7 | -66dB | Auto cue level setting is -66 dB. |
| 0 | 8 | -72dB | Auto cue level setting is -72 dB. |

・**AUTO TRACK LEVEL RETURN**

AUTO TRACK LEVEL RETURN is sent in response to the AUTO TRACK LEVEL PRESET command [21] to show the current Auto track level setting.

　　Command　　　　　　　A1
　　Data　　　　　　　　　2 bytes
　　Request command　　　AUTO TRACK LEVEL PRESET [21]

| Data 1 | Data 2 | Description | Remarks |
|--------|--------|-------------|---------|
| 0 | 0 | -24dB | Auto track level setting is -24 dB. |
| 0 | 1 | -30dB | Auto track level setting is -30 dB. |
| 0 | 2 | -36dB | Auto track level setting is -36 dB. |
| 0 | 3 | -42dB | Auto track level setting is -42 dB. |
| 0 | 4 | -48dB | Auto track level setting is -48 dB. |
| 0 | 5 | -54dB | Auto track level setting is -54 dB. |
| 0 | 6 | -60dB | Auto track level setting is -60 dB. |
| 0 | 7 | -66dB | Auto track level setting is -66 dB. |
| 0 | 8 | -72dB | Auto track level setting is -72 dB. |

・**PITCH CONTROL DATA RETURN**

PITCH CONOTROL DATA RETURN is sent in response to the PITCH CONTROL DATA PRESET command [25] to show the current pitch control setting.

　　Command　　　　　　　A5
　　Data　　　　　　　　　4 bytes
　　Request command　　　PITCH CONTROL DATA PRESET [25]

| Data 1 | Data 2 | Data 3 | Data 4 | Description | Remarks |
|--------|--------|--------|--------|-------------|---------|
| N2 | N3 | 0<br>1 | N1 | Preset % | Positive (+) value<br>Negative (-) value<br>N1: Tens digit of the pitch control value<br>N2: Ones digit of the pitch control value<br>N3: First decimal place of the pitch control value<br>Example) 2310: -2.3 % |

・**AUTO TRACK TIME RETURN**

AUTO TRACK TIME RETURN is sent in response to the AUTO TRACK TIME PRESET command [26] to show the current auto track time setting.

　　Command　　　　　　　A6
　　Data　　　　　　　　　4 bytes
　　Request command　　　AUTO TRACK TIME PRESET [26]

| | Description | Remarks |
|--------|-------------|---------|
| **Data 1** | Tens digit of the hour | |
| **Data 2** | Ones digit of the hour | |
| **Data 3** | Tens digit of the minute | |
| **Data 4** | Ones digit of the minute | |

・**CLOCK DATA RETURN**

CLOCK DATA RETURN is sent in response to the CLOCK DATA PRESET command [27] to show the current date and time setting.

| Command | A7 |
|---|---|
| Data | 12 bytes |
| Request command | CLOCK DATA PRESET [27] |

|  | Description | Remarks |
|---|---|---|
| **Data 1** | Tens digit of the year (A.D.). | |
| **Data 2** | Ones digit of the year (A.D.). | |
| **Data 3** | Tens digit of the month. | |
| **Data 4** | Ones digit of the month. | [Example] |
| **Data 5** | Tens digit of the date | 0802231234: February 23, 2008 / 12:34 |
| **Data 6** | Ones digit of the date | |
| **Data 7** | Tens digit of the hour. | |
| **Data 8** | Ones digit of the hour | |
| **Data 9** | Tens digit of the minute | |
| **Data 10** | Ones digit of the minute | |

・**SYNC REC LEVEL RETURN**

SYNC REC LEVEL RETURN is sent in response to the SYNC REC LEVEL PRESET command [28] to show the current sync rec level setting.

| Command | A8 |
|---|---|
| Data | 2 bytes |
| Request command | SYNC REC LEVEL PRESET [28] |

| Data 1 | Data 2 | Description | Remarks |
|---|---|---|---|
| 0 | 0 | -24dB | Sync Rec level setting is -24 dB. |
| 0 | 1 | -30dB | Sync Rec level setting is -30 dB. |
| 0 | 2 | -36dB | Sync Rec level setting is -36 dB. |
| 0 | 3 | -42dB | Sync Rec level setting is -42 dB. |
| 0 | 4 | -48dB | Sync Rec level setting is -48 dB. |
| 0 | 5 | -54dB | Sync Rec level setting is -54 dB. |
| 0 | 6 | -60dB | Sync Rec level setting is -60 dB. |
| 0 | 7 | -66dB | Sync Rec level setting is -66 dB. |
| 0 | 8 | -72dB | Sync Rec level setting is -72 dB. |

・**KEY CONTROL DATA RETURN**

KEY CONTROL DATA RETURN is sent in response to the KEY CONTROL DATA PRESET command [2D] to show the current key control data setting.

| Command | AD |
|---|---|
| Data | 2 bytes |
| Request command | KEY CONTROL DATA PRESET [2D] |

| Data 1 | Data 2 | Description | Remarks |
|---|---|---|---|
| 0 | | Key up | |
| 1 | | Key down | |
| | 0 - 6 | Key change | Set in semitones |

・**AUTO CUE SELECT RETURN**

AUTO CUE SELECT RETURN is sent in response to the AUTO CUE SELECT command [30] to show the current Auto cue mode setting.

Command             B0
Data                2 bytes
Request command     AUTO CUE SELECT [30]

| Data 1 | Data 2 | Description | Remarks |
|---|---|---|---|
| 0 | 0 | Auto cue mode OFF | |
| 0 | 1 | Auto cue mode ON | |

・**AUTO TRACK SELECT RETURN**

AUTO TRACK SELECT RETURN is sent in response to the AUTO TRACK SELECT command [31] to show the current Auto track mode setting.

