

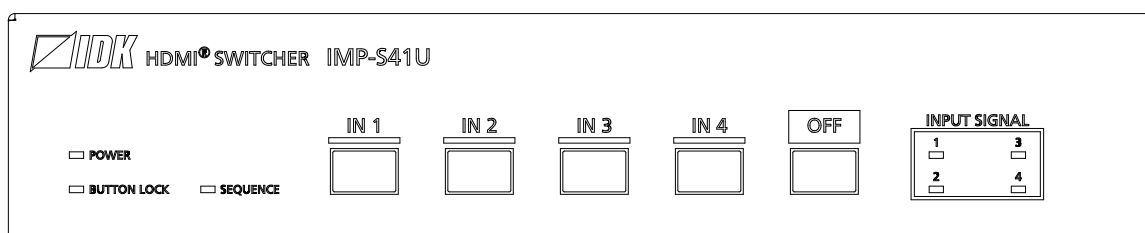
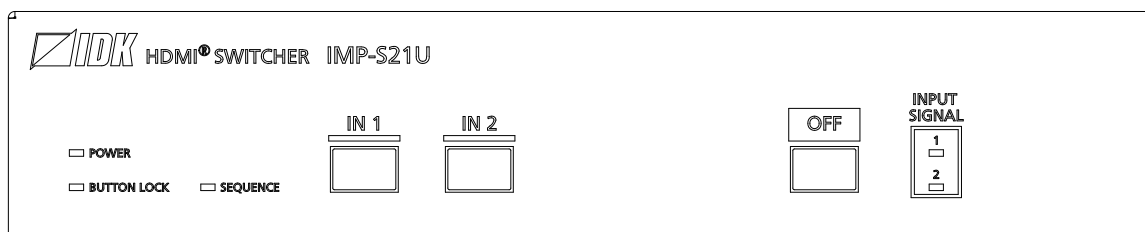
HDMI Switcher

IMP-S Series

IMP-S21U/IMP-S41U

<Command Reference Guide>

Ver.2.1.0



- 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

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Before reading this manual

- All rights reserved.
- 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.

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1 About this Guide

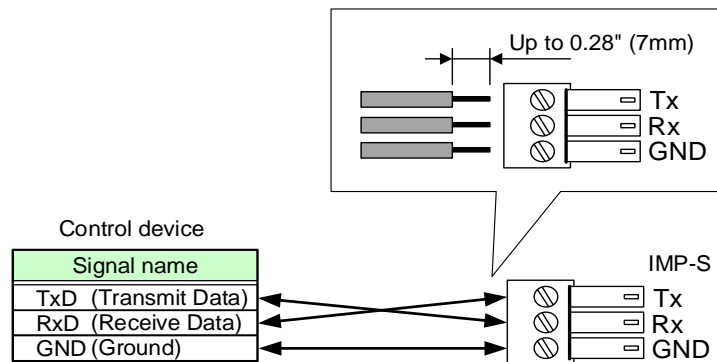
This guide contains the procedure for controlling the IMP-S Series (hereafter referred to as “IMP-S”) using commands via RS-232C communication or LAN communication.

2 Communication configuration and Specifications

2.1 RS-232C communication

2.1.1 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 IMP-S.
 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. 2.1] RS-232C connector

2.1.2 RS-232C communication specification

[Table 2.1] RS-232C specification

Compliant standard	RS-232C
Baud rate	4800/9600/19200/38400 [bps]
Data bit length	7/8 [bit]
Parity check	NONE, ODD, EVEN
Stop bit	1/2 [bit]
X parameter	Invalid
Flow control	None
Delimiter	CR LF (Carriage return and line feed, 0D and 0A in hex)
Communication method	Full duplex

2.1.3 Setting up RS-232C communication

(1) Connect the IMP-S and the control device via an RS-232C cable.

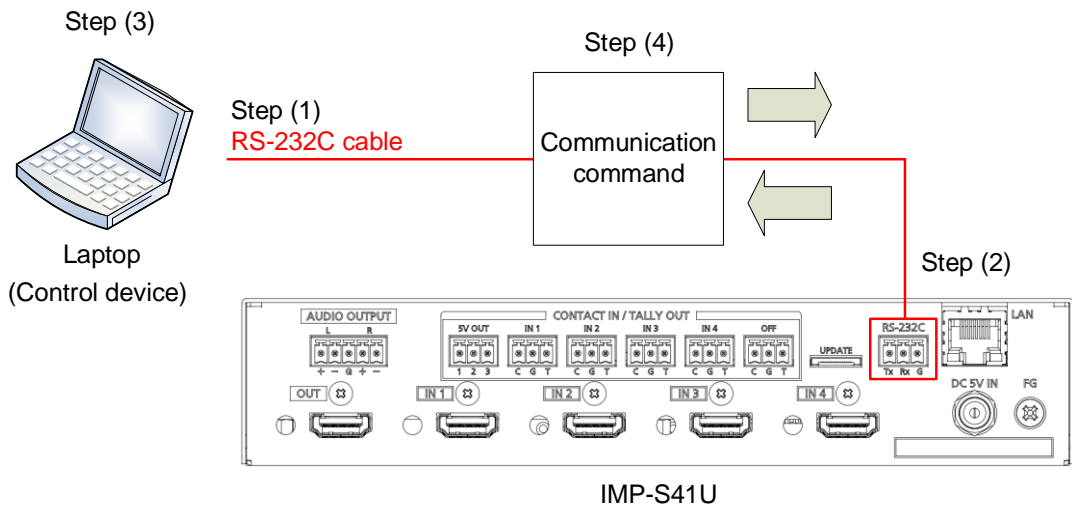
(2) Set the RS-232C communication as follows:

- Baud rate, data bit length, parity check, and stop bit

【Reference: User Guide】

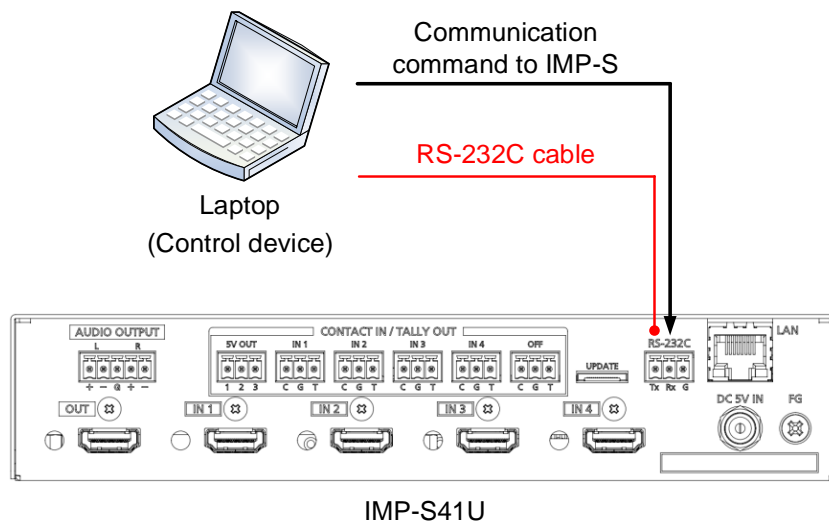
(3) For the control device, set the same values in the same way as RS-232C communication (baud rate, data bit length, parity check, and stop bit) in step (2) above.

