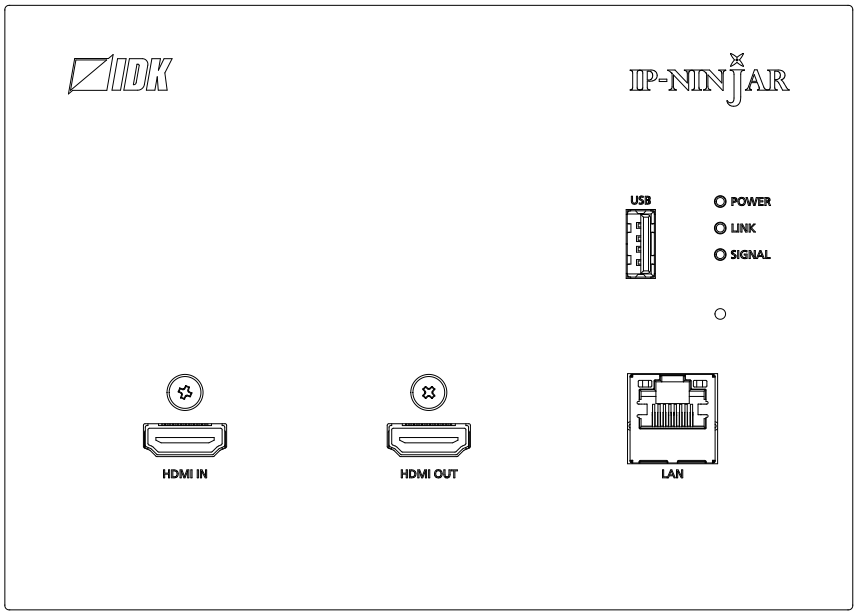
HDMI Transceiver

NJR-P01UFW-TR/NJR-P01UCW-TR

<Command Reference Guide>

Ver.1.0.1



- Thank you for choosing our product.
- To ensure the best performance of this product, please read this user guide fully and carefully before using it and keep this manual together with the product for future reference as needed.

IDK Corporation

Trademarks

- The terms HDMI and HDMI High-Definition Multimedia Interface, and the HDMI Logo are trademarks or registered trademarks of HDMI Licensing Administrator, Inc. in the United States and other countries.
- Connection Reset and IP NINJAR are registered trademarks of IDK Corporation in Japan.
- All other company and product names mentioned in this manual are either registered trademarks or trademarks of their respective owners. In this manual, the “®” or “™” marks may not be specified.

Before reading this manual

- Some information contained in this Command guide such as exact product appearance, communication commands, and so on may differ depending on the product version.
- This Command guide is subject to change without notice. You can download the latest version from IDK's website at: www.idkav.com

The reference manual consists of the following two volumes:

- User guide: Please download the User guide from the website above.
  Provides explanations and procedures for operations, installation, connections among devices, I/O adjustment and settings.
- Command guide (this document):
  Provides explanations and procedures for external control using RS-232C and LAN communications.

Table of Contents

1 How to read this Guide

This guide contains the procedure for commanding NJR-P01UFW-TR/NJR-P01UCW-TR (hereafter referred to as NJR-P) over RS-232C communication or LAN communication.
If other IP-NINJAR series products are connected, refer to each User Guide.

2 About this Guide

This guide contains the procedure for controlling NJR-P using commands over RS-232C communication or LAN communication.

■ **Communication commands enable the following main operations**

- Setting input, output, and audio
- Setting EDID
- Getting status

3 Communication configuration and Specifications

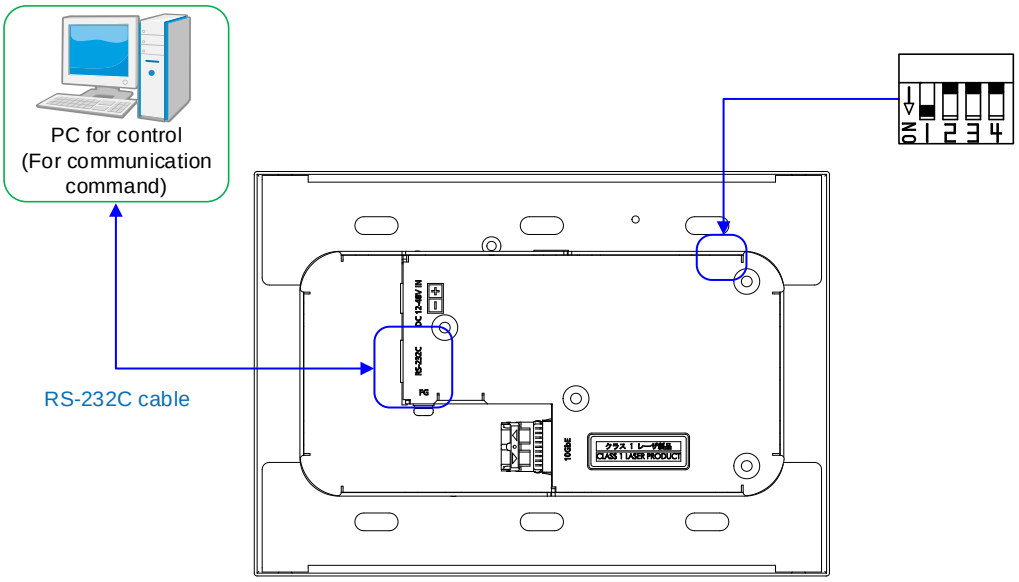
3.1 RS-232C communication

The NJR-P can be accessed and controlled via RS-232C communication.
Connecting a control device to the NJR-P's RS-232C connectors enables system control and status queries per the Command List.

3.1.1 Setting up RS-232C communication

Follow the procedure below.

(1) Connect the control device to the RS-232C connector of the NJR-P through an RS-232C cable.
(2) Set the DIP switch 1 to [ON].
(3) See the control device according to "**[Table 3.1] RS-232C specification**".
(4) Send communication command from the control device to the NJR-P.
You can control the NJR-P and get the status information using communication command.



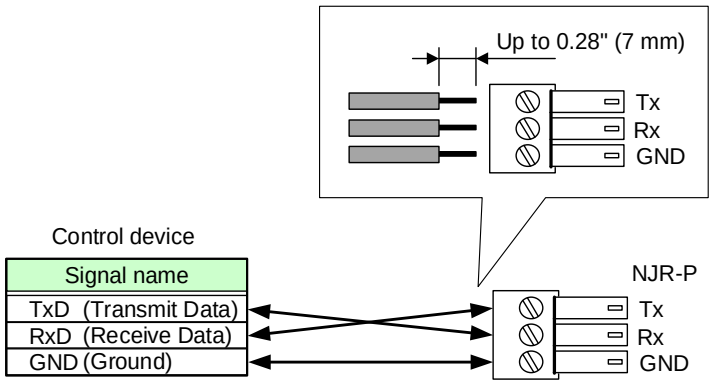
NJR-P01UFW-TR or NJR-P01UCW-TR

DIP switch (No.1)
Setting internal connection selection of the RS-232C connector
OFF : Connects to IP-NINJAR products.
ON : Sets settings of NJR-P.
(Default: OFF)

[Fig. 3.1] Setting RS-232C communication

3.1.2 RS-232C connector specification

Insert and secure the wires from the RS-232C cable into the supplied 3-pin captive screw connector, and then insert the captive screw connector into the mating connector on the NJR-P.
28 AWG to 16 AWG conductor gauge is recommended. The recommended wire strip length is 0.28 in. (7 mm).
Short RTS/CTS and DTR/DSR as needed.



[Fig. 3.2] RS-232C connector

3.1.3 RS-232C communication specification

There are two RS-232C modes: control mode (Setting NJR-P) and communication mode (Controlling peripheral devices). Values for the former mode are fixed as follows and cannot be changed; values for the latter mode are settable.
【4.5.2.5 RS-232C】

[Table 3.1] RS-232C specification

Compliant standard	RS-232C
Baud rate	9600 (bps)
Data bit length	8 (bit)
Parity check	None
Stop bit	1 (bit)
X parameter	Invalid
Flow control	None
Communication method	Full duplex

3.2 LAN communication

The NJR-P can be accessed and controlled through LAN communication.
Connecting a control device to the NJR-P's LAN connector enables system control and status queries using the IP-NINJAR Configurator (Configuration software for IP-NINJAR).
For operations from the IP-NINJAR Configurator, refer to the User Guide of IP-NINJAR Configurator.
Please contact us to download the IP-NINJAR Configurator.