Command             B1
Data                2 bytes
Request command     AUTO TRACK SELECT [31]

| Data 1 | Data 2 | Description | Remarks |
|---|---|---|---|
| 0 | 0 | Auto track mode OFF | |
| 0 | 1 | Auto track mode ON (LEVEL) | Level mode |
| 0 | 2 | Auto track mode ON (Digital Direct) | Digital Direct mode |
| 0 | 3 | Auto track mode ON (Time) | Time mode |
| 0 | 4 | Auto track mode ON (SIZE) | File size mode |

・**EOM TRACK TIME RETURN**

EOM TRACK TIME RETURN is sent in response to the EOM TRACK TIME PRESET command [32] to show the current EOM track time setting.

Command             B2
Data                2 bytes
Request command     EOM TRACK TIME PRESET [32]

| Data1 | Data2 | Description | Remarks |
|---|---|---|---|
| 0 | 0 | EOM Track OFF | |
| A | 0 | EOM Track ON (0 sec) | |
| N1 | N2 | EOM Track ON | N1: Tens digit of the EOM Track Time. N2: Ones digit of the EOM Track Time. |

・**EOM MEDIA TIME RETURN**

EOM MEDIA TIME RETURN is sent in response to the EOM MEDIA TIME PRESET command [33] to show the current EOM media time setting.

Command             B3
Data                2 bytes
Request command     EOM MEDIA TIME PRESET [33]

| Data1 | Data2 | Description | Remarks |
|---|---|---|---|
| 0 | 0 | EOM Media OFF | |
| N1 | N2 | EOM Media ON | N1: Tens digit of the EOM Media Time. N2: Ones digit of the EOM Media Time. |

・**PITCH CONTROL SELECT RETURN**

PITCH CONTROL SELECT RETURN is sent in response to the PITCH CONTROL SELECT command [35] to show the current pitch control mode setting.

Command    B5
Data      2 bytes
Request command  PITCH CONTROL SELECT [35]

| Data 1 | Data 2 | Description | Remarks |
|--------|--------|-------------|---------|
| 0 | 0 | Pitch control OFF | |
| 0 | 1 | Pitch control ON | |

・**AUTO READY SELECT RETURN**

AUTO READY SELECT RETURN is sent in response to the AUTO READY SELECT command [36] to show the current auto-ready mode setting.

Command    B6
Data      2 bytes
Request command  AUTO READY SELECT [36]

| Data 1 | Data 2 | Description | Remarks |
|--------|--------|-------------|---------|
| 0 | 0 | Auto-ready OFF | |
| 0 | 1 | Auto-ready ON | |

・**REPEAT SELECT RETURN**

REPEAT SELECT RETURN is sent in response to the REPEAT SELECT command [37] to show the current repeat setting.

Command    B7
Data      2 bytes
Request command  REPEAT SELECT [37]

| Data 1 | Data 2 | Description | Remarks |
|--------|--------|-------------|---------|
| 0 | 0 | Repeat OFF | |
| 0 | 1 | Repeat ON | |

・**SYNC REC SELECT RETURN**

SYNC REC SELECT RETURN is sent in response to the SYNC REC SELECT command [38] to show the current sync rec setting.

Command    B8
Data      2 bytes
Request command  SYNC REC SELECT [38]

| Data 1 | Data 2 | Description | Remarks |
|--------|--------|-------------|---------|
| 0 | 0 | Sync rec OFF | |
| 0 | 1 | Sync rec ON | |

**・INCR PLAY SELECT RETURN**

INCR PLAY SELECT RETURN is sent in response to the INCR PLAY SELECT command [3A] to show the current incremental playback setting.

Command                     BA
Data                        2 bytes
Request command             INCR PLAY SELECT [3A]

| Data 1 | Data 2 | Description | Remarks |
|--------|--------|-------------|---------|
| 0 | 0 | INCR playback OFF | |
| 0 | 1 | INCR playback ON | |

**・KEY CONTROL SELECT RETURN**

KEY CONTROL SELECT RETURN is sent in response to the KEY CONTROL SELECT command [3D] to show the current key control mode setting.

Command                     BD
Data                        2 bytes
Request command             KEY CONTROL SELECT [3D]

| Data 1 | Data 2 | Description | Remarks |
|--------|--------|-------------|---------|
| 0 | 0 | Key control OFF | |
| 0 | 1 | Key control ON | |

**・REMOTE/LOCAL SELECT RETURN**

REMOTE/LOCAL SELECT RETURN is sent in response to the REMOTE/LOCAL SELECT command [4C] to show the current remote/local mode setting.

Command                     CC
Data                        2 bytes
Request command             REMOTE/LOCAL SELECT [4C]

| Data 1 | Data 2 | Description | Remarks |
|--------|--------|-------------|---------|
| 0 | 0 | Only remote | Enables only remote operation through an RS-232C, PARALLEL connector, ETHERNET and remote control connected to the REMOTE jack and a USB keyboard. Key operation on the controlled device is disabled |
| 0 | 1 | Remote and Front key | Enables remote operation and key operation on the controlled device |

・**PLAY MODE RETURN**

PLAY MODE RETURN is sent in response to the PLAY MODE SENSE command [4E] to show the current playback mode setting.

Command                CE
Data                   2 bytes
Request command        PLAY MODE SENSE [4E]

| Data 1 | Data 2 | Description | Remarks |
|--------|--------|-------------|---------|
| 0 | 0 | Continuous playback | |
| 0 | 1 | Single playback | |
| 0 | 4 | Programmed playback (data not available) | |
| 0 | 5 | Programmed playback (data available) | |
| 0 | 6 | Random playback | |

・**MECHA STATUS RETURN**

MECHA STATUS RETURN is sent in response to the MECHA STATUS SENSE command [50] to show the current status of the specified mechanism of the controlled device.

Command                D0
Data                   2 bytes
Request command        MECHA STATUS SENSE [50]

| Data 1 | Data 2 | Description | Remarks |
|--------|--------|-------------|---------|
| 0 | 0 | No Media | No Media |
| 0 | 1 | Preparing for disc ejection | In disc-ejecting state |
| 1 | 0 | Stop | In stop state |
| 1 | 1 | Play | In playback state |
| 1 | 2 | Ready | In ready state |
| 2 | 8 | Cue | Searching forward |
| 2 | 9 | Review | Searching backward |
| 8 | 0 | Monitor | In input monitoring state |
| 8 | 1 | Record | In recording state |
| 8 | 2 | Record ready | In record ready state |
| 8 | 3 | Information writing | In information writing state |
| F | F | Other | Some other status |

・**TRACK No. RETURN**

TRACK No. RETURN is sent in response to the TRACK No. SENSE command [55] to show the current track number.