(4) Send a communication command from the control device to the IMP-S in order to check the control status of the IMP-S.



[Fig. 2.2] Setting RS-232C communication

■ Operation example of RS-232C communication



[Fig. 2.3] Example of RS-232C communication

2.2 LAN communication

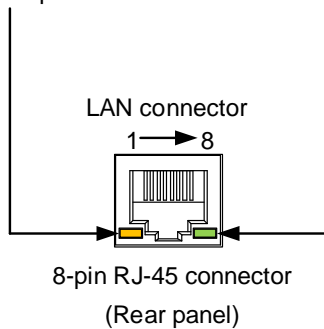
2.2.1 LAN connector specification

Pin assignment of the LAN connector 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 IMP-S to PC, HUB or the like.

Light in amber if the send/receive rate is 100 Mbps.
Goes off if it is 10 Mbps.

Light in green while link is established.
Blinks in green while data is being sent/received.



Pin#	Signal name	
	MDI	MDI-X
1	TX+ (Transmitted Data +)	RX+ (Received Data +)
2	TX- (Transmitted Data -)	RX- (Received Data -)
3	RX+ (Received Data +)	TX+ (Transmitted Data +)
4	N.C. (Not Connected)*	N.C. (Not Connected)*
5	N.C. (Not Connected)*	N.C. (Not Connected)*
6	RX- (Received Data -)	TX- (Transmitted Data -)
7	N.C. (Not Connected)*	N.C. (Not Connected)*
8	N.C. (Not Connected)*	N.C. (Not Connected)*

*Not used

[Fig. 2.4] LAN connector

2.2.2 LAN communication specification

[Table 2.2] Specification of LAN communication

Physical layer	10Base-T (IEEE802.3i)/100Base-TX (IEEE802.3u)	
Network layer	ARP, IP, ICMP	
Transport layer	Port used for command control	:23, 1100, 6000 to 6999
	Port used for WEB browser control(HTTP)	:80, 5000 to 5999

Note:

Up to 8 connections can be used simultaneously.

2.2.3 Setting up LAN communication

(1) Connect the IMP-S and the control device via a LAN cable.

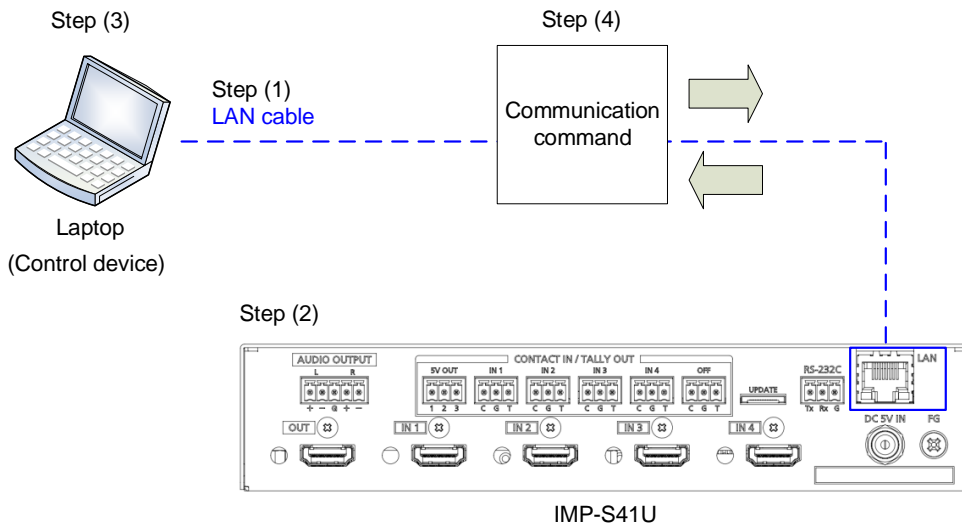
(2) Set up LAN communication as follows:

- Set IP address and subnet mask
- TCP port number: 23, 1100, 6000 to 6999

【Reference: User guide】

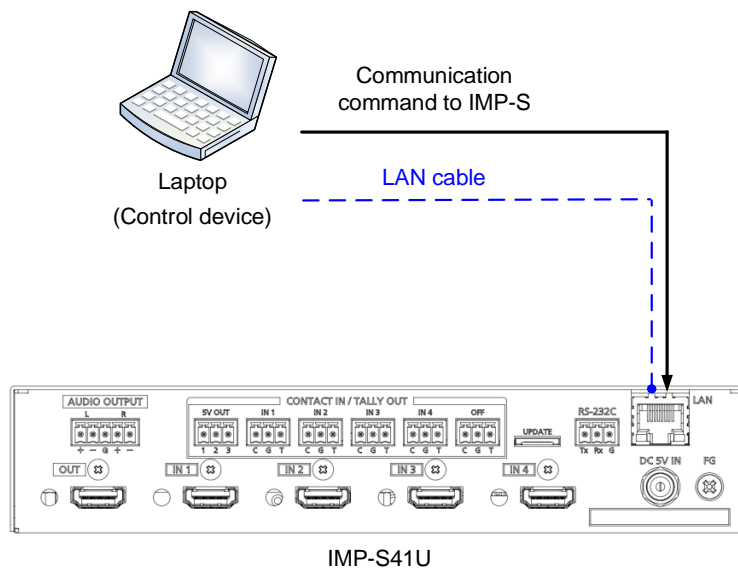
(3) Establish the connection from the control device to the IP address and TCP port that are set to the IMP-S in step (2) above.

(4) Send a communication command from the control device to the IMP-S in order to check the control status of the IMP-S.



[Fig. 2.5] Setting LAN communication

■ Operation example of LAN communication



[Fig. 2.6] Example of LAN communication

2.2.4 The number of TCP-IP connections

The IMP-S supports up to eight simultaneous TCP-IP connections (eight logical ports).

To maintain optimal system accessibility, it is advisable to issue “port-open” and “port-close” commands before and after command or query strings are issued. This approach enables eight or more control devices to be effectively interfaced simultaneously and without concern for communication errors.

[Table 2.3] Increasing connections

Your PC software		IMP-S
Connecting TCP-IP	→	(Occupying 1 port)
Sending command (@xxx)	→	
	←	Replying command (@xxx)
Closing TCP-IP	→	(Releasing 1port)

Note:

As a safeguard, the IMP-S incorporates a 30-second timeout window for each port. If any port is inactive for more than 30 seconds, it will be closed automatically.

3 Command

3.1 Summary

A command consists of "@" ("40" in hexadecimal), 3 one-byte alphabetical characters (upper and lower cases), and parameters (one-byte numbers). For some commands, multiple parameter values can be specified or parameters are not necessary.

Processing is executed by sending a delimiter at the end of the command.

Example: @SSW,2 ↵

"," (a comma, "2C" in hex) is indicated between a command and parameter and between two parameters. "↵" is indicated as a delimiter CR LF (return+line feed, "0D" and "0A" in hex).

■ If there is an error:

An error command is returned if an undefined command or wrong parameter is included.

