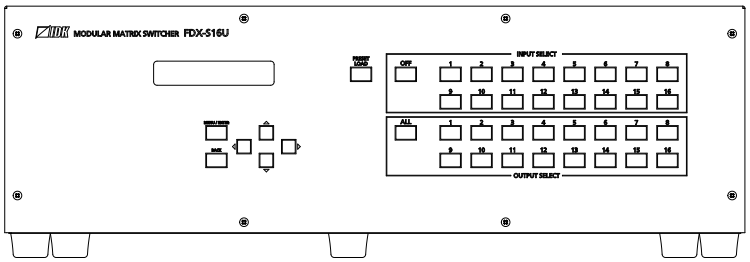
Modular Matrix Switcher

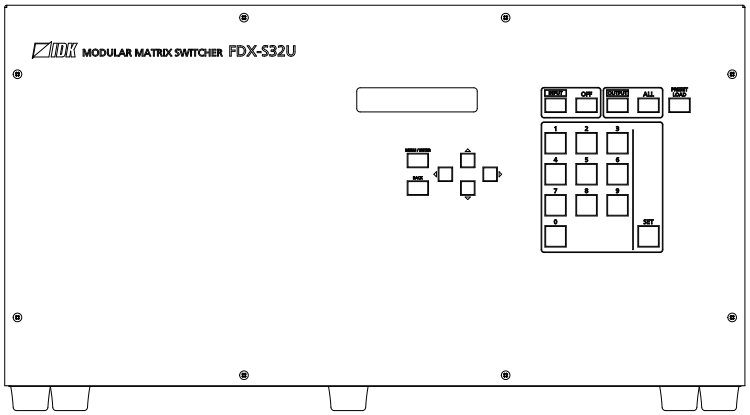
FDX-S Series

FDX-S08U/S16U/S32U
FDX-S08/S16/S32/S64

<Command Reference Guide>

Ver.4.3.0





- 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.

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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.

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1 About this Guide

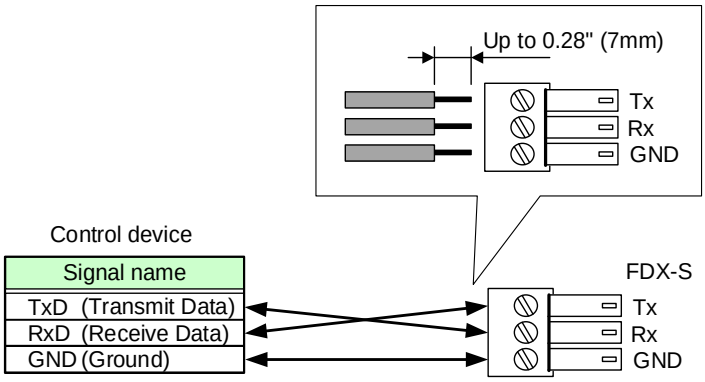
This guide contains the procedure for controlling the FDX-S using commands via RS-232C communication or LAN communication.

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 FDX-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

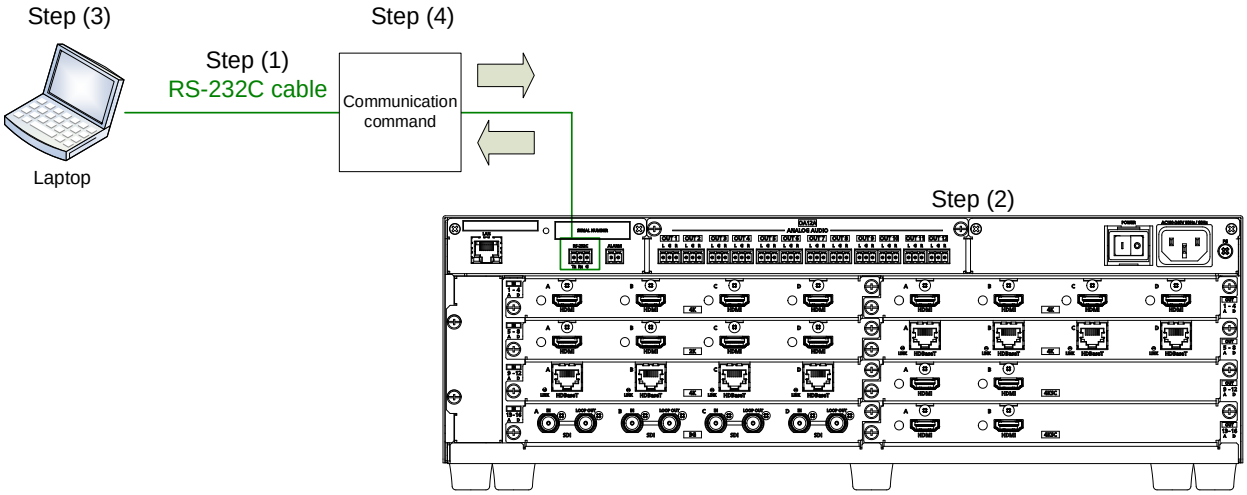
Compliant standard	RS-232C
Baud rate	4800/9600/14400/19200/38400 [bps]
Data bit length	7/8 [bit]
Parity check	NONE, EVEN, ODD
Stop bit	1/2 [bit]
X parameter	Invalid
Flow control	None
Delimiter	CR LF (Carriage return and line feed, 0D and 0A in hex)
Communication method	Full duplex

2.1.3 Setting up RS-232C communication

(1) Connect the FDX-S and the control device via an RS-232C cable.
(2) Set the RS-232C communication.

【Reference: User Guide】

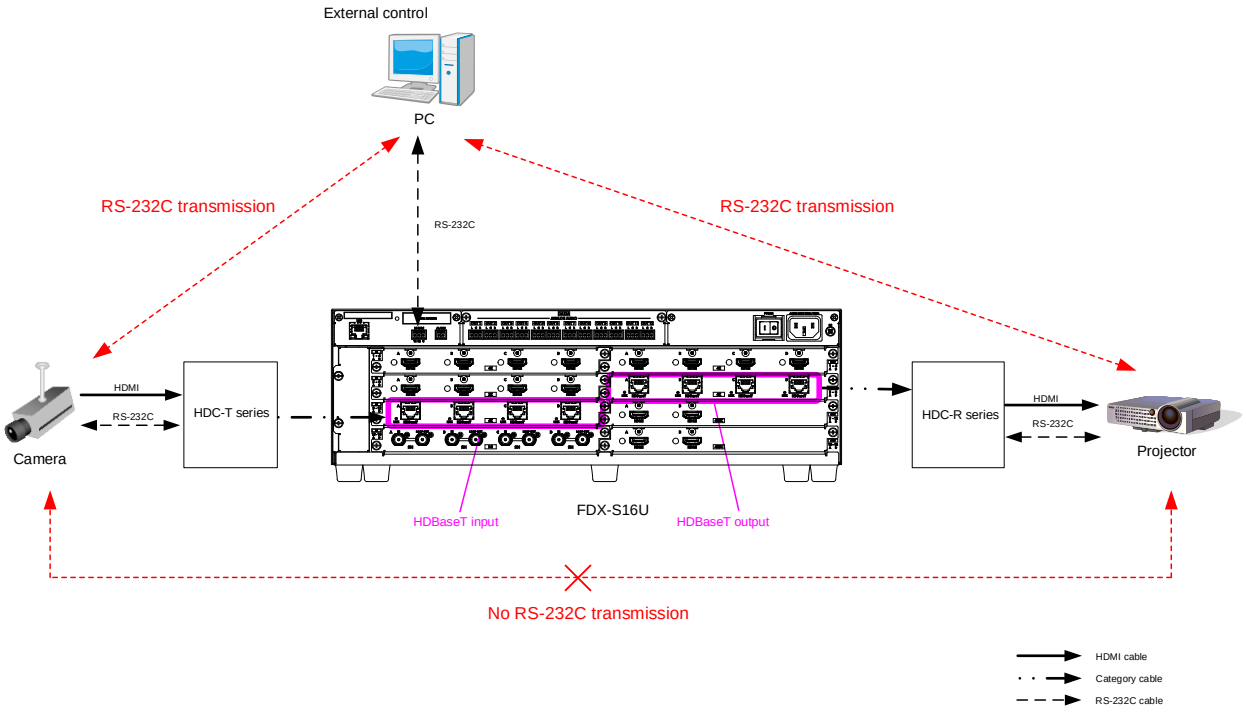
(3) For the control device, set the same values in the same way as RS-232C communication (baud rate, data bit length, parity check, and stop bit) in step (2) above.
(4) Send a communication command from the control device to the FDX-S in order to check the control status of the FDX-S.



[Fig. 2.2] Setting RS-232C communication

2.1.4 RS-232C transmission mode

Since the FDX-S supports RS-232C transmission over HDBaseT I/O boards, the received data from the RS-232C connector can be transmitted to external devices (camera and projector in the following example) that are connected to HDC series products via RS-232C.



[Fig. 2.3] RS-232C transmission mode application example

When "**3.4.20 RS-232C transmission mode**" is set to RS-232C mode, received data will be sent to the specified I/O output channels until the mode is switched to normal mode.
Received data from the specified I/O channel can be sent from an RS-232C connector of the FDX-S. If data that is received from channels other than the specified channel will be deleted.

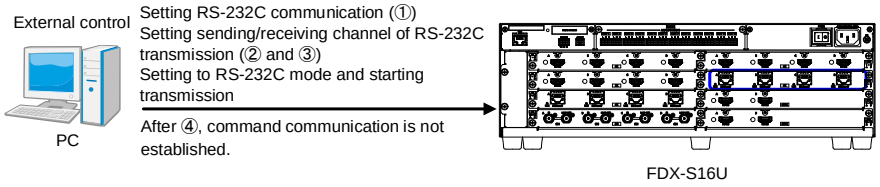
【See: @G++ / @S++ RS-232C transmission sending channel】
【See: @G+R / @S+R RS-232C transmission receiving channel】
【See: @G+S / @S+S RS-232C transmission mode】

Note:
RS-232C communication is not available between an HDBaseT input slot board and HDBaseT output board.

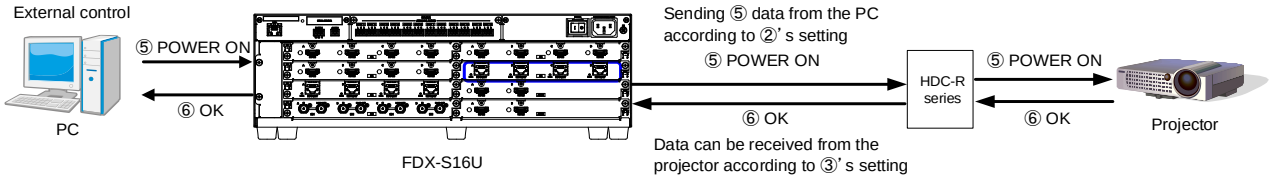
Example: Sending data to OUT12 and receiving the response from OUT12

①	@SCT,1,1,0,0 <CR><LF>	Setting RS-232C communication as follows: baud rate: 9600bps; data bit length: 8 bit; parity check: None; stop bit: 1 bit
②	@S++,12<CR><LF>	Setting RS-232C transmission sending channel, specifying OUT12
③	@S+R,12<CR><LF>	Setting RS-232C transmission receiving channel, specifying OUT12
④	@S+S,1<CR><LF>	Setting to RS-232C transmission mode After this, received data is sent to OUT12 set by @S++.
⑤	POWER ON	Sending projector powered ON command
⑥	OK	Receiving projector powered ON command
⑦	@S+S,0<CR><LF>	Setting to Normal mode After this, command can be sent to the FDX-S.
⑧	@GIV<CR><LF>	Getting versions

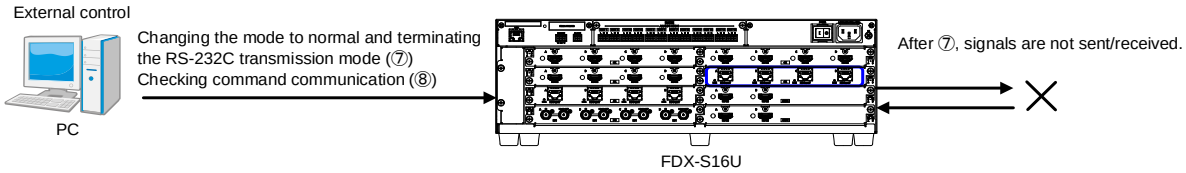
[Starting RS-232C transmission mode]



[Operating with RS-232C transmission mode]



[Terminating RS-232C transmission mode]



[Fig. 2.4] RS-232C transmission mode communication example

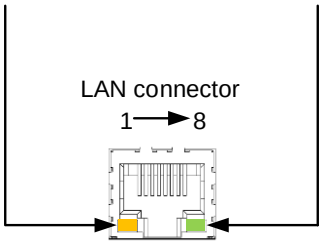
2.2 LAN communication

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 FDX-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.



8-pin RJ-45 connector
(Rear panel)

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. 2.5] 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	TCP Port used for command control : 1100, 6000 to 6999 Port used for WEB browser control (HTTP) : 80
Application layer	HTTP, TELNET

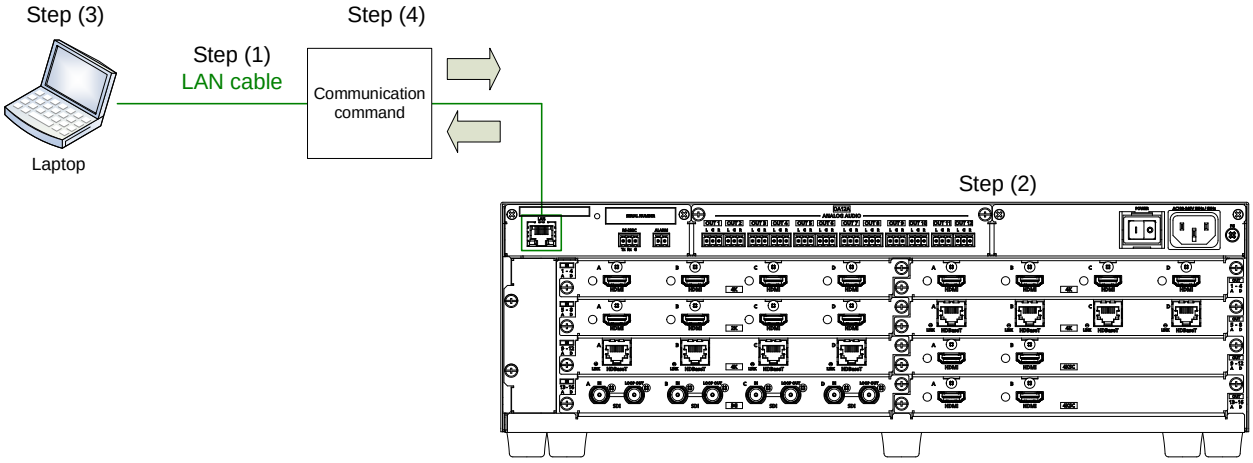
Note:
Up to 8 connections can be used simultaneously. (4 connections for WEB browser)
【See: 2.2.4 The number of TCP-IP connections】

2.2.3 Setting up LAN communication

(1) Connect the FDX-S and the control device via a LAN cable.
(2) Set up LAN communication as follows:
- Set IP address and subnet mask
- TCP pot number: 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 FDX-S in step (2) above.
(4) Send a communication command from the control device to the FDX-S in order to check the control status of the FDX-S.



[Fig. 2.6] Setting LAN communication

2.2.4 The number of TCP-IP connections

The FDX-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		FDX-S
Connecting TCP-IP	→	(Occupying 1 port)
Sending command (@xxx)	→	
	←	Replying command (@xxx)
Closing TCP-IP	→	(Releasing 1port)

Note:
As a safeguard, the FDX-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.

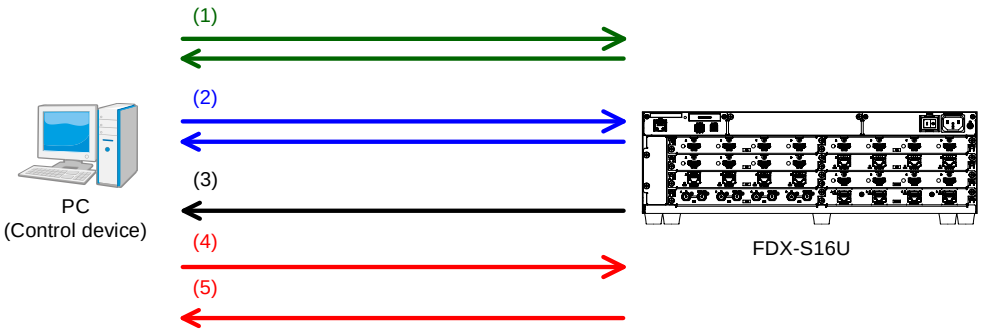
2.3 Unsolicited status notification

The FDX-S can notify status changes and problems in a system through RS-232C or LAN communication. This function is set to be disabled after the FDX-S is powered on.

【See: @GPH / @SPH Unsolicited notification interval】

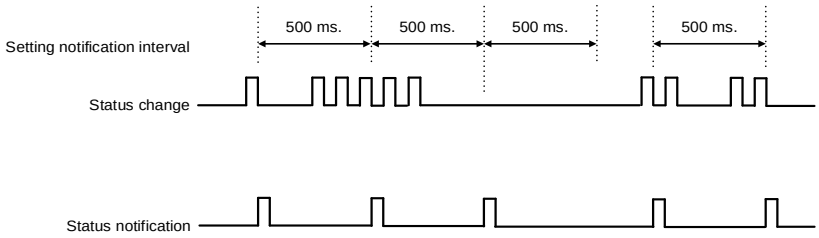
Unsolicited status notification:

(1) The unsolicited status notification feature is enabled using @SPH command.
(2) The control device periodically sends @GIV command (30 seconds or shorter) to keep the connection. This step can be skipped for RS0232C communication.
(3) The FDX-S notifies control device of changes (input status) in FDX-S.
(4) The control device sends @AIN command that is for getting input status.
(5) The FDX-S sends the control device current status.



[Fig. 2.7] Notifying status

Interval between a notification and the next notification
If no change is detected during the interval, status is sent immediately after detecting a change.



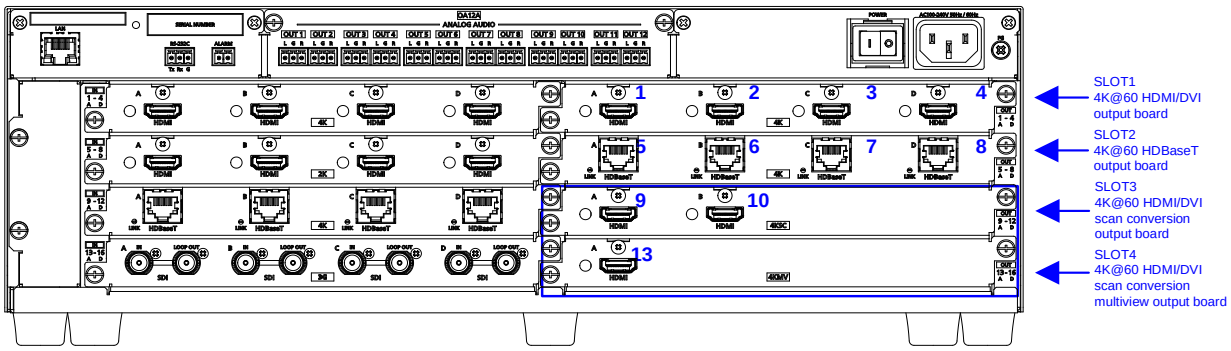
[Fig. 2.8] Notification interval

Note:
If "**@G+S / @S+S RS-232C transmission mode**" is set to "1" (RS-232C transmission mode), this feature cannot be used.

3 Command

3.1 Board channel configuration

- The output board is changed the channel configuration depending on board type.
  4K@60 scan conversion output board : An output board has two channels.
  4K@60 scan conversion multiview output board : An output board has one channel.
  Other output boards : An output board has four channels.
- The channel numbers of 4K@60 scan conversion output board are the first two channels only; the rest of two channels cannot be set.
- For the 4K@60 scan conversion multiview output board, the channel number is the top channel number. For some menus, four channels including the top channel are assigned as multi windows.
- Example: Valid channels in the configuration below:
  SLOT1 and 2 : An output board has four channels. No.1 to 8 are valid.
  SLOT3 : For 4K@60 scan conversion multiview output board: No, 9 and No. 10 are valid; No.11 and No.12 cannot be used.
  SLOT4 : For 4K@60 scan conversion multiview output board: No.13 is valid; No.14 to No.16 cannot be used, but No.13 to No.16 are assigned to multi windows A to D for some menus.



With FDX-SOA12A

[Fig. 3.1] Board channel configuration (Example: FDX-S16U)

3.2 Summary

The number of I/O channels depends on models.
Setting and getting command examples in this manual are for the FDX-S16.
“n” in this section shows the number of channels.
“m” in this section shows the number of boards.