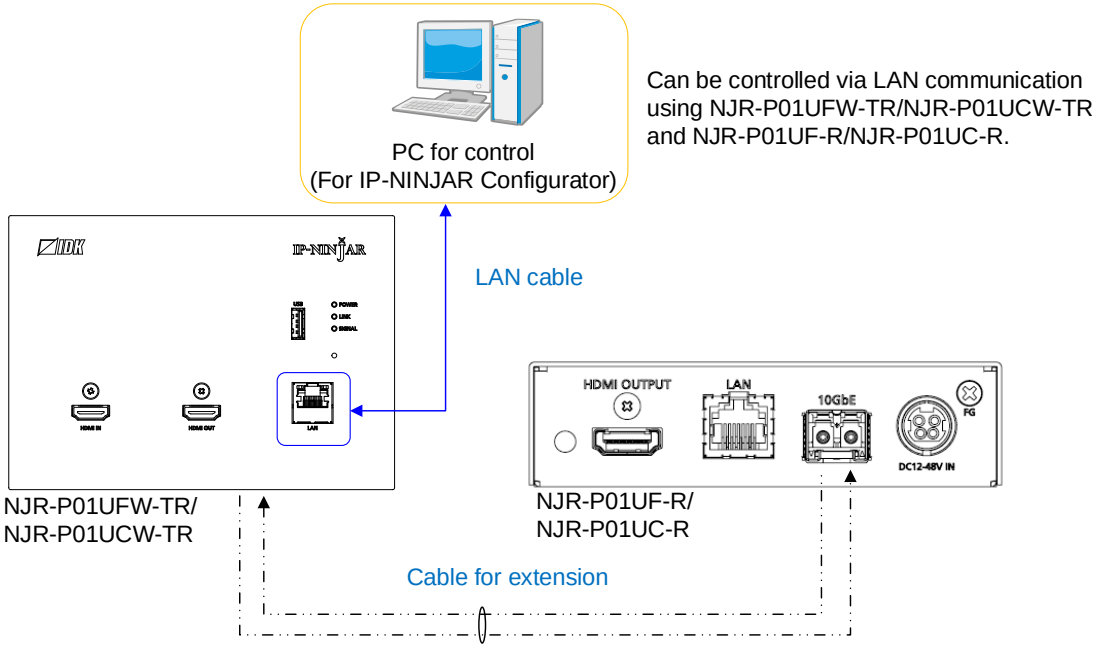
Note

When using LAN communication to control the NJR-P, the terminal software cannot be used.

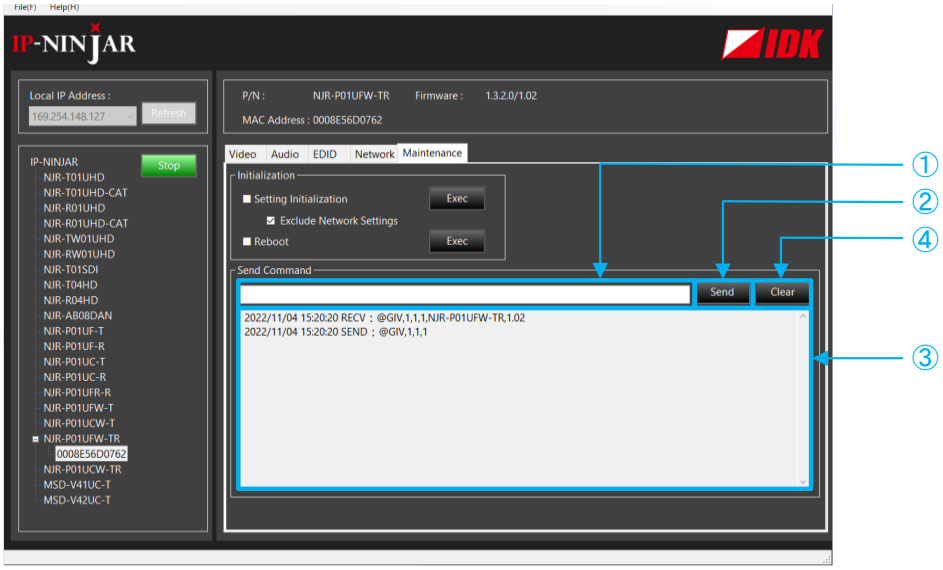
3.2.1 Setting up LAN communication

Follow the procedure below.

(1) Connect the control device to the LAN connector of the NJR-P through a LAN cable.
(2) Start the IP-NINJAR Configurator in the control device.
(3) Send communication command from the Maintenance page of the IP-NINJAR Configurator.
You can control the NJR-P and get the status information using communication command.



[Fig. 3.3] Connecting to LAN cable



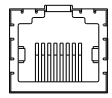
① For entering the desired command
② For sending the command to NJR-P
③ For displaying the log
④ For deleting the log

[Fig. 3.4] Command input from Maintenance page

3.2.2 LAN connector specification

LAN connector assignment is as follows.
Since Auto MDI/MDI-X that distinguishes and switches straight/cross cables automatically is supported, extra care is not necessary to connect the NJR-P to PC, HUB or the like.

8-pin
Modular connector



Pin No.	Signal name			
	MDI		MDI-X	
	1000BASE-T	100BASE-TX/10BASE-T	1000BASE-T	100BASE-TX/10BASE-T
1	TRX+ (Transmitted & Received data +)	TX+ (Transmitted data +)	TRX+ (Transmitted & Received data +)	RX+ (Received data +)
2	TRX- (Transmitted & Received data -)	TX- (Transmitted data -)	TRX- (Transmitted & Received data -)	RX- (Received data -)
3	TRX+ (Transmitted & Received data +)	RX+ (Received data +)	TRX+ (Transmitted & Received data +)	TX+ (Transmitted data +)
4	TRX+ (Transmitted & Received data +)	N.C. (Not connected)*	TRX+ (Transmitted & Received data +)	N.C. (Not connected)*
5	TRX- (Transmitted & Received data -)	N.C. (Not connected)*	TRX- (Transmitted & Received data -)	N.C. (Not connected)*
6	TRX- (Transmitted & Received data -)	RX- (Received data -)	TRX- (Transmitted & Received data -)	TX- (Transmitted data -)
7	TRX+ (Transmitted & Received data +)	N.C. (Not connected)*	TRX+ (Transmitted & Received data +)	N.C. (Not connected)*
8	TRX- (Transmitted & Received data -)	N.C. (Not connected)*	TRX- (Transmitted & Received data -)	N.C. (Not connected)*

*Not used

[Fig. 3.5] LAN connector

3.2.3 LAN communication specification

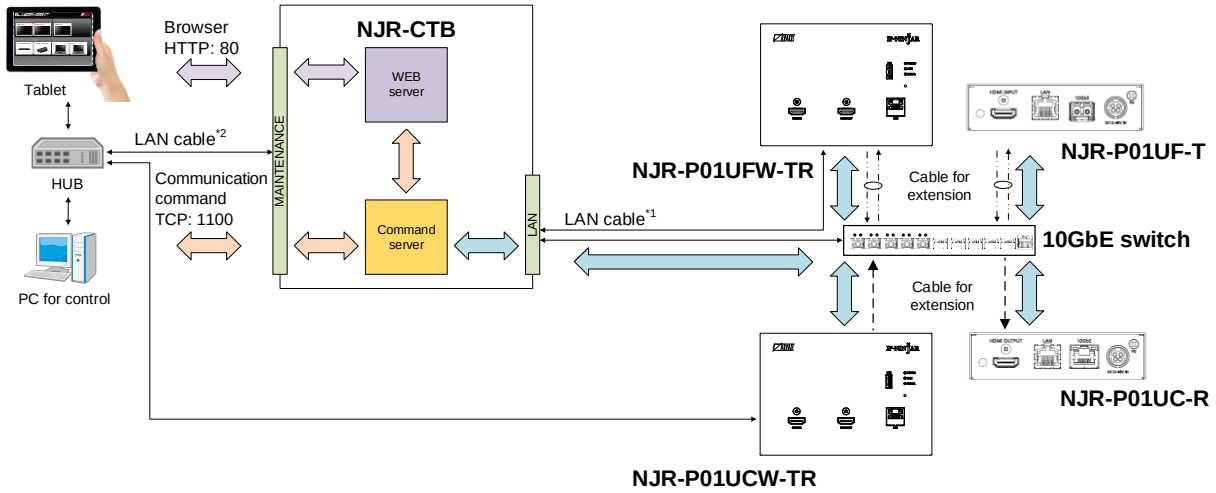
[Table 3.2] Specification of LAN communication

Physical layer	10Base-T (IEEE802.3i)/100Base-TX (IEEE802.3u)/ 1000Base-T (IEEE802.3ab)
Network layer	ARP, IP, ICMP
Transport layer	UDP

3.3 Controlled by NJR-CTB

Connecting a control device to the NJR-CTB's LAN connector enables system control and status queries per the Command List.

For operations from the NJR-CTB, refer to the Command Guide of NJR-CTB.



*1 The LAN connector of NJR-CTB should be connected to the LAN connector of IP-NINJAR series products or the 10GbE switch.
*2 PC for control should be connected to the MAINTENANCE connector of NJR-CTB or the LAN connector of IP-NINJAR series products.

[Fig. 3.6] Controlled by NJR-CTB

3.4 Connecting LAN cable

When connecting a LAN cable to NJR-P/NJR-CTB, avoid making a network loop.
The NJR-P send broadcast packets periodically for the purposes of internal system management.
*A broadcast storm occurs when a network is overwhelmed by continuous broadcast traffic resulting in a network meltdown.

During installation, it is important to avoid the creation of network loops. Contact IDK if you require assistance with network implementation.

4 Command

4.1 Summary

A command consists of [@] (**40** in hexadecimal), 3 or 4 one-byte alphabetical characters (upper and lower cases) followed by parameters (one-byte numbers). For some commands, multiple parameter values can be specified.
[,] (a comma, **2C** in hex) is indicated between a command and parameter and between two parameters.
Processing is executed by sending (return+line feed, **0D** and **0A** in hex) at the end of the command.