Example: @SSW,5 ↵
@ERR,1 ↵

■ Using as HELP

If only delimiter is sent, command list as the help command is returned.

Example: ↵

```

----- HELP (1/9) ----- ↵
(CHANNEL SELECT Command) ↵
@GSW / @SSW : Getting/Setting Input channel switching ↵
@GCP / @IOS  : Getting/Setting Input channel switching (For IMP-300HD)↵
↵
----- HELP (2/9) ----- ↵
(INPUT SETTING Command) ↵
@GDT / @SDT  : Getting/Setting No-signal input monitoring ↵
@GHE / @SHE  : Getting/Setting HDCP input ↵

```

3.2 Command list

■ Error status

Command	Function	Page
@ERR	Error status	13

■ Selecting input channels

Command	Function	Page
@GSW / @SSW	Input channel switching	14
@GCP / @IOS	Input channel switching (For IMP-300HD)	14

■ Input channel automatic switching

Command	Function	Page
@GAU / @SAU	Priority of input channel automatic switching (OFF to ON)	15
@GOF / @SOF	Priority of input channel automatic switching (ON to OFF)	15
@GMT / @SMT	Ignoring duration after automatic switching	16
@GBD / @SBD	Video to be output when input is changed OFF to ON	16
@GST / @SST	Sequence switching mode	17
@GSQ / @SSQ	Target channel for sequence switching mode	17
@GIT / @SIT	Switching interval for sequence switching mode	18
@GSD / @SSD	Input detection	18
@GSC / @SSC	Starting channel of sequence switching mode	19

■ Input

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

■ Output

Command	Function	Page
@GDM / @SDM	Output mode	21
@GCO / @SCO	Sink device EDID check	21
@HAU	HDCP re-encryption	22

■ Audio

Command	Function	Page
@GAM / @SAM	Audio output mute	22

■ Contact input

Command	Function	Page
@GFP / @SFP	Chattering reduction time of contact input	23

■ EDID

Command	Function	Page
@GVF / @SVF	EDID resolution	24
@GHZ / @SHZ	Frame rate	25
@GDI / @SDI	Deep Color	25
@GAF / @SAF	Audio format	26
@GSP / @SSP	Speaker configuration	28
@RME	Copying EDID	28

■ RS-232C

Command	Function	Page
@GCT / @SCT	RS-232C communication	29

■ LAN

Command	Function	Page
@GIP / @SIP	IP address	30
@GSB / @SSB	Subnet mask	30
@GMC	MAC address	31
@GLP / @SLP	TCP port number	31

■ Startup

Command	Function	Page
@GMU / @SMU	Startup input channel	32
@GSO / @SSO	Button security lockout at startup	32

■ Advanced settings

Command	Function	Page
@GLS / @SLS	Front panel security lockout	33
@GBZ / @SBZ	Beep	33
@GIV	Device information	33

■ Status




Command	Function	Page
@GSS	Input signal and sink device status	34
@GES	Viewing sink device EDID	38

3.3 Details of commands

Optional descriptions are indicated in “()”.

Descriptions in this chapter are based on the IMP-S41U.

3.3.1 Error status

@ERR		Error status
Description		Response in case the command is not executed
Response		@ERR, error 
Parameter		error: Error status 1 = Erroneous parameter format or value 2 = Undefined command or wrong format 3 = The command cannot be used. Sequence switching mode is being operated. 4 = Not used. 5 = Not used. 6 = Not used. 7 = Not used. 8 = Loading EDID from the sink device failed
Getting example	Command	@AAA 
	Response	@ERR,2 
	Description	@AAA is sent. Command format error.
Remarks		—

3.3.2 Selecting input channels

@GSW / @SSW		Input channel switching
Getting	Command	@GSW ↵
	Response	@GSW, input ↵
Setting	Command	@SSW, input ↵
	Response	@SSW, input ↵
Parameter		input: Input channel 0 = OFF [Default], 1 to 4 = IN1 to IN4
Getting example	Command	@GSW ↵
	Response	@GSW,2 ↵
	Description	Getting selected input channel IN2
Setting example	Command	@SSW,1 ↵
	Response	@SSW,1 ↵
	Description	Selecting IN1
Remarks		—

@GCP / @IOS		Input channel switching (For IMP-300HD)
Getting	Command	@GCP ↵
	Response	@GCP, input ↵
Setting	Command	@IOS, input ↵
	Response	@IOS, input ↵
Parameter		input: Input channel 0 = OFF [Default], 1 to 4 = IN1 to IN4
Getting example	Command	@GCP ↵
	Response	@GCP,2 ↵
	Description	Getting selected input channel IN2
Setting example	Command	@IOS,1 ↵
	Response	@IOS,1 ↵
	Description	Selecting IN1
Remarks		—

3.3.3 Input channel automatic switching

@GAU / @SAU		Priority of input channel automatic switching (OFF to ON)
Getting	Command	@GAU ↵
	Response	@GAU, in1_priority, in2_priority, in3_priority, in4_priority ↵
Setting	Command	@SAU, in1_priority, in2_priority, in3_priority, in4_priority ↵
	Response	@SAU, in1_priority, in2_priority, in3_priority, in4_priority ↵
Parameter		in1_priority - in4_priority: Priority 0 = OFF [Default], 1 to 4 = Priority (high) to Priority (low)
Getting example	Command	@GAU ↵
	Response	@GAU,1,2,3,4 ↵
	Description	Getting the priority (OFF to ON) IN1>IN2>IN3>IN4
Setting example	Command	@SAU,4,3,2,1 ↵
	Response	@SAU,4,3,2,1 ↵
	Description	Setting the priority to IN4>IN3>IN2>IN1
Remarks		—

@GOF / @SOF		Priority of input channel automatic switching (ON to OFF)
Getting	Command	@GOF ↵
	Response	@GOF, in1_priority, in2_priority, in3_priority, in4_priority ↵
Setting	Command	@SOF, in1_priority, in2_priority, in3_priority, in4_priority ↵
	Response	@SOF, in1_priority, in2_priority, in3_priority, in4_priority ↵
Parameter		in1_priority - in4_priority: Priority 0 = OFF [Default], 1 to 4 = Priority (high) to Priority (low)
Getting example	Command	@GOF ↵
	Response	@GOF,1,2,3,4 ↵
	Description	Getting the priority (ON to OFF) IN1>IN2>IN3>IN4
Setting example	Command	@SOF,4,3,2,1 ↵
	Response	@SOF,4,3,2,1 ↵
	Description	Setting the priority to IN4>IN3>IN2>IN1
Remarks		—

@GMT / @SMT		Ignoring duration after automatic switching
Getting	Command	@GMT ↵
	Response	@GMT, time ↵
Setting	Command	@SMT, time ↵
	Response	@SMT, time ↵
Parameter		time: Ignoring duration 0 to 999999 = 0 sec. to 999.999 sec. [Default] 0 sec.
Getting example	Command	@GMT ↵
	Response	@GMT,2000 ↵
	Description	Getting the ignoring duration after input channel automatic switching 2000 ms. (2 seconds)
Setting example	Command	@SMT,2000 ↵
	Response	@SMT,2000 ↵
	Description	Setting the ignoring duration after input channel automatic switching to 2000 ms. (2 seconds)
Remarks		—