Command                D5
Data                   6 bytes
Request command        TRACK No. SENSE [55]

|        | Description | Remarks |
|--------|-------------|---------|
| **Data 1** | EOM Status | 00: Shows that the current track has yet to reach the set EOM time or EOM display mode is turned off |
| **Data 2** |  | 01: Shows that the controlled device is displaying the EOM time |
| **Data 3** | Tens digit of the track number | |
| **Data 4** | Ones digit of the track number | |
| **Data 5** | Thousands digit of the track number | |
| **Data 6** | Hundreds digit of the track number | |

・**MEDIA STATUS RETURN**

MEDIA STATUS RETURN is sent in response to the MEDIA STATUS SENSE command [56] to show the presence or absence of a media and the type of the media.

Command                D6
Data                   4 bytes
Request command        MEDIA STATUS SENSE [56]

| **Data 1** | Media status | 00: No media |
|--------|-------------|---------|
| **Data 2** |  | 01: Media loaded |
| **Data 3** | Media type | 00: CD-DA<br>01: CD-R(Audio)<br>02: CD-RW(Audio) |
| **Data 4** |  | 10: CD-ROM (Data)<br>11: CD-R(Data)<br>12: CD-RW(Data) |

・**CURRENT TRACK INFORMATION RETURN**

CURRENT TRACK INFORMATION RETURN is sent in response to the CURRENT TRACK INFORMATION SENSE command [57] to show information about the program number when in program playback mode or current track when in another playback mode.

Command               D7
Data                    12 bytes
Request command       CURRENT TRACK INFORMATION SENSE [57]

| | Description | Remarks |
|---|---|---|
| **Data 1** | Tens digit of the track number or the program number | |
| **Data 2** | Ones digit of the track number or the program number | |
| **Data 3** | Thousands digit of the track number | |
| **Data 4** | Hundreds digit of the track number | If the playback mode is set to program (PGM), the controlled device sends only the program number for data1 and data2. |
| **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 | |

・**CURRENT TRACK TIME RETURN**

CURRENT TRACK TIME RETURN is sent in response to the CURRENT TRACK TIME SENSE command [58] to show the selected time information about the current track.

Command               D8
Data                    10 bytes
Request command       CURRENT TRACK TIME SENSE [58]

| | | Description | Remarks |
|---|---|---|---|
| **(Data 1, Data 2)** | 00 | Elapsed time | |
| | 01 | Track remaining time | |
| | 02 | Total elapsed time on the media | |
| | 03 | Total remaining time on the media | |
| **Data 3** | -- | Tens digit of the minutes | |
| **Data 4** | -- | Ones digit of the minutes | |
| **Data 5** | -- | Thousands digit of the minutes | |
| **Data 6** | -- | Hundreds digit of the minutes | |
| **Data 7** | -- | Tens digit of the seconds | |
| **Data 8** | -- | Ones digit of the seconds | |
| **Data 9** | -- | Tens digit of the frame | |
| **Data10** | -- | Ones digit of the frame | |

・**NAME RETURN**

NAME RETURN is sent in response to the NAME SENSE command [59] to show the name of the specified track. If the specified track is a file, the reply includes the file extension.

If the specified track name does not exist or contains a character that is not ASCII, the controlled device sends ILLEGAL [F2]

Command              D9
Data                 5 - 124 bytes
Request command      NAME SENSE [59]

|  | Description | Remarks |
|---|---|---|
| **Data 1** | Tens digit of the track |  |
| **Data 2** | Ones digit of the track | 0000          Disc title( for CD-TEXT only) |
| **Data 3** | Thousand digit of the track | 0001 – 0999   Track name (title) |
| **Data 4** | Hundred digit of the track |  |
| **Data 5 – Data124** | Name(title) | ASCII characters |

・The title is composed of 0 to 120 bytes.

・**TOTAL TRACK No./TOTAL TIME RETURN**

TOTAL TRACK No./TOTAL TIME RETURN is sent in response to the TOTAL TRACK No./TOTAL TIME SENSE command [5D] to show the total number of tracks on a media and the total running time of the media in the controlled device.

Command              DD
Data                 12 bytes
Request command      TOTAL TRACK No./TOTAL TIME SENSE [5D]

|  | Description | Remarks |
|---|---|---|
| **Data 1** | Tens digit of the total number of tracks |  |
| **Data 2** | Ones digit of the total number of tracks |  |
| **Data 3** | Thousands digit of the total number of tracks |  |
| **Data 4** | Hundreds digit of the total number of tracks |  |
| **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 |  |
| **Data10** | Ones digit of the seconds |  |
| **Data11** | Tens digit of the total number of frames of all tracks |  |
| **Data12** | Ones digit of the total number of frames of all tracks |  |

・**PGM TOTAL TRACK No./TOTAL TIME RETURN**

PGM TOTAL TRACK No./TOTAL TIME RETURN is sent in response to the PGM TOTAL TRACK No./TOTAL TIME SENSE command [5E] to show the total number and the total running time of the programmed tracks.

Command           DE
Data              12 bytes
Request command   PGM TOTAL TRACK No./TOTAL TIME SENSE [5E]

|         | Description | Remarks |
|---------|-------------|---------|
| **Data 1**  | Tens digit of the total number of tracks | |
| **Data 2**  | Ones digit of the total number of tracks | |
| **Data 3**  | Thousands digit of the total number of tracks | |
| **Data 4**  | Hundreds digit of the total number of tracks | |
| **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 | |
| **Data10**  | Ones digit of the seconds | |
| **Data11**  | Tens digit of the frame | |
| **Data12**  | Ones digit of the frame | |

・**KEYBOARD TYPE RETURN**

KEYBOARD TYPE RETURN is sent in response to the KEYBOARD TYPE SENSE command [5F] to show the current keyboard type setting.