Example: @SDT,1,1,1,10000<CR><LF>

■ **If an error occurs**:
An error response is returned if an undefined command or inappropriate parameter is included.

Example: @SDT,1<CR><LF>
@ERR,1<CR><LF>

4.2 Command list

■ **Error status**

Command	Function	Page
@ERR	Error status	18

■ **Input**

Command	Function	Page
@GDT/@SDT	No-signal input monitoring	19
@GHE/@SHE	HDCP input	20

■ **Output**

Command	Function	Page
@GDM/@SDM	Output mode	21
@GEN/@SEN	HDCP output	22
@GHM/@SHM	Hot plug ignoring duration	22

■ **Audio**

Command	Function	Page
@GAM/@SAM	Muting/unmuting digital audio output	23
@GAAS/@SAAS	Selecting output audio	24

■ **EDID**

Command	Function	Page
@GVF/@SVF	EDID resolution	25
@RME	Copying EDID	26
@GWX/@SWX	Selecting WXGA mode	26
@GDI/@SDI	Deep Color	27
@GAF/@SAF	Audio format	28
@GSP/@SSP	Speaker configuration	29

■ **RS-232C**

Command	Function	Page
@GCTB/@SCTB	RS-232C	31

■ **LAN**

Command	Function	Page
@GIP/@SIP	LAN	32
@GMC	MAC address	33

■ **Advanced setting**

■ **Information**

4.3 Setting items

Some setting items can be controlled via RS-232C; the others cannot be controlled.

[Table 4.1] Available setting method

Command: Command input, GUI: IP-NINJAR Configurator GUI operation,
WEB&C: WEB browser and command input, No: Not supported, -: N/A

Command	Setting method		
	NJR-P01UFW-TR/NJR-P01UCW-TR		NJR-CTB
	RS-232C	LAN (IP-NINJAR Configurator)	LAN
Input			
@GDT/@SDT	Command	Command	WEB&C
@GHE/@SHE	Command	Command	WEB&C
Output			
@GDM/@SDM	Command	Command	WEB&C
@GEN/@SEN	Command	Command	WEB&C
@GHM/@SHM	Command	Command	WEB&C
Audio			
@GAM/@SAM	Command	Command	WEB&C
@GAAS/@SAAS	No	GUI	WEB&C
EDID			
@GVF/@SVF	Command	Command	WEB&C
@RME	Command	Command	WEB&C
@GWX/@SWX	Command	Command	WEB&C
@GDI/@SDI	Command	Command	WEB&C
@GAF/@SAF	Command	Command	WEB&C
@GSP/@SSP	Command	Command	WEB&C
RS-232C			
@GCTB/@SCTB	No	GUI	WEB&C
LAN			
@GIP/@SIP	No	GUI	WEB&C
@GMC	No	GUI	WEB&C
Advanced setting			
@GFM/@SFM	Command	Command	WEB&C
@GPW/@SPW	Command	Command	WEB&C
@GSG/@SSG	Command	Command	WEB&C
@CLRC	No	GUI	WEB&C
@RBTC	No	GUI	WEB&C
Information			
@GSS	Command	Command	WEB&C
@GES	Command	Command	WEB&C
@GFS	Command	Command	WEB&C
@GIV	Command	Command	WEB&C

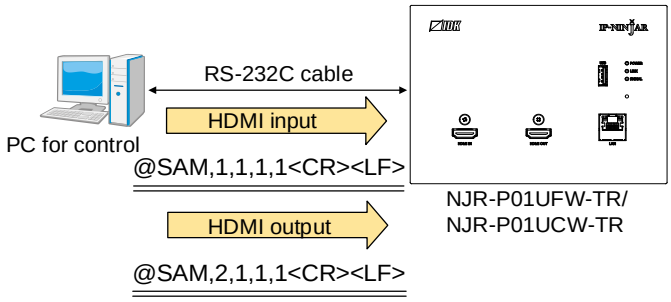
4.4 Parameter input format

Parameter input formats are common for each setting.

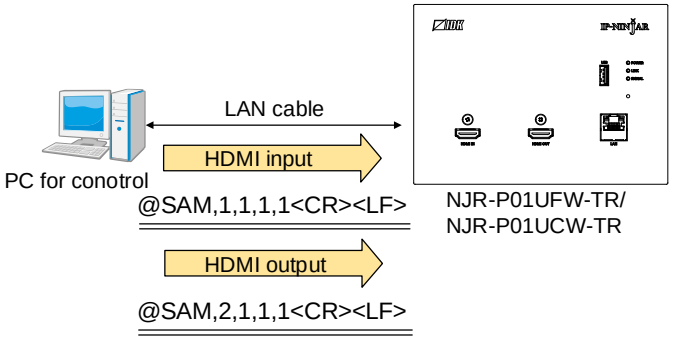
If a command is input from the RS-232C connector of NJR-P or from the LAN connector using the IP-NINJAR Configurator (Software for setting IP-NINJAR), [1] fixed is specified to **ch** (Channel) because only one NJR-P can be controlled.
If a command is input from the NJR-CTB, any channel can be specified because multiple NJR-P devices that are connected over a network switch can be controlled.

Example:

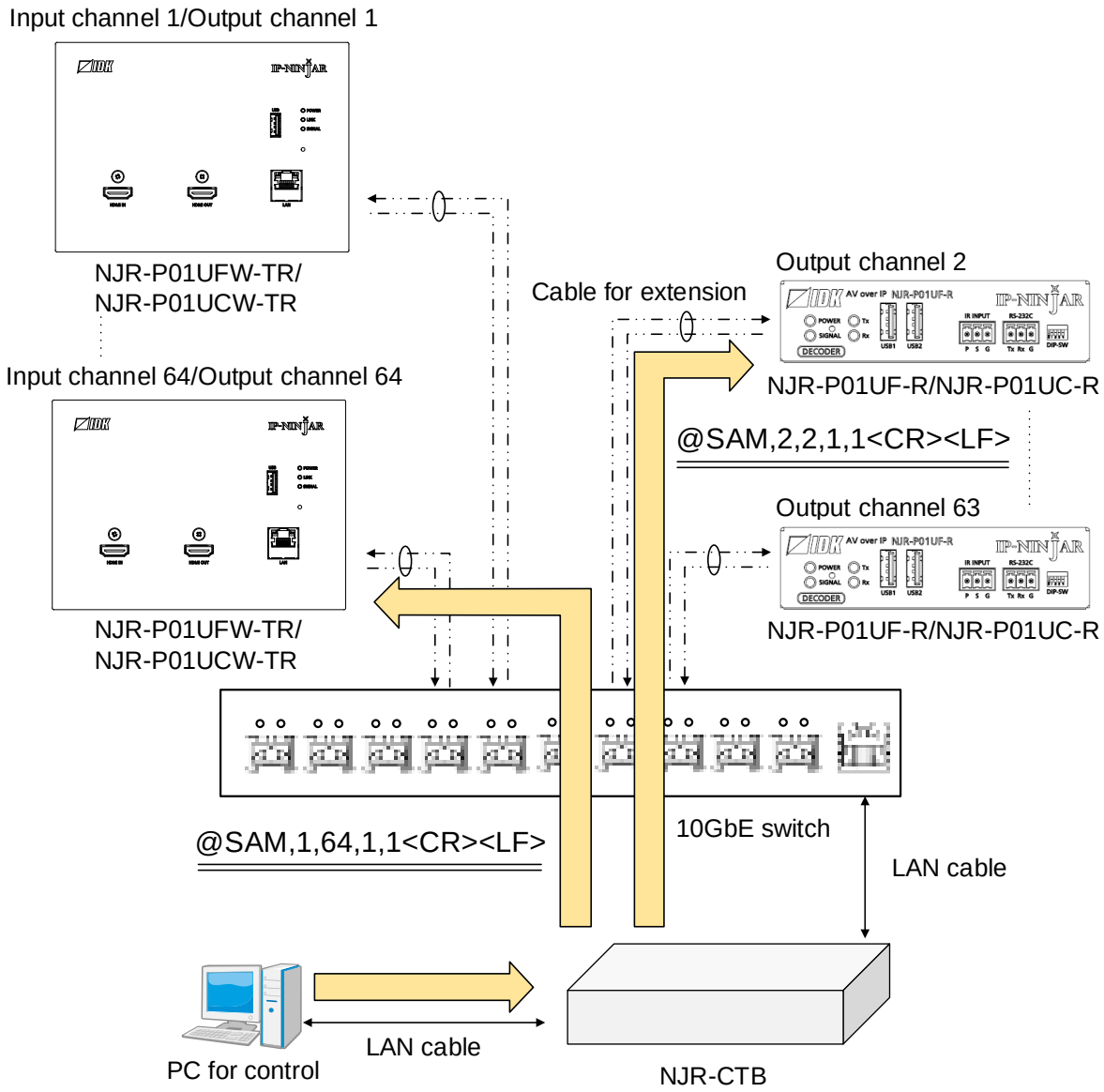
Format	@SAM,device,ch,port,mute<CR><LF>
Parameter	device: Encoder (HDMI input)/Decoder (HDMI output) 1 = Encoder 2 = Decoder
	ch: Channel 1 to 512 = Channel 1 to Channel 512 If a command is input from the RS-232C connector of NJR-P or from the IP-NINJAR Configurator, [1] is set (Fixed).
	port: Connector [1] fixed
	mute: Audio mute 0 = Mute OFF [Default] 1 = Mute ON