@GBD / @SBD		Video to be output when input is changed OFF to ON
Getting	Command	@GBD ↵
	Response	@GBD, mode ↵
Setting	Command	@SBD, mode ↵
	Response	@SBD, mode ↵
Parameter		mode: Video output 0 = Current video, 1 = Black [Default]
Getting example	Command	@GBD ↵
	Response	@GBD,1 ↵
	Description	Getting which video is output Black video will be output.
Setting example	Command	@SBD,1 ↵
	Response	@SBD,1 ↵
	Description	Setting black video to be output while input channel is being switched to ON
Remarks		—

@GST / @SST		Sequence switching mode
Getting	Command	@GST ↵
	Response	@GST, mode ↵
Setting	Command	@SST, mode ↵
	Response	@SST, mode ↵
Parameter		mode: Sequence switching mode 0 = OFF [Default], 1 = ON
Getting example	Command	@GST ↵
	Response	@GST,0 ↵
	Description	Getting the sequence switching mode OFF
Setting example	Command	@SST,1 ↵
	Response	@SST,1 ↵
	Description	Setting the sequence switching mode to ON
Remarks		—

@GSQ / @SSQ		Target channel for sequence switching mode
Getting	Command	@GSQ ↵
	Response	@GSQ, select_1, select_2, select_3, select_4 ↵
Setting	Command	@SSQ, ch_1, select_1 (, ch_2, select_2···) ↵
	Response	@SSQ, ch_1, select_1 (, ch_2, select_2···) ↵
Parameter		select_1-4: Setting whether the channel is switched or not. 0 = Not switched, 1 = Switched [Default]
		ch_1-4: Input channel 0 = All inputs, 1 to 4 = IN1 to IN4
Getting example	Command	@GSQ ↵
	Response	@GSQ,1,1,1,0 ↵
	Description	Getting the mode status IN1 to IN3 will be switched.
Setting example	Command	@SSQ,1,0 ↵
	Response	@SSQ,1,0 ↵
	Description	IN1 will not be switched.
	Command	@SSQ,0,0 ↵
	Response	@ERR,1 ↵
	Description	Error, because all input channels are set to OFF.
Remarks		If “ @GST / @SST Sequence switching mode ” is set to “1” (ON), only the getting command is available. An error is replied for the setting command.

@GIT / @SIT		Switching interval for sequence switching mode
Getting	Command	@GIT ↵
	Response	@GIT, time ↵
Setting	Command	@SIT, time ↵
	Response	@SIT, time ↵
Parameter		time: Switching interval 10000 to 4800000 = 10 sec. to 48000 sec. [Default] 10 sec. Set the value by 1000 ms. (1 sec.) 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 13955, the speed is set to 13000 ms. (13 sec.))
Getting example	Command	@GIT ↵
	Response	@GIT,20000 ↵
	Description	Getting the switching interval 20000 ms. (20 seconds)
Setting example	Command	@SIT,15000 ↵
	Response	@SIT,15000 ↵
	Description	Setting the switching interval to 15000 ms. (15 seconds)
Remarks		If " @GST / @SST Sequence switching mode " is set to "1" (ON), only the getting command is available. An error is replied for the setting command.

@GSD / @SSD		Input detection
Getting	Command	@GSD ↵
	Response	@GSD, detect ↵
Setting	Command	@SSD, detect ↵
	Response	@SSD, detect ↵
Parameter		detect: Channels whose input signals are detected will be switched in sequence switching mode. 0 = All input channels will be switched. 1 = Only channels whose input signals are detected will be switched. [Default]
Getting example	Command	@GSD ↵
	Response	@GSD,0 ↵
	Description	Getting the input detection setting "0" (All input channels will be switched.)
Setting example	Command	@SSD,1 ↵
	Response	@SSD,1 ↵
	Description	Only channels whose input signals are detected will be switched.
Remarks		If " @GST / @SST Sequence switching mode " is set to "1" (ON), only the getting command is available. An error is replied for the setting command.

@GSC / @SSC		Starting channel of sequence switching mode
Getting	Command	@GSC ↵
	Response	@GSC, select ↵
Setting	Command	@SSC, select ↵
	Response	@SSC, select ↵
Parameter		select: Starting channel 0 = Starts from the current input channel. [Default] 1 = Starts from the lowest target channel.
Getting example	Command	@GSC ↵
	Response	@GSC,1 ↵
	Description	Getting the starting channel "1" (Starts from the lowest target channel.)
Setting example	Command	@SSC,0 ↵
	Response	@SSC,0 ↵
	Description	Setting the mode to start from the current input channel
Remarks		If " @GST / @SST Sequence switching mode " is set to "1" (ON), only the getting command is available. An error is replied for the setting command.

3.3.4 Input

@GDT / @SDT		No-signal input monitoring
Getting	Command	@GDT ↵
	Response	@GDT, time_1, time_2, time_3, time_4 ↵
Setting	Command	@SDT, ch_1, time_1 (, ch_2, time_2···) ↵
	Response	@SDT, ch_1, time_1 (, ch_2, time_2···) ↵
Parameter		<p>time_1-4: No-signal input monitoring time 0 = OFF, 2000 to 15000 = 2 sec. to 15 sec. [Default] 10000 = 10 sec. Set the value by 100 ms. If you set a value other than 0 for the lower 2 digits, these values will be rounded down. (For example, if you set it to 2955, the monitoring time is set to 2900 ms.)</p> <p>ch_1-4: Input channel 0 = All inputs, 1 to 4 = IN1 to IN4</p>
Getting example	Command	@GDT ↵
	Response	@GDT,6000,10000,10000,4000 ↵
	Description	Getting the monitoring time of input video signal IN1 : 6000 ms. (6 seconds) IN2 and IN3 : 10000 ms. (10 seconds) IN4 : 4000 ms. (4 seconds)
Setting example	Command	@SDT,3,6000 ↵
	Response	@SDT,3,6000 ↵
	Description	Setting the IN3 monitoring time to 6000 ms. (6 seconds)
Remarks		—

@GHE / @SHE		HDCP input
Getting	Command	@GHE ↵
	Response	@GHE, hdcp_1, hdcp_2, hdcp_3, hdcp_4 ↵
Setting	Command	@SHE, ch_1, hdcp_1 (, ch_2, hdcp_2···) ↵
	Response	@SHE, ch_1, hdcp_1 (, ch_2, hdcp_2···) ↵
Parameter		<p>hdcp_1-4: HDCP input enabled/disabled 0 = DISABLE, 1 = HDCP 1.4, 2 = HDCP 2.2 [Default]</p> <p>ch_1-4: Input channel 0 = All inputs, 1 to 4 = IN1 to IN4</p>
Getting example	Command	@GHE ↵
	Response	@GHE,2,2,0,2 ↵
	Description	Getting the HDCP input IN3 : Disables HDCP input Other input channels : Enables HDCP 2.2 input
Setting example	Command	@SHE,1,0 ↵
	Response	@SHE,1,0 ↵
	Description	Setting the IN1 HDCP input to be disabled
Remarks		—