[Table 3.1] The number of channels

P/N	n (number of channels)	m (number of boards)
FDX-S08U, FDX-S08	8	2
FDX-S16U, FDX-S16	16	4
FDX-S32U, FDX-S32	32	8
FDX-S64	64	16

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.

“,”(a comma, “2C” in hex) is indicated between a command and parameter and between two parameters. Processing is executed by sending <CR><LF> (return+line feed, “0D” and “0A” in hex) at the end of the command.

Example: @SPM,2<CR><LF>

■ If there is an error:
An error command is returned if an undefined command or wrong parameter is included.

Example: @SOT,2<CR><LF>
@ERR,1<CR><LF>

■ Using as HELP
If only <CR><LF> (return+line feed, “0D” and “0A” in hex) are sent, command list as the help command is returned.

3.3 Command list

■ **Error status**

Command	Function	Page
@ERR	Error status	19

■ **I/O channel selection**

Command	Function	Page
@SSC	Straight channel switching	19
@GSW / @SSW	I/O channel switching	20
@GCY / @SCY	Input channel selection copy	20

■ **Output position, size, and masking**

Command	Function	Page
@GOT / @SOT	Output resolution	21
@GUM / @SUM	Aspect ratio for sink device	22
@GSD / SSD	Image size/Image position	23
@GBC / @SBC	Background color	24
@GTP / @STP	Test pattern	25
@GVW / @SVW	Videowall configuration/Image position	26
@GDL / @SDL	Frame delay	27
@GIM / @SIM	Synchronization mode	28
@GES / @SES	Video synchronization	28
@GOH / @SOH	Output settings	29

■ **Output**

Command	Function	Page
@GUY / @SUY	Disabling synchronous signal output when no video signal is input	32
@GBO / @SBO	Output video for when no input video	33
@GEN / @SEN	HDCP output	34
@GDM / @SDM	Output format	35
@GDC / @SDC	Deep Color output	36
@GFA / @SFA	Video transition effect	37
@GHM / @SHM	Sink device EDID check	38
@GMK / @SMK	Hot plug ignoring duration	39
@GDF / @SDF	SDI output format conversion	39
@GOG / @SOG	SDI output gearbox mode	40

■ **Input position, size, and masking**

Command	Function	Page
@GAP / @SAP	Aspect ratio	41
@GEF / @SEF	Input settings	42

■ **Input**

Command	Function	Page
@GDT / @SDT	No-signal input monitoring	44
@GHE / @SHE	HDCP input	45
@GDU / @SDU	3G-SDI Dual Stream	45
@GIG / @SIG	SDI input gearbox mode	46

■ **Input timing**

Command	Function	Page
@GPI / @SPI	Horizontal/Vertical start position	47
@GSI / @SSI	Horizontal/Vertical active area	48

■ **Picture controls**

Command	Function	Page
@GOB / @SOB	Output brightness	49
@GOC / @SOC	Output contrast	49
@GGM / @SGM	Output gamma	50
@GFL / @SFL	Input sharpness	50
@GIB / @SIB	Input brightness	51
@GIC / @SIC	Input contrast	52
@GHU / @SHU	Input hue	53
@GST / @SST	Input saturation	54

■ **Output audio**

Command	Function	Page
@GAM / @SAM	Mute	55
@GLO / @SLO	Output Lip Sync	55
@GAS / @SAS	Audio embedding/Audio de-embedding	58
@GWO / @SWO	Audio setting	60
@GGO / @SGO	SDI output audio group	61

■ **Input audio**

Command	Function	Page
@GAW / @SAW	Stable audio input wait	62
@GAG / @SAG	SDI input audio group	63

■ **EDID**

Command	Function	Page
@GVF / @SVF	Resolution	64
@RME	Copying EDID	65
@GEC / @SEC	External EDID	66
@GHZ / @SHZ	Frame rate	66
@GDI / @SDI	Deep Color	67
@GAF / @SAF	Audio format	68
@GSP / @SSP	Speaker configuration	69

■ **RS-232C**

Command	Function	Page
@GCT / @SCT	RS-232C communication	70

■ **LAN**

Command	Function	Page
@GIP / @SIP	IP address	71
@GSB / @SSB	Subnet mask	71
@GMC	MAC address	72
@GLP / @SLP	TCP port number	72

■ **Preset memory**

Command	Function	Page
@RCM	Recalling crosspoint	73
@SCM	Saving crosspoint memory	73
@SEM	Saving crosspoint memory	74
@GCM / @ECM	Editing crosspoint	74
@RPM	Recalling preset memory	75
@SPM	Saving preset memory	75
@GPM	Preset memory number matching I/O channel status	75

■ **Bitmap**

Command	Function	Page
@GBM / @SBM	Bitmap image output	76
@GBB / @SBB	Background color	77
@GBT / @SBT	Aspect ratio	78
@GZP / @SZP	Image position	79
@GPB / @SPB	Start-up bitmap output	79

■ **Multi window output**

Command	Function	Page
@GOP / @SOP	Window size/Window position	80
@GQP / @SQP	Image size/Image position	81
@GEB / @SEB	Background color	82
@GWP / @SWP	Window layer order	82
@GSE / @SSE	Video transition effect	83
@GWV / @SWV	Window ON/OFF	83
@GTO / @STO	Overlay text position	84
@GTS / @STS	Overlay text size	84
@GFW / @SFW	Window border size	85
@GFC / @SFC	Window border color	85
@RWM	Recalling multi window memory	86
@SWM	Saving multi window memory	86

■ **Configuring FDX-S**

Command	Function	Page
@GLS / @SLS	Front panel security lockout	87
@GLM / @SLM	Grouping front panel security lockout	87

■ **Status indication**

Command	Function	Page
@GIS	Input signal status (For each channel)	88
@GOS	Output signal status (For each channel)	90
@GHC	System status	91
@GBS	Board status	91
@GSS	Board mounting status	92
@GFS	Fan status	93
@GPS	Power supply voltage status	93
@GIV	Version	94
@GHB	HDBaseT information	95

■ **Status notification**

Command	Function	Page
@GPH / @SPH	Unsolicited notification interval	99
@PSH	Unsolicited status notification	100
@AIN	Input signal status (For each channel)	102
@AOT	Output signal status (For each channel)	106
@GAA	Alarm status	112

■ **RS-232C transmission mode**

Command	Function	Page
@G++ / @S++	RS-232C transmission sending channel	115
@G+R / @S+R	RS-232C transmission receiving channel	116
@G+S / @S+S	RS-232C transmission mode	116

3.4 Details of commands

3.4.1 Error status

@ERR		**Error status**
Description		Response in case the command is not executed
Response		@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 4 = Loading EDID from the sink device failed
Getting example	Command	@SSW<CR><LF>
	Response	@ERR,1<CR><LF>
	Description	@SSW is sent. Command format error
Remarks		—

3.4.2 I/O channel selection

@SSC		**Straight channel switching**
Setting	Command	@SSC<CR><LF>
	Response	@SSC<CR><LF>
Parameter		—
Setting example	Command	@SSC<CR><LF>
	Response	@SSC<CR><LF>
	Description	Setting I/O channel to the same number I/O Completed
Remarks		Straight channel switching: For example, OUT1 is connected to IN1; OUT2 is connected to IN2; OUT16 is connected to IN16.

@GSW / @SSW		**I/O channel switching**
Getting	Command	@GSW<CR><LF>
	Response	@GSW, v_1, v_2, ・・・, v_8 (, v_9, ・・・, v_n)<CR><LF>
Setting	Command	@SSW, in_1, out_1 (, in_2, out_2, ・・・)<CR><LF>
	Response	@SSW, in_1, out_1 (, in_2, out_2, ・・・)<CR><LF>
Parameter		v_1-n: Input channel assigned to output channel 0 = OFF [Default], 1 to n = IN1 to INn, -1 = No output board is installed.
		in_1-n: Input channel 0 = OFF, 1 to n = IN1 to INn
		out_1-n: Output channel 0 = All outputs, 1 to n = OUT1 to OUTn
Getting example	Command Response	@GSW<CR><LF> @GSW,1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16<CR><LF>
	Description	Getting the I/O channels that is assigned to the I/O channels OUT1 to OUT16 are assigned to IN1 to IN16.
Setting example	Command Response	@SSW,1,3<CR><LF> @SSW,1,3<CR><LF>
	Description	Setting the OUT3 to IN1 OUT3 is assigned to IN1. Completed
Remarks		―

@GCY / @SCY		**Input channel selection copy**
Getting	Command	@GCY, sch<CR><LF>
	Response	@GCY, sch, dch_1, ・・・, dch_8 (, dch_9, ・・・, dch_n)<CR><LF>
Setting	Command	@SCY, sch, dch_1 (, dch_2, ・・・)<CR><LF>
	Response	@SCY, sch, dch_1 (, dch_2, ・・・)<CR><LF>
Parameter		sch: Source output channel 1 to n = OUT1 to OUTn, -2 = No output board is installed. (For response only)
		dch_1-n: Destination output channel 0 =All outputs (For setting only), 1 to n = OUT1 to OUTn
Getting example	Command Response	@GCY,1<CR><LF> @GCY,1,2,3,4<CR><LF>
	Description	Getting the output channel with the same setting as the input channel assigned to OUT1 OUTs 2, 3, and 4 have the same input channel as OUT1.
Setting example	Command Response	@SCY,1,3<CR><LF> @SCY,1,3<CR><LF>
	Description	Copying input channel selection of OUT1 to that of OUT3 Completed
Remarks		This command is for displaying video that is being output to a sink device to other sink devices.

3.4.3 Output position, size, and masking

Scan conversion output only

@GOT / @SOT		Output resolution
Getting	Command	@GOT, out_ch<CR><LF>
	Response	@GOT, out_ch, auto, resolution<CR><LF>
Setting	Command	@SOT, out_ch, auto, resolution<CR><LF>
	Response	@SOT, out_ch, auto, resolution<CR><LF>
Parameter		out_ch: Output channel 1 to n = OUT1 to OUTn
		auto: Output resolution mode 0 = Resolution can be specified for the “resolution” parameter below. 1 = Resolution can be selected automatically [Default], -2 = No scan conversion output board is installed. (For response only)
		resolution: Output resolution 1 = VGA (640x480), 3 = XGA (1024x768), 4 = WXGA (1280x768), 5 = WXGA (1280x800), 6 = Quad-VGA (1280x960), 7 = SXGA (1280x1024), 8 = WXGA (1360x768), 9 = WXGA (1366x768), 10 = SXGA+ (1400x1050), 11 = WXGA+ (1440x900), 12 = WXGA++ (1600x900), 13 = UXGA (1600x1200), 14 = WSXGA+ (1680x1050), 15 = VESAHD (1920x1080), 16 = WUXGA (1920x1200), 17 = QWXGA (2048x1152), 18 = WQHD (2560x1440)*, 19 = WQXGA (2560x1600)*, 20 = 480p 59.94Hz, 21 = 576p 50Hz, 22 = 720p 50Hz, 23 = 720p 59.94Hz, 24 = 1080i 50Hz, 25 = 1080i 59.94Hz, 26 = 1080p 50Hz, 27 = 1080p 59.94Hz, 33 = 720p 60Hz, 35 = 1080i 60Hz, 37 = 1080p 60Hz, 50 = 2160p 23.98Hz (3840x2160)*, 51 = 2160p 24Hz (3840x2160)*, 52 = 2160p 25Hz (3840x2160)*, 53 = 2160p 29.97Hz (3840x2160)*, 54 = 2160p 30Hz (3840x2160)*, 55 = 2160p 50Hz (3840x2160)*, 56 = 2160p 59.94Hz (3840x2160)*, 57 = 2160p 60Hz (3840x2160)*, 60 = 4096x2160 23.98Hz*, 61 = 4096x2160 24Hz*, 62 = 4096x2160 25Hz*, 63 = 4096x2160 29.97Hz*, 64 = 4096x2160 30Hz*, 65 = 4096x2160 50Hz*, 66 = 4096x2160 59.94Hz*, 67 = 4096x2160 60Hz* -2 = No scan conversion output board is installed. (For response only) *For 4K@60 scan conversion output boards and 4K@60 scan conversion multiview output boards only
Getting example	Command Response	@GOT,1<CR><LF> @GOT,1,0,7<CR><LF>
	Description	Getting the OUT1 output resolution SXGA (1280x1024)

@GOT / @SOT		Output resolution (Cont'd)
Setting example	Command	@SOT,1,0,11<CR><LF>
	Response	@SOT,1,0,11<CR><LF>
	Description	Setting the OUT1 output resolution to WXGA+ (1440x900) Completed
Remarks		―

Scan conversion output only

@GUM / @SUM		Aspect ratio for sink device
Getting	Command	@GUM, out_ch<CR><LF>
	Response	@GUM, out_ch, aspect<CR><LF>
Setting	Command	@SUM, out_ch, aspect<CR><LF>
	Response	@SUM, out_ch, aspect<CR><LF>
Parameter		out_ch: Output channel 1 to n = OUT1 to OUTn
		aspect: Aspect ratio for sink device 0 = RESOLUTION [Default], 1 = 4:3, 2 = 5:3, 3 = 5:4, 4 = 16:9, 5 = 16:10, -2 = No scan conversion output board is installed. (For response only)
Getting example	Command	@GUM,1<CR><LF>
	Response	@GUM,1,4<CR><LF>
	Description	Getting the OUT1 aspect ratio for sink device 16:9
Setting example	Command	@SUM,1,4<CR><LF>
	Response	@SUM,1,4<CR><LF>
	Description	Setting the OUT1 aspect ratio for sink device to 16:9 Completed
Remarks		―

Scan conversion output only

@GSD / SSD		**Image size/Image position**
Getting	Command	@GSD, out_ch<CR><LF>
	Response	@GSD, out_ch, h_zoom, v_zoom, h_posi, v_posi<CR><LF>
Setting	Command	@SSD, out_ch, h_zoom, v_zoom, h_posi, v_posi<CR><LF>
	Response	@SSD, out_ch, h_zoom, v_zoom, h_posi, v_posi<CR><LF>
Parameter		out_ch: Output channel 1 to n = OUT1 to OUTn
		h_zoom: Horizontal image size 2000 to 210000 = 20.00% to 2100.00% [Default] 10000 (100.00%) -2 = No scan conversion output board is installed. (For response only)* *"h_zoom", "v_zoom", h_posi", and "v_posi" are not displayed.
		v_zoom: Vertical image size 2000 to 210000 = 20.00% to 2100.00% [Default] 10000 (100.00%)
		h_posi: Horizontal image position -210000 to +210000 = -2100.00% to +2100.00% [Default] +0 (0.00%)
		v_posi: Vertical image position -210000 to +210000 = -2100.00% to +2100.00% [Default] +0 (0.00%)
Getting example	Command Response	@GSD,1<CR><LF> @GSD,1,10000,10000,+0,+0<CR><LF>
	Description	Getting the OUT1 image size and position Horizontal and vertical image size : 100.00% Horizontal and vertical image position : 0.00%
Setting example	Command Response	@SSD,1,10000,10000,0,0<CR><LF> @SSD,1,10000,10000,0,0<CR><LF>
	Description	Setting the OUT1 horizontal sizes, vertical sizes. Horizontal position, and vertical position to 100.00% 100.00%, 0.00%, and 0.00%, respectively. Completed
Remarks		—

Scan conversion output only

@GBC / @SBC		**Background color**
Getting	Command	@GBC, out_ch<CR><LF>
	Response	@GBC, out_ch, b_red, b_green, b_blue, m_red, m_green, m_blue<CR><LF>
Setting	Command	@SBC, out_ch, b_red, b_green, b_blue, m_red, m_green, m_blue<CR><LF>
	Response	@SBC, out_ch, b_red, b_green, b_blue, m_red, m_green, m_blue<CR><LF>
Parameter		out_ch: Output channel 1 to n = OUT1 to OUTn
		b_red : Background color (Red) b_green : Background color (Green) b_blue : Background color (Blue) m_red : Blank color (Red) m_green : Blank color (Green) m_blue : Blank color (Blue) 0 to 255 [Default] 0 (Black) -2 = No scan conversion output board is installed. (For response only) Background color : Blank space color that is output when display position and display size are set. Blank color : Background color that is output when input channel is set to OFF or no video is input.
Getting example	Command Response	@GBC,1<CR><LF> @GBC,1,0,0,0,0,0,0<CR><LF>
	Description	Getting the OUT1 background and blank colors All: “0” (Black)
Setting example	Command Response	@SBC,1,0,0,0,0,0,0<CR><LF> @SBC,1,0,0,0,0,0,0<CR><LF>
	Description	Setting the OUT1 all background and blank colors to “0” (black) Completed
Remarks		—

Scan conversion output only

@GTP / @STP		**Test pattern**
Getting	Command	@GTP, out_ch<CR><LF>
	Response	@GTP, out_ch, pattern<CR><LF>
Setting	Command	@STP, out_ch, pattern<CR><LF>
	Response	@STP, out_ch, pattern<CR><LF>
Parameter		out_ch: Output channel 1 to n = OUT1 to OUTn
		pattern: Test pattern 0 = OFF [Default], 1 = COLOR BAR, 2 = 16 STEP GRAY, 3 = 256 STEP GRAY, 4 = WHITE RASTER, 5 = RED RASTER, 6 = GREEN RASTER, 7 = BLUE RASTER, 8 = CROSS HATCH, 9 = VERTICAL STRIPE, 10 = OUTPUT FRAME, -2 = No scan conversion output board is installed. (For response only)
Getting example	Command Response	@GTP,1<CR><LF> @GTP,1,1<CR><LF>
	Description	Getting the OUT1 test pattern COLOR BAR
Setting example	Command Response	@STP,1,1<CR><LF> @STP,1,1<CR><LF>
	Description	Setting the OUT1 test pattern to COLOR BAR Completed
Remarks		―

Scan conversion output only

@GVW / @SVW		**Videowall configuration/Image position**
Getting	Command	@GVW, out_ch<CR><LF>
	Response	@GVW, out_ch, h_type, v_type, h_posi, v_posi<CR><LF>
Setting	Command	@SVW, out_ch, h_type, v_type, h_posi, v_posi<CR><LF>
	Response	@SVW, out_ch, h_type, v_type, h_posi, v_posi<CR><LF>
Parameter		out_ch: Output channel 1 to n = OUT1 to OUTn
		h_type: Videowall horizontal screen number 0 = Not control, 1 to 20 = 1 to 20 screens [Default] 1 (1 screen), -2 = No scan conversion output board is installed. (For response only)
		v_type: Videowall vertical screen number 0 = Not control, 1 to 20 = 1 to 20 screens [Default] 1 (1 screen), -2 = No scan conversion output board is installed. (For response only)
		h_posi: Videowall horizontal image position 0 = Not control, 1 to 20 = 1 to 20 from left [Default] 1 (1 from left), -2 = No scan conversion output board is installed. (For response only)
		v_posi: Videowall vertical image position 0 = Not control, 1 to 20 = 1 to 20 from top [Default] 1 (1 from top), -2 = No scan conversion output board is installed. (For response only)
Getting example	Command Response	@GVW,1<CR><LF> @GVW,1,2,2,1,1<CR><LF>
	Description	Getting the OUT1 videowall configuration 2x2; 1 from left, 1 from top
Setting example	Command Response	@SVW,1,2,2,1,1<CR><LF> @SVW,1,2,2,1,1<CR><LF>
	Description	Setting the OUT1 videowall configuration to 2x2; 1 from left, 1 from top Completed
Remarks		―

Scan conversion output only

@GDL / @SDL		**Frame delay**
Getting	Command	@GDL<CR><LF>
	Response	@GDL, delay_1, ･･･, delay_8 (, delay_9, ･･･, delay_n)<CR><LF>
Setting	Command	@SDL, out_ch, delay<CR><LF>
	Response	@SDL, out_ch, delay<CR><LF>
Parameter		delay_1-n, delay: Synchronization mode 0 = OFF (No frame delay) [Default], 1 = 1 frame delay, 2 = -1 frame delay, -2 = No scan conversion output board is installed. (For response only)
		out_ch: Output channel 0 = All outputs, 1 to n = OUT1 to OUTn
Getting example	Command Response	@GDL<CR><LF> @GDL,0,0,0,0,1,1,1,1,2,2,2,2,-2,-2,-2,-2<CR><LF>
	Description	Getting the frame delay - OUT1 to 4 : OFF - OUT5 to 8 : 1 frame delay - OUT9 to 12 : -1 frame delay - OUT13 to 16 : No scan conversion output board is installed.
Setting example	Command Response	@SDL,0,1<CR><LF> @SDL,0,1<CR><LF>
	Description	Setting all outputs to 1 frame delay Completed
	Command Response	@SDL,1,2<CR><LF> @SDL,1,2<CR><LF>
	Description	Setting the OUT1 to -1 frame delay Completed
Remarks		―