Command           DF
Data              2 bytes
Request command   KEYBOARD TYPE SENSE [5F]

| Data 1 | Data 2 | Description | Remarks |
|--------|--------|-------------|---------|
| 0 | 0 | Japanese | |
| 0 | 1 | US | |

・**ERROR SENSE REQUEST**

ERROR SENSE REQUEST is sent from the controlled device to the external controller to show that the controlled device is in an error state. If the command is sent, the external controller issues the ERROR SENSE command [78]. Be sure to determine the error by using the ERROR SENSE command.

Command           F0
Data              None
Request command   None

・**CAUTION SENSE REQUEST**

CAUTION SENSE REQUEST is sent from the controlled device to the external controller to show that the controlled device is in a caution state. If the command is sent, the external controller issues the CAUTION SENSE command [79]. Be sure to check the caution by using the CAUTION SENSE command.

Command           F1
Data              None
Request command   None

**・ILLEGAL STATUS**

ILLEGAL STATUS is sent from the controlled device to the external controller to show that an invalid command or data has been sent to the controlled device. If the command is sent, send a command or data again, making sure that it is a valid command or data.

|               |      |
|---------------|------|
| Command       | F2   |
| Data          | None |
| Request command | None |

**・POWER ON STATUS**

POWER ON STATUS is sent from the controlled device to the external controller to show that the controlled device has been turned on.

|               |      |
|---------------|------|
| Command       | F4   |
| Data          | None |
| Request command | None |

**・STANDBY STATUS**

STANDBY STATUS is sent in response to the POWER CONTROL command [75].

|               |      |
|---------------|------|
| Command       | F5   |
| Data          | None |
| Request command | None |

**・CHANGE STATUS**

CHANGE STATUS is sent from the controlled device to the external controller to show that the controlled device has switched from one state to another.

|               |         |
|---------------|---------|
| Command       | F6      |
| Data          | 2 bytes |
| Request command | None  |

| Data 1 | Data 2 | Description | Remarks |
|--------|--------|-------------|---------|
| 0 | 0 | Mechanism status change | The status of the specified mechanism has been changed. |
| 0 | 3 | Track and EOM status changes | The controlled device has moved from one track to another or the EOM status has been changed. |

**・ERROR SENSE RETURN**

ERROR SENSE RETURN is sent in response to the ERROR SENSE command [78].

| | | | |
|---|---|---|---|
| Command | | F8 | |
| Data | | 4 bytes | |
| Request command | | ERROR SENSE [78] | |

| | | | |
|---|---|---|---|
| Data 1 | N2 | ERROR CODE（N1-N2N3） | |
| Data 2 | N3 | 0-00 | No Error |
| Data 3 | 0 | 1-01 | Rec Error (error related to recording) |
| Date 4 | N1 | 1-02 | Device Error (error related to device) |
| | | 1-08 | Stand-By Error (error during recording preparation) |
| | | 1-09 | Information Write Error (error during final recording processing) |
| | | 1-FF | Other Error (An error other than those above occurred. Check the unit.) |

**・CAUTION SENSE RETURN**

CAUTION SENSE RETURN is sent in response to the CAUTION SENSE command [79].

| | | | |
|---|---|---|---|
| Command | | F9 | |
| Data | | 4 bytes | |
| Request command | | CAUTION SENSE [79] | |

| | | | |
|---|---|---|---|
| Data 1 | N2 | CAUTION CODE（N1-N2N3） | |
| Data 2 | N3 | 0-00 | No Caution |
| Data 3 | 0 | 1-02 | Media Error (error related to media) |
| Data 4 | N1 | 1-03 | Can't Undo |
| | | 1-06 | Media Full (media has no remaining capacity) |
| | | 1-07 | Track Full (maximum track size has been reached) |
| | | 1-09 | D-In Unlock (digital input is unlocked) |
| | | 1-0A | No Call Point |
| | | 1-0B | Can't REC (recording is not possible) |
| | | 1-0C | Write Protected (media is write-protected) |
| | | 1-0D | Not Execute (function cannot be executed in this state) |
| | | 1-0F | Can't Edit (editing is not possible in this state) |
| | | 1-13 | Can't Select (selecting is not possible in this state) |
| | | 1-14 | Track Protected |
| | | 1-16 | Name Full (name setting character upper limit has been reached) |
| | | 1-18 | Play List Error (error related to playlist) |
| | | 1-1D | Not Audio (digital input is not audio) |
| | | 1-1E | Decode Error (error related to playback) |
| | | 1-1F | Media Not Match (media is not suitable) |
| | | 1-FF | Other Caution (A caution other than those above occurred. Check the unit.) |

・**VENDOR COMMAND RETURN**
This is the returned command in response to the command [7F].
See **"Detailed Information about Vendor Commands"** below.

Command          FF

**Detailed information about Vendor Commands**

Vendor commands have the following format.

**Serial RS-232C**

| 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 |

**ETHERNET (TELNET)**

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

Category Code:   The category code (2-byte ASCII) is used for classifying vendor commands according to function.

Sub Command:   This is a unique sub-command code (2-byte ASCII) within the category.
DEVICE SELECT (01), DIVIDE(02) and DELETE ( 03 ) is the only category that has no sub command.
DEVICE SELECT (01) is Data 3 and higher are parameters.

Parameter:   This is a parameter added to the command code (ASCII, length differs for each sub command.)

Below is the list of category codes.

| Category Code | Category classification | Description |
|---------------|-------------------------|-------------|
| 01 | DEVICE SELECT | Selects the device to be used (SD1, SD2, USB,CD) |
| 02 | DIVIDE | Divide the track |
| 03 | DELETE | Delete the track |
| 07 | Play back | Settings related to play back |
| 08 | Recording | Setting related to recording |
| 12 | Inputs and outputs | Settings related to inputs and outputs |
| 42 | File | Editing individual files |
| 4A | Folder | Edit or Operation related to folders |

**・DEVICE SELECT**

DEVICE SELECT changes the device to be used on the controlled device.