[Fig. 4.1] Command input from RS-232C



[Fig. 4.2] Command input from IP-NINJAR Configurator



[Fig. 4.3] Command input from NJR-CTB

4.5 Details of commands

4.5.1 Error status

@ERR	**Error status**	
Format	Return value only	
Return value	@ERR,error<CR><LF>	
Parameter	error: Error status 1 = Erroneous parameter format or value 2 = Undefined command or wrong format 3 = Currently cannot be used 99 = Error other than errors above	
Example	@GAM<CR><LF> @ERR,1<CR><LF>	Sending @GAM command Parameter error
Remarks	―	

4.5.2 Basic setting

4.5.2.1 Input

@GDT/@SDT	**No-signal input monitoring**	
Function	Getting	Setting
Format	@GDT,device,ch,port<CR><LF>	@SDT,device,ch,port,time<CR><LF>
Return value	@GDT,device,ch,port,time<CR><LF>	@SDT,device,ch,port,time<CR><LF>
Parameter	device: Encoder (HDMI input)/Decoder (HDMI output) [1] fixed	
	ch: Input channel 1 to 512 = Input channel 1 to Input channel 512 If a command is input from the RS-232C connector of NJR-P or from the IP-NINJAR Configurator, [1] is set (Fixed).	
	port: Input connector [1] fixed	
	time: No-signal input monitoring 0 = OFF 2000 to 15000 = 2 sec. to 15 sec. [Default] 10000 = 10 sec. Set this value by the 1000 ms. If you set a value other than 0 for the lower 3 digits, these values will be rounded down. (For example, if you set it to 2955, the monitoring time is set to 2000 ms.)	
Example	@GDT,1,1,1<CR><LF> @GDT,1,1,1,6000<CR><LF>	Getting the no-signal input monitoring of the HDMI input connector 6000 ms. (6 seconds)
	@SDT,1,1,1,6000<CR><LF> @SDT,1,1,1,6000<CR><LF>	Setting the no-signal monitoring of the HDMI input connector to 6000 ms. (6 seconds) Completed
Remarks	－	

@GHE/@SHE	**HDCP input**	
Function	Getting	Setting
Format	@GHE,device,ch,port<CR><LF>	@SHE,device,ch,port,hdcp<CR><LF>
Return value	@GHE,device,ch,port,hdcp<CR><LF>	@SHE,device,ch,port,hdcp<CR><LF>
Parameter	device: Encoder (HDMI input)/Decoder (HDMI output) [1] fixed	
	ch: Input channel 1 to 512 = Input channel 1 to Input channel 512 If a command is input from the RS-232C connector of NJR-P or from the IP-NINJAR Configurator, [1] is set (Fixed).	
	port: Input connector [1] fixed	
	hdcp: HDCP input enabled/disabled 0 = HDCP disabled 1 = HDCP enabled [Default]	
Example	@GHE,1,1,1<CR><LF> @GHE,1,1,1,0<CR><LF>	Getting the HDCP input enabled/disabled of the HDMI input connector HDCP disabled
	@SHE,1,1,1,0<CR><LF> @SHE,1,1,1,0<CR><LF>	Setting the HDCP input of the HDMI input connector to be disabled Completed
Remarks	―	

4.5.2.2 Output

@GDM/@SDM	**Output mode**	
Function	Getting	Setting
Format	@GDM,device,ch,port<CR><LF>	@SDM,device,ch,port,mode<CR><LF>
Return value	@GDM,device,ch,port,mode<CR><LF>	@SDM,device,ch,port,mode<CR><LF>
Parameter	device: Encoder (HDMI input)/Decoder (HDMI output) 1 = Encoder 2 = Decoder	
	ch: Channel 1 to 512 = Channel 1 to Channel 512 If a command is input from the RS-232C connector of NJR-P or from the IP-NINJAR Configurator, [1] is set (Fixed).	
	port: Output connector [1] fixed	
	mode: Output mode 0 = AUTO [Default] 1 = DVI output 2 = RGB output 3 = YCbCr 4:2:2 output 4 = YCbCr 4:4:4 output 5 = YCbCr 4:2:0 output	
Example	@GDM,2,1,1<CR><LF> @GDM,2,1,1,0<CR><LF>	Getting the output mode of the HDMI output connector AUTO
	@SDM,2,1,1,4<CR><LF> @SDM,2,1,1,4<CR><LF>	Setting the output mode of the HDMI output connector to YCbCr 4:4:4 output Completed
Remarks	―	

@GEN/@SEN	**HDCP output**	
Function	Getting	Setting
Format	@GEN,device,ch,port<CR><LF>	@SEN,device,ch,port,hdcp<CR><LF>
Return value	@GEN,device,ch,port,hdcp<CR><LF>	@SEN,device,ch,port,hdcp<CR><LF>
Parameter	device: Encoder (HDMI input)/Decoder (HDMI output) [2] fixed	
	ch: Channel 1 to 512 = Channel 1 to Channel 512 If a command is input from the RS-232C connector of NJR-P or from the IP-NINJAR Configurator, [1] is set (Fixed).	
	port: Output connector [1] fixed	
	hdcp: HDCP output 1 = ALWAYS [Default] 2 = HDCP INPUT ONLY 3 = HDCP 2.2	
Example	@GEN,2,1,1<CR><LF> @GEN,2,1,1,1<CR><LF>	Getting the HDCP output of the HDMI output connector ALWAYS
	@SEN,2,1,1,2<CR><LF> @SEN,2,1,1,2<CR><LF>	Setting the HDCP output of the HDMI output connector to HDCP INPUT ONLY Completed
Remarks	―	

@GHM/@SHM	**Hot plug ignoring duration**	
Function	Getting	Setting
Format	@GHM,device,ch,port<CR><LF>	@SHM,device,ch,port,time<CR><LF>
Return value	@GHM,device,ch,port,time<CR><LF>	@SHM,device,ch,port,time<CR><LF>
Parameter	device: Encoder (HDMI input)/Decoder (HDMI output) [2] fixed	
	ch: Channel 1 to 512 = Channel 1 to Channel 512 If a command is input from the RS-232C connector of NJR-P or from the IP-NINJAR Configurator, [1] is set (Fixed).	
	port: Output connector [1] fixed	
	time: Masking time 0 = OFF (No ignoring request signals) [Default] 2000 to 15000 = 2 sec. to 15sec. Set this value by the 1000 ms. If you set a value other than 0 for the lower 3 digits, these values will be rounded down. (For example, if you set it to 2955, the monitoring time is set to 2000 ms.)	
Example	@GHM,2,1,1<CR><LF> @GHM,2,1,1,2000<CR><LF>	Getting the hot plug ignoring duration of the HDMI output connector For 2 seconds
	@SHM,2,1,1,0<CR><LF> @SHM,2,1,1,0<CR><LF>	Setting the hot plug ignoring duration of the HDMI output connector to OFF Completed
Remarks	―	

4.5.2.3 Audio

@GAM/@SAM	**Muting/unmuting digital audio output**	
Function	Getting	Setting
Format	@GAM,device,ch,port<CR><LF>	@SAM,device,ch,port,mute<CR><LF>
Return value	@GAM,device,ch,port,mute<CR><LF>	@SAM,device,ch,port,mute<CR><LF>
Parameter	device: Encoder (HDMI input)/Decoder (HDMI output) 1 = Encoder 2 = Decoder	
	ch: Channel 1 to 512 = Channel 1 to Channel 512 If a command is input from the RS-232C connector of NJR-P or from the IP-NINJAR Configurator, [1] is set (Fixed).	
	port: Output connector [1] fixed	
	mute: Audio mute 0 = Mute OFF [Default] 1 = Mute ON	
Example	@GAM,2,1,1<CR><LF> @GAM,2,1,1,0<CR><LF>	Getting the audio mute of the HDMI output connector Mute OFF
	@SAM,2,1,1,0<CR><LF> @SAM,2,1,1,0<CR><LF>	Setting the audio mute of the HDMI output connector to OFF Completed
Remarks	―	

@GAAS/@SAAS	**Selecting output audio**	
Function	Getting	Setting
Format	@GAAS,device,ch,reserved_1 <CR><LF>	@SAAS,device,ch,reserved_1, reserved_2,digital<CR><LF>
Return value	@GAAS,device,ch,reserved_1, reserved_2,digital<CR><LF>	@SAAS,device,ch,reserved_1, reserved_2,digital<CR><LF>
Parameter	device: Encoder (HDMI input)/Decoder (HDMI output) [2] fixed	
	ch: Channel 1 to 512 = Channel 1 to Channel 512	
	reserved_1: Reservation [1] fixed	
	reserved_2: Reservation [0] fixed	
	digital: HDMI output connector 0 = Analog input audio 1 = Digital input audio [Default]	
Example	@GAAS,2,1,1<CR><LF> @GAAS,2,1,1,0,1<CR><LF>	Getting the output audio of the HDMI output connector Digital input audio
	@SAAS,2,1,1,0,1<CR><LF> @SAAS,2,1,1,0,1<CR><LF>	Setting the HDMI output connector to output digital input audio Completed
Remarks	This command can be input only via the NJR-CTB command server. Commands for analog input audio can be used when using the NJR-P with other IP-NINJAR series products.	