Scan conversion output only

@GIM / @SIM		Synchronization mode
Getting	Command	@GIM<CR><LF>
	Response	@GIM, mode_1, mode_2 (, mode_3, ・・・, mode_x)<CR><LF>
Setting	Command	@SIM, slot_1, mode_1 (, slot_2, mode_2, ・・・)<CR><LF>
	Response	@SIM, slot_1, mode_1 (, slot_2, mode_2, ・・・)<CR><LF>
Parameter		mode_1-x: Synchronization mode 0 = THROUGH [Default], 1 = FOLLOWER, 2 = LEADER A, 3 = LEADER B, 4 = LEADER C, 5 = LEADER D, -2 = No scan conversion output board is installed. (For response only)
		slot_1-x: Output board 1 to x = Output board 1 to Output board x
Getting example	Command Response	@GIM<CR><LF> @GIM,2,1,-2,-2<CR><LF>
	Description	Getting the synchronization mode - Output board 1 : LEADER A - Output board 2 : FOLLOWER - Output board 3 and 4 : No scan conversion output board is installed.
Setting example	Command Response	@SIM,1,2<CR><LF> @SIM,1,2<CR><LF>
	Description	Setting the synchronization mode of Output board 1 to LEADER A mode Completed
Remarks		―

Scan conversion output only

@GES / @SES		Video synchronization
Getting	Command	@GES, out_ch<CR><LF>
	Response	@GES, out_ch, mode<CR><LF>
Setting	Command	@SES, out_ch, mode<CR><LF>
	Response	@SES, out_ch, mode<CR><LF>
Parameter		out_ch: Output channel 0 = All outputs (For setting only), 1 to n = OUT1 to OUTn
		mode: Video synchronization 0 = OFF [Default], 1 = ON, -2 = No scan conversion output board is installed. (For response only)
Getting example	Command Response	@GES,1<CR><LF> @GES,1,1<CR><LF>
	Description	Getting the OUT1 video synchronization ON
Setting example	Command Response	@SES,1,1<CR><LF> @SES,1,1<CR><LF>
	Description	Setting the OUT1 video synchronization to ON Completed
Remarks		―

Scan conversion output only

@GOH / @SOH		**Output settings**
Getting	Command	@GOH, out_ch<CR><LF>
	Response	@GOH, out_ch, auto, resolution, aspect, pattern, h_zoom, v_zoom, h_posi, v_posi, m_red, m_green, m_blue, b_red, b_green, b_blue, c_red, c_green, c_blue, brightness, mode, hdcp<CR><LF>
Setting	Command	@SOH, out_ch, auto, resolution, aspect, pattern, h_zoom, v_zoom, h_posi, v_posi, m_red, m_green, m_blue, b_red, b_green, b_blue, c_red, c_green, c_blue, brightness, mode, hdcp<CR><LF>
	Response	@SOH, out_ch, auto, resolution, aspect, pattern, h_zoom, v_zoom, h_posi, v_posi, m_red, m_green, m_blue, b_red, b_green, b_blue, c_red, c_green, c_blue, brightness, mode, hdcp<CR><LF>
Parameter		out_ch: Output channel 1 to n = OUT1 to OUTn
		auto: Output resolution mode 0 = Resolution can be specified for the “resolution” parameter below. 1 = Resolution can be selected automatically [Default], -2 = No scan conversion output board is installed. (For response only)* *Values after “auto” are not displayed.
		resolution: Output resolution 1 = VGA (640x480), 3 = XGA (1024x768), 4 = WXGA (1280x768), 5 = WXGA (1280x800), 6 = Quad-VGA (1280x960), 7 = SXGA (1280x1024), 8 = WXGA (1360x768), 9 = WXGA (1366x768), 10 = SXGA+ (1400x1050), 11 = WXGA+ (1440x900), 12 = WXGA++ (1600x900), 13 = UXGA (1600x1200), 14 = WSXGA+ (1680x1050), 15 = VESAHD (1920x1080), 16 = WUXGA (1920x1200), 17 = QWXGA (2048x1152), 18 = WQHD (2560x1440) , 19 = WQXGA (2560x1600)*, 20 = 480p 59.94Hz, 21 = 576p 50Hz, 22 = 720p 50Hz, 23 = 720p 59.94Hz, 24 = 1080i 50Hz, 25 = 1080i 59.94Hz, 26 = 1080p 50Hz, 27 = 1080p 59.94Hz, 33 = 720p 60Hz, 35 = 1080i 60Hz, 37 = 1080p 60Hz, 50 = 2160p 23.98Hz (3840x2160)*, 51 = 2160p 24Hz (3840x2160)*, 52 = 2160p 25Hz (3840x2160)*, 53 = 2160p 29.97Hz (3840x2160)*, 54 = 2160p 30Hz (3840x2160)*, 55 = 2160p 50Hz (3840x2160)*, 56 = 2160p 59.94Hz (3840x2160)*, 57 = 2160p 60Hz (3840x2160)*, 60 = 4096x2160 23.98Hz*, 61 = 4096x2160 24Hz*, 62 = 4096x2160 25Hz*, 63 = 4096x2160 29.97Hz*, 64 = 4096x2160 30Hz*, 65 = 4096x2160 50Hz*, 66 = 4096x2160 59.94Hz*, 67 = 4096x2160 60Hz* -2 = No scan conversion output board is installed. (For response only) *For 4K@60 scan conversion output boards only and 4K@60 scan conversion multiview output boards

@GOA / @SOA	Output settings (Cont'd)
Parameter	aspect: Aspect ratio for sink device 0 = RESOLUTION [Default], 1 = 4:3, 2 = 5:3, 3 = 5:4, 4 = 16:9, 5 = 16:10, 6 = 256:135
	pattern: Test pattern 0 = OFF [Default], 1 = COLOR BAR, 2 = 16 STEP GRAY, 3 = 256 STEP GRAY, 4 = 100% WHITE RASTER, 5 = 100% RED RASTER, 6 = 100% GREEN RASTER, 7 = 100% BLUE RASTER, 8 = CROSS HATCH, 9 = VERTICAL STRIPE, 10 = OUTPUT FRAME
	h_zoom : Horizontal image size v_zoom : Vertical image size 2000 to 210000 = 20.00% to 2100.00% [Default] 10000 (100.00%)
	h_posi : Horizontal image position v_posi : Vertical image position -210000 to +210000 = -2100.00% to +2100.00% [Default] +0 (0.00%)
	m_red : Blank color (Red) m_green : Blank color (Green) m_blue : Blank color (Blue) b_red : Background color (Red) b_green : Background color (Green) b_blue : Background color (Blue) 0 to 255 [Default] 0 (Black)
	c_red : Output contrast (Red) c_green : Output contrast (Green) c_blue : Output contrast (Blue) 0 to 200 [Default] 100
	brightness: Output brightness 0 to 200 [Default] 100
	mode: Fade out/Fade in 0 = Disabled, 1 = Enabled [Default]
	hdcp: HDCP output 0 = HDCP 2.2 has priority. [Default for 4K@60 scan conversion output board and 4K@60 scan conversion multiview output board], 1 = HDCP 1.4 is encrypted. [Default for 1080p scan conversion output board] 2 = HDCP is encrypted only if input signal is with HDCP., 3 = HDCP is not encrypted.

@GOH / @SOH		**Output settings (Cont'd)**
Getting example	Command Response	@GOH,1<CR><LF> @GOH,1,1,17,0,0,10000,10000,+0,+0,0,0,0,0,0,0,100,100,100,100,1,1 <CR><LF>
	Description	Getting the OUT1 output settings - Output resolution mode : Automatically output with WXGA@60(2048x1152) - Aspect ratio for sink device : To be output with aspect ratio of output resolution - Test pattern : OFF - Horizontal image size : 100.00% - Vertical image size : 100.00% - Horizontal image position : 0.00% - Vertical image position : 0.00% - Blank color : "0" (black) for all (red, green, and blue) - Background color : "0" (black) for all (red, green, and blue) - Output contrast : 100% for all (red, green, and blue) - Output brightness : 100% - Video transition effect : Fade out/Fade in - HDCP output : HDCP 1.4 is encrypted.
Setting example	Command Response	@SOH,1,0,27,0,0,10000,10000,0,0,0,0,0,0,0,0,100,100,100,100,0,2<CR><LF> @SOH,1,0,27,0,0,10000,10000,0,0,0,0,0,0,0,0,100,100,100,100,0,2<CR><LF>
	Description	Setting the OUT1 output settings as follows: - Output resolution mode : 1080p@59(1920x1080) fixed - Aspect ratio for sink device : To be output with aspect ratio of output resolution - Test pattern : OFF - Horizontal image size : 100.00% - Vertical image size : 100.00% - Horizontal image position : 0.00% - Vertical image position : 0.00% - Blank color : "0" (black) for all (red, green, and blue) - Background color : "0" (black) for all (red, green, and blue) - Output contrast : 100% for all (red, green, and blue) - Output brightness : 100% - Video transition effect : Fade out/Fade in - HDCP output : HDCP is encrypted only if input signal is with HDCP. Completed
Remarks		―

3.4.4 Output

Scan conversion output only

@GUY / @SUY		**Disabling synchronous signal output when no video signal is input**
Getting	Command	@GUY, out_ch<CR><LF>
	Response	@GUY, out_ch, time<CR><LF>
Setting	Command	@SUY, out_ch, time<CR><LF>
	Response	@SUY, out_ch, time<CR><LF>
Parameter		out_ch: Output channel 1 to n = OUT1 to OUTn
		time: Time from when video signal is not input to when synchronous signal output is stopped. 4 = OFF (Continue to output synchronous signal output) [Default], 5 to 60 = 5 sec. to 60 sec., -2 = No scan conversion output board is installed. (For response only)
Getting example	Command	@GUY,1<CR><LF>
	Response	@GUY,1,4<CR><LF>
	Description	Getting the setting of current output channel1 OFF (Continue to output synchronous signal output)
Setting example	Command	@SUY,1,5<CR><LF>
	Response	@SUY,1,5<CR><LF>
	Description	Setting the time of output channel1 to five seconds Completed
Remarks		―

Scan conversion output only

@GBO / @SBO		**Output video for when no input video**
Getting	Command	@GBO, out_ch<CR><LF>
	Response	@GBO, out_ch, video<CR><LF>
Setting	Command	@SBO, out_ch, video<CR><LF>
	Response	@SBO, out_ch, video<CR><LF>
Parameter		out_ch: Output channel 1 to n = OUT1 to OUTn
		video: Output video for when no input video 0 = BACK COLOR [Default], 1 to 4 = BITMAP1 to BITMAP4, -2 = No scan conversion output board is installed. (For response only)
Getting example	Command Response	@GBO,1<CR><LF> @GBO,1,0<CR><LF>
	Description	Getting the setting of current output channel1 BACK COLOR
Setting example	Command Response	@SBO,1,1<CR><LF> @SBO,1,1<CR><LF>
	Description	Setting the output video of output channel1 to BITMAP1 Completed
Remarks		4K@60 scan conversion multiview output board cannot be set.

Scan conversion output only

@GEN / @SEN		**HDCP output**
Getting	Command	@GEN, out_ch<CR><LF>
	Response	@GEN, out_ch, hdcp<CR><LF>
Setting	Command	@SEN, out_ch, hdcp<CR><LF>
	Response	@SEN, out_ch, hdcp<CR><LF>
Parameter		out_ch: Output channel 0 = All outputs (For setting only), 1 to n = OUT1 to OUTn
		hdcp: HDCP output 0 = HDCP 2.2 has priority.* [Default for 4K@60 scan conversion output board and 4K@60 scan conversion multiview output board], 1 = HDCP 1.4 is encrypted. [Default for 1080p scan conversion output board], 2 = HDCP is encrypted only if input signal is with HDCP., 3 = HDCP is not encrypted., -2 = No scan conversion output board is installed. (For response only) *"HDCP 2.2" cannot be selected for 1080p scan conversion output board.
Getting example	Command Response	@GEN,1<CR><LF> @GEN,1,2<CR><LF>
	Description	Getting the OUT1 HDCP output OUT1: HDCP is encrypted only if input signal is with HDCP.
Setting example	Command Response	@SEN,1,2<CR><LF> @SEN,1,2<CR><LF>
	Description	Setting the OUT1 HDCP output to "2" (HDCP is encrypted only if input signal is with HDCP.) Completed
Remarks		―

Boards other than 12G-SDI

@GDM / @SDM		**Output format**
Getting	Command	@GDM<CR><LF>
	Response	@GDM, mode_1, ･･･, mode_8 (, mode_9, ･･･, mode_n)<CR><LF>
Setting	Command	@SDM, out_1, mode_1 (, out_2, mode_2, ･･･)<CR><LF>
	Response	@SDM, out_1, mode_1 (, out_2, mode_2, ･･･)<CR><LF>
Parameter		mode_1-n: Output format mode 0 = AUTO [Default], 1 = DVI, 2 = HDMI YCbCr 4:4:4, 3 = HDMI YCbCr 4:2:2, 4 = HDMI RGB, 5 = HDMI YCbCr 4:2:0 (For 4K@60/59.94/50 output only), -2 = No output board is installed or 12G-SDI output board is installed. (For response only)
		out_1-n: Output channel 0 = All outputs, 1 to n = OUT1 to OUTn
Getting example	Command	@GDM<CR><LF>
	Response	@GDM,4,4,4,4,4,4,4,4,4,4,4,4,4,4,4,4<CR><LF>
	Description	Getting the output format mode All output channels: HDMI RGB
Setting example	Command	@SDM,0,4<CR><LF>
	Response	@SDM,0,4<CR><LF>
	Description	Setting the output format of all output channels to HDMI RGB Completed
Remarks		―

Boards other than 12G-SDI

@GDC / @SDC		**Deep Color output**
Getting	Command	@GDC<CR><LF>
	Response	@GDC, color_1, ･･･, color_8 (, color_9, ･･･ , color_n)<CR><LF>
Setting	Command	@SDC, out_1, color_1 (, out_2, color_2, ･･･)<CR><LF>
	Response	@SDC, out_1, color_1 (, out_2, color_2, ･･･)<CR><LF>
Parameter		color_1-n: Color depth 0 = 24 bit/pixel (8 bit/component) [Default], 1 = 30 bit/pixel (10 bit/component), 2 = 36 bit/pixel (12 bit/component), -2 = No output board is installed. or 12G-SDI output board is installed. (For response only)
		out_1-n: Output channel 0 = All outputs, 1 to n = OUT1 to OUTn
Getting example	Command	@GDC<CR><LF>
	Response	@GDC,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0<CR><LF>
	Description	Getting the color depth All output channels: 24 bit/pixel (8 bit/component)
Setting example	Command	@SDC,0,1<CR><LF>
	Response	@SDC,0,1<CR><LF>
	Description	Setting the color depth of all output channels to 30 bit/pixel (10 bit/component)
Remarks		1080p scan conversion output board supports up to “30Bit” Deep Color. With 4K@60 scan conversion output board and 4K@60 scan conversion multiview output board, “24Bit” is supported for 4K@50/59.94 RGB/YCbCr 4:4:4, and “30Bit” is supported for other resolutions.

Scan conversion output only

@GFA / @SFA		**Video transition effect**
Getting	Command	@GFA, out_ch<CR><LF>
	Response	@GFA, out_ch, mode<CR><LF>
Setting	Command	@SFA, out_ch, mode<CR><LF>
	Response	@SFA, out_ch, mode<CR><LF>
Parameter		out_ch: Output channel 0 = All outputs (For setting only), 1 to n = OUT1 to OUTn
		mode: Fade out/Fade in 0 = OFF, 1 = ON [Default], -2 = No scan conversion output board is installed. (For response only)
Getting example	Command Response	@GFA,1<CR><LF> @GFA,1,1<CR><LF>
	Description	Getting the OUT1 switching effect mode ON
Setting example	Command Response	@SFA,1,1<CR><LF> @SFA,1,1<CR><LF>
	Description	Setting the OUT1 switching effect mode to ON Completed
Remarks		―

Boards other than 12G-SDI

@GHM / @SHM		**Sink device EDID check**
Getting	Command	@GHM<CR><LF>
	Response	@GHM, mode_1, ・・・, mode_8 (, mode_9, ・・・, mode_n)<CR><LF>
Setting	Command	@SHM, out_1, mode_1 (, out_2, mode_2, ・・・)<CR><LF>
	Response	@SHM, out_1, mode_1 (, out_2, mode_2, ・・・)<CR><LF>
Parameter		mode_1-n: 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*, -2 = No output board is installed or 12G-SDI output board is installed. (For response only) *For 4K@60 output board only
		out_1-n: Output channel 0 = All outputs, 1 to n = OUT1 to OUTn
Getting example	Command Response	@GHM<CR><LF> @GHM,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0<CR><LF>
	Description	Getting the sink device EDID check All output channels: “0” (In case of EDID load error, the sink device is treated as a DVI device.)
Setting example	Command Response	@SHM,0,0<CR><LF> @SHM,0,0<CR><LF>
	Description	Setting the sink device EDID check method of all output channels to “0” (In case of EDID load error, the sink device is treated as a DVI device.) Completed
Remarks		Scan conversion output board: This setting is available if the output mode is set to a value other than “DVI”. Other boards: This setting is available if HDMI signal is input and the output mode is set to a value other than “DVI”. 【See: @GDM / @SDM Output format】

Boards other than 12G-SDI

@GMK / @SMK		**Hot plug ignoring duration**
Getting	Command	@GMK<CR><LF>
	Response	@GMK, mask_1, ・・・, mask_8(, mask_9, ・・・, mask_n)<CR><LF>
Setting	Command	@SMK, out_1, mask_1 (, out_2, mask_2, ・・・)<CR><LF>
	Response	@SMK, out_1, mask_1 (, out_2, mask_2, ・・・)<CR><LF>
Parameter		mask_1-n: Hot plug ignoring duration 1 = OFF [Default], 2 to 15 = 2 sec. to 15 sec., -2 = No output board is installed or 12G-SDI output board is installed. (For response only)
		out_1-n: Output channel 0 = All outputs, 1 to n = OUT1 to OUTn
Getting example	Command Response	@GMK<CR><LF> @GMK,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1<CR><LF>
	Description	Getting the hot plug ignoring duration All output channels: OFF
Setting example	Command Response	@SMK,0,1<CR><LF> @SMK,0,1<CR><LF>
	Description	Setting the hot plug ignoring duration of all output channels to OFF Completed
Remarks		―

12G-SDI output only

@GDF / @SDF		**SDI output format conversion**
Getting	Command	@GDF<CR><LF>
	Response	@GDF, conv_1, ・・・, conv_8 (, conv_9, ・・・, conv_n)<CR><LF>
Setting	Command	@SDF, out_1, conv_1 (, out_2, conv_2, ・・・)<CR><LF>
	Response	@SDF, out_1, conv_1 (, out_2, conv_2, ・・・)<CR><LF>
Parameter		conv_1-n: Conversion 0 = OFF (Outputs color space as input color space.) 1 = ON (Converts to YCbCr 4:2:2 10 bit (standard format) and outputs.) [Default] -2 = No 12G-SDI output board is installed. (For response only)
		out_1-n: Output channel 0 = All outputs, 1 to n = OUT1 to OUTn
Getting example	Command Response	@GDF<CR><LF> @GDF,1,1,1,1,1,1,1,1,1,1,1,1,-2,-2,-2,-2<CR><LF>
	Description	Getting the SDI output format conversion Output channel 1 to 12 : ON Output channel 13 to 16 : No 12G-SDI output board is installed.
Setting example	Command Response	@SDF,0,0<CR><LF> @SDF,0,0<CR><LF>
	Description	Setting the SDI output format conversion of all output channels to OFF Completed
Remarks		―

12G-SDI output only

@GOG / @SOG		**SDI output gearbox mode**
Getting	Command	@GOG<CR><LF>
	Response	@GOG, mode_1, mode_2 (, mode_3, ･･･, mode_m)<CR><LF>
Setting	Command	@SOG, slot_1, mode_1 (, slot_2, mode_2, ･･･)<CR><LF>
	Response	@SOG, slot_1, mode_1 (, slot_2, mode_2, ･･･)<CR><LF>
Parameter		mode_1-m: Gearbox mode 1 = Single link signal output [Default] 2 = 3G dual link signal output 3 = 6G dual link signal output 4 = 3G quad link signal output -2 = No 12G-SDI output board is installed. (For response only)
		slot_1-m: Output board 0 = All output boards, 1 to m = Output board 1 to Output board m
Getting example	Command Response	@GOG<CR><LF> @GOG,1,1,4,-2<CR><LF>
	Description	Getting the SDI output gearbox mode Output board 1 and 2: Signal link signal output mode is set Output board 3: 3G quad link signal output mode is set Output board 4: No 12G-SDI output board is installed.
Setting example	Command Response	@SOG,1,4<CR><LF> @SOG,1,4<CR><LF>
	Description	Setting the gearbox mode of Output board 1 to 3G quad link signal output Completed
Remarks		―

3.4.5 Input position, size, and masking

Scan conversion output only

@GAP / @SAP		Aspect ratio
Getting	Command	@GAP, in_ch<CR><LF>
	Response	@GAP, in_ch, aspect<CR><LF>
Setting	Command	@SAP, in_ch, aspect<CR><LF>
	Response	@SAP, in_ch, aspect<CR><LF>
Parameter		in_ch: Input channel 1 to n = IN1 to INn
		aspect: Aspect ratio of input signal 0 = AUTO [Default], 1 = FULL, 2 = 4:3, 3 = 5:3, 4 = 5:4, 5 = 16:9, 6 = 16:10, 7 = 16:9 LETTER BOX, -1 = No input board is installed. (For response only), -3 = No input signal (For response only)
Getting example	Command	@GAP,1<CR><LF>
	Response	@GAP,1,0<CR><LF>
	Description	Getting the IN1 aspect ratio of input signal AUTO
Getting example	Command	@GAP,1<CR><LF>
	Response	@GAP,1,-3<CR><LF>
	Description	No video is input to IN1.
Setting example	Command	@SAP,1,0<CR><LF>
	Response	@SAP,1,0<CR><LF>
	Description	Setting the IN1 aspect ratio of input signal to AUTO Completed
Remarks		If no signal is input, the setting command is not applied.