Command        7F
Category Code   01
Parameter:      2 bytes
Return         DEVICE SELECT RETURN [FF01]

| Data 3 | Data 4 | Function | Remarks |
|--------|--------|----------|---------|
| 0 | 0 | SD1 | Sets the device to SD1 |
| 0 | 1 | SD2 | Sets the device to SD2. |
| 1 | 0 | USB | Sets the device to USB |
| 1 | 1 | CD | Sets the device to CD<br>If the controlled device is SS-R250N, it sends ILLEGAL [F2] |
| F | F | Sense | Requests the controlled device to return the current device. |

・If the controlled device receives data other than the above data, it sends ILLEGAL (F2).

**·DIVIDE**

The File currently in playback standby mode on the controlled device is divided into two files at that point.

This command is not available when playback is stopped.

This command is not available for MP3 files.

This command is not available when the Play Area setting is PLAYLIST.

This command is only available when the playback mode is set to continuous.

Command         7F
Category Code   02
Return          Non

**·DELETE**

The file(s) for the current track on the controlled device are deleted.

This command is only available when playback is stopped.

This command is not available when the Play Area setting is PLAYLIST.

This command is only available when the playback mode is set to continuous.

Command         7F
Category Code   03
Return          Non

**·TIME SKIP PRESET**

Set the TIME SKIP time (unit: second) of the controlled device.

Command         7F
Category Code   07
Sub Command     01
Parameter       4 bytes
Return          Non

|        | Description                    | Remarks     |                 |
|--------|--------------------------------|-------------|-----------------|
| **Data 5** | Ten digits of set time         | 0000        | TIME SKIP : OFF |
| **Data 6** | One digit of the set time      | 0001 - 0059 | 1 – 59 sec      |
| **Data 7** | Thousands of digits of set time| 0060 – 0299 | 1 min           |
| **Data 8** | One hundred digits of set time | 0300 – 0599 | 5 min           |
|        |                                | 0600 -      | 10 min          |

**·TIME SKIP SENSE**

Request to return the set time of TIME SKIP of the controlled device.

Command         7F
Category Code   07
Sub Command     02
Return          TIME SKIP RETURN [FF0702]

・**PLAY AREA SELECT**

PLAY AREA SELECT sets the playback area of the controlled device.

A return command is only sent when Sense [FF] is specified for Data 5 and Data 6 -   the controlled device sends the PLAY AREA SELECT RETURN command [FF07CF].

Command          7F
Category Code   07
Sub Command    4F
Parameter         2 bytes
Return              PLAY AREA SELECT RETURN [FF07CF].

| Data 5 | Data 6 | Description | Remarks |
|--------|--------|-------------|---------|
| 0 | 0 | All | Play all the files on the medium |
| 0 | 1 | Folder | Play all the files in the folder that contains the currently selected file |
| 0 | 2 | Playlist | Play all the files that have been assigned to the playlist |
| F | F | Sense | Requests the controlled device to return the current play area select setting |

・If the controlled device receives data other than the above data, it sends ILLEGAL (F2).

・**AUTO TRACK SIZE PRESET**

AUTO TRACK SIZE PRESET sets the auto track size of the controlled device.

The setting is 640 Mbyte, 1 Gbyte (1024 Mbytes), 2 Gbyte (2048 Mbyte).

A return command is only sent when Sense [FF] is specified for Data 5 and Data 6 -   the controlled device sends the AUTO TRACK SIZE RETURN command [FF08A3].

The auto track mode can be turned on or off using the AUTO TRACK SELECT command [31].

Command          7F
Category Code   08
Sub Command    23
Parameter         6 bytes or 2 bytes
Return              AUTO TRACK SIZE RETURN [FF08A3].

| Data 5/6 | Data 7 | Data 8 | Data 9 | Data10 | Description | Remarks |
|----------|--------|--------|--------|--------|-------------|---------|
| 00 | 4 | 0 | 0 | 6 | 640MB | File Size (MByte) |
|    | 2 | 4 | 1 | 0 | 1GB |  |
|    | 4 | 8 | 2 | 0 | 2GB |  |
| FF |   |   |   |   | Sense | Requests the controlled device to return the current auto track size setting |

・If the controlled device receives data other than the above data, it sends ILLEGAL (F2).

・**INPUT SELECT**

　　INPUT SELECT sets the input source select of the controlled device.

　　Specify "00" for Data 5-6.

　　A return command is only sent when Sense [FF] is specified for Data 7 and Data 8 -, the controlled device sends the INPUT SELECT RETURN command [FF1290].

　　When DIGITAL XLR or DIGITAL COAXIAL is selected, the LINK PLAY playback mode setting is turned OFF. Before switching to ANALOG BALANCED, please make sure that the phantom power supply state from this unit is correct for the connected device.

|  |  |
|---|---|
| Command | 7F |
| Category Code | 12 |
| Sub Command | 10 |
| Parameter | 6 bytes |
| Return | INPUT SELECT RETURN [FF1290]. |

| Data 5/6 | Data 7/8 | Data 9/10 | Description | Remarks |
|---|---|---|---|---|
| 00 | 00 | 00 | ANALOG BALANCED | Input from ANALOG MIC/LINE IN (BALANCED) L/R jacks |
|  |  | 01 | ANALOG UNBALANCED | Input from ANALOG IN (UNBALANCED) L/R jacks |
|  | 01 | 00 | DIGITAL XLR | Input from AES/EBU IN jack |
|  |  | 01 | DIGITAL COAXIAL | Input from SPDIF IN jack |
|  | 02 | 00 | IF-DA2(DANTE)（Available if IF-DA2 installed） | Input from IF-DA2 Dante interface card |
|  | FF |  | Sense | Requests the controlled device to return the current input select setting |

　　・If the controlled device receives data other than the above data, it sends ILLEGAL (F2).

・**FILE RENAME**

　　Change the name of a specified file in the current device on the controlled device.

　　The file name a maximum of 117 bytes in UTF-8 format can be sent from Data 9 on.