3.3.5 Output

@GDM / @SDM		Output mode
Getting	Command	@GDM ↵
	Response	@GDM, mode ↵
Setting	Command	@SDM, mode ↵
	Response	@SDM, mode ↵
Parameter		mode: Output mode 0 = AUTO [Default], 1 = DVI, 2 = RGB, 3 = YCbCr 4:2:0, 4 = YCbCr 4:2:2, 5 = YCbCr 4:4:4
Getting example	Command	@GDM ↵
	Response	@GDM,3 ↵
	Description	Getting the output mode YCbCr 4:2:0
Setting example	Command	@SDM,3 ↵
	Response	@SDM,3 ↵
	Description	Setting the output mode to YCbCr 4:2:0
Remarks		—

@GCO / @SCO		Sink device EDID check
Getting	Command	@GCO ↵
	Response	@GCO, mode ↵
Setting	Command	@SCO, mode ↵
	Response	@SCO, mode ↵
Parameter		mode: Sink device EDID check method 0 = In case of EDID load error, the sink device is treated as a DVI device [Default], 1 = In case of EDID load error, the sink device is treated as a HDMI device without SCDC, 2 = Always treats sink device as a HDMI device without SCDC, 3 = In case of EDID load error, the sink device is treated as a HDMI device with SCDC, 4 = Always treats sink device as a HDMI device with SCDC
Getting example	Command	@GCO ↵
	Response	@GCO,3 ↵
	Description	Getting the sink device EDID check "3" (In case of EDID load error, the sink device is treated as a HDMI device with SCDC)
Setting example	Command	@SCO,0 ↵
	Response	@SCO,0 ↵
	Description	Setting this menu to "0" (In case of EDID load error, the sink device is treated as a DVI device)
Remarks		—

@HAU		HDCP re-encryption
Setting	Command	@HAU ↵
	Response	@HAU ↵
Parameter		N/A
Setting example	Command	@HAU ↵
	Response	@HAU ↵
	Description	Setting re-encrypt HDCP
Remarks		—

3.3.6 Audio

@GAM / @SAM		Audio output mute
Getting	Command	@GAM ↵
	Response	@GAM, mute ↵
Setting	Command	@SAM, mute ↵
	Response	@SAM, mute ↵
Parameter		mute: Audio output mute 0 = Mute OFF [Default, 1 = Mute ON
Getting example	Command	@GAM ↵
	Response	@GAM,0 ↵
	Description	Getting the audio output mute Mute OFF
Setting example	Command	@SAM,1 ↵
	Response	@SAM,1 ↵
	Description	Muting digital/analog audio output
Remarks		—

3.3.7 Contact input

@GFP / @SFP		Chattering reduction time of contact input
Getting	Command	@GFP ↵
	Response	@GFP, time ↵
Setting	Command	@SFP, time ↵
	Response	@SFP, time ↵
Parameter		time: Chattering reduction time 0 to 300 = 0 ms. to 300 ms. [Default] 30 ms.
Getting example	Command	@GFP ↵
	Response	@GFP,10 ↵
	Description	Getting the chattering reduction time 10 ms.
Setting example	Command	@SFP,10 ↵
	Response	@SFP,10 ↵
	Description	Setting the chattering reduction time to 10 ms.
Remarks		—

3.3.8 EDID

@GVF / @SVF		EDID resolution
Getting	Command	@GVF ↵
	Response	@GVF resolution_1, resolution_2, resolution_3, resolution_4 ↵
Setting	Command	@SVF, ch_1, resolution_1 (, ch_2, resolution_2···) ↵
	Response	@SVF, ch_1, resolution_1 (, ch_2, resolution_2···) ↵
Parameter		resolution_1-4: EDID resolution 0 = EXTERNAL, 1 = COPY EDID, 2 = SVGA(800x600), 3 = XGA(1024x768), 4 = VESA720(1280x720), 5 = 720p(1280x720), 6 = WXGA(1280x768), 7 = WXGA(1280x800), 8 = QuadVGA(1280x960), 9 = SXGA(1280x1024), 10 = WXGA(1360x768), 11 = WXGA(1366x800), 12 = SXGA+(1400x1050), 13 = WXGA+(1440x900), 14 = WXGA++(1600x900), 15 = UXGA(1600x1200), 16 = WSXGA+(1680x1050), 17 = 1080i(1920x1080), 18 = 1080p@30(1920x1080), 19 = VESA1080(1920x1080), 20 = 1080p@60(1920x1080), 21 = WUXGA(1920x1200), 22 = QWXGA(2048x1152), 23 = WQHD(2560x1440), 24 = WQXGA(2560x1600), 41 = 2160p@30(3840x2160), 42 = 4096x2160@30, 43 = 2160p@60(3840x2160) 4:2:0, 44 = 4096x2160@60 4:2:0, 45 = 2160p@60(3840x2160) 4:4:4 [Default], 46 = 4096x2160@60 4:4:4
		ch_1-4: Input channel 0 = All inputs, 1 to 4 = IN1 to IN4
Getting example	Command	@GVF ↵
	Response	@GVF,45,45,45,9 ↵
	Description	Getting the EDID resolution IN4 : SXGA(1280x1024) Other inputs: 2160p@60(3840x2160) 4:4:4
Setting example	Command	@SVF,0,15 ↵
	Response	@SVF,0,15 ↵
	Description	Setting EDID of all input channels to UXGA(1600x1200)
Remarks		—

@GHZ / @SHZ		Frame rate
Getting	Command	@GHZ ↵
	Response	@GHZ, frame_1, frame_2, frame_3, frame_4 ↵
Setting	Command	@SHZ, ch_1, frame_1 (, ch_2, frame_2···) ↵
	Response	@SHZ, ch_1, frame_1 (, ch_2, frame_2···) ↵
Parameter		frame_1-4: Frame rate 0 = 60 Hz [Default], 1 = 50 Hz
		ch_1-4: Input channel 0 = All inputs, 1 to 4 = IN1 to IN4
Getting example	Command	@GHZ ↵
	Response	@GHZ,1,1,1,0 ↵
	Description	Getting the frame rate of input video IN4 : 60 Hz Other inputs : 50 Hz
Setting example	Command	@SHZ,4,0 ↵
	Response	@SHZ,4,0 ↵
	Description	Setting the IN4 frame rate of the input video to 60 Hz
Remarks		—

@GDI / @SDI		Deep Color
Getting	Command	@GDI ↵
	Response	@GDI, color_1, color_2, color_3, color_4 ↵
Setting	Command	@SDI, ch_1, color_1 (, ch_2, color_2···) ↵
	Response	@SDI, ch_1, color_1 (, ch_2, color_2···) ↵
Parameter		color_1-4: Color depth 0 = 24 bit/pixel (8 bit/component) [Default] 1 = 30 bit/pixel (10 bit/component) 2 = 36 bit/pixel (12 bit/component)
		ch_1-4: Input channel 0 = All inputs, 1 to 4 = IN1 to IN4
Getting example	Command	@GDI ↵
	Response	@GDI,1,1,1,0 ↵
	Description	Getting the color depth IN4 : 24 bit/pixel (8 bit/component) Other inputs: 30 bit/pixel (10 bit/component)
Setting example	Command	@SDI,4,0 ↵
	Response	@SDI,4,0 ↵
	Description	Setting the IN4 color depth to 24 bit/pixel (8 bit/component)
Remarks		—