Scan conversion output only

@GEF / @SEF		**Input settings**
Getting	Command	@GEF, in_ch<CR><LF>
	Response	@GEF, in_ch, h_size, v_size, h_posi, v_posi, aspect, red, green, blue, brightness, sharpness, hue, saturation<CR><LF>
Setting	Command	@SEF, in_ch, h_size, v_size, h_posi, v_posi, aspect, red, green, blue, brightness, sharpness, hue, saturation<CR><LF>
	Response	@SEF, in_ch, h_size, v_size, h_posi, v_posi, aspect, red, green, blue, brightness, sharpness, hue, saturation<CR><LF>
Parameter		in_ch: Input channel 1 to n = IN1 to INn
		h_size: Horizontal active area [dot] -100 to +100 [Default] +0, -1 = No input board is installed. (For response only)*, -3 = No input signal (For response only)* *"v_size to saturation" is not displayed.
		v_size: Vertical active area [line] -30 to +30 [Default] +0
		h_posi: Horizontal start position [dot] -100 to +100 [Default] +0
		v_posi: Vertical start position [line] -30 to +30 [Default] +0
		aspect: Aspect ratio of input signal 0 = AUTO [Default], 1 = FULL, 2 = 4:3, 3 = 5:3, 4 = 5:4, 5 = 16:9, 6 = 16:10, 7 = 16:9 LETTER BOX
		red : Input contrast (Red) green : Input contrast (Green) blue : Input contrast (Blue) 0 to 200 [Default] 100
		bright: Input brightness 0 to 200 [Default] 100
		sharpness: Sharpness -5 to 15 [Default] 0
		hue: Hue 0 to 359 [Default] 0
		saturation: Saturation 0 to 200 [Default] 100

@GEF / @SEF		**Input settings (Cont'd)**
Getting example	Command	@GEF,1<CR><LF>
	Response	@GEF,1,+0,+0,+0,+0,0,100,100,100,100,0,0,100<CR><LF>
	Description	Getting the IN1 input settings - Horizontal and vertical active area : 0 - Horizontal and vertical start position : 0 - Aspect ratio of input signal : AUTO - Input contrast : 100% for all (red, green, and blue) - Input brightness : 100% - Sharpness : 0 - Hue : 0° - Saturation : 100%
Getting example	Command	@GEF,1<CR><LF>
	Response	@GEF,1,-3<CR><LF>
	Description	No video is input to IN1.
Setting example	Command	@SEF,1,0,0,0,0,0,100,100,100,100,0,0,100<CR><LF>
	Response	@SEF,1,0,0,0,0,0,100,100,100,100,0,0,100<CR><LF>
	Description	Setting the IN1 input settings as follows: - Horizontal and vertical active area : 0 - Horizontal and vertical start position : 0 - Aspect ratio of input signal : AUTO - Input contrast : 100% for all (red, green, and blue) - Input brightness : 100% - Sharpness : 0 - Hue : 0° - Saturation : 100% Completed
Remarks		If no signal is input, the setting command is not applied.

3.4.6 Input

Boards other than SDI

@GDT / @SDT		**No-signal input monitoring**
Getting	Command	@GDT<CR><LF>
	Response	@GDT, time_1, ・・・, time_8 (, time_9, ・・・, time_n)<CR><LF>
Setting	Command	@SDT, in_1, time_1 (, in_2, time_2, ・・・)<CR><LF>
	Response	@SDT, in_1, time_1 (, in_2, time_2, ・・・)<CR><LF>
Parameter		time_1-n: No-signal input monitoring time 0 = OFF, 3 to 15 = 3 sec. to 15 sec. [Default] 10 sec., -1 = No HDMI/DVI input board or HDBaseT input board is installed. (For response only)
		in_1-n: Input channel 0 = All inputs, 1 to n = IN1 to INn
Getting example	Command Response	@GDT<CR><LF> @GDT,10,10,10,10,10,10,10,10,10,10,10,10,10,10,10,10<CR><LF>
	Description	Getting the no-signal input monitoring time All input channels: 10 seconds
Setting example	Command Response	@SDT,0,4<CR><LF> @SDT,0,4<CR><LF>
	Description	Setting the monitoring time of all input channels to 4 seconds Completed
Remarks		―

Boards other than SDI

@GHE / @SHE		**HDCP input**
Getting	Command	@GHE<CR><LF>
	Response	@GHE, hdcp_1, ･･･, hdcp_8 (, hdcp_9, ･･･, hdcp_n)<CR><LF>
Setting	Command	@SHE, in_1, hdcp_1 (, in_2, hdcp_2, ･･･)<CR><LF>
	Response	@SHE, in_1, hdcp_1 (, in_2, hdcp_2, ･･･)<CR><LF>
Parameter		hdcp_1-n: HDCP input enabled/disabled 0 = DISABLE, 1 = HDCP 1.4 [Default for 4K@30 Input board], 2 = HDCP 2.2* [Default for 4K@60 Input board], -1 = No HDMI/DVI input board or HDBaseT input board is installed. (For response only) *For 4K@60 output board only
		in_1-n: Input channel 0 = All inputs, 1 to n = IN1 to INn
Getting example	Command	@GHE<CR><LF>
	Response	@GHE,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1<CR><LF>
	Description	Getting HDCP input enabled/disabled All input channels: Enables HDCP 1.4 input
Setting example	Command	@SHE,0,0<CR><LF>
	Response	@SHE,0,0<CR><LF>
	Description	Setting the HDCP input of all input channels to be disabled Completed
Remarks		―

3G-SDI input only

@GDU / @SDU		**3G-SDI Dual Stream**
Getting	Command	@GDU<CR><LF>
	Response	@GDU, select_1, ･･･, select_8 (, select_9, ･･･, select_n)<CR><LF>
Setting	Command	@SDU, in_1, select_1 (, in_2, select_2, ･･･)<CR><LF>
	Response	@SDU, in_1, select_1 (, in_2, select_2, ･･･)<CR><LF>
Parameter		select_1-n: Input video 1 = Video stream 1 [Default], 2 = Video stream 2, -1 = No 3G-SDI/HD-SDI/SD-SDI input board is installed. (For response only)
		in_1-n: Input channel 0 = All inputs, 1 to n = IN1 to INn
Getting example	Command	@GDU<CR><LF>
	Response	@GDU,1,1,1,1,1,1,1,1,1,1,1,1,-1,-1,-1,-1<CR><LF>
	Description	Getting the SDI Dual Stream input video Input video of IN1 to 12 : Video stream 1 IN13 to 16 : No 3G-SDI/HD-SDI/SD-SDI input board is installed.
Setting example	Command	@SDU,0,2<CR><LF>
	Response	@SDU,0,2<CR><LF>
	Description	Setting input video of all input channels to Video stream 2 Completed
Remarks		―

12G-SDI input only

@GIG / @SIG		**SDI input gearbox mode**
Getting	Command	@GIG<CR><LF>
	Response	@GIG, mode_1, mode_2 (, mode_3, ･･･, mode_m)<CR><LF>
Setting	Command	@SIG, slot_1, mode_1 (, slot_2, mode_2, ･･･)<CR><LF>
	Response	@SIG, slot_1, mode_1 (, slot_2, mode_2, ･･･)<CR><LF>
Parameter		mode_1-m: Gearbox mode 0 = Determines automatically by CH-A input payload ID. 1 = Single link signal input [Default] 2 = 3G dual link signal input 3 = 6G dual link signal input 4 = 3G quad link signal input -2 = No 12G-SDI input board is installed. (For response only)
		slot_1-m: Input board 0 = All input boards, 1 to m = Input board 1 to Input board m
Getting example	Command Response	@GIG<CR><LF> @GIG,1,1,0,-1<CR><LF>
	Description	Getting the SDI input gearbox mode Input board 1 and 2: Single link signal input Input board 3: Determines automatically by CH-A input payload ID. Input board 4: No 12G-SDI input board is installed.
Setting example	Command Response	@SIG,1,4<CR><LF> @SIG,1,4<CR><LF>
	Description	Setting the SDI input gearbox mode of Input board 1 to 3G quad link signal input Completed
Remarks		―

3.4.7 Input timing

Scan conversion output only

@GPI / @SPI		Horizontal/Vertical start position
Getting	Command	@GPI, in_ch<CR><LF>
	Response	@GPI, in_ch, h_posi, v_posi<CR><LF>
Setting	Command	@SPI, in_ch, h_posi, v_posi<CR><LF>
	Response	@SPI, in_ch, h_posi, v_posi<CR><LF>
Parameter		in_ch: Input channel 1 to n = IN1 to INn
		h_posi: Horizontal start position [dot] -100 to +100 [Default] +0, -1 = No input board is installed. (For response only)*, -3 = No input signal (For response only)* *"v_posi" is not displayed.
		v_posi: Vertical start position [line] -30 to +30 [Default] +0
Getting example	Command Response	@GPI,1<CR><LF> @GPI,1,+0,+0<CR><LF>
	Description	Getting the IN1 start positions Horizontal and vertical start position: 0
Getting example	Command Response	@GPI,1<CR><LF> @GPI,1,-3<CR><LF>
	Description	No video is input to IN1.
Setting example	Command Response	@SPI,1,0,0<CR><LF> @SPI,1,0,0<CR><LF>
	Description	Setting the IN1 horizontal and vertical start positions to "0" Completed
Remarks		If no signal is input, the setting command is not applied.

Scan conversion output only

@GSI / @SSI		**Horizontal/Vertical active area**
Getting	Command	@GSI, in_ch<CR><LF>
	Response	@GSI, in_ch, h_size, v_size<CR><LF>
Setting	Command	@SSI, in_ch, h_size, v_size<CR><LF>
	Response	@SSI, in_ch, h_size, v_size<CR><LF>
Parameter		in_ch: Input channel 1 to n = IN1 to INn
		h_size: Horizontal active area [dot] -100 to +100 [Default] +0, -1 = No input board is installed. (For response only)*, -3 = No input signal (For response only)* *"v_size" is not displayed.
		v_size: Vertical active area [line] -30 to +30 [Default] +0
Getting example	Command	@GSI,1<CR><LF>
	Response	@GSI,1,+0,+0<CR><LF>
	Description	Getting the IN1 active area Horizontal and vertical active area: 0
Getting example	Command	@GSI,1<CR><LF>
	Response	@GSI,1,-3<CR><LF>
	Description	No video is input to IN1.
Setting example	Command	@SSI,1,0,0<CR><LF>
	Response	@SSI,1,0,0<CR><LF>
	Description	Setting the IN1 horizontal and vertical active area to "0" Completed
Remarks		If no signal is input, the setting command is not applied.

3.4.8 Picture controls

Scan conversion output only

@GOB / @SOB		Output brightness
Getting	Command	@GOB, out_ch<CR><LF>
	Response	@GOB, out_ch, brightness<CR><LF>
Setting	Command	@SOB, out_ch, brightness<CR><LF>
	Response	@SOB, out_ch, brightness<CR><LF>
Parameter		out_ch: Output channel 1 to n = OUT1 to OUTn
		brightness: Output brightness 0 to 200 [Default] 100, -2 = No scan conversion output board is installed. (For response only)
Getting example	Command Response	@GOB,1<CR><LF> @GOB,1,110<CR><LF>
	Description	Getting the OUT1 brightness 110%
Setting example	Command Response	@SOB,1,110<CR><LF> @SOB,1,110<CR><LF>
	Description	Setting the OUT1 brightness to 110% Completed
Remarks		―

Scan conversion output only

@GOC / @SOC		Output contrast
Getting	Command	@GOC, out_ch<CR><LF>
	Response	@GOC, out_ch, red, green, blue<CR><LF>
Setting	Command	@SOC, out_ch, red, green, blue<CR><LF>
	Response	@SOC, out_ch, red, green, blue<CR><LF>
Parameter		out_ch: Output channel 1 to n = OUT1 to OUTn
		red : Output contrast (Red) green : Output contrast (Green) blue : Output contrast (Blue) 0 to 200 [Default] 100, -2 = No scan conversion output board is installed. (For response only)
Getting example	Command Response	@GOC,1<CR><LF> @GOC,1,105,100,95<CR><LF>
	Description	Getting the OUT1 contrast Red: 105%, Green: 100%, Blue: 95%
Setting example	Command Response	@SOC,1,105,100,95<CR><LF> @SOC,1,105,100,95<CR><LF>
	Description	Setting the OUT1 contrast to 105% for red, 100% for green, 95% for blue Completed
Remarks		―

Scan conversion output only

@GGM / @SGM		Output gamma
Getting	Command	@GGM, out_ch<CR><LF>
	Response	@GGM, out_ch, gamma<CR><LF>
Setting	Command	@SGM, out_ch, gamma<CR><LF>
	Response	@SGM, out_ch, gamma<CR><LF>
Parameter		out_ch: Output channel 1 to n = OUT1 to OUTn
		gamma: Gamma 1 to 30 = 0.1 to 3.0 [Default] 10 = 1.0, -2 = No scan conversion output board is installed. (For response only)
Getting example	Command Response	@GGM,1<CR><LF> @GGM,1,10<CR><LF>
	Description	Getting the OUT1 gamma 1.0
Setting example	Command Response	@SGM,1,10<CR><LF> @SGM,1,10<CR><LF>
	Description	Setting the OUT1 gamma to 1.0 Completed
Remarks		―

Scan conversion output only

@GFL / @SFL		Input sharpness
Getting	Command	@GFL, in_ch<CR><LF>
	Response	@GFL, in_ch, sharp<CR><LF>
Setting	Command	@SFL, in_ch, sharp<CR><LF>
	Response	@SFL, in_ch, sharp<CR><LF>
Parameter		in_ch: Input channel 1 to n = IN1 to Inn
		sharp: Sharpness -5 to 15 [Default] 0, -1 = No input board is installed. (For response only), -3 = No input signal (For response only)
Getting example	Command Response	@GFL,1<CR><LF> @GFL,1,0<CR><LF>
	Description	Getting the IN1 sharpness “0”
Getting example	Command Response	@GFL,1<CR><LF> @GFL,1,-3<CR><LF>
	Description	No video is input to IN1.
Setting example	Command Response	@SFL,1,0<CR><LF> @SFL,1,0<CR><LF>
	Description	Getting the IN1 sharpness to “0” Completed
Remarks		If no signal is input, the setting command is not applied.

Scan conversion output only

@GIB / @SIB		**Input brightness**
Getting	Command	@GIB, in_ch<CR><LF>
	Response	@GIB, in_ch, brightness<CR><LF>
Setting	Command	@SIB, in_ch, brightness<CR><LF>
	Response	@SIB, in_ch, brightness<CR><LF>
Parameter		in_ch: Input channel 1 to n = IN1 to INn
		brightness: Input brightness 0 to 200 [Default] 100, -1 = No input board is installed. (For response only), -3 = No input signal (For response only)
Getting example	Command Response	@GIB,1<CR><LF> @GIB,1,110<CR><LF>
	Description	Getting the IN brightness 110%
Getting example	Command Response	@GIB,1<CR><LF> @GIB,1,-3<CR><LF>
	Description	No video is input to IN1.
Setting example	Command Response	@SIB,1,110<CR><LF> @SIB,1,110<CR><LF>
	Description	Setting the IN1 brightness to 110% Completed
Remarks		If no signal is input, the setting command is not applied.

Scan conversion output only

@GIC / @SIC		Input contrast
Getting	Command	@GIC, in_ch<CR><LF>
	Response	@GIC, in_ch, red, green, blue<CR><LF>
Setting	Command	@SIC, in_ch, red, green, blue<CR><LF>
	Response	@SIC, in_ch, red, green, blue<CR><LF>
Parameter		in_ch: Input channel 1 to n = IN1 to INn
		red : Input contrast (Red) green : Input contrast (Green) blue : Input contrast (Blue) 0 to 200 [Default] 100, -1 = No input board is installed. (For response only), -3 = No input signal (For response only)
Getting example	Command Response	@GIC,1<CR><LF> @GIC,1,105,100,95<CR><LF>
	Description	Getting the IN1 contrast Red: 105%, Green: 100%, Blue: 95%
Getting example	Command Response	@GIC,1<CR><LF> @GIC,1,-3,-3,-3<CR><LF>
	Description	No video is input to IN1.
Setting example	Command Response	@SIC,1,105,100,95<CR><LF> @SIC,1,105,100,95<CR><LF>
	Description	Setting the IN1 contrast to 105% for red, 100% for green, 95% for blue Completed
Remarks		If no signal is input, the setting command is not applied.

Scan conversion output only

@GHU / @SHU		**Input hue**
Getting	Command	@GHU, in_ch<CR><LF>
	Response	@GHU, in_ch, hue<CR><LF>
Setting	Command	@SHU, in_ch, hue<CR><LF>
	Response	@SHU, in_ch, hue<CR><LF>
Parameter		in_ch: Input channel 1 to n = IN1 to INn
		hue: Hue 0 to 359 [Default] 0, -1 = No input board is installed. (For response only), -3 = No input signal (For response only)
Getting example	Command Response	@GHU,1<CR><LF> @GHU,1,0<CR><LF>
	Description	Getting the IN1 hue 0°
Getting example	Command Response	@GHU,1<CR><LF> @GHU,1,-3<CR><LF>
	Description	No video is input to IN1.
Setting example	Command Response	@SHU,1,0<CR><LF> @SHU,1,0<CR><LF>
	Description	Setting the IN1 hue to 0° Completed
Remarks		If no signal is input, the setting command is not applied.

Scan conversion output only

@GST / @SST		**Input saturation**
Getting	Command	@GST, in_ch<CR><LF>
	Response	@GST, in_ch, saturation<CR><LF>
Setting	Command	@SST, in_ch, saturation<CR><LF>
	Response	@SST, in_ch, saturation<CR><LF>
Parameter		in_ch: Input channel 1 to n = IN1 to Inn
		saturation: Saturation 0 to 200 [Default] 100, -1 = No input board is installed. (For response only), -3 = No input signal (For response only)
Getting example	Command Response	@GST,1<CR><LF> @GST,1,100<CR><LF>
	Description	Getting the IN1 saturation 100%
Getting example	Command Response	@GST,1<CR><LF> @GST,1,-3<CR><LF>
	Description	No video is input to IN1.
Setting example	Command Response	@SST,1,105<CR><LF> @SST,1,105<CR><LF>
	Description	Setting the IN1 saturation to 105% Completed
Remarks		If no signal is input, the setting command is not applied.

3.4.9 Output audio

@GAM / @SAM		**Mute**
Getting	Command	@GAM<CR><LF>
	Response	@GAM, mode_1, ･･･, mode_8 (, mode_9, ･･･, mode_n)<CR><LF>
Setting	Command	@SAM, out_1, mode_1 (, out_2, mode_2, ･･･)<CR><LF>
	Response	@SAM, out_1, mode_1 (, out_2, mode_2, ･･･)<CR><LF>
Parameter		mode_1-n: Digital audio output 0 = Not outputting audio, 1 = Outputting audio [Default], -2 = No output board is installed. (For response only)
		out_1-n: Output channel 0 = All outputs, 1 to n = OUT1 to OUTn
Getting example	Command	@GAM<CR><LF>
	Response	@GAM,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1<CR><LF>
	Description	Getting the digital audio output All output channels: Outputting audio
Setting example	Command	@SAM,0,0<CR><LF>
	Response	@SAM,0,0<CR><LF>
	Description	Setting digital audio of all output channels not to be output. Completed
Remarks		―

Scan conversion output and analog audio output only

@GLO / @SLO		**Output Lip Sync**
Getting	Command	@GLO<CR><LF>
	Response	@GLO, time_1, ･･･, time_8 (, time_9, ･･･, time_n) (, time_a1, time_a2, ･･･, time_a12, time_b1, time_b2, ･･･, time_b12)<CR><LF>
Setting	Command	@SLO, out_1, time_1 (, out_2, time_2, ･･･)<CR><LF>
	Response	@SLO, out_1, time_1 (, out_2, time_2, ･･･)<CR><LF>
Parameter		time_1-n : Lip Sync of scan conversion output board [ms.] time_a1-a12 : Lip Sync of analog audio output [ms.] time_b1-b12 : Lip Sync of analog audio output [ms.] 0 to 256 [Default] 0, -2 = No scan conversion output board or no analog audio output board (For response only) [FDX-SAB4A is installed] (time_a5-a12,time_b5-b12) = “-2” [For models other than FDX-S64] (time_a1-a12) is only for when an analog audio output board is installed. (time_b1-b12) cannot be gotten. [For FDX-S64] (time_a1-a12) and (time_b1-b12) are only for when an analog audio output board is installed to SLOT-A or SLOT-B. (time_a1-a12) is for SLOT-A; (time_b1-b12) is for SLOT-B. If one slot is used, the other slot is “-2”.