　　At the beginning and end of processing, the controlled device will return "FILE RENAME ACKNOWLEDGE [FF4280]".

|  |  |
|---|---|
| Command | 7F |
| Category Code | 42 |
| Sub Command | 00 |
| Parameter | 5-121 bytes |
| Return | FILE RENAME ACKNOWLEDGE [FF4280]. |

|  | Description | Remarks |
|---|---|---|
| **Data 5** | File number tens digit | Specified file number　Example: "1400" is file No.14 |
| **Data 6** | File number ones digit |  |
| **Data 7** | File number thousands digit |  |
| **Data 8** | File number hundreds digit |  |
| **Data 9 – 125** | File name | UTF-8 |

　　・If the controlled device receives data other than the above data, it sends ILLEGAL (F2).

・**CURRENT FOLDER SELECT**

Specify folder number in the current device of the controlled device to change the current folder.
The target is only the folder directly under the root folder.

| | |
|---|---|
| Command | 7F |
| Category Code | 4A |
| Sub Command | 23 |
| Parameter | 4 bytes |
| Return | None. |

| | Description | Remarks |
|---|---|---|
| **Data 5** | Folder number tens digit | Specified folder number |
| **Data 6** | Folder number ones digit | |
| **Data 7** | Folder number thousands digit | Example: "2400" is folder No.24 |
| **Data 8** | Folder number hundreds digit | |

・If the folder number that does not exist directly under the root folder is specified, it sends ILLEGAL (F2).

If it is specified the current folder to the folder number, it sends ILLEGAL (F2).

・**CREATE FOLDER**

Create a new folder with the name specified directly under the root folder in the current device for the controlled device.
The folder name is a maximum of 117 bytes in UTF-8 format can be sent from Data 5 on.
At the beginning and end of processing, the controlled device will return "CREATE FOLDER ACKNOWLEDGE [FF4AC0]".

| | |
|---|---|
| Command | 7F |
| Category Code | 4A |
| Sub Command | 40 |
| Parameter | 1-117 bytes |
| Return | CREATE FOLDER ACKNOWLEDGE [FF4AC0]. |

| | Description | Remarks |
|---|---|---|
| **Data 5 – 121** | Folder name | UTF-8 |

・If the controlled device receives data other than the above data, it sends ILLEGAL (F2).

**·FOLDER RENAME**

Change the name of a specified folder in the current device on the controlled device.
The folder name a maximum of 117 bytes in UTF-8 format can be sent from Data 9 on.
The target is only the folder directly under the root folder.
At the beginning and end of processing, the controlled device will return "FOLDER RENAME ACKNOWLEDGE [FF4AC2]".

Command        7F
Category Code   4A
Sub Command    42
Parameter       5-121 bytes
Return          FOLDER RENAME ACKNOWLEDGE [FF4AC2].

|  | Description | Remarks |
|---|---|---|
| **Data 5** | Folder number tens digit | |
| **Data 6** | Folder number ones digit | Specified folder number |
| **Data 7** | Folder number thousands digit |   Example: "2400" is folder No.24 |
| **Data 8** | Folder number hundreds digit | |
| **Data 9 – 125** | Folder name | UTF-8 |

·If the folder number that does not exist directly under the root folder is specified, it sends ILLEGAL (F2).
·If the controlled device receives data other than the above data, it sends ILLEGAL (F2).

**·CURRENT FOLDER No. SENSE**

Requests to return the current folder number of the current device of the controlled device.

Command        7F
Category Code   4A
Sub Command    55
Parameter       None
Return          CURRENT FOLDER No. RETURN [FF4AD5].

**·SEARCH FOLDER No.**

Find a folder directly under the root folder in the current device of the controlled device,
Searches for the folder with the specified name and request to return the folder number.
The folder name is a maximum of 117 bytes in UTF-8 format sent inData 5 onwards.

Command        7F
Category Code   4A
Sub Command    56
Parameter       1-117 bytes
Return          SEARCH FOLDER No. RETURN [FF4AD6].

|  | Description | Remarks |
|---|---|---|
| **Data 5 – 121** | Folder name | UTF-8 |

·If the controlled device receives data other than the above data, it sends ILLEGAL (F2).

・**FOLDER NAME SENSE**

Requests to return the name of the specified folder in the current device of the controlled device.
Only the folder directly under the root folder are available.

Command        7F
Category Code   4A
Sub Command    59
Parameter       4 bytes
Return          FOLDER NAME RETURN [FF4AD9].

|       | Description | Remarks |
|-------|-------------|---------|
| **Data 5** | Folder number tens digit | |
| **Data 6** | Folder number ones digit | Specified folder number |
| **Data 7** | Folder number thousands digit |    Example: "2400" is folder No.24 |
| **Data 8** | Folder number hundreds digit | |

・If the folder number that does not exist directly under the root folder is specified, it sends ILLEGAL (F2).

・If the controlled device receives data other than the above data, it sends ILLEGAL (F2).

・**FILE NAME SENSE**

Requests to return the name of the specified file in the current device of the controlled device.

Command        7F
Category Code   4A
Sub Command    5A
Parameter       4 bytes
Return          FILE NAME RETURN [FF4ADA].

|       | Description | Remarks |
|-------|-------------|---------|
| **Data 5** | File number tens digit | |
| **Data 6** | File number ones digit | Specified file number |
| **Data 7** | File number thousands digit |    Example: "1200" is file No.12 |
| **Data 8** | File number hundreds digit | |

・If the controlled device receives data other than the above data, it sends ILLEGAL (F2).

・**FOLDER COUNT SENSE**

Requests to return the start folder number, the end folder number, and the number of folders in the root folder of the controlled device's current device.

Command        7F
Category Code   4A
Sub Command    5D
Parameter       None
Return          FOLDER COUNT RETURN [FF4ADD].

・**FILE COUNT SENSE**

Requests to return the start file number, end file number, and the number of files in the specified folder of the controlled device's current device.

The target is the folder directly under the root folder and the root folder (folder No.0).