@GAF / @SAF		Audio format																
Getting	Command	@GAF, ch																
	Response	@GAF, ch, format_1, frequency_1 (, format_2, frequency_2···)																
Setting	Command	@SAF, ch, format_1, frequency_1 (, format_2, frequency_2···)																
	Response	@SAF, ch, format_1, frequency_1 (, format_2, frequency_2···)																
Parameter		<p>ch: Input channel 0 = All inputs (For setting only), 1 to 4 = IN1 to IN4</p> <p>format_1-7: Audio format 0 = PCM, 1 = Dolby Digital, 2 = AAC, 3 = Dolby Digital+, 4 = DTS, 5 = DTS-HD, 6 = Dolby TrueHD [Default] Only PCM can be output</p> <p>frequency_1-7: Maximum sampling frequency 0 = Not output, 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, other formats: OFF</p> <p>Maximum settable sampling frequency depends on the audio format.</p> <table border="1"> <thead> <tr> <th>Audio format</th> <th>Maximum sampling frequency (kHz)</th> </tr> </thead> <tbody> <tr> <td>PCM</td> <td>32/44.1/48/88.2/96/176.4/192</td> </tr> <tr> <td>Dolby Digital</td> <td>Not output/32/44.1/48</td> </tr> <tr> <td>AAC</td> <td>Not output/32/44.1/48/88.2/96</td> </tr> <tr> <td>Dolby Digital+</td> <td>Not output/32/44.1/48</td> </tr> <tr> <td>DTS</td> <td>Not output/32/44.1/48/96</td> </tr> <tr> <td>DTS-HD</td> <td>Not output/44.1/48/88.2/96/176.4/192</td> </tr> <tr> <td>Dolby TrueHD</td> <td>Not output/44.1/48/88.2/96/176.4/192</td> </tr> </tbody> </table>	Audio format	Maximum sampling frequency (kHz)	PCM	32/44.1/48/88.2/96/176.4/192	Dolby Digital	Not output/32/44.1/48	AAC	Not output/32/44.1/48/88.2/96	Dolby Digital+	Not output/32/44.1/48	DTS	Not output/32/44.1/48/96	DTS-HD	Not output/44.1/48/88.2/96/176.4/192	Dolby TrueHD	Not output/44.1/48/88.2/96/176.4/192
Audio format	Maximum sampling frequency (kHz)																	
PCM	32/44.1/48/88.2/96/176.4/192																	
Dolby Digital	Not output/32/44.1/48																	
AAC	Not output/32/44.1/48/88.2/96																	
Dolby Digital+	Not output/32/44.1/48																	
DTS	Not output/32/44.1/48/96																	
DTS-HD	Not output/44.1/48/88.2/96/176.4/192																	
Dolby TrueHD	Not output/44.1/48/88.2/96/176.4/192																	
Getting example	Command	@GAF,1																
	Response	@GAF,1,0,7																
	Description	Getting IN1 audio format Up to PCM 192 kHz																
Setting example	Command	@SAF,2,4,3																
	Response	@SAF,2,4,3																
	Description	Enabling IN2 to output PCM and DTS up to 48 kHz (The maximum PCM sampling frequency is not changed.)																
Remarks		<p>Getting commands : The set audio formats and maximum sampling frequency is returned.</p> <p>Setting commands : Set the desired audio formats and the maximum sampling frequencies, the other audio formats is set to "0" (Not output) automatically. PCM is always enabled, you can skip this menu unless you need to change the sampling frequency.</p>																

@GSP / @SSP		Speaker configuration																																																																																																																							
Getting	Command	@GSP, ch <input type="checkbox"/>																																																																																																																							
	Response	@GSP, ch, number, speaker_1 (, speaker_2···) <input type="checkbox"/>																																																																																																																							
Setting	Command	@SSP, ch, number (, speaker_1, speaker_2···) <input type="checkbox"/>																																																																																																																							
	Response	@SSP, ch, number (, speaker_1, speaker_2···) <input type="checkbox"/>																																																																																																																							
Parameter		<p>ch: Input channel 0 = All inputs (For setting only), 1 to 4 = IN1 to IN4</p> <p>number: The number of speakers 1 to 8 [Default] 2</p> <p>speaker_1-8: 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</p> <p>Getting commands : The number of speakers and which speakers will be used is returned.</p> <p>Setting commands : If you do not specify the speaker configuration, the following configuration will be applied depending on the set number of speakers.</p> <table border="1" data-bbox="464 1093 1437 1496"> <thead> <tr> <th rowspan="2">number</th> <th colspan="11">speaker</th> </tr> <tr> <th>0</th> <th>1</th> <th>2</th> <th>3</th> <th>4</th> <th>5</th> <th>6</th> <th>7</th> <th>8</th> <th>9</th> <th>10</th> </tr> </thead> <tbody> <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> </tbody> </table> <p>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.</p>	number	speaker											0	1	2	3	4	5	6	7	8	9	10	1	OFF	OFF	ON	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	2	ON	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	3	ON	ON	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	4	ON	ON	ON	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	5	ON	ON	OFF	ON	OFF	OFF	OFF	OFF	OFF	OFF	OFF	6	ON	ON	ON	ON	OFF	OFF	OFF	OFF	OFF	OFF	OFF	7	ON	ON	ON	ON	ON	OFF	OFF	OFF	OFF	OFF	OFF	8	ON	ON	ON	ON	OFF	OFF	ON	OFF	OFF	OFF	OFF
number	speaker																																																																																																																								
	0	1	2	3	4	5	6	7	8	9	10																																																																																																														
1	OFF	OFF	ON	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF																																																																																																														
2	ON	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF																																																																																																														
3	ON	ON	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF																																																																																																														
4	ON	ON	ON	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF																																																																																																														
5	ON	ON	OFF	ON	OFF	OFF	OFF	OFF	OFF	OFF	OFF																																																																																																														
6	ON	ON	ON	ON	OFF	OFF	OFF	OFF	OFF	OFF	OFF																																																																																																														
7	ON	ON	ON	ON	ON	OFF	OFF	OFF	OFF	OFF	OFF																																																																																																														
8	ON	ON	ON	ON	OFF	OFF	ON	OFF	OFF	OFF	OFF																																																																																																														

@GSP / @SSP		Speaker configuration (Cont'd)
Getting example	Command	@GSP,1 ↵
	Response	@GSP,1,6,0,1,2,3 ↵
	Description	Getting the IN1 speaker configuration Six speakers (Front Left/Right, Low Frequency Effect, Front Center, Rear Left/Right) are used.
Setting example	Command	@SSP,2,8 ↵
	Response	@SSP,2,8 ↵
	Description	Setting the IN2 speaker configuration to Front Left/Right, Low Frequency Effect, Front Center, Rear Left/Right, Rear Left/Right Center (Eight speakers)
Setting example	Command	@SSP,3,8,0,3,5,6,7 ↵
	Response	@ERR,1 ↵
	Description	Setting IN3 speaker configuration to Front Left/Right, Rear Left/Right, Front Left/Right Center, Rear Left/Right Center, Front Left/Right Wide The number of speakers is ten which exceeds the settable value, and it causes the error.
Remarks		—