4.5.2.4 EDID

@GVF/@SVF	**EDID resolution**	
Function	Getting	Setting
Format	@GVF,device,ch,port<CR><LF>	@SVF,device,ch,port,resolution <CR><LF>
Return value	@GVF,device,ch,port,resolution <CR><LF>	@SVF,device,ch,port,resolution <CR><LF>
Parameter	device: Encoder (HDMI input)/Decoder (HDMI output) [1] fixed	
	ch: Input channel 1 to 512 = Input channel 1 to Input channel 512 If a command is input from the RS-232C connector of NJR-P or from the IP-NINJAR Configurator, [1] is set (Fixed).	
	port: Input connector [1] fixed	
	resolution: EDID resolution 1 = Copied EDID1 5 = 1080p@50/59.94/60 (1920x1080) 6 = 720p@50/59.94/60 (1280x720) 7 = 1080i@50/59.94/60 (1920x1080) 10 = SVGA (800x600) 11 = XGA (1024x768) 12 = VESA720 (1280x720) 13 = WXGA (1280x768) 14 = WXGA (1280x800) 15 = Quad-VGA (1280x960) 16 = SXGA (1280x1024) 17 = WXGA (1360x768/1366x768) 18 = SXGA+ (1400x1050) 19 = WXGA+ (1440x900) 20 = WXGA++ (1600x900) 21 = UXGA (1600x1200) 22 = WSXGA+ (1680x1050) 23 = VESA1080 (1920x1080) 24 = WUXGA (1920x1200) 25 = QWXGA (2048x1152) 26 = WQHD (2560x1440) 27 = WQXGA (2560x1600) 43 = 2160p@50/59.94/60 - 4:2:0 (3840x2160) 44 = 4096x2160@50/59.94/60 - 4:2:0 45 = 2160p@50/59.94/60 - 4:4:4 (3840x2160) [Default] 46 = 4096x2160@50/59.94/60 - 4:4:4	
Example	@GVF,1,1,1<CR><LF> @GVF,1,1,1,24<CR><LF>	Getting the EDID resolution of the HDMI input connector WUXGA
	@SVF,1,1,1,24<CR><LF> @SVF,1,1,1,24<CR><LF>	Setting the EDID resolution of the HDMI input connector to WUXGA Completed
Remarks	Select EDID of 1360x768 and 1366x768 using “**@GWX/@SWX Selecting WXGA mode**”.	

@RME	**Copying EDID**	
Function	Setting	
Format	@RME,device,ch,reserved,number<CR><LF>	
Return value	@RME,device,ch,reserved,number<CR><LF>	
Parameter	device: Encoder (HDMI input)/Decoder (HDMI output) [1] fixed	
	ch: Input channel 1 to 512 = Input channel 1 to Input channel 512 If a command is input from the RS-232C connector of NJR-P or from the IP-NINJAR Configurator, [1] is set (Fixed).	
	reserved: Reservation [1] fixed	
	number: Destination memory number [0] fixed	
Example	@RME,1,1,1,0<CR><LF> @RME,1,1,1,0<CR><LF>	Copying EDID of the sink device connected to the HDMI output connector Completed
Remarks	―	

@GWX/@SWX	**Selecting WXGA mode**	
Function	Getting	Setting
Format	@GWX,device,ch,port<CR><LF>	@SWX,device,ch,port,mode<CR><LF>
Return value	@GWX,device,ch,port,mode<CR><LF>	@SWX,device,ch,port,mode<CR><LF>
Parameter	device: Encoder (HDMI input)/Decoder (HDMI output) [1] fixed	
	ch: Input channel 1 to 512 = Input channel 1 to Input channel 512 If a command is input from the RS-232C connector of NJR-P or from the IP-NINJAR Configurator, [1] is set (Fixed).	
	port: Input connector [1] fixed	
	mode: Selecting WXGA mode 0 = 1360x768 [Default] 1 = 1366x768	
Example	@GWX,1,1,1<CR><LF> @GWX,1,1,1,0<CR><LF>	Getting the WXGA mode of the HDMI input connector 1360x768
	@SWX,1,1,1,0<CR><LF> @SWX,1,1,1,0<CR><LF>	Setting the WXGA mode of the HDMI input connector to 1360x768 Completed
Remarks	―	

@GDI/@SDI	**Deep Color**	
Function	Getting	Setting
Format	@GDI,device,ch,port<CR><LF>	@SDI,device,ch,port,color<CR><LF>
Return value	@GDI,device,ch,port,color<CR><LF>	@SDI,device,ch,port,color<CR><LF>
Parameter	device: Encoder (HDMI input)/Decoder (HDMI output) [1] fixed	
	ch: Input channel 1 to 512 = Input channel 1 to Input channel 512 If a command is input from the RS-232C connector of NJR-P or from the IP-NINJAR Configurator, [1] is set (Fixed).	
	port: Input connector [1] fixed	
	color: Color depth 0 = 24-BIT COLOR [Default] 1 = 30-BIT COLOR 2 = 36-BIT COLOR	
Example	@GDI,1,1,1<CR><LF> @GDI,1,1,1,0<CR><LF>	Getting the color depth of the HDMI input connector 24-BIT COLOR
	@SDI,1,1,1,0<CR><LF> @SDI,1,1,1,0<CR><LF>	Setting the color depth of the HDMI input connector to 24-BIT COLOR Completed
Remarks	―	

<table>
<tr><td>@GAF/@SAF</td><td colspan="2">Audio format</td></tr>
<tr><td>Function</td><td>Getting</td><td>Setting</td></tr>
<tr><td>Format</td><td>@GAF,device,ch,port<CR><LF></td><td>@SAF,device,ch,port,format_1,
frequency_1(,format_2,frequency_2･･･)
<CR><LF></td></tr>
<tr><td>Return value</td><td>@GAF,device,ch,port,format_1,
frequency_1(,format_2,frequency_2･･･)
<CR><LF></td><td>@SAF,device,ch,port,format_1,
frequency_1(,format_2,frequency_2･･･)
<CR><LF></td></tr>
<tr><td>Parameter</td><td colspan="2">device: Encoder (HDMI input)/Decoder (HDMI output)
[1] fixed</td></tr>
<tr><td></td><td colspan="2">ch: Input channel
1 to 512 = Input channel 1 to Input channel 512
If a command is input from the RS-232C connector of NJR-P or from the IP-NINJAR Configurator, [1] is set (Fixed).</td></tr>
<tr><td></td><td colspan="2">port: Input connector
[1] fixed</td></tr>
<tr><td></td><td colspan="2">format_1 to format_7: Audio format
0 = PCM 1 = Dolby Digital 2 = AAC
3 = Dolby Digital+ 4 = DTS 5 = DTS-HD 6 = Dolby TrueHD
[Default] Setting the HDMI input connector to PCM</td></tr>
<tr><td></td><td colspan="2">frequency_1 to frequency_7: Maximum sampling frequency
0 = OFF 1 = 32 kHz 2 = 44.1 kHz 3 = 48 kHz
4 = 88.2 kHz 5 = 96 kHz 6 = 176.4 kHz 7 = 192 kHz
[Default] PCM: 48 kHz, others: OFF
[OFF]: Only setting command (@SAF) can be used.
Maximum settable sampling frequency depends on audio format.
<table>
<tr><th>Audio format</th><th>Maximum sampling frequency (kHz)</th></tr>
<tr><td>PCM</td><td>32/44.1/48/88.2/96/176.4/192</td></tr>
<tr><td>Dolby Digital</td><td>OFF/32/44.1/48</td></tr>
<tr><td>AAC</td><td>OFF/32/44.1/48/88.2/96</td></tr>
<tr><td>Dolby Digital+</td><td>OFF/32/44.1/48</td></tr>
<tr><td>DTS</td><td>OFF/32/44.1/48/96</td></tr>
<tr><td>DTS-HD</td><td>OFF/44.1/48/88.2/96/176.4/192</td></tr>
<tr><td>Dolby TrueHD</td><td>OFF/44.1/48/88.2/96/176.4/192</td></tr>
</table></td></tr>
<tr><td></td><td colspan="2">Getting commands : The set audio formats and maximum sampling frequency is returned
Setting commands : Send the desired audio formats and the maximum sampling frequencies</td></tr>
</table>

@GAF/@SAF	**Audio format (Cont'd)**	
Example	@GAF,1,1,1<CR><LF> @GAF,1,1,1,0,7<CR><LF>	Getting the audio format that is set to the HDMI input connector Up to PCM 192 kHz
	@SAF,1,1,1,4,3<CR><LF> @SAF,1,1,1,4,3<CR><LF>	Setting the HDMI input connector to audio up to PCM and DTS 48 kHz (The maximum PCM sampling frequency is not changed.) Completed
Remarks	ー	