@GLO / @SLO		**Output Lip Sync (Cont'd)**
Parameter		out_1-n: Output channel [For models other than FDX-S64] 0 = All outputs of output boards (OUT1 to OUTn), 1 to n = OUT1 to OUTn, 300 = All outputs of analog audio (ANALOG OUT1 to ANALOG OUT12), 301 to 312 = ANALOG OUT1 to ANALOG OUT12 [For FDX-S64] 0 = All outputs of output boards (OUT1 to OUTn), 1 to n = OUT1 to OUTn, 300 = All analog audio outputs of SLOT-A (ANALOG-A OUT1 to ANALOG-A OUT12), 301 to 312 = ANALOG-A OUT1 to ANALOG-A OUT12, 400 = All analog audio outputs of SLOT-B (ANALOG-B OUT1 to ANALOG-B OUT12), 401 to 412 = ANALOG-B OUT1 to ANALOG-B OUT12
Getting example	Command Response	@GLO<CR><LF> @GLO,100,100,100,100,100,100,100,100,100,100,100,100,100,100,100,100,100,100 <CR><LF>
	Description	(No analog audio output board is installed to the FDX-S16) Getting the lip sync settings 100 ms.
	Command Response	@GLO<CR><LF> @GLO,100,100,100,100,100,100,100,100,100,100,100,100,100,100,100,100,100,100, 200,200,200,200,-2,-2,-2,-2,-2,-2,-2,-2<CR><LF>
	Description	(FDX-SAB4A is installed to the FDX-S16) Getting the lip sync settings 100 ms. Analog audio outputs ANALOG OUT1 to 4 : 200 ms Analog audio ANALOG OUT5 to 12 : Not installed (FDX-SAB4A: Four outputs)
	Command Response	@GLO<CR><LF> @GLO,100,100,100,100,100,100,100,100,100,100,100,100,100,100,100,100,100,100, 200,200,200,200,200,200,200,200,200,200,200,200<CR><LF>
	Description	(FDX-SOA12A is installed to the FDX-S16) Getting the lip sync settings 100 ms. All outputs of analog audio channel: 200 ms. (FDX-SOA12A: 12 outputs)

@GLO / @SLO		**Output Lip Sync (Cont'd)**
	Command Response	@GLO<CR><LF> @GLO,100,100,100,100,100,100,100,100,100,100,100,100,100,100,100,100, 100,100,100,100,100,100,100,100,100,100,100,100,100,100,100,100,100,100, 100,100,100,100,100,100,100,100,100,100,100,100,100,100,100,100,100,100, 100,100,100,100,100,100,100,100,100,100,100,100,200,200,200,200,200,200, 200,200,200,200,200,200,-2,-2,-2,-2,-2,-2,-2,-2,-2,-2,-2,-2<CR><LF>
	Description	(FDX-S64: FDX-SOA12A is installed to SLOT-A; no board is installed to SLOT-B) Getting the lip sync settings 100 ms for all channels of output boards SLOT-A: 200 ms for all analog audio output channels No analog audio board is installed to SLOT-B.
Setting example	Command Response	@SLO,0,2<CR><LF> @SLO,0,2<CR><LF>
	Description	Setting the lip sync settings of all outputs of output boards channel to "2 ms". Completed
	Command Response	@SLO,300,2<CR><LF> @SLO,300,2<CR><LF>
	Description	(FDX-S16: FDX-SOA12Ais installed FDX-S64: SLOT-A に FDX-SOA12A is installed to SLOT-A) Setting the lip sync settings of all outputs of analog audio channel (or SLOT-A only) to "2 ms". Completed
Remarks		—

@GAS / @SAS		**Audio embedding/Audio de-embedding**
Getting	Command	@GAS, out_1<CR><LF>
	Response	@GAS, out_1, select_1 (, select_2, select_3, ・・・)<CR><LF>
Setting	Command	@SAS, out_1, select_1 (, out_2, select_2, ・・・)<CR><LF>
	Response	@SAS, out_1, select_1 (, out_2, select_2, ・・・)<CR><LF>
Parameter		out_1-n: Output channel [For models other than FDX-S64] 0 = All outputs of output boards (OUT1 to OUTn), 1 to n = OUT1 to OUTn, 300 = All outputs of analog audio (ANALOG OUT1 to ANALOG OUT12), 301 to 312 = ANALOG OUT1 to ANALOG OUT12, 500 = All outputs of Dante (DANTE OUT1 to DANTE OUT32), 501 to 532 = DANTE OUT1 to DANTE OUT32 [For FDX-S64] 0 = All outputs of output boards (OUT1 to OUTn), 1 to n = OUT1 to = OUTn, 300 = All analog audio outputs of SLOT-A (ANALOG-A OUT1 to ANALOG-A OUT12), 301 to 312 = ANALOG-A OUT1 to ANALOG-A OUT12, 400 = All analog audio outputs of SLOT-B (ANALOG-B OUT1 to ANALOG-B OUT12), 401 to 412 = ANALOG-B OUT1 to ANALOG-B OUT12, 500 = Dante all outputs of SLOT-A (DANTE-A OUT1 to DANTE-A OUT32), 501 to 532 = DANTE-A OUT1 to = DANTE-A OUT32, 600 = Dante all outputs of SLOT-B (DANTE-B OUT1 to DANTE-B OUT32), 601 to 632 = DANTE-B OUT1 to DANTE-B OUT32
		select_1-n: Selecting output audio Setting and default values vary depending on specified output channel. Refer to the User Guide for these values. [Output board outputs (OUT1 to OUTn)] [For models other than FDX-S64] 0 = Video input channel audio that is being selected, 301 to 304 = ANALOG IN1 to ANALOG IN4, 501 to 532 = DANTE IN1 to DANTE IN32, -2 = No output board is installed. (For response only) [For FDX-S64] 0 = Video input channel audio that is being selected, 301 to 304 = ANALOG-A IN1 to ANALOG-A IN4, 401 to 404 = ANALOG-B IN1 to ANALOG-B IN4, 501 to 532 = DANTE-A IN1 to DANTE-A IN32, 601 to 632 = DANTE-B IN1 to DANTE-B IN32, -2 = No output board is installed. (For response only) [Analog audio output (ANALOG OUT1 to 12, ANALOG-A OUT1 to 12, ANALOG-B OUT1 to 12) or Dante output (DANTE OUT1 to 32, DANTE-A OUT1 to 32, DANTE-B OUT1 to 32)] 1 to n = Audio of video input channel IN1 to INn, 101 to 100+n = Video input channel audio of OUT1 to OUTn, -2 = No analog audio/Dante audio board (For response only)

@GAS / @SAS		Audio embedding/Audio de-embedding (Cont'd)
Getting example	Command	@GAS,0<CR><LF>
	Response	@GAS,0,301,302,303,304,0,0,0,0,0,0,0,0,0,0,0,0<CR><LF>
	Description	(FDX-SAB4A is installed) Getting audio for all outputs of output boards OUT1 : ANALOG IN1 OUT2 : ANALOG IN2 OUT3 : ANALOG IN3 OUT4 : ANALOG IN4 OUT5 to 16 : Video input channel audio that is being selected
	Command	@GAS,300<CR><LF>
	Response	@GAS,300,1,1,1,1,101,101,101,101,101,101,101,101<CR><LF>
	Description	(FDX-SOA12A is installed) Getting audio for all outputs of analog audio boards ANALOG OUT1 to 4 : Audio of IN1 ANALOG OUT5 to 12 : Audio of OUT1
	Command	@GAS,501<CR><LF>
	Response	@GAS,501,116<CR><LF>
	Description	(FDX-SAB64D is installed) Getting the DANTE OUT1 audio Video input channel audio of OUT16
Setting example	Command	@SAS,0,0<CR><LF>
	Response	@SAS,0,0<CR><LF>
	Description	Setting audio for all outputs of output boards to audio of selected video input channel Completed
	Command	@SAS,1,301<CR><LF>
	Response	@SAS,1,301<CR><LF>
	Description	(FDX-SAB4A is installed) Setting audio of ANALOG IN1 to OUT1 of output boards (For FDX-S64, setting to ANALOG-A IN1 of SLOT-A) Completed
	Command	@SAS,500,1<CR><LF>
	Response	@SAS,500,1<CR><LF>
	Description	(FDX-SAB64D is installed) Setting audio of input channel IN1 to all Dante outputs (For FDX-S64, setting to Dante all outputs of SLOT-A) Completed
	Command	@SAS,501,101<CR><LF>
	Response	@SAS,501,101<CR><LF>
	Description	(FDX-SAB64D is installed) Setting audio of input channel audio OUT1 to DANTE OUT1 (For FDX-S64, setting to DANTE OUT1 of SLOT-A) Completed
Remarks		—

Scan conversion multiview output only

@GWO / @SWO		**Audio setting**
Getting	Command	@GWO<CR><LF>
	Response	@GWO, window_1, window_2 (, window_3, ･･･, window_n)<CR><LF>
Setting	Command	@SWO, out_ch_1, window_1 (, out_ch_2, window_2, ･･･)<CR><LF>
	Response	@SWO, out_ch_1, window_1 (, out_ch_2, window_2, ･･･)<CR><LF>
Parameter		window_1-n: Audio selection window 1 to 4 = Window A to Window D [Default] Window A -2 = No scan conversion output board is installed. (For response only)
		out_ch_1-n: Output channel 0 = All output channels 1 to n = OUT1 to OUTn
Getting example	Command Response	@GWO<CR><LF> @GWO,1,1,1,1<CR><LF>
	Description	Getting audio setting All output channels: Window A
Setting example	Command Response	@SWO,1,2<CR><LF> @SWO,1,2<CR><LF>
	Description	Setting the audio setting of Output channel 1 to Window B Completed
Remarks		This command is enabled for only the first channel of each scan conversion multiview output board. 【See: 3.1 Board channel configuration】

12G-SDI output only

@GGO / @SGO		**SDI output audio group**
Getting	Command	@GGO<CR><LF>
	Response	@GGO, primary_1, secondary_1, ・・・, primary_8, secondary_8 (, primary_9, secondary_9, ・・・, primary_n, secondary_n)<CR><LF>
Setting	Command	@SGO, out_1, primary_1, secondary_1 (, out_2, primary_2, secondary_2, ・・・)<CR><LF>
	Response	@SGO, out_1, primary_1, secondary_1 (, out_2, primary_2, secondary_2, ・・・)<CR><LF>
Parameter		primary_1-n : Primary audio secondary_1-n: Secondary audio 1 = Audio group 1 (1ch to 4ch) [Default] (primary), 2 = Audio group 2 (5ch to 8ch) [Default] (secondary), 3 = Audio group 3 (9ch to 12ch), 4 = Audio group 4 (13ch to 16ch), -1 = No 12G-SDI output board is installed. (For response only)
		in_1-n: Output channel 0 = All outputs, 1 to n = OUT1 to OUTn
Getting example	Command Response	@GGO<CR><LF> @GGO,1,2,1,2,1,2,1,2,1,2,1,2,1,2,1,2,1,2,1,2,1,2,1,2,1,2,-2,-2,-2,-2,-2,-2,-2,-2 <CR><LF>
	Description	Getting the SDI output audio group Primary audio of OUT1 to OUT12 : Audio group 1 Secondary audio : Audio group 2 OUT13 to 16 : No 12G-SDI output board is installed.
Setting example	Command Response	@SGO,0,3,4<CR><LF> @SGO,0,3,4<CR><LF>
	Description	Setting the primary audio of all output channels to Audio group 3, secondary audio to Audio group 4 Completed
Remarks		The same audio group cannot be set for primary audio and secondary audio.

3.4.10 Input audio

HDMI/DVI input and HDBaseT input only

@GAW / @SAW		**Stable audio input wait**
Getting	Command	@GAW<CR><LF>
	Response	@GAW, wait_1, ・・・, wait_8 (, wait_9, ・・・, wait_n)<CR><LF>
Setting	Command	@SAW, in_1, wait_1 (, in_2, wait_2, ・・・)<CR><LF>
	Response	@SAW, in_1, wait_1 (, in_2, wait_2, ・・・)<CR><LF>
Parameter		wait_1-n: Waiting time 0 = OFF, 1 = SHORT, 2 = MID [Default], 3 = LONG, -2 = No HDMI/DVI input board or HDBaseT input board is installed. (For response only)
		in_1-n: Input channel 0 = All inputs, 1 to n = IN1 to INn
Getting example	Command	@GAW<CR><LF>
	Response	@GAW,2,2,2,2,2,2,2,2,2,2,2,2,2,2,2,2<CR><LF>
	Description	Getting the mode of stable audio input wait All input channels: MID
Setting example	Command	@SAW,1,0<CR><LF>
	Response	@SAW,1,0<CR><LF>
	Description	Disabling stable audio input wait of IN1 Completed
Remarks		―

SDI input only

@GAG / @SAG		**SDI input audio group**
Getting	Command	@GAG<CR><LF>
	Response	@GAG, primary_1, secondary_1, ・・・, primary_8, secondary_8 (, primary_9, secondary_9, ・・・, primary_n, secondary_n)<CR><LF>
Setting	Command	@SAG, in_1, primary_1, secondary_1 (, in_2, primary_2, secondary_2, ・・・)<CR><LF>
	Response	@SAG, in_1, primary_1, secondary_1 (, in_2, primary_2, secondary_2, ・・・)<CR><LF>
Parameter		primary_1-n : Primary audio secondary_1-n: Secondary audio 1 = Audio group 1 (1ch to 4ch) [Default] (primary), 2 = Audio group 2 (5ch to 8ch) [Default] (secondary), 3 = Audio group 3 (9ch to 12ch), 4 = Audio group 4 (13ch to 16ch), -1 = No SDI input board is installed. (For response only)
		in_1-n: Input channel 0 = All inputs, 1 to n = IN1 to INn
Getting example	Command Response	@GAG<CR><LF> @GAG,1,2,1,2,1,2,1,2,1,2,1,2,1,2,1,2,1,2,1,2,1,2,1,2,-1,-1,-1,-1,-1,-1,-1,-1 <CR><LF>
	Description	Getting the SDI input audio group Primary audio of IN1 to 12 : Audio group 1 Secondary audio : Audio group 2 IN13 to 16 : No SDI input board is installed.
Setting example	Command Response	@SAG,0,3,4<CR><LF> @SAG,0,3,4<CR><LF>
	Description	Setting the primary audio of all input channels to Audio group 3, secondary audio to Audio group 4 Completed
Remarks		The same audio group cannot be set for primary audio and secondary audio.

3.4.11 EDID

Boards other than SDI

@GVF / @SVF		Resolution
Getting	Command	@GVF<CR><LF>
	Response	@GVF, edid_1, ･･･, edid_8 (, edid_9, ･･･, edid_n)<CR><LF>
Setting	Command	@SVF, in_1, edid_1 (, in_2, edid_2, ･･･)<CR><LF>
	Response	@SVF, in_1, edid_1 (, in_2, edid_2, ･･･)<CR><LF>
Parameter		edid_1-n: EDID resolution 0 = External EDID, 1 = Copied EDID 1, 2 = Copied EDID 2, 3 = Copied EDID 3, 4 = Copied EDID 4, 5 = 1080p(1920x1080), 6 = 720p(1280x720), 7 = 1080i(1920x1080), 8 = SVGA(800x600), 9 = XGA(1024x768), 10 = VESA720(1280x720), 11 = WXGA(1280x768), 12 = WXGA(1280x800), 13 = Quad-VGA(1280x960), 14 = SXGA(1280x1024), 15 = WXGA(1360x768), 16 = WXGA(1366x768), 17 = SXGA+(1400x1050), 18 = WXGA+(1440x900), 19 = WXGA++(1600x900), 20 = UXGA(1600x1200), 21 = WSXGA+(1680x1050), 22 = VESA1080(1920x1080), 23 = WUXGA(1920x1200), 24 = QWXGA(2048x1152), 25 = WQHD(2560x1440), 26 = WQXGA(2560x1600), 40 = 2160p@30(3840x2160), 41 = 2160p@60(4:2:0)(3840x2160)*1, 42 = 2160p@60(4:4:4)(3840x2160)*2, 43 = 4096x2160@30, 44 = 4096x2160@60(4:2:0)*1, 45 = 4096x2160@60(4:4:4)*2, -1 = No HDMI/DVI input board or HDBaseT input board is installed. (For response only) [Default]

Input boards	Default
4K@30 HDMI/DVI	5 = 1080p(1920x1080)
4K@30 HDBaseT	5 = 1080p(1920x1080)
4K@60 HDMI/DVI	42 = 2160p@60(4:4:4)(3840x2160)
4K@60 HDBaseT	41 = 2160p@60(4:2:0)(3840x2160)

*1Only for FDX-SIV4UH and FDX-SIV4UT

*2Only for FDX-SIV4UH

in_1-n: Input channel
1 to n = IN1 to INn

@GVF / @SVF		**Resolution (Cont'd)**
Getting example	Command	@GVF<CR><LF>
	Response	@GVF,5,5,5,5,5,5,5,5,5,5,5,5,5,5,5,5<CR><LF>
	Description	Getting the EDID resolution All input channels: 1080p
Setting example	Command	@SVF,1,5<CR><LF>
	Response	@SVF,1,5<CR><LF>
	Description	Setting the IN1 EDID resolution to 1080p Completed
Remarks		If selecting Copied EDID, execute "**@RME Copying EDID**" beforehand to load the EDID.

Boards other than SDI

@RME		**Copying EDID**
Setting	Command	@RME, out, number<CR><LF>
	Response	@RME, out, number<CR><LF>
Parameter		out: Channel to be read 1 to n = OUT1 to OUTn *12G-SDI output channel cannot be selected.
		number: Destination memory number 1 to 4 = Destination 1 to Destination 4
Setting example	Command	@RME,1,1<CR><LF>
	Response	@RME,1,1<CR><LF>
	Description	Setting destination for saving sink device's EDID that is connected to OUT1 Completed
Remarks		―

Boards other than SDI

@GEC / @SEC		**External EDID**
Getting	Command	@GEC<CR><LF>
	Response	@GEC, out_1, ･･･, out_8 (, out_9, ･･･, out_n)<CR><LF>
Setting	Command	@SEC, in_1, out_1 (, in_2, out_2, ･･･)<CR><LF>
	Response	@SEC, in_1, out_1 (, in_2, out_2, ･･･)<CR><LF>
Parameter		out_1-n: External EDID channel 1 to n = OUT1 to OUTn [Default] 1 = OUT1, *12G-SDI output channel cannot be selected. -1 = No HDMI/DVI input board or HDBaseT input board is installed. (For response only) -2 = No output board is installed or 12G-SDI output board is installed. (For response only)
		in_1-n: Input channel 0 = All inputs, 1 to n = IN1 to INn
Getting example	Command Response	@GEC<CR><LF> @GEC,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1<CR><LF>
	Description	Getting the external EDID channels All input channels: EDID from OUT1
Setting example	Command Response	@SEC,0,1<CR><LF> @SEC,0,1<CR><LF>
	Description	Setting all input channels' EDID to external EDID from OUT1 Completed
Remarks		—

Boards other than SDI

@GHZ / @SHZ		**Frame rate**
Getting	Command	@GHZ<CR><LF>
	Response	@GHZ, mode_1, ･･･, mode_8 (, mode_9, ･･･, mode_n)<CR><LF>
Setting	Command	@SHZ, in_1, mode_1 (, in_2, mode_2, ･･･)<CR><LF>
	Response	@SHZ, in_1, mode_1 (, in_2, mode_2, ･･･)<CR><LF>
Parameter		mode_1-n: Frame rate 0 = 60 Hz/30 Hz [Default], 1 = 50 Hz/25 Hz, -1 = No HDMI/DVI input board or HDBaseT input board is installed. (For response only)
		in_1-n: Input channel 0 = All inputs, 1 to n = IN1 to INn
Getting example	Command Response	@GHZ<CR><LF> @GHZ,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0<CR><LF>
	Description	Getting the frame rate All input channels: 60 Hz/30 Hz
Setting example	Command Response	@SHZ,0,0<CR><LF> @SHZ,0,0<CR><LF>
	Description	Setting the frame rate of all input channels to 60 Hz/30 Hz Completed
Remarks		This command is valid only if "**@GVF / @SVF Resolution**" is set to "5" to "26" and "40" to "45" (Built-in EDID).