@RME		Copying EDID
Setting	Command	@RME ↵
	Response	@RME ↵
Setting example	Command	@RME ↵
	Response	@RME ↵
	Description	Loading the EDID data of the sink device connected to the HDMI output connector and registering it in the IMP-S
Remarks		—

3.3.9 RS-232C

@GCT / @SCT		RS-232C communication
Getting	Command	@GCT ↵
	Response	@GCT, setting ↵
Setting	Command	@SCT, setting ↵
	Response	@SCT, setting ↵
Parameter		setting: Communication setting - Baud rate (4800, 9600, 19200, 38400 [bps] [Default] 9600) - Data bit length (8, 7 [bit] [Default] 8) - Parity check (NONE, EVEN, ODD [Default] NONE) - Stop bit (1, 2 [bit] [Default] 1) For setting values, see the "[Table 3.1]".
Getting example	Command	@GCT ↵
	Response	@GCT,24 ↵
	Description	Getting the RS-232C communication setting - Baud rate : 19200 bps - Data bit length : 8 bit - Parity check : NONE - Stop bit : 1 bit
Setting example	Command	@SCT,24 ↵
	Response	@SCT,24 ↵
	Description	Setting the RS-232C communication setting as follows: - Baud rate : 19200 bps - Data bit length : 8 bit - Parity check : NONE - Stop bit : 1 bit
Remarks		RS-232C communication setting is changed, the communication may be disabled. Change the environmental settings based on the IMP-S settings.

[Table 3.1] Parameter of RS-232C communication setting

Value	Communication			
0	4800	8	NONE	1
1	4800	8	NONE	2
2	4800	8	ODD	1
3	4800	8	ODD	2
4	4800	8	EVEN	1
5	4800	8	EVEN	2
6	4800	7	NONE	1
7	4800	7	NONE	2
8	4800	7	ODD	1
9	4800	7	ODD	2
10	4800	7	EVEN	1
11	4800	7	EVEN	2

Value	Communication			
12	9600	8	NONE	1
13	9600	8	NONE	2
14	9600	8	ODD	1
15	9600	8	ODD	2
16	9600	8	EVEN	1
17	9600	8	EVEN	2
18	9600	7	NONE	1
19	9600	7	NONE	2
20	9600	7	ODD	1
21	9600	7	ODD	2
22	9600	7	EVEN	1
23	9600	7	EVEN	2

Value	Communication			
24	19200	8	NONE	1
25	19200	8	NONE	2
26	19200	8	ODD	1
27	19200	8	ODD	2
28	19200	8	EVEN	1
29	19200	8	EVEN	2
30	19200	7	NONE	1
31	19200	7	NONE	2
32	19200	7	ODD	1
33	19200	7	ODD	2
34	19200	7	EVEN	1
35	19200	7	EVEN	2

Value	Communication			
36	38400	8	NONE	1
37	38400	8	NONE	2
38	38400	8	ODD	1
39	38400	8	ODD	2
40	38400	8	EVEN	1
41	38400	8	EVEN	2
42	38400	7	NONE	1
43	38400	7	NONE	2
44	38400	7	ODD	1
45	38400	7	ODD	2
46	38400	7	EVEN	1
47	38400	7	EVEN	2

3.3.10 LAN

@GIP / @SIP		IP address
Getting	Command	@GIP ↵
	Response	@GIP, unit_1, unit_2, unit_3, unit_4 ↵
Setting	Command	@SIP, unit_1, unit_2, unit_3, unit_4 ↵
	Response	@SIP, unit_1, unit_2, unit_3, unit_4 ↵
Parameter		unit_1 to unit_4: Upper bit of the IP address to Lower bit of the IP address 0 to 255 = 8 bit (Decimal notation) [Default] 192.168.1.199
Getting example	Command	@GIP ↵
	Response	@GIP,192,168,3,2 ↵
	Description	Getting the IP address of the IMP-S 192.168.3.2
Setting example	Command	@SIP,192,168,3,2 ↵
	Response	@SIP,192,168,3,2 ↵
	Description	Setting the IP address to 192.168.3.2
Remarks		LAN communication setting is changed, the communication may be disabled. Change the environmental settings based on the IMP-S settings.

@GSB / @SSB		Subnet mask
Getting	Command	@GSB ↵
	Response	@GSB, unit_1, unit_2, unit_3, unit_4 ↵
Setting	Command	@SSB, unit_1, unit_2, unit_3, unit_4 ↵
	Response	@SSB, unit_1, unit_2, unit_3, unit_4 ↵
Parameter		unit_1 to unit_4: Upper bit of the subnet mask to Lower bit of the subnet mask 0 to 255 = 8 bit (Decimal notation) [Default] 255.255.255.0
Getting example	Command	@GSB ↵
	Response	@GSB,255,255,192,0 ↵
	Description	Getting the subnet mask of the IMP-S 255.255.192.0 (= 18 bit)
Setting example	Command	@SSB,255,255,192,0 ↵
	Response	@SSB,255,255,192,0 ↵
	Description	Setting the subnet mask of the IMP-S to 255.255.192.0 (= 18 bit)
Remarks		LAN communication setting is changed, the communication may be disabled. Change the environmental settings based on the IMP-S settings.

@GMC		MAC address
Getting	Command	@GMC ↵
	Response	@GMC, unit_1, unit_2, unit_3, unit_4, unit_5, unit_6 ↵
Parameter		unit_1 to unit_6: Upper bit of the MAC address to Lower bit of the MAC address 00 to FF = 8 bit (in hexadecimal)
Getting example	Command	@GMC ↵
	Response	@GMC,00,08,E5,5C,00,00 ↵
	Description	Getting the MAC address 00-08-E5-5C-00-00
Remarks		—

@GLP / @SLP		TCP port number
Getting	Command	@GLP ↵
	Response	@GLP, port_1, port_2, port_3, port_4, port_5, port_6, port_7 ↵
Setting	Command	@SLP, connection_1, port_1 (, connection_2, port_2···) ↵
	Response	@SLP, connection_1, port_1 (, connection_2, port_2···) ↵
Parameter		port_1-7: TCP port number 23, 80, 1100, 5000 to 5999, 6000 to 6999 [Default] Connection 1 to 4 = 1100, Connection 5 to 7 = 23
		connection_1-7: Connection number 0 = All connections, 1 to 7 = Connection 1 to 7
Getting example	Command	@GLP ↵
	Response	@GLP,1100,1100,1100,23,23,23,23 ↵
	Description	Getting the TCP port number Connection 1 to 3 : 1100 Connection 4 to 7 : 23
Setting example	Command	@SLP,7,6000 ↵
	Response	@SLP,7,6000 ↵
	Description	Setting the TCP port number of Connection 7 to "6000"
Remarks		LAN communication setting is changed, the communication may be disabled. Change the environmental settings based on the IMP-S settings. Connection8: 80 fixed; cannot be changed.