@GSP/@SSP	**Speaker configuration**	
Function	Getting	Setting
Format	@GSP,device,ch,port<CR><LF>	@SSP,device,ch,port,number (,speaker_1,speaker_2・・・)<CR><LF>
Return value	@GSP,device,ch,port,number,speaker_1 (,speaker_2・・・)<CR><LF>	@SSP,device,ch,port,number (,speaker_1,speaker_2・・・)<CR><LF>
Parameter	device: Encoder (HDMI input)/Decoder (HDMI output) [1] fixed	
	ch: Input channel 1 to 512 = Input channel 1 to Input channel 512 If a command is input from the RS-232C connector of NJR-P or from the IP-NINJAR Configurator, [1] is set (Fixed).	
	port: Input connector [1] fixed	
	number: The number of speakers 1 to 8 [Default] 2	
	speaker_1 to speaker_8: Speakers to be used 0 = Front Left/Right [Default] 1 = Low Frequency Effect 2 = Front Center 3 = Rear Left/Right 4 = Rear Center 5 = Front Left/Right Center 6 = Rear Left/Right Center 7 = Front Left/Right Wide 8 = Front Left/Right High 9 = Top Center 10 = Front Center High	

<table>
<tr><td>@GSP/@SSP</td><td colspan="2">Speaker configuration (Cont’d)</td></tr>
<tr><td>Parameter</td><td colspan="2">Getting commands : The number of speakers and which speakers will be used is returned
Setting commands : If you do not specify the speaker configuration, the following configuration will be applied depending on the set number of speakers
<table>
<tr><td rowspan="2">number</td><td colspan="11">speaker</td></tr>
<tr><td>0</td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td><td>10</td></tr>
<tr><td>1</td><td>OFF</td><td>OFF</td><td>ON</td><td>OFF</td><td>OFF</td><td>OFF</td><td>OFF</td><td>OFF</td><td>OFF</td><td>OFF</td><td>OFF</td></tr>
<tr><td>2</td><td>ON</td><td>OFF</td><td>OFF</td><td>OFF</td><td>OFF</td><td>OFF</td><td>OFF</td><td>OFF</td><td>OFF</td><td>OFF</td><td>OFF</td></tr>
<tr><td>3</td><td>ON</td><td>ON</td><td>OFF</td><td>OFF</td><td>OFF</td><td>OFF</td><td>OFF</td><td>OFF</td><td>OFF</td><td>OFF</td><td>OFF</td></tr>
<tr><td>4</td><td>ON</td><td>ON</td><td>ON</td><td>OFF</td><td>OFF</td><td>OFF</td><td>OFF</td><td>OFF</td><td>OFF</td><td>OFF</td><td>OFF</td></tr>
<tr><td>5</td><td>ON</td><td>ON</td><td>OFF</td><td>ON</td><td>OFF</td><td>OFF</td><td>OFF</td><td>OFF</td><td>OFF</td><td>OFF</td><td>OFF</td></tr>
<tr><td>6</td><td>ON</td><td>ON</td><td>ON</td><td>ON</td><td>OFF</td><td>OFF</td><td>OFF</td><td>OFF</td><td>OFF</td><td>OFF</td><td>OFF</td></tr>
<tr><td>7</td><td>ON</td><td>ON</td><td>ON</td><td>ON</td><td>ON</td><td>OFF</td><td>OFF</td><td>OFF</td><td>OFF</td><td>OFF</td><td>OFF</td></tr>
<tr><td>8</td><td>ON</td><td>ON</td><td>ON</td><td>ON</td><td>OFF</td><td>OFF</td><td>ON</td><td>OFF</td><td>OFF</td><td>OFF</td><td>OFF</td></tr>
</table>
The specified number and the total number of speakers do not match, the number is set automatically based on the setting of speakers to be used. In case the number exceeds the settable range, an error is returned.</td></tr>
<tr><td rowspan="3">Example</td><td>@GSP,1,1,1<CR><LF>

@GSP,1,1,1,6,0,1,2,3<CR><LF></td><td>Getting the speaker configuration of the HDMI input connector
Six speakers are used:
Front Left/Right, Low Frequency Effect, Front Center, Rear Left/Right</td></tr>
<tr><td>@SSP,1,1,1,8<CR><LF>

@SSP,1,1,1,8<CR><LF></td><td>Assign eight speakers to the HDMI input connector:
Front Left/Right, Low Frequency Effect,
Front Center, Rear Left/Right,
Rear Left/Right Center
Completed</td></tr>
<tr><td>@SSP,1,1,1,8,0,3,5,6,7<CR><LF>

@ERR,1<CR><LF></td><td>Assign 10 speakers to the HDMI input connector:
Front Left/Right, Rear Left/Right,
Front Left/Right Center,
Rear Left/Right Center,
Front Left/Right Wide
The number of speakers exceeds the settable value.</td></tr>
<tr><td>Remarks</td><td colspan="2">－</td></tr>
</table>

4.5.2.5 RS-232C

@GCTB/@SCTB	**RS-232C**	
Function	Getting	Setting
Format	@GCTB,device,ch,reserved<CR><LF>	@SCTB,device,ch,reserved,baudrate, databit,stopbit,parity<CR><LF>
Return value	@GCTB,device,ch,reserved,baudrate, databit,stopbit,parity<CR><LF>	@SCTB,device,ch,reserved,baudrate, databit,stopbit,parity<CR><LF>
Parameter	device: Encoder (HDMI input)/Decoder (HDMI output) [1] fixed	
	ch: Channel 1 to 512 = Channel 1 to Channel 512	
	reserved: Reservation [1] fixed	
	baudrate: Baud rate 0 = 4800 bps 1 = 9600 bps [Default] 2 = 19200 bps 3 = 38400 bps 4 = 57600 bps 5 = 115200 bps	
	databit: Data bit length 7 = 7 bit 8 = 8 bit [Default]	
	stopbit: Stop bit 1 = 1 bit [Default] 2 = 2 bit	
	parity: Parity check 0 = NONE [Default] 1 = ODD 2 = EVEN	
Example	@GCTB,1,1,1<CR><LF> @GCTB,1,1,1,4,8,1,0<CR><LF>	Getting the RS-232C communication setting of Channel 1 ・ Baud rate : 57600 bps ・ Data bit length : 8 bit ・ Stop bit : 1 bit ・ Parity check : NONE
	@SCTB,1,1,1,4,8,1,0<CR><LF> @SCTB,1,1,1,4,8,1,0<CR><LF>	Setting the RS-232C communication setting of Channel 1 as follows: ・ Baud rate : 57600 bps ・ Data bit length : 8 bit ・ Stop bit : 1 bit ・ Parity check : NONE Completed
Remarks	This command can be input only via the NJR-CTB command server. Values for the control mode are fixed and cannot be changed.	

4.5.2.6 LAN

<table>
<tr><td>@GIP/@SIP</td><td colspan="2">LAN</td></tr>
<tr><td>Function</td><td>Getting</td><td>Setting</td></tr>
<tr><td>Format</td><td>@GIP,device,ch,reserved<CR><LF></td><td>@SIP,device,ch,reserved,mode,ip,mask,
gateway<CR><LF></td></tr>
<tr><td>Return value</td><td>@GIP,device,ch,reserved,mode,ip,mask,
gateway<CR><LF></td><td>@SIP,device,ch,reserved,mode,ip,mask,
gateway<CR><LF></td></tr>
<tr><td rowspan="7">Parameter</td><td colspan="2">device: Encoder (HDMI input)/Decoder (HDMI output)
[1] fixed</td></tr>
<tr><td colspan="2">ch: Channel
1 to 512 = Channel 1 to Channel 512</td></tr>
<tr><td colspan="2">reserved: Reservation
[1] fixed</td></tr>
<tr><td colspan="2">mode: Mode
0 = Automatic (DHCP) [Default] 1 = static
[0] is selected, the following three parameters will be invalid.</td></tr>
<tr><td colspan="2">ip: IP address
0 to 255 = 8 bit (in decimal) x 4 combinations
[Default] Getting automatically</td></tr>
<tr><td colspan="2">mask: Subnet mask
0 to 255 = 8 bit (in decimal) x 4 combinations
[Default] Getting automatically</td></tr>
<tr><td colspan="2">gateway: Default gateway
0 to 255 = 8 bit (in decimal) x 4 combinations
[Default] Getting automatically</td></tr>
<tr><td rowspan="2">Example</td><td>@GIP,1,1,1<CR><LF>
@GIP,1,1,1,1,192.168.3.2,
255.255.255.0,192.168.3.254<CR><LF></td><td>Getting the LAN setting of Channel 1
・ Mode : Static
・ IP address : 192.168.3.2
・ Subnet mask : 255.255.255.0
・ Default gateway: 192.168.3.254</td></tr>
<tr><td>@SIP,1,1,1,1,192.168.3.2,
255.255.255.0,192.168.3.254<CR><LF>

@SIP,1,1,1,1,192.168.3.2,
255.255.255.0,192.168.3.254<CR><LF></td><td>Setting the LAN of Channel 1 as follows:
・ Mode : Static
・ IP address : 192.168.3.2
・ Subnet mask : 255.255.255.0
・ Default gateway: 192.168.3.254
Completed</td></tr>
<tr><td>Remarks</td><td colspan="2">This command can be input only via the NJR-CTB command server.
If the LAN setting is changed, the communication may be disabled.
Change the environmental settings based on the NJR-P settings.</td></tr>
</table>

@GMC	**MAC address**	
Function	Getting	
Format	@GMC,device,ch,reserved<CR><LF>	
Return value	@GMC,device,ch,reserved,mac<CR><LF>	
Parameter	device: Model [1] fixed	
	ch: Channel 1 to 512 = Channel 1 to Channel 512	
	reserved: Reservation [1] fixed	
	mac: MAC address **00** to **FF** = 8 bit (in hex) x 6 combinations	
Example	@GMC,1,1,1<CR><LF> @GMC,1,1,1,00,08,E5,69,00,00 <CR><LF>	Getting the MAC address of Channel 1 00:08:E5:69:00:00
Remarks	This command can be input only via the NJR-CTB command server.	