Boards other than SDI

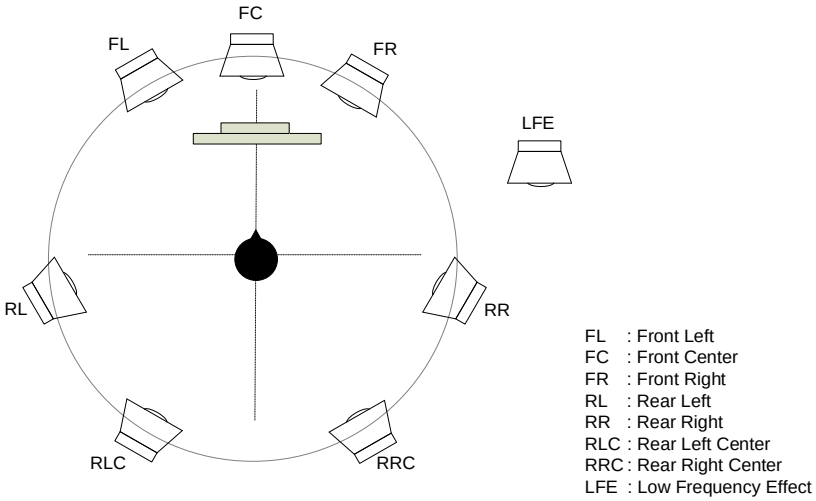
@GDI / @SDI		**Deep Color**
Getting	Command	@GDI<CR><LF>
	Response	@GDI, color_1, ･･･, color_8 (, color_9, ･･･, color_n)<CR><LF>
Setting	Command	@SDI, in_1, color_1 (, in_2, color_2, ･･･)<CR><LF>
	Response	@SDI, in_1, color_1 (, in_2, color_2, ･･･)<CR><LF>
Parameter		color_1-n: Color depth 0 = 24 bit/pixel (8 bit/component) [Default], 1 = 30 bit/pixel (10 bit/component), 2 = 36 bit/pixel (12 bit/component), -1 = No HDMI/DVI input board or HDBaseT input board is installed. (For response only)
		in_1-n: Input channel 0 = All inputs, 1 to n = IN1 to INn
Getting example	Command	@GDI<CR><LF>
	Response	@GDI,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0<CR><LF>
	Description	Getting the color depth All input channels: 24 bit/pixel (8 bit/component)
Setting example	Command	@SDI,0,0<CR><LF>
	Response	@SDI,0,0<CR><LF>
	Description	Setting the color depth of all input channels to 24 bit/pixel (8 bit/component) Completed
Remarks		This command is valid only if “**@GVF / @SVF Resolution**” is set to “5” to “26” and “40” to “45” (Built-in EDID).

Boards other than SDI

<table>
<tr><td colspan="2">@GAF / @SAF</td><td>Audio format</td></tr>
<tr><td rowspan="2">Getting</td><td>Command</td><td>@GAF,in<CR><LF></td></tr>
<tr><td>Response</td><td>@GAF, in, format_1, frequency_1, ･･･, format_7, frequency_7<CR><LF></td></tr>
<tr><td rowspan="2">Setting</td><td>Command</td><td>@SAF, in, format_1, frequency_1 (, format_2, frequency_2, ･･･)<CR><LF></td></tr>
<tr><td>Response</td><td>@SAF, in, format_1, frequency_1 (, format_2, frequency_2, ･･･)<CR><LF></td></tr>
<tr><td colspan="2" rowspan="3">Parameter</td><td>in: Input channel
1 to n = IN1 to INn</td></tr>
<tr><td>format_1-7: Audio format
0 = LPCM, 1 = AC-3/Dolby Digital, 2 = AAC,
3 = Dolby Digital Plus, 4 = DTS, 5 = DTS-HD,
6 = Dolby TrueHD</td></tr>
<tr><td>frequency_1-7: Maximum sampling frequency
0 = OFF (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,
-1 = No HDMI/DVI input board or HDBaseT input board is installed.
(For response only)

<table>
<tr><th>Audio format</th><th>Maximum sampling frequency (kHz)</th><th>Default</th></tr>
<tr><td>LPCM</td><td>32/44.1/48/88.2/96/176.4/192</td><td>48</td></tr>
<tr><td>AC-3/Dolby Digital</td><td>OFF/32/44.1/48</td><td>OFF</td></tr>
<tr><td>AAC</td><td>OFF/32/44.1/48/88.2/96</td><td>OFF</td></tr>
<tr><td>Dolby Digital Plus</td><td>OFF/32/44.1/48</td><td>OFF</td></tr>
<tr><td>DTS</td><td>OFF/32/44.1/48/96</td><td>OFF</td></tr>
<tr><td>DTS-HD</td><td>OFF/44.1/48/88.2/96/176.4/192</td><td>OFF</td></tr>
<tr><td>Dolby TrueHD</td><td>OFF/44.1/48/88.2/96/176.4/192</td><td>OFF</td></tr>
</table></td></tr>
<tr><td rowspan="2">Getting example</td><td>Command
Response</td><td>@GAF,1<CR><LF>
@GAF,1,0,3,1,0,2,0,3,0,4,0,5,0,6,0<CR><LF></td></tr>
<tr><td>Description</td><td>Getting the IN1 audio format and maximum sampling frequency
Maximum sampling frequency of LPCM : 48 kHz
Other audio format : OFF</td></tr>
<tr><td rowspan="2">Setting example</td><td>Command
Response</td><td>@SAF,1,0,7<CR><LF>
@SAF,1,0,7<CR><LF></td></tr>
<tr><td>Description</td><td>Setting the IN1 audio format and maximum sampling frequency to LPCM and 192 kHz</td></tr>
<tr><td colspan="2">Remarks</td><td>Setting commands are for setting the audio formats and the maximum sampling frequencies.
LPCM is always enabled, you can skip this menu unless you need to change the sampling frequency.
This command is valid only if “@GVF / @SVF Resolution” is set to “5” to “26” and “40” to “45” (Built-in EDID).</td></tr>
</table>

Boards other than SDI

@GSP / @SSP		**Speaker configuration**
Getting	Command	@GSP<CR><LF>
	Response	@GSP, ch_1, ･･･, ch_8 (, ch_9, ･･･, ch_n)<CR><LF>
Setting	Command	@SSP, in_1, ch_1 (, in_2, ch_2, ･･･)<CR><LF>
	Response	@SSP, in_1, ch_1 (, in_2, ch_2, ･･･)<CR><LF>
Parameter		ch_1-n: Speaker configuration 0 = LR [Default], 1 = 2.1 channel surround sound, 2 = 5.1 channel surround sound, 3 = 7.1 channel surround sound, -1 = No HDMI/DVI input board or HDBaseT input board is installed. (For response only) 

Sound type	FL/FR	LFE	FC	RL/RR	RLC/RRC
LR	ON	OFF	OFF	OFF	OFF
2.1 channel surround sound	ON	ON	OFF	OFF	OFF
5.1 channel surround sound	ON	ON	ON	ON	OFF
7.1 channel surround sound	ON	ON	ON	ON	ON

		in_1-n: Input channel 0 = All inputs, 1 to n = IN1 to INn
Getting example	Command Response	@GSP<CR><LF> @GSP,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0<CR><LF>
	Description	Getting the speaker configuration All input channels: LR
Setting example	Command Response	@SSP,0,0<CR><LF> @SSP,0,0<CR><LF>
	Description	Setting the speaker configuration of all input channels to LR Completed
Remarks		This command is valid only if “**@GVF / @SVF Resolution**” is set to “5” to “26” and “40” to “45” (Built-in EDID).

3.4.12 RS-232C

@GCT / @SCT		RS-232C communication
Getting	Command	@GCT<CR><LF>
	Response	@GCT, baudrate, length, parity, stop<CR><LF>
Setting	Command	@SCT, baudrate, length, parity, stop<CR><LF>
	Response	@SCT, baudrate, length, parity, stop<CR><LF>
Parameter		baudrate: Baud rate 0 = 4800 bps, 1 = 9600 bps [Default], 2 = 14400 bps, 3 = 19200 bps, 4 = 38400 bps
		length: Data bit length 0 = 7 bit, 1 = 8 bit [Default]
		parity: Parity check 0 = NONE [Default], 1 = ODD, 2 = EVEN
		stop: Stop bit 0 = 1 bit [Default], 1 = 2 bit
Getting example	Command Response	@GCT<CR><LF> @GCT,1,1,0,0<CR><LF>
	Description	Getting the RS-232C communication setting - Baud rate : 9600 bps - Data bit length : 8 bit - Parity check : NONE - Stop bit : 1 bit
Setting example	Command Response	@SCT,1,1,0,0<CR><LF> @SCT,1,1,0,0<CR><LF>
	Description	Setting the RS-232C communication setting as follows: - Baud rate : 9600 bps - Data bit length : 8 bit - Parity check : NONE - Stop bit : 1 bit Completed
Remarks		RS-232C communication setting is changed, the communication may be disabled. Change the environmental settings based on the FDX-S settings.

3.4.13 LAN

@GIP / @SIP		**IP address**
Getting	Command	@GIP<CR><LF>
	Response	@GIP, unit_1, unit_2, unit_3, unit_4<CR><LF>
Setting	Command	@SIP, unit_1, unit_2, unit_3, unit_4<CR><LF>
	Response	@SIP, unit_1, unit_2, unit_3, unit_4<CR><LF>
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<CR><LF>
	Response	@GIP,192,168,3,2<CR><LF>
	Description	Getting the IP address of the FDX-S 192.168.3.2
Setting example	Command	@SIP,192,168,3,2<CR><LF>
	Response	@SIP,192,168,3,2<CR><LF>
	Description	Setting the IP address of the FDX-S to 192.168.3.2 Completed
Remarks		IP address or communication setting is changed, the communication may be disabled. Change the environmental settings based on the FDX-S settings.

@GSB / @SSB		**Subnet mask**
Getting	Command	@GSB<CR><LF>
	Response	@GSB, unit_1, unit_2, unit_3, unit_4<CR><LF>
Setting	Command	@SSB, unit_1, unit_2, unit_3, unit_4<CR><LF>
	Response	@SSB, unit_1, unit_2, unit_3, unit_4<CR><LF>
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<CR><LF>
	Response	@GSB,255,255,192,0<CR><LF>
	Description	Getting the subnet mask of the FDX-S 255.255.192.0 (= 18bit)
Setting example	Command	@SSB,255,255,192,0<CR><LF>
	Response	@SSB,255,255,192,0<CR><LF>
	Description	Setting the subnet mask of the FDX-S to 255.255.192.0 (= 18 bit) Completed
Remarks		IP address or communication setting is changed, the communication may be disabled. Change the environmental settings based on the FDX-S settings.

@GMC		**MAC address**
Getting	Command	@GMC<CR><LF>
	Response	@GMC, unit_1, unit_2, unit_3, unit_4, unit_5, unit_6<CR><LF>
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 Response	@GMC<CR><LF> @GMC,00,08,E5,65,00,00<CR><LF>
	Description	Getting the MAC address 00-08-E5-65-00-00
Remarks		－

@GLP / @SLP		**TCP port number**
Getting	Command	@GLP<CR><LF>
	Response	@GLP, port, connection<CR><LF>
Setting	Command	@SLP, port, connection<CR><LF>
	Response	@SLP, port, connection<CR><LF>
Parameter		port: TCP port number 1100, 6000 to 6999 [Default] 1100
		connection: 8-connection setting 0 = 8-connection setting OFF (WEB browser 4 connections, communication command control 4-connection) [Default], 1 = 8-connection setting ON (Communication command control 8-connection)
Getting example	Command Response	@GLP<CR><LF> @GLP,1100,0<CR><LF>
	Description	Getting the TCP port number of the FDX-S 1100; 8 connection setting disabled
Setting example	Command Response	@SLP,1100,0<CR><LF> @SLP,1100,0<CR><LF>
	Description	Setting the port number and 8-connection setting of the FDX-S to 1100 and OFF, respectively Completed
Remarks		IP address or communication setting is changed, the communication may be disabled. Change the environmental settings based on the FDX-S settings.

3.4.14 Preset memory

@RCM		**Recalling crosspoint**
Setting	Command	@RCM, memory<CR><LF>
	Response	@RCM, memory<CR><LF>
Parameter		memory: Crosspoint memory 1 to 32
Setting example	Command Response	@RCM,1<CR><LF> @RCM,1<CR><LF>
	Description	Recalling the crosspoint of Crosspoint memory 1 Completed
Remarks		―

@SCM		**Saving crosspoint memory**
Setting	Command	@SCM, memory (, name)<CR><LF>
	Response	@SCM, memory (, name)<CR><LF>
Parameter		memory: Crosspoint memory 1 to 32
		name: Memory name Up to 10 characters from 20 to 7D from ASCII code If you skip this parameter (“name”), only crosspoint settings are saved without changing its name.
Setting example	Command Response	@SCM,1,MEMORY1<CR><LF> @SCM,1,MEMORY1<CR><LF>
	Description	Saving the crosspoint status to Crosspoint memory 1 with the name of MEMORY1 Completed
Remarks		Even if some channels are set not to be controlled, settings of all output channels are saved. You can change channel control setting in “**@GCM / @ECM Editing crosspoint**”.

@SEM		**Saving crosspoint memory**
Setting	Command	@SEM, memory (, name)<CR><LF>
	Response	@SEM, memory (, name)<CR><LF>
Parameter		memory: Crosspoint memory 1 to 32
		name: Memory name Up to 10 characters from 20 to 7D from ASCII code If you skip this parameter (“name”), only crosspoint settings are saved without changing its name.
Setting example	Command	@SEM,1,MEMORY1<CR><LF>
	Response	@SEM,1,MEMORY1<CR><LF>
	Description	Saving the crosspoint status to Crosspoint memory 1 with the name of MEMORY1 Completed
Remarks		Even if some channels are set not to be controlled, settings of all output channels are saved. You can change channel control setting in “**@GCM / @ECM Editing crosspoint**”.

@GCM / @ECM		**Editing crosspoint**
Getting	Command	@GCM, memory<CR><LF>
	Response	@GCM, memory, v_1, ･･･, v_8 (, v_9, ･･･, v_n)<CR><LF>
Setting	Command	@ECM, memory, v_1, ･･･, v_8 (, v_9, ･･･, v_n)<CR><LF>
	Response	@ECM, memory, v_1, ･･･, v_8 (, v_9, ･･･, v_n)<CR><LF>
Parameter		memory: Crosspoint memory 1 to 32
		v_1-n: Input channel selected for output channel -1 = Not controlled [Default], 0 = OFF, 1 to n = IN1 to INn
Getting example	Command	@GCM,1<CR><LF>
	Response	@GCM,1,-1,-1,-1,-1,-1,-1,-1,-1,-1,-1,-1,-1,-1,-1,-1,-1,-1,-1<CR><LF>
	Description	Getting the crosspoint of Crosspoint memory 1 All output channels: “-1” (Not controlled)
Setting example	Command	@ECM,1,1,2,3･･･,15,-1<CR><LF>
	Response	@ECM,1,1,2,3･･･,15,-1<CR><LF>
	Description	For Crosspoint memory 1, setting OUT1 to OUT15 to the same number I/O channels; setting OUT16 not to be controlled Completed
Remarks		―

@RPM		**Recalling preset memory**
Setting	Command	@RPM, preset<CR><LF>
	Response	@RPM, preset<CR><LF>
Parameter		preset: Preset memory 1 to 32
Setting example	Command Response	@RPM,1<CR><LF> @RPM,1<CR><LF>
	Description	Recalling the Preset memory 1 Completed
Remarks		―

@SPM		**Saving preset memory**
Setting	Description	Overwriting all
	Command	@SPM, preset (, name)<CR><LF>
	Response	@SPM, preset (, name)<CR><LF>
Parameter		preset: Preset memory 1 to 32
		name: Memory name Up to 10 characters from 20 to 7D from ASCII code If you skip this parameter (“name”), only current settings are saved without changing its name.
Setting example	Command Response	@SPM,1,MEMORY1<CR><LF> @SPM,1,MEMORY1<CR><LF>
	Description	Saving the current settings to Preset memory 1 with the name of MRMORY1 Completed
Remarks		―

@GPM		**Preset memory number matching I/O channel status**
Getting	Command	@GPM<CR><LF>
	Response	@GPM, preset<CR><LF>
Parameter		preset: Preset memory number that includes preset memory matching the current FDX-S crosspoint. 000 = None, 001 to 032 = Preset memory 1 to Preset memory 32
Getting example	Command Response	@GPM<CR><LF> @GPM,000<CR><LF>
	Description	Getting the number of preset memory matching current FDX-S I/O crosspoint None
Remarks		If several memory numbers are matched, the smaller number will be returned.

3.4.15 Bitmap

Scan conversion output only

@GBM / @SBM		**Bitmap image output**
Getting	Command	@GBM<CR><LF>
	Response	@GBM, mode_1, ･･･, mode_8 (, mode_9, ･･･, mode_n)<CR><LF>
Setting	Command	@SBM, out_1, mode_1 (, out_2, mode_2, ･･･)<CR><LF>
	Response	@SBM, out_1, mode_1 (, out_2, mode_2, ･･･)<CR><LF>
Parameter		mode_1-n: Bitmap image output 0 = OFF [Default], 1 to 4 = BITMAP1 to BITMAP4 -2 = No scan conversion output board is installed. (For response only)
		out_1-n: Output channel 0 = All outputs, 1 to n = OUT1 to OUTn
Getting example	Command Response	@GBM<CR><LF> @GBM,1,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0<CR><LF>
	Description	Getting the output video OUT1 : Outputting a BITMAP1 image Other output channels : Not outputting a BITMAP image
Setting example	Command Response	@SBM,1,1<CR><LF> @SBM,1,1<CR><LF>
	Description	Setting the OUT1 to output BITMAP1 Completed
Remarks		－

Scan conversion output only

@GBB / @SBB		**Background color**
Getting	Command	@GBB, ch<CR><LF>
	Response	@GBB, ch, red_1, green_1, blue_1, red_2, green_2, blue_2, red_3, green_3, blue_3, red_4, green_4, blue_4<CR><LF>
Setting	Command	@SBB, ch, bitmap, red, green, blue<CR><LF>
	Response	@SBB, ch, bitmap, red, green, blue<CR><LF>
Parameter		ch: Output channel 0 = All outputs, 1 to n = OUT1 to OUTn
		reg/red_1-4 : Background color (Red) green/green_1-4 : Background color (Green) blue/blue_1-4 : Background color (Blue) 0 to 255 [Default] 0 (Black), -2 = No scan conversion output board is installed. (For response only)
		bitmap: Bitmap number 0 = ALL BITMAPS, 1 = BITMAP1, 2 = BITMAP2, 3 = BITMAP3, 4 = BITMAP4
Getting example	Command Response	@GBB,1<CR><LF> @GBB,1,255,0,0,0,0,0,0,0,0,0,0,0<CR><LF>
	Description	Getting the background color for when BITMAP1 is output BITMAP1 : Red is 255 Green and Blue are 0 (Red) BITMAP2 to 4 : Red, Green, and Blue: 0 (Black)
Setting example	Command Response	@SBB,1,1,255,255,255<CR><LF> @SBB,1,1,255,255,255<CR><LF>
	Description	Setting the OUT1 BITMAP1 background color to “255” for Red, Green, and Blue (white) Completed
Remarks		―

Scan conversion output only

@GBT / @SBT		**Aspect ratio**
Getting	Command	@GBT, ch<CR><LF>
	Response	@GBT, ch, aspect_1, aspect_2 aspect_3 aspect_4<CR><LF>
Setting	Command	@SBT, ch, bitmap, aspect<CR><LF>
	Response	@SBT, ch, bitmap, aspect<CR><LF>
Parameter		ch: Output channel 0 = All outputs, 1 to n = OUT1 to OUTn
		aspect/aspect_1-4: Aspect ratio 0 = AUTO [Default], 1 = FULL, 2 = THROUGH, -2 = No scan conversion output board is installed. (For response only)
		bitmap: Bitmap number 0 = ALL BITMAPS, 1 = BITMAP1, 2 = BITMAP2, 3 = BITMAP3, 4 = BITMAP4
Getting example	Command	@GBT,1<CR><LF>
	Response	@GBT,1,1,0,0,0<CR><LF>
	Description	Getting the aspect ratio for when BITMAP1 is output BITMAP1 : FULL Other BITMAPS : AUTO
Setting example	Command	@SBT,1,1,1<CR><LF>
	Response	@SBT,1,1,1<CR><LF>
	Description	Setting the aspect ratio for when BITMAP1 is output to OUT1 to FULL Completed
Remarks		―

Scan conversion output only

@GZP / @SZP		**Image position**
Getting	Command	@GZP, ch<CR><LF>
	Response	@GZP, ch, position_1, position_2 , position_3, position_4<CR><LF>
Setting	Command	@SZP, ch, bitmap, position<CR><LF>
	Response	@SZP, ch, bitmap, position<CR><LF>
Parameter		ch: Output channel 0 = All outputs, 1 to n = OUT1 to OUTn
		position/position_1-4: Image position 0 = CENTER [Default], 1 = TOP-LEFT, 2 = BOTTOM-LEFT, 3 = TOP-RIGHT, 4 = BOTTOM-RIGHT, -2 = No scan conversion output board is installed. (For response only)
		bitmap: Bitmap number 0 = ALL BITMAPS, 1 = BITMAP1, 2 = BITMAP2, 3 = BITMAP3, 4 = BITMAP4
Getting example	Command	@GZP,1<CR><LF>
	Response	@GZP,1,1,0,0,0<CR><LF>
	Description	Getting the image position for when BITMAP1 is output BITMAP1 : TOP-LEFT Other BITMAPS : CENTER
Setting example	Command	@SZP,1,1,1<CR><LF>
	Response	@SZP,1,1,1<CR><LF>
	Description	Setting the display position for when BITMAP1 is output to OUT1 to the upper left Completed
Remarks		―