3.3.11 Startup

@GMU / @SMU		Startup input channel
Getting	Command	@GMU ↵
	Response	@GMU, state ↵
Setting	Command	@SMU, state ↵
	Response	@SMU, state ↵
Parameter		state: Start input channel 1 to 4 = IN1 to IN4, 5 = Channel OFF, 6 = Last channel [Default]
Getting example	Command	@GMU ↵
	Response	@GMU,3 ↵
	Description	Getting the input channel at startup IN3
Setting example	Command	@SMU,3 ↵
	Response	@SMU,3 ↵
	Description	Setting the startup channel to IN3
Remarks		—

@GSO / @SSO		Button security lockout at startup
Getting	Command	@GSO ↵
	Response	@GSO, state ↵
Setting	Command	@SSO, state ↵
	Response	@SSO, state ↵
Parameter		state: Button security lockout at startup 0 = AUTO [Default], 1 = UNLOCK, 2 = LOCK
Getting example	Command	@GSO ↵
	Response	@GSO,1 ↵
	Description	Getting the button security lockout at startup UNLOCK
Setting example	Command	@SSO,1 ↵
	Response	@SSO,1 ↵
	Description	Setting the button security lockout at startup to UNLOCK
Remarks		—



3.3.12 Advanced settings

@GLS / @SLS		Front panel security lockout
Getting	Command	@GLS ↵
	Response	@GLS, lock ↵
Setting	Command	@SLS, lock ↵
	Response	@SLS, lock ↵
Parameter		lock: Front panel security lockout 0 = Unlocking [Default], 1 = Locking, 2 = Changing the current setting
Getting example	Command	@GLS ↵
	Response	@GLS,1 ↵
	Description	Getting the lock status Locked
Setting example	Command	@SLS,1 ↵
	Response	@SLS,1 ↵
	Description	Enabling the front panel security lockout
Remarks		—

@GBZ / @SBZ		Beep
Getting	Command	@GBZ ↵
	Response	@GBZ, bz ↵
Setting	Command	@SBZ, bz ↵
	Response	@SBZ, bz ↵
Parameter		bz: Beep 0 = OFF, 1 = ON [Default]
Getting example	Command	@GBZ ↵
	Response	@GBZ,1 ↵
	Description	Getting the beep status ON
Setting example	Command	@SBZ,1 ↵
	Response	@SBZ,1 ↵
	Description	Enabling beep
Remarks		—



@GIV		Device information
Getting	Command	@GIV ↵
	Response	@GIV, id, ver ↵
Parameter		id : Model number ver : Firmware version
Getting example	Command	@GIV ↵
	Response	@GIV,IMP-S41U,3.00 ↵
	Description	Getting the product information Model number: IMP-S41U; Firmware version: 3.00
Remarks		—

3.3.13 Status

@GSS		Input signal and sink device status														
Getting	Command	@GSS, channel, mode 														
	Response	@GSS, channel, mode, status_1 (, status_2, status_3, status_4) 														
Parameter		<p>channel: I/O channel 1 = IN (Selected input channel) 11 = OUT (Output channel)</p> <p>mode: Target status channel = 1 (Selected input channel) 0 = All of 1 to 4, 1 = Input signal type*1, 2 = Video input signal format*2, 3 = Audio input signal format*3, 4 = HDCP input*4, channel = 11 (Output channel) 0 = All of 1 to 3, 1 = HDCP authentication status*5, 2 = Output signal type*6, 3 = Error code*7</p> <p>status_1-4: Status</p> <p>*1 For input signal type, one of the following values is returned</p> <table border="1" data-bbox="477 1106 1422 1229"> <tr> <td>Hxx</td> <td>HDMI signal is input. xx stands for color depth (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> <p>*2 For format of video input signal</p> <table border="1" data-bbox="477 1308 1422 1585"> <thead> <tr> <th>Example</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>1920 x 1080i 59.94Hz</td> <td>SDTV/HDTV/UHDTV signal is input, which returns the format type and vertical sync 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 sync frequency are returned.</td> </tr> <tr> <td>NO SIGNAL</td> <td>No video signal is input.</td> </tr> </tbody> </table>	Hxx	HDMI signal is input. xx stands for color depth (24, 30 or 36).	D	DVI signal is input.	N	No signal is input.	Example	Description	1920 x 1080i 59.94Hz	SDTV/HDTV/UHDTV signal is input, which returns the format type and vertical sync frequency.	800 x 600p 60.00Hz	Signal having VESA resolution is input, and [Horizontal resolution x Vertical resolution] and vertical sync frequency are returned.	NO SIGNAL	No video signal is input.
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@GSS	Input signal and sink device status (Cont'd)															
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	HDCP 1.4	HDCP 1.4 signal is input.														
	HDCP OFF	Signal that is not protected by HDCP is input.														
	NO SIGNAL	No video signal is input.														
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B	No sink device is connected.																
C	HDCP is being authorized.																
D	HDCP authentication failed.																
Getting example	Command	@GSS,1,0 															
	Response	@GSS,1,0,H30,1920x1080p 60Hz,LINEAR PCM 48kHz, HDCP 1.4 															
	Description	Getting all statuses of selected input channel - Input signal type : 30 bit/pixel (10 bit/channel) HDMI signal - Video input signal : 1920x1080p 60 Hz - Audio input signal : LINEAR PCM 48 kHz - HDCP : HDCP 1.4															
Remarks		—															

@GES		Viewing sink device EDID
Getting	Command	@GES, mode ↵
	Response	@GES, mode, status_1 (, status_2, status_3, status_4) ↵
Parameter		<p>mode: Target status</p> <ul style="list-style-type: none"> 0 = All of 1 to 4, 1 = Monitor name*¹, 2 = Resolution and dot clock, 3 = HDMI support status, sampling structure, and color depth*², 4 = Audio support status and sampling frequency, bit length, the number of channels, and support status of compressed audio*³ <p>status_1-4: Status</p> <p>*1 If no sink device is connected, "UNCONNECTED" is returned.</p> <p>*2 For sink device that does not support HDMI, "DVI" is returned. For sink device that supports HDMI, "HDMI" is returned, and then supported sampling structures (RGB, YCbCr 4:2:2, YCbCr 4:4:4 YCbCr, and 4:2:0 separated with "/") and supported color depths (24, 30, and 36, separated with "/") are returned in that order.</p> <p>*3 For sink device that does not support audio, "AUDIO NOT SUPPORT" is returned. For sink device that supports audio, "LINEAR PCM" is returned, and then supported sampling frequencies (32, 44.1, 48, 88.2, 96, 176.4, and 192, separated with "/"), bit length (16, 20, and 24, separated with "/"), the number of channels (one of 1 to 8), and "COMPRESSED AUDIO SUPPORT" (If compressed audio is supported) are returned in that order.</p>
Getting example	Command	@GES,0 ↵
	Response	@GES,0,IMP-S41U,1920x1080 148.50MHz,DVI,AUDIO NOT SUPPORT ↵
	Description	<p>Getting the EDID of the sink device connected to OUT</p> <ul style="list-style-type: none"> - Monitor name: IMP-S41U - Resolution : 1920x1080 - Dot clock : 148.50MHz - HDMI : Not supported - Audio : Not supported
Remarks		—

User Guide (Command Guide) of IMP-S Series

Ver.2.1.0

Issued on: 24 April 2023



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