4.5.2.7 Advanced setting

@GFM/@SFM	**Fan rotation speed**	
Function	Getting	Setting
Format	@GFM,device,ch,reserved<CR><LF>	@SFM,device,ch,reserved,mode <CR><LF>
Return value	@GFM,device,ch,reserved,mode,rpm <CR><LF>	@SFM,device,ch,reserved,mode <CR><LF>
Parameter	device: Encoder (HDMI input)/Decoder (HDMI output) [1] fixed	
	ch: Input channel 1 to 512 = Input channel 1 to Input channel 512 If a command is input from the RS-232C connector of NJR-P or from the IP-NINJAR Configurator, [1] is set (Fixed).	
	reserved: Reservation [1] fixed	
	mode: Fan rotation speed 0 = AUTO [Default] 1 = LOW 2 = MIDDLE 3 = HIGH	
	rpm: Rotation speed (rpm)	
Example	@GFM,1,1,1<CR><LF> @GFM,1,1,1,0,2027<CR><LF>	Getting fan rotation speed of Channel 1 AUTO: 2027 rpm
	@SFM,1,1,1,1<CR><LF> @SFM,1,1,1,1<CR><LF>	Setting fan rotation speed of Channel 1 to LOW Completed
Remarks	―	

@GPW/@SPW	**LED for status**	
Function	Getting	Setting
Format	@GPW,device,ch,reserved<CR><LF>	@SPW,device,ch,reserved,mode <CR><LF>
Return value	@GPW,device,ch,reserved,mode <CR><LF>	@SPW,device,ch,reserved,mode <CR><LF>
Parameter	device: Encoder (HDMI input)/Decoder (HDMI output) [1] fixed	
	ch: Input channel 1 to 512 = Input channel 1 to Input channel 512 If a command is input from the RS-232C connector of NJR-P or from the IP-NINJAR Configurator, [1] is set (Fixed).	
	reserved: Reservation [1] fixed	
	mode: LED for status 0 = Does not illuminate 1 = Illuminate [Default]	
Example	@GPW,1,1,1<CR><LF> @GPW,1,1,1,0<CR><LF>	Getting LED for status of Channel 1 Does not illuminate
	@SPW,1,1,1,1<CR><LF> @SPW,1,1,1,1<CR><LF>	Setting LED for status of Channel 1 to illuminate Completed
Remarks	―	

@GSG/@SSG	**SIGNAL LED illumination**	
Function	Getting	Setting
Format	@GSG,device,ch,reserved<CR><LF>	@SSG,device,ch,reserved,mode <CR><LF>
Return value	@GSG,device,ch,reserved,mode <CR><LF>	@SSG,device,ch,reserved,mode <CR><LF>
Parameter	device: Encoder (HDMI input)/Decoder (HDMI output) [1] fixed	
	ch: Input channel 1 to 512 = Input channel 1 to Input channel 512 If a command is input from the RS-232C connector of NJR-P or from the IP-NINJAR Configurator, [1] is set (Fixed).	
	reserved: Reservation [1] fixed	
	mode: SIGNAL LED illumination 0 = HDMI input video signal [Default] 1 = Input video signal for extension	
Example	@GSG,1,1,1<CR><LF> @GSG,1,1,1,0<CR><LF>	Getting the SIGNAL LED illumination of Channel 1 HDMI input video signal
	@SSG,1,1,1,1<CR><LF> @SSG,1,1,1,1<CR><LF>	Setting the SIGNAL LED illumination of Channel 1 to input video signal for extension Completed
Remarks	―	

@CLRC	**Initialization**
Function	Setting
Format	@CLRC,device,ch,reserved<CR><LF>
Return value	@CLRC,device,ch,reserved<CR><LF>
Parameter	device: Encoder (HDMI input)/Decoder (HDMI output) [1] fixed
	ch: Channel 0 = All channels 1 to 512 = Channel 1 to Channel 512
	reserved: Reservation [1] fixed
Example	@CLRC,1,2,1<CR><LF> @CLRC,1,2,1<CR><LF>
	Initializing settings of Channel 2 Completed
Remarks	This command can be input only via the NJR-CTB command server. Settings of “**4.5.2.1 Input**” to “**4.5.2.6 LAN**” will be initialized.

@RBTC	**Reboot**	
Function	Setting	
Format	@RBTC,device,ch,reserved<CR><LF>	
Return value	@RBTC,device,ch,reserved<CR><LF>	
Parameter	device: Encoder (HDMI input)/Decoder (HDMI output) [1] fixed	
	ch: Channel 0 = All channels 1 to 512 = Channel 1 to Channel 512	
	reserved: Reservation [1] fixed	
Example	@RBTC,1,2,1<CR><LF> @RBTC,1,2,1<CR><LF>	Rebooting the Channel 2 Completed
Remarks	This command can be input only via the NJR-CTB command server.	

4.5.2.8 Information

<table>
<tr><th>@GSS</th><th>I/O status</th></tr>
<tr><td>Function</td><td>Getting</td></tr>
<tr><td>Format</td><td>@GSS,device,ch,port,mode<CR><LF></td></tr>
<tr><td>Return value</td><td>@GSS,device,ch,port,mode,status_1(,status_2,status_3･･･)<CR><LF></td></tr>
<tr><td rowspan="5">Parameter</td><td>device: Model
[1] fixed</td></tr>
<tr><td>ch: Channel
1 to 512 = Channel 1 to Channel 512
If a command is input from the RS-232C connector of NJR-P or from the IP-NINJAR Configurator, [1] is set (Fixed).</td></tr>
<tr><td>port: Input connector/Output connector
[1] fixed</td></tr>
<tr><td>mode: Target status
For HDMI input connector of NJR-P:
0 = All of [1] to [4] 1 = Input signal type*1
2 = Video input signal format*2 3 = Audio input signal format*3
4 = with/without HDCP input*4
For HDMI output connector of NJR-P:
10 = All of [11] to [13] 11 = HDCP authentication status*5
12 = Output signal type*6 13 = Error code*7</td></tr>
<tr><td>status_1 to status_4: Status

*1 For input signal type, one of the following values is returned.
<table>
<tr><th>Value</th><th>Description</th></tr>
<tr><td>Hxx</td><td>HDMI signal is input. xx stands for color depth which is 24, 30, or 36</td></tr>
<tr><td>D</td><td>DVI signal is input.</td></tr>
<tr><td>N</td><td>No signal is input.</td></tr>
</table>
*2 For format of video input signal
<table>
<tr><th>Value</th><th>Description</th></tr>
<tr><td>1920 x 1080i 59.94Hz</td><td>SDTV/HDTV/UHDTV signal is input, which returns the format type and vertical synchronous frequency.</td></tr>
<tr><td>800 x 600p 60.00Hz</td><td>Signal having VESA resolution is input, and [Horizontal resolution x Vertical resolution] and vertical synchronous frequency are returned.</td></tr>
<tr><td>NO SIGNAL</td><td>No signal is input.</td></tr>
</table>
</td></tr>
</table>

@GSS	I/O status (Cont'd)
Parameter	

*3 For format of audio input signal

Value	Description
LINEAR PCM 48kHz	LPCM signal is input, which returns the sampling frequency.
COMPRESSED AUDIO	Compressed audio signal (such as Dolby Digital and DTS) is input (Because the NJR-P does not recognize detailed formats, [COMPRESSED AUDIO] is sent to all compressed audios).
NO AUDIO	No signal is input.

*4 For HDCP presence, one of the following values is returned.

Value	Description
HDCP 1.4 ON	Signal with HDCP 1.4 is input.
HDCP 2.2 ON	Signal with HDCP 2.2 is input.
HDCP OFF	Signal without HDCP is input.
NO SIGNAL	No signal is input.

*5 For HDCP authentication, one of the following values is returned.

Value	Description
HDCP 1.4 SUPPORT	Authenticated with HDCP 1.4
HDCP 2.2 SUPPORT	Authenticated with HDCP 2.2
HDCP NOT SUPPORT	Not authenticated, because device that does not support HDCP is connected or input signal does not have HDCP.
HDCP ERROR	Device with HDCP is connected, but the authentication failed.
HDCP CHECK NOW	Connection status of sink device was changed, and the status is being checked.
UNCONNECTED	No sink device is connected.

*6 For output signal type, one of the following values is returned.

