

D-ILA Projector 2021 Model

LAN connection specification

Version 1.0

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JVCKENWOOD

JVC

D-ILA[®]

Engineering Dept. Solution Business Unit,
Media Business Division, JVCKENWOOD Corporation.

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1. Description

This specification describes the specifications for LAN connection between 2021 model D-ILA projector and external controller. For actual control commands, refer to the External control command specification.

2. Word Description

To the words used in this specification Table1: Meaning of the It is shown in.

Table1: Meaning of the word

Word	Meaning
CTRL	External controller
PJ	Projector

3. Functional specification details

3.1. Network

3.1.1 Settings

Network setup is required to establish a connection between the projector and the PC.

For settings related to networks Table 2: Setting items for network Details of each item are also provided as shown in.

Table 2: Setting items for network

No.	Name	Direction	Parameter	Default Value	Description
1	DHCP Client	R/W	On, Off (Static)	Off (Static)	Setting the method of obtain IP address
2	IP Address	R/(W *)	Dot Address (IPv4, 0.0.0.0 – 255.255.255.255)	192.168 . 0.2	Confirm/Setting * each address *) DHCP Client = Off (Static) only
3	Subnet Mask			255.255 . 255.0	
4	Default Gateway			192.168 . 0.254	
5	MAC Address	R	N/A	**	Confirm the MAC address (Read Only) Unique address is provided
6	Network Restart	W	N/A	N/A	Restart network accessing to present settings
7	Communication Port	R/W	1024 – 65535	20554	Setting the port number for network connection using external control
8	Network Password	W	8 to 16 word	Null	Password for LAN connection

(1) DHCP Client

Parameters:

On: Operates as a DHCP client. Connect to a DHCP server to automatically obtain an IP address, subnet mask, and default gateway

Off (Static): Manually configure the IP address, subnet mask, and default gateway

(2) IP Address

Parameters:

Dotted decimal notation (IPv4: [0 -255]. [0 -255]. [0 -255]. [0 -255])

Limitations:

This value only can set manually when DHCP Client is "Off (Static)".

(3) Subnet Mask

Limitations:

This value only can set manually when DHCP Client is "Off (Static)"

Subnet mask should be a sequence of 1s followed by a block of 0s.

Example:"11111111.11111111 . 0.00000000" (binary notation)

(4) Default Gateway

Same as IP address

(5) MAC Address

Reading operation is only available.

(6) Network Restart

This function is executed when the "Set" button in the OSD network MENU is pressed or when the relevant external control command is accepted.

(7) Communication Port

Used to connect the projector to an external LAN-capable device using TCP/IP.

For more information, see 3.1.2 (3) and 3.1.3 It is described in.

Do not have an OSD MENU.

(8) Network Password

Password that CTRL sends to the projector when it connects to the projector.

If the password is not sent, further communication becomes impossible.

3.1.2 Connections before using external control commands

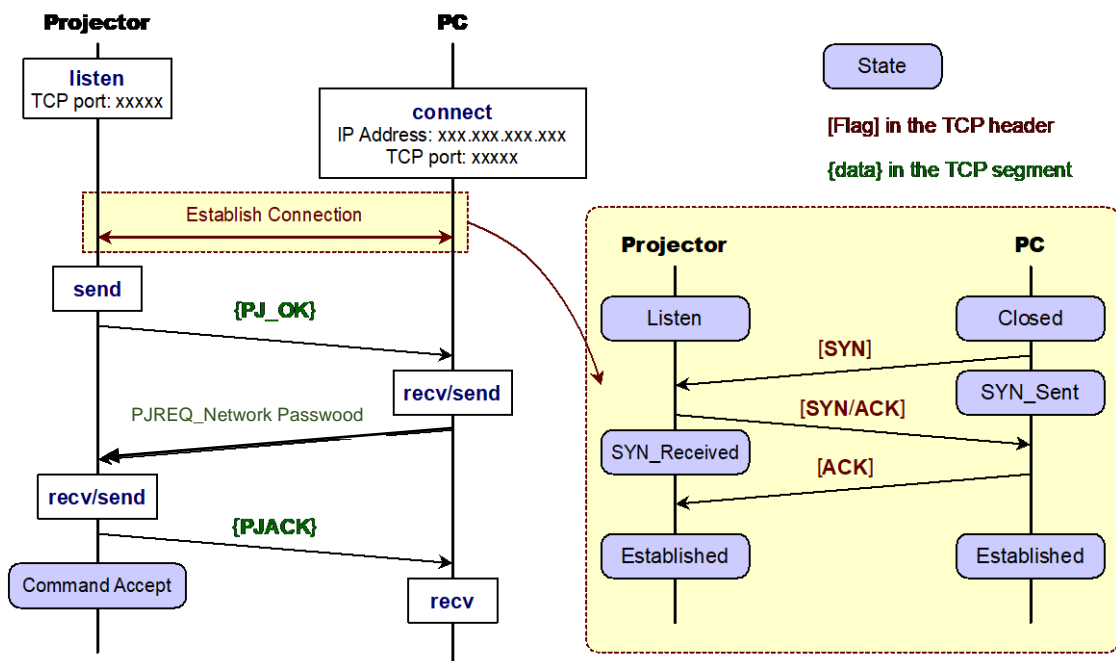
(1) Connection procedure

After the connection is established at the TCP layer, the projector and the PC exchange a specific character string before command communication.

The connection procedure between the projector and the PC is shown below.

