

External Control

It is possible to control this unit by connecting it to a PC using an RS-232C cross cable (D-sub 9-pin).

The projector can be controlled by connecting it to a PC through the computer network with a LAN cable for control commands to be sent to the projector.

➔ “Network” (P. 62)

- Please use it after you have gained proper understanding from professional books or consulting the system administrator.

RS-232C Specifications

Pin No.	Signal	Function	Signal Direction
2	RxD	Receive data	PC → This unit
3	TxD	Transmission data	This unit → PC
5	GND	Signal ground	—
1, 4, 6 - 9	N/C	—	—

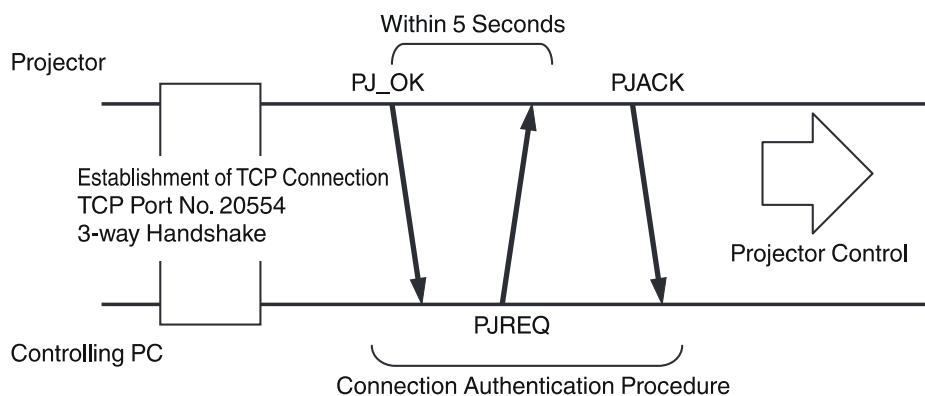
- PC refers to the controller, such as a personal computer.

Mode	Non-synchronous
Character length	8 bit
Parity	None
Start bit	1
Stop bit	1
Data rate	19200 bps
Data format	Binary

TCP/IP Connection

Before controlling via LAN, it is necessary to establish connection of the TCP layer by a “3-way handshake”, followed by sending out “PJREQ” and receiving “PJACK” within five seconds after the projector sends out “PJ_OK” for connection authentication.

If you are unable to complete sending within five seconds, or when “PJ_NG” or “PJNAK” is received, check the operating status of the projector, followed by performing the steps again starting from establishment of a TCP connection.



Command Format

The command between this unit and the computer consists of “Header”, “Unit ID”, “Command”, “Data” and “End”.

- Header (1 byte), Unit ID (2 bytes), Command (2 bytes), Data (n bytes), End (1 byte)

Header

This binary code indicates the start of communication.

Binary Code	Type	Description
21	Operating command	PC → This unit
3F	Reference command	PC → This unit
40	Response command	This unit → PC
06	ACK	This unit → PC (returns to PC after the command is accepted without error)

Unit ID

This is a code that specifies the unit. The binary code is fixed at “8901”.

Command and data

Operating command and data (binary code)

Command	Type	Description
0000	Connection check	Check whether communication is enabled between this unit and the PC during standby.
5057	Power supply	During standby 31: Turns on the power When power is on 30: Turns off the power (Standby mode)
4950	Input	When power is on 36: HDMI 1 37: HDMI 2
5243	Remote control	Sends the same code as the supplied remote control. <ul style="list-style-type: none">• “Remote Control Code”P. 75

Reference command and data (binary code)

Command	Type	Description
5057	Power supply	During standby or when power is on 30: Standby mode 31: When power is on 32: In the Cool-down mode 34: When error occurs on this unit
4950	Input	When power is on 36: HDMI 1 37: HDMI 2

End

This code indicates the end of communication. The binary code is fixed at “0A”.

Remote Control Code

Binary code is sent during communication.

- The following applies to the case when the remote control code is "A". In the case of "B", add "36" to the beginning of the code.

Remote Control Button Name	Binary Code
STANDBY	37 33 30 36
ON	37 33 30 35
INPUT	37 33 30 38
SETTING MEMORY	37 33 43 34
LENS CONTROL	37 33 33 30
HIDE	37 33 31 44
INFO.	37 33 37 34
▲	37 33 30 31
▼	37 33 30 32
▶	37 33 33 34
◀	37 33 33 36

Remote Control Button Name	Binary Code
OK	37 33 32 46
MENU	37 33 32 45
BACK	37 33 30 33
PICTURE MODE	37 33 45 34
COLOR PROFILE	37 33 38 38
GAMMA SETTINGS	37 33 45 35
C.M.D.	37 33 38 41
MPC	37 33 45 30
ADVANCED MENU	37 33 37 33

Communications Example

This section shows the communication examples of RS-232C.

Operating command

Type	Command	Description
Connection check	PC → This unit: 21 89 01 00 00 0A This unit → PC: 06 89 01 00 00 0A	Connection check
Power (On)	PC → This unit: 21 89 01 50 57 31 0A This unit → PC: 06 89 01 50 57 0A	When power is turned on from the Standby mode
Power (Off)	PC → This unit: 21 89 01 50 57 30 0A This unit → PC: 06 89 01 50 57 0A	When power is turned off (Standby mode) from power-on mode
Remote control (MENU)	PC → This unit: 21 89 01 52 43 37 33 32 45 0A This unit → PC: 06 89 01 52 43 0A	When the same operation as pressing the [MENU] button on the remote control is performed

Reference command

Type	Command	Description
Power (On)	PC → This unit: 3F 89 01 50 57 0A This unit → PC: 06 89 01 50 57 0A This unit → PC: 40 89 01 50 57 31 0A	When information on the power-on state is acquired
Input (HDMI 1)	PC → This unit: 3F 89 01 49 50 0A This unit → PC: 06 89 01 49 50 0A This unit → PC: 40 89 01 49 50 36 0A	When information on HDMI 1 input is acquired