Scan conversion output only

@GPB / @SPB		**Start-up bitmap output**
Getting	Command	@GPB<CR><LF>
	Response	@GPB, mode_1, ・・・, mode_8 (, mode_9, ・・・, mode_n)<CR><LF>
Setting	Command	@SPB, out_1, mode_1 (, out_2, mode_2, ・・・)<CR><LF>
	Response	@SPB, out_1, mode_1 (, out_2, mode_2, ・・・)<CR><LF>
Parameter		mode_1-n: Bitmap image output 0 = OFF [Default], 1 to 4 = BITMAP1 to BITMAP4, -2 = No scan conversion output board is installed. (For response only)
		out_1-n: Output channel 0 = All outputs, 1 to n = OUT1 to OUTn
Getting example	Command	@GPB<CR><LF>
	Response	@GPB,1,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0<CR><LF>
	Description	Getting the start-up bitmap output OUT1 : Outputting a BITMAP1 image at start-up Other output channels : Not outputting a BITMAP image at start-up
Setting example	Command	@SPB,1,0<CR><LF>
	Response	@SPB,1,0<CR><LF>
	Description	Setting the OUT1 not to output BITMAP at start-up Completed
Remarks		―

3.4.16 Multi window output

Scan conversion multiview output only

@GOP / @SOP		Window size/Window position
Getting	Command	@GOP, out_ch<CR><LF>
	Response	@GOP, out_ch, h_zoom, v_zoom, h_posi, v_posi<CR><LF>
Setting	Command	@SOP, out_ch, h_zoom, v_zoom, h_posi, v_posi<CR><LF>
	Response	@SOP, out_ch, h_zoom, v_zoom, h_posi, v_posi<CR><LF>
Parameter		out_ch: Output window 1 to n = OUT1 to OUTn
		h_zoom: Horizontal image size 2000 to 10000 = 20.00% to 100.00% [Default] 5000 (50.00%) -2 = No scan conversion multiview output board (For response only)* *h_zoom, v_zoom, and h_posi, v_posi are not displayed.
		v_zoom: Vertical image size 2000 to 10000 = 20.00% to 100.00% [Default] 5000 (50.00%)
		h_posi: Horizontal image position 0 to +10000 = 0.00% to 100.00% [Default] +0 (0.00%),+5000 (50.00%)
		v_posi: Vertical image position 0 to +10000 = 0.00% to +100.00% [Default] +0 (0.00%),+5000 (50.00%)
Getting example	Command Response	@GOP,1<CR><LF> @GOP,1,10000,10000,+0,+0<CR><LF>
	Description	Getting the Output window 1 image size and position Horizontal and vertical image size : 100.00% Horizontal and vertical image position : 0.00%
Setting example	Command Response	@SOP,1,5000,5000,0,0<CR><LF> @SOP,1,5000,5000,0,0<CR><LF>
	Description	Setting the Output window1 horizontal sizes, vertical sizes. Horizontal position, and vertical position to 50.00%, 50.00%, 0.00%, and 0.00%, respectively. Completed
Remarks		—

Scan conversion multiview output only

@GQP / @SQP		**Image size/Image position**
Getting	Command	@GQP, out_ch<CR><LF>
	Response	@GQP, out_ch, h_zoom, v_zoom, h_posi, v_posi<CR><LF>
Setting	Command	@SQP, out_ch, h_zoom, v_zoom, h_posi, v_posi<CR><LF>
	Response	@SQP, out_ch, h_zoom, v_zoom, h_posi, v_posi<CR><LF>
Parameter		out_ch: Output window 1 to n = OUT1 to OUTn
		h_zoom: Horizontal image size 2000 to 40000 = 20.00% to 400.00% [Default] 10000 (100.00%) -2 = No scan conversion multiview output board (For response only)* *h_zoom, v_zoom, h_posi, and v_posi are not displayed.
		v_zoom: Vertical image size 2000 to 40000 = 20.00% to 400.00% [Default] 10000 (100.00%)
		h_posi: Horizontal image position -40000 to +40000 = -400.00% to +400.00% [Default] +0 (0.00%)
		v_posi: Vertical image position -40000 to +40000 = -400.00% to +400.00% [Default] +0 (0.00%)
Getting example	Command Response	@GQP,1<CR><LF> @GQP,1,10000,10000,+0,+0<CR><LF>
	Description	Getting the image size and position the current Output window 1 Horizontal and vertical image size : 100.00% Horizontal and vertical image position : 0.00%
Setting example	Command Response	@SQP,1,10000,10000,0,0<CR><LF> @SQP,1,10000,10000,0,0<CR><LF>
	Description	Setting the Output window 1 horizontal sizes, vertical sizes, horizontal position, and vertical position to 100.00%, 100.00%, 0.00%, and 0.00%, respectively. Completed
Remarks		ー

Scan conversion multiview output only

@GEB / @SEB		Background color
Getting	Command	@GEB, out_ch<CR><LF>
	Response	@GEB, out_ch, red, green, blue<CR><LF>
Setting	Command	@SEB, out_ch, red, green, blue<CR><LF>
	Response	@SEB, out_ch, red, green, blue<CR><LF>
Parameter		out_ch: Output window 1 to n = OUT1 to OUTn
		red : Background color (Red) green : Background color (Green) blue : Background color (Blue) 0 to 255 [Default] 0 (Black) -2 = No scan conversion multiview output board (For response only)
Getting example	Command Response	@GEB,1<CR><LF> @GEB,1,0,0,0<CR><LF>
	Description	Getting the Output window 1 background color All: “0” (Black)
Setting example	Command Response	@SEB,1,0,0,0<CR><LF> @SEB,1,0,0,0<CR><LF>
	Description	Setting all background colors of the Output window 1 to “0” (Black) Completed
Remarks		―

Scan conversion multiview output only

@GWP / @SWP		Window layer order
Getting	Command	@GWP, out_ch<CR><LF>
	Response	@GWP, out_ch, window_a, window_b, window_c, window_d<CR><LF>
Setting	Command	@SWP, out_ch, window_a, window_b, window_c, window_d<CR><LF>
	Response	@SWP, out_ch, window_a, window_b, window_c, window_d<CR><LF>
Parameter		out_ch: Channel of output board 1 to n = OUT1 to OUTn
		window_a to d: Window A to D layer order 1 to 4 = Front to back [Default] 1,2,3,4 -2 = No scan conversion multiview output board (For response only)
Getting example	Command Response	@GWP,1<CR><LF> @GWP,1,1,2,3,4<CR><LF>
	Description	Getting the current window layer order of Output board 1 window_a > window_b > window_c > window_d
Setting example	Command Response	@SWP,1,1,2,3,4<CR><LF> @SWP,1,1,2,3,4<CR><LF>
	Description	Setting the window layer order of Output board 1 to “window_a > window_b > window_c > window_d”. Completed
Remarks		This command is enabled for only the first channel of each output board. 【See: 3.1 Board channel configuration】

Scan conversion multiview output only

@GSE / @SSE		**Video transition effect**
Getting	Command	@GSE, out_ch<CR><LF>
	Response	@GSE, out_ch, mode<CR><LF>
Setting	Command	@SSE, out_ch, mode<CR><LF>
	Response	@SSE, out_ch, mode<CR><LF>
Parameter		out_ch: Output window 0 = All outputs (For setting only), 1 to n = OUT1 to OUTn
		mode: Fade out/Fade in 0 = OFF, 1 = ON [Default], -2 = No scan conversion multiview output board (For response only)
Getting example	Command	@GSE,1<CR><LF>
	Response	@GSE,1,1<CR><LF>
	Description	Getting the Output window 1 switching effect mode ON
Setting example	Command	@SSE,1,1<CR><LF>
	Response	@SSE,1,1<CR><LF>
	Description	Setting the Output window 1 switching effect mode to ON Completed
Remarks		―

Scan conversion multiview output only

@GWV / @SWV		**Window ON/OFF**
Getting	Command	@GWV, out_ch<CR><LF>
	Response	@GWV, out_ch, mode<CR><LF>
Setting	Command	@SWV, out_ch, mode<CR><LF>
	Response	@SWV, out_ch, mode<CR><LF>
Parameter		out_ch: Output window 0 = All outputs (For setting only), 1 to n = OUT1 to OUTn
		mode: Window ON/OFF 0 = OFF, 1 = ON [Default], -2 = No scan conversion multiview output board (For response only)
Getting example	Command	@GWV,1<CR><LF>
	Response	@GWV,1,1<CR><LF>
	Description	Getting the Output window 1 ON/OFF ON
Setting example	Command	@SWV,1,1<CR><LF>
	Response	@SWV,1,1<CR><LF>
	Description	Setting the Output window 1 ON/OFF to ON Completed
Remarks		―

Scan conversion multiview output only

@GTO / @STO		Overlay text position
Getting	Command	@GTO, out_ch<CR><LF>
	Response	@GTO, out_ch, position<CR><LF>
Setting	Command	@STO, out_ch, position<CR><LF>
	Response	@STO, out_ch, position<CR><LF>
Parameter		out_ch: Output window 0 = All outputs (For setting only), 1 to n = OUT1 to OUTn
		position: Image position 0 = OFF, 1 = TOP-LEFT [Default], 2 = TOP- CENTER, 3 = TOP-RIGHT, 4 = BOTTOM-LEFT, 5 = BOTTOM-CENTER, 6 = BOTTOM-RIGHT -2 = No scan conversion multiview output board (For response only)
Getting example	Command	@GTO,1<CR><LF>
	Response	@GTO,1,1<CR><LF>
	Description	Getting the Output window 1 overlay text position TOP-LEFT
Setting example	Command	@STO,1,1<CR><LF>
	Response	@STO,1,1<CR><LF>
	Description	Setting the Output window 1 overlay text position to TOP-LEFT Completed
Remarks		―

Scan conversion multiview output only

@GTS / @STS		Overlay text size
Getting	Command	@GTS, out_ch<CR><LF>
	Response	@GTS, out_ch, mode<CR><LF>
Setting	Command	@STS, out_ch, mode<CR><LF>
	Response	@STS, out_ch, mode<CR><LF>
Parameter		out_ch: Output window 0 = All outputs (For setting only), 1 to n = OUT1 to OUTn
		mode: Size 0 = SMALL, 1 = LARGE [Default], -2 = No scan conversion multiview output board (For response only)
Getting example	Command	@GTS,1<CR><LF>
	Response	@GTS,1,0<CR><LF>
	Description	Getting the Output window 1 overlay text size SMALL
Setting example	Command	@STS,1,0<CR><LF>
	Response	@STS,1,0<CR><LF>
	Description	Setting the Output window 1 overlay text size to SMALL Completed
Remarks		―

Scan conversion multiview output only

@GFW / @SFW		**Window border size**
Getting	Command	@GFW, out_ch<CR><LF>
	Response	@GFW, out_ch, width<CR><LF>
Setting	Command	@SFW, out_ch, width<CR><LF>
	Response	@SFW, out_ch, width<CR><LF>
Parameter		out_ch: Output window 1 to n = OUT1 to OUTn
		width: Window border size 0 to 15 = 0 pixel to 15 pixels [Default] 0 pixel -2 = No scan conversion multiview output board (For response only)
Getting example	Command Response	@GFW,1<CR><LF> @GFW,1,0<CR><LF>
	Description	Getting the window border size of Output window 1 0
Setting example	Command Response	@SFW,1,0<CR><LF> @SFW,1,0<CR><LF>
	Description	Setting the Output window 1 window border size to “0” Completed
Remarks		―

Scan conversion multiview output only

@GFC / @SFC		**Window border color**
Getting	Command	@GFC, out_ch<CR><LF>
	Response	@GFC, out_ch, red, green, blue<CR><LF>
Setting	Command	@SFC, out_ch, red, green, blue<CR><LF>
	Response	@SFC, out_ch, red, green, blue<CR><LF>
Parameter		out_ch: Output window 1 to n = OUT1 to OUTn
		red : Window border color (Red) green : Window border color (Green) blue : Window border color (Blue) 0 to 255 [Default] 0 (Black) -2 = No scan conversion multiview output board (For response only)
Getting example	Command Response	@GFC,1<CR><LF> @GFC,1,0,0,0<CR><LF>
	Description	Getting the Output window 1 window border color All “0” (Black)
Setting example	Command Response	@SFC,1,0,0,0<CR><LF> @SFC,1,0,0,0<CR><LF>
	Description	Setting all window border colors of the Output window 1 to “0” (Black) Completed
Remarks		―

Scan conversion multiview output only

@RWM		**Recalling multi window memory**
Setting	Command	@RWM, out_ch, preset<CR><LF>
	Response	@RWM, out_ch, preset<CR><LF>
Parameter		out_ch: Channel of output board 1 to n = OUT1 to OUTn
		preset: Multi window memory 1 to 10
Setting example	Command Response	@RWM,1,1<CR><LF> @RWM,1,1<CR><LF>
	Description	Recalling the Output windows 1 to 4 to Multi window memory 1 Completed
Remarks		This command recalls only the first channel of each output board. 【See: 3.1 Board channel configuration】

Scan conversion multiview output only

@SWM		**Saving multi window memory**
Setting	Description	Overwriting all
	Command	@SWM, out_ch, preset (, name)<CR><LF>
	Response	@SWM, out_ch, preset (, name)<CR><LF>
Parameter		out_ch: Channel of output board 1 to n = OUT1 to OUTn
		preset: Multi window memory 1 to 10
		name: Memory name Up to 10 characters from 20 to 7D from ASCII code If you skip this parameter (“name”), only current settings are saved without changing its name.
Setting example	Command Response	@SWM,1,1,MEMORY1<CR><LF> @SWM,1,1,MEMORY1<CR><LF>
	Description	Saving the current Output windows 1 to 4 settings to Multi window memory 1 with the name of MRMORY1 Completed
Remarks		This command saves only the first channel of each output board. 【See: 3.1 Board channel configuration】

3.4.17 Configuring FDX-S

@GLS / @SLS		**Front panel security lockout**
Getting	Command	@GLS<CR><LF>
	Response	@GLS, lock<CR><LF>
Setting	Command	@SLS, lock<CR><LF>
	Response	@SLS, lock<CR><LF>
Parameter		lock: Front panel security lockout 0 = Unlocking [Default], 1 = Locking, 2 = Changing the current setting
Getting example	Command	@GLS<CR><LF>
	Response	@GLS,0<CR><LF>
	Description	Getting the lock status Unlocking
Setting example	Command	@SLS,1<CR><LF>
	Response	@SLS,1<CR><LF>
	Description	Enabling the front panel security lockout Completed
Remarks		―

@GLM / @SLM		**Grouping front panel security lockout**
Getting	Command	@GLM<CR><LF>
	Response	@GLM, channel, menu, preset<CR><LF>
Setting	Command	@SLM, channel, menu, preset<CR><LF>
	Response	@SLM, channel, menu, preset<CR><LF>
Parameter		channel : INPUT SELECT buttons, OUTPUT SELECT buttons, I/O channel selection buttons menu : MENU/ENTER button, Navigation buttons preset : PRESET LOAD button 0 = Not locked, 1 = Locked [Default]
Getting example	Command	@GLM<CR><LF>
	Response	@GLM,1,1,1<CR><LF>
	Description	Getting the button security lockout target - INPUT SELECT buttons, OUTPUT SELECT buttons, I/O channel selection buttons - MENU/ENTER button, Navigation buttons - PRESET LOAD button
Setting example	Command	@SLM,1,1,1<CR><LF>
	Response	@SLM,1,1,1<CR><LF>
	Description	Setting the button security lockout target as follows: - INPUT SELECT buttons, OUTPUT SELECT buttons, I/O channel selection buttons - MENU/ENTER button, Navigation buttons - PRESET LOAD button Completed
Remarks		―

3.4.18 Status indication

<table>
<tr><td colspan="2">@GIS</td><td>Input signal status (For each channel)</td></tr>
<tr><td rowspan="2">Getting</td><td>Command</td><td>@GIS, in, mode<CR><LF></td></tr>
<tr><td>Response</td><td>@GIS, in, mode, status_1 (, status_2, status_3, status_4, status_5)<CR><LF></td></tr>
<tr><td colspan="2" rowspan="5">Parameter</td><td>in: Input channel
1 to n = IN1 to INn</td></tr>
<tr><td>mode: Target status
0 = All statuses of input signal, 1 = Input mode/Input color depth,
2 = Input resolution/Vertical sync frequency, 3 = Input color space,
4 = Input audio/Input sampling frequency, 5 = Presence of HDCP</td></tr>
<tr><td>status_1: Input mode/Input color depth

<table>
<tr><th>Input mode</th><th>Description</th></tr>
<tr><td>D</td><td>DVI signal, without HDCP</td></tr>
<tr><td>D</td><td>DVI signal, with HDCP</td></tr>
<tr><td>H</td><td>HDMI signal, without HDCP</td></tr>
<tr><td>H</td><td>HDMI signal, with HDCP</td></tr>
<tr><td>S</td><td>SDI signal</td></tr>
<tr><td>N</td><td>No signal is input</td></tr>
</table>
<table>
<tr><th>Input color depth</th><th>Description</th></tr>
<tr><td>08</td><td>24 bit/pixel (8 bit/component)</td></tr>
<tr><td>10</td><td>30 bit/pixel (10 bit/component)</td></tr>
<tr><td>12</td><td>36 bit/pixel (12 bit/component)</td></tr>
</table></td></tr>
<tr><td>status_2: Input resolution/Vertical sync frequency

<table>
<tr><th>Value</th><th>Description</th></tr>
<tr><td>1920x1080p 59.94Hz</td><td>1080p@59.94</td></tr>
<tr><td>1600x1200p 60Hz</td><td>UXGA@60</td></tr>
<tr><td>NO SIGNAL</td><td>No signal is input.</td></tr>
</table></td></tr>
<tr><td>status_3: Input color space

<table>
<tr><th>Value</th><th>Description</th></tr>
<tr><td>RGB</td><td>RGB input</td></tr>
<tr><td>YCbCr 4:2:2</td><td>YCbCr 4:2:2 input</td></tr>
<tr><td>YCbCr 4:4:4</td><td>YCbCr 4:4:4 input</td></tr>
<tr><td>YCbCr 4:2:0</td><td>YCbCr 4:2:0 input</td></tr>
<tr><td>NO SIGNAL</td><td>No signal is input.</td></tr>
</table></td></tr>
<tr><td>status_4: Input audio/Input sampling frequency

<table>
<tr><th>Value</th><th>Description</th></tr>
<tr><td>L-PCM 48kHz</td><td>2-channel LPCM 48 kHz</td></tr>
<tr><td>L-PCM 48kHz M</td><td>Multi-channel LPCM 48 kHz</td></tr>
<tr><td>COMPRESSED AUDIO</td><td>Compressed audio</td></tr>
<tr><td>NO AUDIO</td><td>No audio is input</td></tr>
</table></td></tr>
</table>

<table>
<tr><td colspan="2">@GIS</td><td>Input signal status (For each channel) (Cont’d)</td></tr>
<tr><td colspan="2"></td><td>status_5: Presence of HDCP

<table><tr><th>Value</th><th>Description</th></tr><tr><td>HDCP OFF</td><td>Signal without HDCP is input</td></tr><tr><td>HDCP 1.4</td><td>HDCP 1.4 signal</td></tr><tr><td>HDCP 2.2 Type0</td><td>HDCP 2.2 stream Type 0 signal</td></tr><tr><td>HDCP 2.2 Type1</td><td>HDCP 2.2 stream Type 1 signal</td></tr><tr><td>NO SIGNAL</td><td>No signal is input.</td></tr></table></td></tr>
<tr><td rowspan="2">Getting example</td><td>Command
Response</td><td>@GIS,1,0<CR><LF>
@GIS,1,0,H08,1920x1080p 59.94Hz,YCbCr 4:4:4,L-PCM 48kHz,
HDCP 2.2 Type0<CR><LF></td></tr>
<tr><td>Description</td><td>Getting IN1 all input signal statuses
- Input video : HDMI mode
- Input color depth : 24 bit/pixel (8 bit/component)
- Input resolution/Vertical sync frequency : 1080p59.94Hz
- Input color space : YCbCr 4:4:4
- Audio input/Audio input sampling frequency : 2-channel LPCM 48kHz
- Presence of HDCP : HDCP 2.2 Type 0</td></tr>
<tr><td colspan="2">Remarks</td><td>—</td></tr>
</table>