Command        7F
Category Code  4A
Sub Command    5E
Parameter      4 bytes
Return         FILE COUNT RETURN [FF4ADE].

|        | Description | Remarks |
|--------|-------------|---------|
| **Data 5** | Folder number tens digit | |
| **Data 6** | Folder number ones digit | Specified folder number |
| **Data 7** | Folder number thousands digit | Example: "2400" is folder No.24 |
| **Data 8** | Folder number hundreds digit | |

・If the folder number that does not exist directly under the root folder is specified, it sends ILLEGAL (F2).

・If the controlled device receives data other than the above data, it sends ILLEGAL (F2).

・**DEVICE SELECT RETURN**

DEVICE SELECT RETURN returns the information about the selected device.

Command            FF
Category Code       01
Parameter          2 bytes
Request command    DEVICE SELECT [7F01]

| Data 3 | Data 4 | Function | Remarks |
|--------|--------|----------|---------|
| 0 | 0 | SD1 | SD1 is selected |
| 0 | 1 | SD2 | SD2 is selected. |
| 1 | 0 | USB | USB is selected. |
| 1 | 1 | CD | CD is selected. |

・**TIME SKIP RETURN**

TIME SKIP RETURN is a replay command for the TIME SKIP SENSE command [7F0702] to show the current TIME SKIP setting.

Command        FF
Category Code  07
Sub Command    02
Parameter      4 bytes
Request command    DEVICE SELECT [7F02]

|        | Description | Remarks | |
|--------|-------------|---------|---|
| **Data 5** | Ten digits of set time | 0000 | TIME SKIP : OFF |
| **Data 6** | One digit of the set time | 0001 - 0059 | 1 – 59 sec |
| **Data 7** | Thousands of digits of set time | 0060 | 1 min |
| **Data 8** | One hundred digits of set time | 0300 | 5 min |
|        |             | 0600 - | 10 min |

・**PLAY AREA SELECT RETURN**

PLAY AREA SELECT RETURN is sent in response to the PLAY AREA SELECT command [7F074F] to show the current play area setting.

```
Command              FF
Category Code        07
Sub Command          CF
Parameter            2 bytes
Request command      PLAY AREA SELECT [7F074F]
```

| Data 5 | Data 6 | Description | Remarks |
|---|---|---|---|
| 0 | 0 | All | Play all the files on the medium |
| 0 | 1 | Folder | Play all the files in the folder that contains the currently selected file |
| 0 | 2 | Playlist | Play all the files that have been assigned to the playlist |

・**AUTO TRACK SIZE RETURN**

AUTO TRACK SIZE RETURN is sent in response to the AUTO TRACK SIZE PRESET command [7F0823] to show the current auto track size setting.

```
Command              FF
Category Code        08
Sub Command          A3
Parameter            6 bytes
Request command      AUTO TRACK SIZE PRESET [7F0823]
```

| Data 5/6 | Data 7 | Data 8 | Data 9 | Data10 | Description | Remarks |
|---|---|---|---|---|---|---|
| 00 | 4 | 0 | 0 | 6 | 640MB | File Size (MByte) |
| | 2 | 4 | 1 | 0 | 1GB | |
| | 4 | 8 | 2 | 0 | 2GB | |

・**INPUT SELECT RETURN**

INPUT SELECT RETURN is sent in response to the INPUT SELECT command [7F1210] to show the current input source select setting.

```
Command              FF
Category Code        12
Sub Command          90
Parameter            6 bytes
Request command      INPUT SELECT [7F1210]
```

| Data 5/6 | Data 7/8 | Data 9/10 | Description | Remarks |
|---|---|---|---|---|
| 00 | 00 | 00 | ANALOG BALANCED | Input from ANALOG MIC/LINE IN (BALANCED) L/R jacks |
| | | 01 | ANALOG UNBALANCED | Input from ANALOG IN (UNBALANCED) L/R jacks |
| | 01 | 00 | DIGITAL XLR | Input from AES/EBU IN jack |
| | | 01 | DIGITAL COAXIAL | Input from SPDIF IN jack |
| | 02 | 00 | IF-DA2(DANTE)（Available if IF-DA2 installed） | Input from IF-DA2 Dante interface card |

**・FILE RENAME ACKNOWLEDGE**

FILE RENAME ACKNOWLEDGE is sent in response to the FILE RENAME command [7F4200].

This is returned at the start of processing and with the final result.

| | |
|---|---|
| Command | FF |
| Category Code | 42 |
| Sub Command | 80 |
| Parameter | 2 bytes |
| Request command | FILE RENAME [7F4200] |

| Data 5 | Data 6 | Description | Remarks |
|---|---|---|---|
| 0 | 0 | Start | Processing started |
| 1 | 1 | End ( OK ) | Processing completed successfully |
| 1 | 2 | End ( NG ) | Processing was not possible or failed |

**・CREATE FOLDER ACKNOWLEDGE**

CREATE FOLDER ACKNOWLEDGE is sent in response to the CREATE FOLDER command [7F4A40].

This is returned at the start of processing and with the final result. When processing has completed successfully, the folder number of the created folder is also returned.

| | |
|---|---|
| Command | FF |
| Category Code | 4A |
| Sub Command | C0 |
| Parameter | 6 bytes or 2 bytes |
| Request command | CREATE FOLDER [7F4A40] |

| | Description | Remarks |
|---|---|---|
| **Data 5** | 1 | End ( OK )　processing completed successfully |
| **Data 6** | 1 | |
| **Data 7** | Folder number tens digit | Specified folder number |
| **Data 8** | Folder number ones digit | Example: "2400" is folder No.24 |
| **Data 9** | Folder number thousands digit | |
| **Data 10** | Folder number hundreds digit | |

.

| Data 5 | Data 6 | Description | Remarks |
|---|---|---|---|
| 0 | 0 | Start | Processing started |
| 1 | 2 | End ( NG ) | Processing was not possible or failed |

**・RENAME FOLDER ACKNOWLEDGE**

RENAME FOLDER ACKNOWLEDGE is sent in response to the RENAME FOLDER command [7F4A42].