Value	Description
Hxx	HDMI signal is output. xx stands for the color depth, 24, 30 or 36
D	DVI signal is output.
N	No sink device is connected.

<table>
<tr><td>@GSS</td><td colspan="2">I/O status (Cont’d)</td></tr>
<tr><td>Parameter</td><td colspan="2">*7 For status of the decoder HDMI output connector, one of the codes below will be returned in the following order: video output/audio output.
<table>
<tr><th>Error code</th><th>Video output status</th><th>Audio output status</th></tr>
<tr><td>0</td><td>Video is output correctly.</td><td>Audio is output correctly.</td></tr>
<tr><td>1</td><td>－</td><td>“@GAM/@SAM Muting/unmuting digital audio output” is set to [1] (ON).</td></tr>
<tr><td>3</td><td>No video signal is input.</td><td>No audio signal is input.</td></tr>
<tr><td>5</td><td colspan="2">Signal with HDCP is input but the sink device does not support HDCP.</td></tr>
<tr><td>7</td><td>Signal that is not supported by NJR-P is input.</td><td>Since compressed audio is input, audio cannot be output.</td></tr>
<tr><td>9</td><td>－</td><td>The sink device that does not support audio is connected.</td></tr>
<tr><td>B</td><td colspan="2">No sink device is connected.</td></tr>
<tr><td>C</td><td colspan="2">HDCP is being authenticated.</td></tr>
<tr><td>D</td><td colspan="2">HDCP authentication failed</td></tr>
</table></td></tr>
<tr><td rowspan="2">Example</td><td>@GSS,1,1,1,0<CR><LF>

@GSS,1,1,1,0,H30,
1920 x 1080p 60Hz,
LINEAR PCM 48kHz,
HDCP 1.4 ON<CR><LF></td><td>Getting all input statuses of the HDMI input connector
・ Input signal type : 30-BIT COLOR HDMI
・ Video input signal : 1080p 60Hz
・ Audio input signal : LINEAR PCM 48kHz</td></tr>
<tr><td>@GSS,1,1,2,10<CR><LF>

@GSS,1,1,2,10,
HDCP 1.4 SUPPORT,H30,00
<CR><LF></td><td>Getting all output statuses of the HDMI output connector
・ HDCP authentication: HDCP 1.4
・ Output signal type : 30-BIT COLOR HDMI
・ Error code : Video and audio are output correctly</td></tr>
<tr><td>Remarks</td><td colspan="2">－</td></tr>
</table>

<table>
<tr><th>@GES</th><th>Monitor EDID</th></tr>
<tr><td>Function</td><td>Getting</td></tr>
<tr><td>Format</td><td>@GES,device,ch,port,mode<CR><LF></td></tr>
<tr><td>Return value</td><td>@GES,device,ch,port,mode,status_1(,status_2,status_3・・・)<CR><LF></td></tr>
<tr><td rowspan="5">Parameter</td><td>device: Encoder (HDMI input)/Decoder (HDMI output)
[2] fixed</td></tr>
<tr><td>ch: Output channel
1 to 512 = Output channel 1 to Output channel 512
If a command is input from the RS-232C connector of NJR-P or from the IP-NINJAR Configurator, [1] is set (Fixed).</td></tr>
<tr><td>port: Output connector
[1] fixed</td></tr>
<tr><td>mode: Target status
0 = All of [1] to [4]
1 = Monitor name*1
2 = Resolution and dot clock*2
3 = HDMI support status, sampling structure, and color depth*3
4 = Audio support status, sampling frequency, bit length, the number of channels, and compressed audio support status*4</td></tr>
<tr><td>status_1 to status_4: Status

*1 For monitor name
<table>
<tr><th>Value</th><th>Description</th></tr>
<tr><td>NJR-P01UFW-TR</td><td>A sink device named NJR-P01UFW-TR is connected.</td></tr>
<tr><td>UNCONNECTED</td><td>No sink device is connected.</td></tr>
</table>
*2 For resolution and dot clock
<table>
<tr><th>Value</th><th>Description</th></tr>
<tr><td>1920x1080
148.50MHz</td><td>A sink device supporting 1920x1080 (resolution) and 148.50 MHz (dot clock) is connected.</td></tr>
</table>
*3 For HDMI support status, sampling frequency, and color depth
<table>
<tr><th>Value</th><th>Description</th></tr>
<tr><td>DVI</td><td>A sink device that does not support HDMI signal is connected.</td></tr>
<tr><td>HDMI-
RGB/YCbCr422/
YCbCr444-24/30BIT
COLOR</td><td>A sink device supporting HDMI signal is connected.
Supported sampling structure (RGB, YCbCr 4:2:2, YCbCr 4:4:4, YCbCr 4:2:0) and color depth (24, 30, 36) are returned.</td></tr>
</table>
</td></tr>
</table>

<table>
<tr><td>@GES</td><td colspan="2">Monitor EDID (Cont'd)</td></tr>
<tr><td>Parameter</td><td colspan="2">*4 For audio support, sampling frequency, bit length, the number of channels, and compressed audio
<table>
<tr><th>Value</th><th>Description</th></tr>
<tr><td>AUDIO NOT SUPPORT</td><td>A sink device that does not support audio signal is connected.</td></tr>
<tr><td>LINEAR PCM-32/44.1/48kHz-16/20/24BIT-8CHANNEL</td><td>A sink device supporting audio signal is connected. Supported sampling frequency (32, 44.1, 48, 88.2, 96, 176.4, 192), the number of bits (16, 20, 24), the number of channels (1 to 8), and [COMPRESSED AUDIO SUPPORT] status are returned.</td></tr>
</table></td></tr>
<tr><td>Example</td><td>@GES,2,1,1,0<CR><LF>

@GES,2,1,1,0,NJR-P01UFW-TR,
3840x2160 594.00MHz,
HDMI-RGB/YCbCr422/YCbCr444/
YCbCr420-24BITCOLOR,
LINEAR PCM-32/44.1/48kHz-16/20/
24BIT-2CHANNEL<CR><LF></td><td>Getting the EDID of the sink device connected to the HDMI output connector
・ Monitor name: NJR-P01UFW-TR
・ Resolution : 3840x2160
・ Dot clock : 594.00MHz
・ HDMI : HDMI-RGB/YCbCr422/ YCbCr444/ YCbCr420-24BIT COLOR
・ Audio : LINEAR PCM-32/44.1/ 48kHz-16/20/ 24BIT-2CHANNEL</td></tr>
<tr><td>Remarks</td><td colspan="2">－</td></tr>
</table>

@GFS	**Fan status**	
Function	Getting	
Format	@GFS,device,ch,reserved<CR><LF>	
Return value	@GFS,device,ch,reserved,rpm,status<CR><LF>	
Parameter	device: Encoder (HDMI input)/Decoder (HDMI output) [1] fixed	
	ch: Channel 1 to 512 = Channel 1 to Channel 512 If a command is input from the RS-232C connector of NJR-P or from the IP-NINJAR Configurator, [1] is set (Fixed).	
	reserved: Reservation [1] fixed	
	rpm: Rotation speed (rpm)	
	status: 0 = Normal 1 = Abnormal	
Example	@GFS,1,1,1<CR><LF> @GFS,1,1,1,2027,0<CR><LF>	Getting the fan status of Channel 1 2027 rpm, normal
Remarks	－	

@GIV	**Version**	
Function	Getting	
Format	@GIV,device,ch,reserved<CR><LF>	
Return value	@GIV,device,ch,reserved,id,ver<CR><LF>	
Parameter	device: Encoder (HDMI input)/Decoder (HDMI output) [1] fixed	
	ch: Channel 1 to 512 = Channel 1 to Channel 512 If a command is input from the RS-232C connector of NJR-P or from the IP-NINJAR Configurator, [1] is set (Fixed).	
	reserved: Reservation [1] fixed	
	id: Model number	
	ver: Firmware version	
Example	@GIV,1,1,1<CR><LF> @GIV,1,1,1,NJR-P01UFW-TR,1.00 <CR><LF>	Getting the product information of Channel 1 ・ Model number : NJR-P01UFW-TR ・ Firmware version : 1.00
Remarks	―	

User Guide (Command Guide) of NJR-P01UFW-TR/NJR-P01UCW-TR

Ver.1.0.1

Issued on: 18 November 2022

Headquarters IDK Corporation
7-9-1 Chuo, Yamato-shi, Kanagawa-pref.
242-0021 JAPAN
TEL: +81-46-200-0764 FAX: +81-46-200-0765
Email: idk_eng@idk.co.jp **URL:** www.idkav.com

USA IDK America Inc.
72 Grays Bridge Road Suite 1-C, Brookfield, CT 06804
TEL: +1-203-204-2445
Email: sales@idkav.com **URL:** www.idkav.com

Europe IDK Europe GmbH
Lise-Meitner-Str. 6, D-40878 Ratingen
TEL: +49-2102-578-301-0
Email: info@idkav.eu **URL:** www.idkav.com

Product information Support Arvanics Corporation
7-9-1 Chuo, Yamato-shi, Kanagawa-pref.
242-0021 JAPAN
TEL: +81-46-259-6920 FAX: +81-46-259-6930
Email: info@arvanics.com **URL:** www.arvanics.com