- Projector waits for a connection by monitoring (Listen) the TCP port
- The PC attempts to connect to the projector "Establish Connection" in Figure1.)
- Projector sends "PJ_OK" (50 4 A 5 F 4 F 4 B) or "PJ_NG" (50 4 A 5 F 4 E 47) depending on current state
 - PJ_NG: Connected to another CTRL or in other processing
 - PJ_OK: Other than the above
- The CTRL handles the message from the projector as follows
 - PJ_NG: Close established connections (see the next section.)
 - PJ_OK: Send "PJREQ_[Network Password]" (50 4A 52 45 51 5F 31 32 33 34 35 36 37 38 39 30 31 32 33 34 35 36) to projector

The password is set in the range of 8 to 16 characters, so if it is 16 characters or less, fill it with Ascii Code "00 " (Null) to make it 16 characters.
- Projector sends "PJACK" (50 4A 41 43 4B) or "PJNAK" (50 4A 4E 41 4B) for response from the PC.
 - PJACK: The projector is ready to accept external control commands.
 - PJNAK: Other (If the "PJREQ" cannot be received from the PC, the Network Password does not match.)



(2) Disconnection

At disconnection procedure by some conditions, no original character strings are exchanged.

Disconnection is only done by the rule in the TCP layer.

(3) Monitoring Communication Ports

The projector starts monitoring (Listen) the TCP port selected as the “communication port ” under the following conditions.

- Network connection successful (After system initialization)
- Network settings changed (After network reboot)

(4) Timeout

The projector automatically disconnects communication only when the following conditions occur simultaneously.

- Command does not come for more than 60 seconds after establishing communication with PC.
- Projector is not performing command processing or time-consuming processing (Switch picture mode, etc.)

3.1.3 Communication port

(1) Connection procedure

- Projector acknowledges commands from PC (With conditions: See below)
- [!] parameter, the projector maintains the current connection after the return of the ACK.
 - Same as current setting
 - Out of Range (Other than 1024 – 65535): Projector does not return ACK in this case
- Start monitoring changed TCP ports within {1 second}
- Disconnect the old TCP port after {3 seconds}

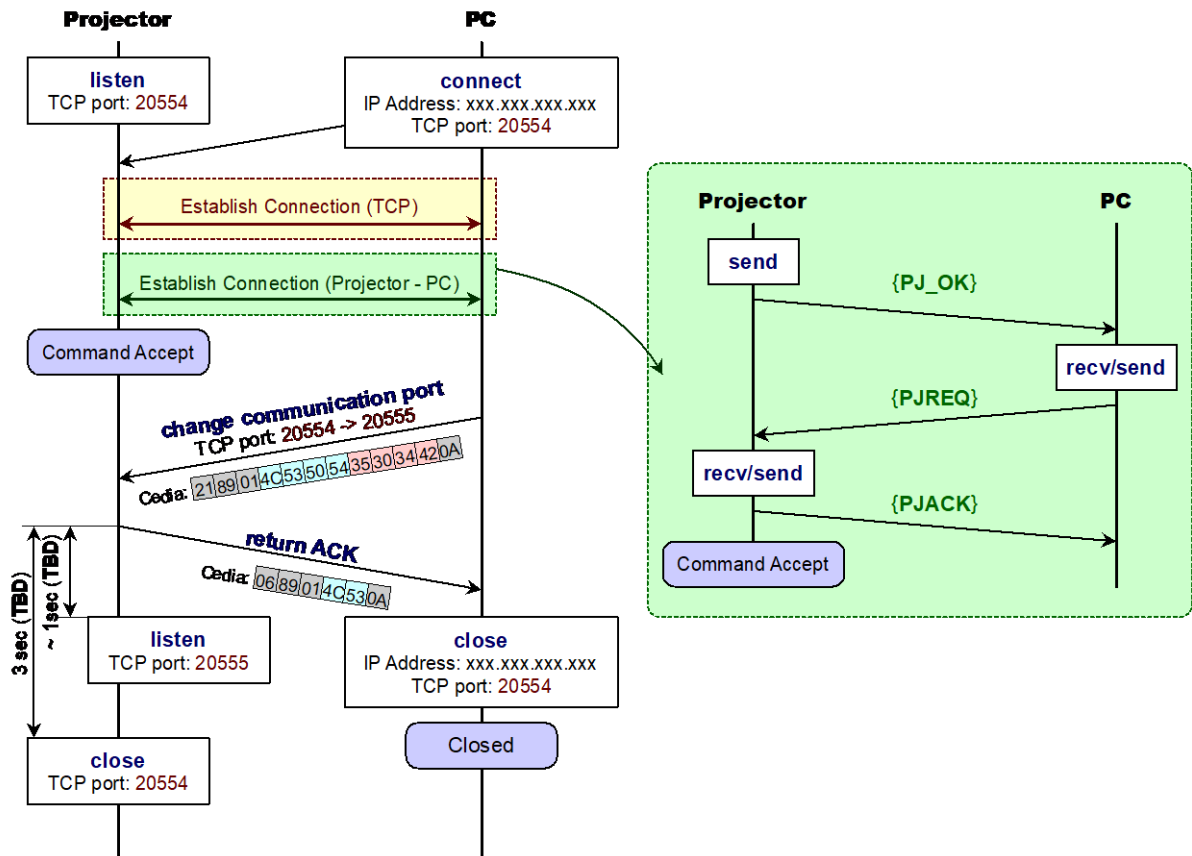


Figure2: Connection procedure at changing communication port (Example: 20554 > 20555)

2021 Change History

edition	Date	Contents	Contact
	2021/07/20	first edition	Nishioka