This is returned at the start of processing and with the final result.

| | |
|---|---|
| Command | FF |
| Category Code | 4A |
| Sub Command | C2 |
| Parameter | 2 bytes |
| Request command | RENAME FOLDER [7F4A42] |

| Data 5 | Data 6 | Description | Remarks |
|---|---|---|---|
| 0 | 0 | Start | Processing started |
| 1 | 1 | End ( OK ) | Processing completed successfully |
| 1 | 2 | End ( NG ) | Processing was not possible or failed |

・**CURRENT FOLDER No. RETURN**

CURRENT FOLDER No. RETURN is sent in response to the CURRENT FOLDER No. SENSE command [7F4A55] to show the current folder number.

| | |
|---|---|
| Command | FF |
| Category Code | 4A |
| Sub Command | D5 |
| Parameter | 4 bytes |
| Request command | CURRENT FOLDER No. SENSE [7F4A55] |

| | Description | Remarks |
|---|---|---|
| **Data 5** | Folder number tens digit | |
| **Data 6** | Folder number ones digit | Current folder number |
| **Data 7** | Folder number thousands digit | Example: "2400" is folder No.24 |
| **Data 8** | Folder number hundreds digit | |

・**SEARCH FOLDER No. RETURN**

SERACH FOLDER No. RETURN is sent in response to the SEARCH FOLDER No. command [7F4A56] to show the searched folder number.

| | |
|---|---|
| Command | FF |
| Category Code | 4A |
| Sub Command | D6 |
| Parameter | 4 bytes |
| Request command | SEARCH FOLDER No. [7F4A56] |

| | Description | Remarks |
|---|---|---|
| **Data 5** | Folder number tens digit | |
| **Data 6** | Folder number ones digit | Folder number |
| **Data 7** | Folder number thousands digit | Example: "2400" is folder No.24 |
| **Data 8** | Folder number hundreds digit | |

・**FOLDER NAME RETURN**

FOLDER NAME RETURN is sent in response to the FOLDER NAME SENSE command [7F4A59] to show the folder name of specified folder number.
The folder name in UTF-8 format is sent from Data 9 on.

| | |
|---|---|
| Command | FF |
| Category Code | 4A |
| Sub Command | D9 |
| Parameter | 5-124 bytes |
| Request command | FOLDER NANE SENSE [7F4A59] |

| | Description | Remarks |
|---|---|---|
| **Data 5** | Folder number tens digit | |
| **Data 6** | Folder number ones digit | Specified folder number |
| **Data 7** | Folder number thousands digit | Example: "2400" is folder No.24 |
| **Data 8** | Folder number hundreds digit | |
| **Data 9 – Data 128** | Folder name | UTF-8 |

**·FILE NAME RETURN**

FILE NAME RETURN is sent in response to the FILE NAME SENSE command [7F4A5A] to show the file name of specified file number.

The file name in UTF-8 format is sent from Data 9 on.

| | |
|---|---|
| Command | FF |
| Category Code | 4A |
| Sub Command | DA |
| Parameter | 5-124 bytes |
| Request command | FILE NANE SENSE [7F4A5A] |

| | Description | Remarks |
|---|---|---|
| **Data 5** | File number tens digit | |
| **Data 6** | File number ones digit | Specified file number |
| **Data 7** | File number thousands digit |    Example: "1200" is file No.12 |
| **Data 8** | File number hundreds digit | |
| **Data 9 – Data 128** | File name | UTF-8 |

**·FOLDER COUNT RETURN**

FOLDER COUNT RETURN is sent in response to the FOLDER COUNT SENSE command [7F4A5D] to show the start folder number, the end folder number, and the number of folders in the root folder of the current device.

| | |
|---|---|
| Command | FF |
| Category Code | 4A |
| Sub Command | DD |
| Parameter | 12 bytes |
| Request command | FOLDER COUNT SENSE [7F4A5D] |

| | Description | Remarks |
|---|---|---|
| **Data 5** | Start folder number tens digit | |
| **Data 6** | Start folder number ones digit | Start folder number |
| **Data 7** | Start folder number thousands digit |    Example: "0100" is folder No.1 |
| **Data 8** | Start folder number hundreds digit | |
| **Data 9** | End folder number tens digit | |
| **Data 10** | End folder number ones digit | End folder number |
| **Data 11** | End folder number thousands digit |    Example: "2400" is folder No.24 |
| **Data 12** | End folder number hundreds digit | |
| **Data 13** | Number of folders tens digit | |
| **Data 14** | Number of folders ones digit | Number of folders |
| **Data 15** | Number of folders thousands digit |    Example: "2400" is 24 |
| **Data 16** | Number of folders hundreds digit | |

・**FILE COUNT RETURN**

FILE COUNT RETURN is sent in response to the FILE COUNT SENSE command [7F4A5E] to show the specified file number, the start file number, the end file number, and the number of files.

| | |
|---|---|
| Command | FF |
| Category Code | 4A |
| Sub Command | DE |
| Parameter | 16 bytes |
| Request command | FILE COUNT SENSE [7F4A5E] |

| | Description | Remarks |
|---|---|---|
| **Data 5** | Folder number tens digit | Specified folder number |
| **Data 6** | Folder number ones digit | |
| **Data 7** | Folder number thousands digit |    Example: "0200" is folder No.2 |
| **Data 8** | Folder number hundreds digit | |
| **Data 9** | Start file number tens digit | |
| **Data 10** | Start file number ones digit | Start file number |
| **Data 11** | Start file number thousands digit |    Example: "0800" is file No.8 |
| **Data 12** | Start file number hundreds digit | |
| **Data 13** | End file number tens digit | |
| **Data 14** | End file number ones digit | End file number |
| **Data 15** | End file number thousands digit |    Example: "1600" is file No.16 |
| **Data 16** | End file number hundreds digit | |
| **Data 17** | Number of files tens digit | |
| **Data 18** | Number of files ones digit | Number of files |
| **Data 19** | Number of files thousands digit |    Example: "0900" is 9 |
| **Data 20** | Number of files hundreds digit | |