<table>
<tr><td colspan="2">@GOS</td><td>Output signal status (For each channel)</td></tr>
<tr><td rowspan="2">Getting</td><td>Command</td><td>@GOS, out, mode<CR><LF></td></tr>
<tr><td>Response</td><td>@GOS, out, mode, status_1 (, status_2)<CR><LF></td></tr>
<tr><td colspan="2" rowspan="4">Parameter</td><td>out: Output channel
1 to n = OUT1 to OUTn</td></tr>
<tr><td>mode: Target status
0 = All statuses of sink device,
1 = HDCP of sink device,
2 = HDCP authentication between the FDX-S and sink device</td></tr>
<tr><td>status_1: HDCP of sink device

<table><tr><th>Value</th><th>Description</th></tr><tr><td>HDCP 2.2 SUPPORT</td><td>Device with HDCP 2.2 is connected.</td></tr><tr><td>HDCP 1.4 SUPPORT</td><td>Device with HDCP 1.4 is connected.</td></tr><tr><td>HDCP NOT SUPPORT</td><td>Device without HDCP is connected.</td></tr><tr><td>HDCP NOT CHECK</td><td>HDCP of sink device is not checked.</td></tr><tr><td>UNCONNECTED</td><td>Sink device is not connected.</td></tr><tr><td>NO BOARD</td><td>No board is installed</td></tr></table></td></tr>
<tr><td>status_2: HDCP authentication between the FDX-S and sink device

<table><tr><th>Value</th><th>Description</th></tr><tr><td>HDCP OFF</td><td>Signal with HDCP is not input</td></tr><tr><td>HDCP OK</td><td>Authentication succeeded</td></tr><tr><td>HDCP ERROR</td><td>Authentication failed</td></tr><tr><td>HDCP CHECK NOW</td><td>Being encrypted</td></tr><tr><td>NO BOARD</td><td>No board is installed</td></tr></table></td></tr>
<tr><td rowspan="2">Getting example</td><td>Command
Response</td><td>@GOS,1,0<CR><LF>
@GOS,1,0,HDCP 2.2 SUPPORT,HDCP OK<CR><LF></td></tr>
<tr><td>Description</td><td>Getting all statuses of OUT1 sink device
- HDCP of the sink device : HDCP 2.2
- HDCP authentication : Completed</td></tr>
<tr><td colspan="2">Remarks</td><td>－</td></tr>
</table>

@GHC		**System status**
Getting	Command	@GHC<CR><LF>
	Response	@GHC, voltage, rpm, temp, in, out, audio<CR><LF>
Parameter		voltage: Power supply voltage status 0 = Normal, 1 = Abnormal
		rpm: Fan status 0 = Normal, 1 = Abnormal
		temp: Internal temperature status 0 = Normal, 1 = Abnormal
		in: Input board communication status 0 = Normal, 1 = Abnormal
		out: Output board communication status 0 = Normal, 1 = Abnormal
		audio: Audio board status 0 = Normal, 1 = Abnormal
Getting example	Command	@GHC<CR><LF>
	Response	@GHC,0,0,0,0,0,0<CR><LF>
	Description	Getting the system check result Normal
Remarks		―

@GBS		**Board status**
Getting	Command	@GBS, board, slot<CR><LF>
	Response	@GBS, board, slot, temp, status<CR><LF>
Parameter		board: Input/Output board 0 = Input board, 1 = Output board, 2 = Audio board
		slot: Board position 1 to x = Board 1 to Board x “x”: The number of output boards (Audio board: “1” or “2” fixed for FDX-S64; “1” fixed for other models)
		temp: Temperature The value of temperature x 100 (e.g. 38.75°C: 3875), -1 = No board is installed. (Installed audio board: “0” fixed)
		status: Board status 0 = Normal, 1 = Abnormal, -1 = No board is installed.
Getting example	Command	@GBS,0,1<CR><LF>
	Response	@GBS,0,1,3425,0<CR><LF>
	Description	Getting the status of the Input board 1 Temperature : 34.25°C Status : Normal
Remarks		―

@GSS		**Board mounting status**
Getting	Command	@GSS, board<CR><LF>
	Response	@GSS, board, slot_1, slot_2 (, slot_3, ・・・, slot_m)<CR><LF>
Parameter		board: Board selection 0 = Input board, 1 = Output board, 2 = Audio board
		slot_1-m: Board mounting status If “board” is set to “0”: 0 = No board is installed., 1 = 4K@30 HDMI/DVI input (FDX-SIV4H) is installed 2 = 4K@30 HDBaseT input (FDX-SIV4T) is installed, 4 = 3G-SDI/HD-SDI/SD-SDI input (FDX-SIV4S) is installed, 101 = 4K@60 HDMI/DVI input (FDX-SIV4UH) is installed, 102 = 4K@60 HDBaseT input (FDX-SIV4UT) is installed, 104 = 12G-SDI/6G-SDI/3G-SDI/HD-SDI input (FDX-SIV4US) is installed If “board” is set to “1”: 0 = No board is installed., 1 = 4K@30 HDMI/DVI output (FDX-SOV4H) is installed, 2 = 4K@30 HDBaseT output (FDX-SOV4T) is installed, 4 = 1080p HDMI/DVI scan conversion output (FDX-SOV4HS) is installed, 5 = 1080p HDBaseT scan conversion output (FDX-SOV4TS) is installed, 101 = 4K@60 HDMI/DVI output (FDX-SOV4UH) is installed, 102 = 4K@60 HDBaseT output (FDX-SOV4UT) is installed, 104 = 4K@60 HDMI/DVI scan conversion output (FDX-SOV2UHS) is installed 106 = 4K@60 HDMI/DVI scan conversion multiview output (FDX-SOV1UHM) is installed 107 = 12G-SDI/6G-SDI/3G-SDI/HD-SDI output (FDX-SOV4US) is installed If “board” is set to “2”: 0 = No board is installed., 1 = 4 I/Os analog audio (FDX-SAB4A) is installed, 2 = 12 outputs analog audio (FDX-SOA12A) is installed, 3 = 64 I/Os network audio (Dante) (FDX-SAB64D) is installed
Getting example	Command	@GSS,0<CR><LF>
	Response	@GSS,0,1,1,1,1,0,0,0,0<CR><LF>
	Description	Getting the input board status Input boards 5 to 8 of FDX-S32U/S32 : No board is installed. Other input boards : 4K@30 HDMI/DVI input board (FDX-SIV4H) is installed.
Remarks		―

<table>
<tr><td colspan="2">@GFS</td><td>Fan status</td></tr>
<tr><td rowspan="2">Getting</td><td>Command</td><td>@GFS<CR><LF></td></tr>
<tr><td>Response</td><td>@GFS, rpm_1, s_1, rpm_2, s_2 (,rpm_3, s_3, ･･･, rpm_n, s_n)<CR><LF></td></tr>
<tr><td colspan="2" rowspan="2">Parameter</td><td>rpm_1-n: Rotation speed</td></tr>
<tr><td>s_1-n: Status
0 = Normal, 1 = Abnormal</td></tr>
<tr><td rowspan="3">Getting example</td><td>Command</td><td>@GFS<CR><LF></td></tr>
<tr><td>Response</td><td>@GFS,3540,0,3540,0,3540,0<CR><LF></td></tr>
<tr><td>Description</td><td>Getting the fan status
Rotation speed of all fans : 3540
Status : Normal</td></tr>
<tr><td colspan="2">Remarks</td><td>The number of FANs (n)
<table>
<tr><th>P/N</th><th>n</th></tr>
<tr><td>FDX-S08U/FDX-S08</td><td>4</td></tr>
<tr><td>FDX-S16U/FDX-S16</td><td>3</td></tr>
<tr><td>FDX-S32U/FDX-S32</td><td>5</td></tr>
<tr><td>FDX-S64</td><td>10</td></tr>
</table></td></tr>
</table>

<table>
<tr><td colspan="2">@GPS</td><td>Power supply voltage status</td></tr>
<tr><td rowspan="2">Getting</td><td>Command</td><td>@GPS<CR><LF></td></tr>
<tr><td>Response</td><td>@GPS, status1 (,status2) (,status3) (,status4)<CR><LF></td></tr>
<tr><td colspan="2">Parameter</td><td>status1-4: Status
0 = Normal, 1 = Abnormal
<table>
<tr><th>Model</th><th>Power</th><th>With redundant power supply</th></tr>
<tr><td>FDX-S08U/FDX-S08
FDX-S16U/FDX-S16
FDX-S32U/FDX-S32</td><td>status1</td><td>status1
status2</td></tr>
<tr><td>FDX-S64</td><td>status1
status2</td><td>status1
status2
status3
status4</td></tr>
</table></td></tr>
<tr><td rowspan="3">Getting example</td><td>Command</td><td>@GPS<CR><LF></td></tr>
<tr><td>Response</td><td>@GPS,0<CR><LF></td></tr>
<tr><td>Description</td><td>Getting the power supply voltage
Normal</td></tr>
<tr><td colspan="2">Remarks</td><td>－</td></tr>
</table>

@GIV		**Version**
Getting	Command	@GIV<CR><LF>
	Response	@GIV, id, version, input, output<CR><LF>
Parameter		id: Model number
		version: Firmware version
		input: The number of inputs 1 to n
		output: The number of outputs 1 to n
Getting example	Command Response	@GIV<CR><LF> @GIV,FDX-S16U,01.00.01,12,12<CR><LF>
	Description	Getting the product information Firmware version : 01.00.01 The number of inputs : 12 The number of outputs : 12
Remarks		－

<table>
<tr><td colspan="2">@GHB</td><td>HDBaseT information</td></tr>
<tr><td rowspan="2">Getting</td><td>Command</td><td>@GHB, ch, mode<CR><LF></td></tr>
<tr><td>Response</td><td>@GHB, ch, mode, status_1 (, status_2, status_3, ・・・)<CR><LF></td></tr>
<tr><td colspan="2" rowspan="5">Parameter</td><td>ch: I/O channels
1 to n = OUT1 to OUTn
101 to 100+n = IN1 to INn</td></tr>
<tr><td>mode: Target information
0 = All statuses, 1 = Video signal information,
2 = Link status, 3 = Connection between source and sink devices,
4 = Device type, 5 = Version ID,
6 =Operation mode, 7 = Connected device type,
8 = Connected version ID, 9 = Operation mode of remote device,
10 = Category cable length, 11 = Bit error rate,
12 = Video signal quality, 13 = Maximum video signal quality,
14 = Video signal residual gap, 15 = Maximum video signal residual gap</td></tr>
<tr><td>status_1: Video signal information
<table><tr><th>Value</th><th>Description</th></tr><tr><td>1920x1080p 59.94Hz YCbCr 4:4:4 24 BIT COLOR</td><td>Video resolution, vertical sync frequency, color space, and color depth</td></tr><tr><td>NO SIGNAL</td><td>No signal is input.</td></tr><tr><td>UNCONNECTED</td><td>Not HDBaseT connector</td></tr></table></td></tr>
<tr><td>status_2: Link status
<table><tr><th>Value</th><th>Description</th></tr><tr><td>LINK ON</td><td>Connected to transmitter or receiver</td></tr><tr><td>LINK OFF</td><td>Not connected</td></tr><tr><td>UNCONNECTED</td><td>Not HDBaseT connector</td></tr></table></td></tr>
<tr><td>status_3: Connection between source and sink devices
<table><tr><th>Value</th><th>Description</th></tr><tr><td>ON</td><td>Connected to source device or sink device</td></tr><tr><td>OFF</td><td>Not connected</td></tr><tr><td>UNCONNECTED</td><td>Not HDBaseT connector</td></tr></table></td></tr>
<tr><td>status_4: Device type
<table><tr><th>Value</th><th>Description</th></tr><tr><td>VS100RX</td><td>VS100RX</td></tr><tr><td>VS100TX</td><td>VS100TX</td></tr><tr><td>UNKNOWN</td><td>Unknown</td></tr><tr><td>UNCONNECTED</td><td>Not HDBaseT connector</td></tr></table></td></tr>
</table>

@GHB	HDBaseT information (Cont'd)
Parameter	status_5: Version ID

Value	Description
13 07 21 10	13.07.21.10
UNKNOWN	Unknown
UNCONNECTED	Not HDBaseT connector

status_6: Operation mode

Value	Description
HDBT MODE	HDBaseT mode
LONG REACH MODE	Long reach mode
LPPF1 MODE	LOW POWER mode 1
LPPF2 MODE	LOW POWER mode 2
UNKNOWN	Unknown
UNCONNECTED	Not HDBaseT connector

status_7: Connected device type

Value	Description
VS100RX	VS100RX
VS100TX	VS100TX
UNKNOWN	Unknown
UNCONNECTED	Remote device is not connected or the connector is not HDBaseT connector

status_8: Connected version ID

Value	Description
13 07 21 10	13.07.21.10
UNKNOWN	Unknown
UNCONNECTED	Remote device is not connected or the connector is not HDBaseT connector

status_9: Operation mode of remote device

Value	Description
HDBT MODE	HDBaseT mode
LONG REACH MODE	Long reach mode
LPPF1 MODE	LOW POWER mode 1
LPPF2 MODE	LOW POWER mode 2
UNKNOWN	Unknown
UNCONNECTED	Remote device is not connected or the connector is not HDBaseT connector

@GHB	HDBaseT information (Cont'd)
Parameter	status_10: Category cable length

Value	Description
85m	Category cable length
<20m	66 ft. (20 m) or shorter
100m<	328 ft. (100 m) or longer
UNKNOWN	Unknown
UNCONNECTED	Remote device is not connected or the connector is not HDBaseT connector

status_11: Bit error rate

Value	Description
10e-11	Signal bit error rate
UNKNOWN	Unknown
NO SIGNAL	No video signal
UNCONNECTED	Remote device is not connected or the connector is not HDBaseT connector

status_12: Video signal quality

Value	Description
A:-22 B:-20 C:-21 D:-22	Signal quality
UNKNOWN	Unknown
UNCONNECTED	Remote device is not connected or the connector is not HDBaseT connector

status_13: Maximum video signal quality

Value	Description
A:-22 B:-20 C:-21 D:-22	Maximum signal quality
-- -- -- --	N/A
UNCONNECTED	Remote device is not connected or the connector is not HDBaseT connector

status_14: Video signal residual gap

Value	Description
A:0.34 B:0.35 C:0.32 D:0.33	Signal residual gap
UNKNOWN	Unknown
UNCONNECTED	Remote device is not connected or the connector is not HDBaseT connector

<table>
<tr><td colspan="2">@GHB</td><td>HDBaseT status (Cont’d)</td></tr>
<tr><td colspan="2">Parameter</td><td>status_15: Maximum video signal residual gap

<table><tr><th>Value</th><th>Description</th></tr><tr><td>A:0.34 B:0.35 C:0.32 D:0.33</td><td>Maximum signal residual gap</td></tr><tr><td>-- -- -- --</td><td>N/A</td></tr><tr><td>UNCONNECTED</td><td>Remote device is not connected or the connector is not HDBaseT connector</td></tr></table></td></tr>
<tr><td rowspan="2">Getting example</td><td>Command
Response</td><td>@GHB,1,0<CR><LF>
@GHB,1,0,1920x1080p 59.94Hz YCbCr 4:4:4 24 BIT COLOR,LINK ON,ON,
VS100TX,13 07 21 00,HDBT MODE,VS100RX,13 07 21 00,
HDBT MODE,85m,10e-11,A:-22 B:-20 C:-21 D:-22, A:-22 B:-20 C:-21 D:-22,
A:0.34 B:0.35 C:0.32 D:0.33,A:0.34 B:0.35 C:0.32 D:0.33<CR><LF></td></tr>
<tr><td>Description</td><td>Getting all HDBaseT information of Output 1

<table><tr><th>Parameter</th><th>Item</th><th>Description</th></tr><tr><td>status_1</td><td>Video signal information</td><td>1920x1080p 59.94Hz
YCbCr 4:4:4
24 BIT COLOR</td></tr><tr><td>status_2</td><td>Link status</td><td>Connected</td></tr><tr><td>status_3</td><td>Connected sink device</td><td>Connected</td></tr><tr><td>status_4</td><td>OUT1 device type</td><td>VS100TX</td></tr><tr><td>status_5</td><td>OUT1 version ID</td><td>13.07.21.00</td></tr><tr><td>status_6</td><td>OUT1 operation mode</td><td>HDBaseT mode</td></tr><tr><td>status_7</td><td>Connected device type</td><td>VS100RX</td></tr><tr><td>status_8</td><td>Connected version ID</td><td>13.07.21.00</td></tr><tr><td>status_9</td><td>Operation mode of remote device</td><td>HDBaseT mode</td></tr><tr><td>status_10</td><td>Category cable length</td><td>279 ft. (85 m)</td></tr><tr><td>status_11</td><td>Bit error rate</td><td>10e-11</td></tr><tr><td>status_12</td><td>Video signal quality</td><td>A : -22dB B : -20dB
C : -21dB D : -22dB</td></tr><tr><td>status_13</td><td>Maximum video signal quality</td><td>A : -22dB B : -20dB
C : -21dB D : -22dB</td></tr><tr><td>status_14</td><td>Video signal residual gap</td><td>A : 0.34 B : 0.35
C : 0.32 D : 0.33</td></tr><tr><td>status_15</td><td>Maximum video signal residual gap</td><td>A : 0.34 B : 0.35
C : 0.32 D : 0.33</td></tr></table></td></tr>
<tr><td colspan="2">Remarks</td><td>—</td></tr>
</table>

3.4.19 Status notification

<table>
<tr><td colspan="2">@GPH / @SPH</td><td>Unsolicited notification interval</td></tr>
<tr><td rowspan="2">Getting</td><td>Command</td><td>@GPH<CR><LF></td></tr>
<tr><td>Response</td><td>@GPH, time<CR><LF></td></tr>
<tr><td rowspan="2">Setting</td><td>Command</td><td>@SPH, time<CR><LF></td></tr>
<tr><td>Response</td><td>@SPH, time<CR><LF></td></tr>
<tr><td colspan="2">Parameter</td><td>time: Notification interval
0 = OFF [Default], 1 to 50 = 100 ms. to 5000 ms.

<table>
<tr><th>time</th><th>ON/OFF</th><th>Interval</th><th></th><th>time</th><th>ON/OFF</th><th>Interval</th></tr>
<tr><td>0</td><td>OFF</td><td>－</td><td rowspan="11">to</td><td>40</td><td>ON</td><td>4000 ms.</td></tr>
<tr><td>1</td><td>ON</td><td>100 ms.</td><td>41</td><td>ON</td><td>4100 ms.</td></tr>
<tr><td>2</td><td>ON</td><td>200 ms.</td><td>42</td><td>ON</td><td>4200 ms.</td></tr>
<tr><td>3</td><td>ON</td><td>300 ms.</td><td>43</td><td>ON</td><td>4300 ms.</td></tr>
<tr><td>4</td><td>ON</td><td>400 ms.</td><td>44</td><td>ON</td><td>4400 ms.</td></tr>
<tr><td>5</td><td>ON</td><td>500 ms.</td><td>45</td><td>ON</td><td>4500 ms.</td></tr>
<tr><td>6</td><td>ON</td><td>600 ms.</td><td>46</td><td>ON</td><td>4600 ms.</td></tr>
<tr><td>7</td><td>ON</td><td>700 ms.</td><td>47</td><td>ON</td><td>4700 ms.</td></tr>
<tr><td>8</td><td>ON</td><td>800 ms.</td><td>48</td><td>ON</td><td>4800 ms.</td></tr>
<tr><td>9</td><td>ON</td><td>900 ms.</td><td>49</td><td>ON</td><td>4900 ms.</td></tr>
<tr><td>10</td><td>ON</td><td>1000 ms.</td><td>50</td><td>ON</td><td>5000 ms.</td></tr>
</table></td></tr>
<tr><td rowspan="2">Getting example</td><td>Command
Response</td><td>@GPH<CR><LF>
@GPH,5<CR><LF></td></tr>
<tr><td>Description</td><td>Getting the unsolicited notification interval
500 ms.</td></tr>
<tr><td rowspan="2">Setting example</td><td>Command
Response</td><td>@SPH,50<CR><LF>
@SPH,50<CR><LF></td></tr>
<tr><td>Description</td><td>Setting the unsolicited notification time to 5000 ms. (5 seconds)
Completed</td></tr>
<tr><td colspan="2">Remarks</td><td>It is set to “0” (OFF) after powering off the FDX-S.</td></tr>
</table>

<table>
<tr><td colspan="2">@PSH</td><td>Unsolicited status notification</td></tr>
<tr><td>Getting</td><td>Response</td><td>@PSH, in,out, system<CR><LF></td></tr>
<tr><td colspan="2">Parameter</td><td>in: Checking if input status changes
0 = Not change, 1 to FFFFFFFF FFFFFFFF = Changes

<table>
<tr><td>bit</td><td>7</td><td>6</td><td>5</td><td>4</td><td>3</td><td>2</td><td>1</td><td>0</td></tr>
<tr><td>in</td><td>IN8</td><td>IN7</td><td>IN6</td><td>IN5</td><td>IN4</td><td>IN3</td><td>IN2</td><td>IN1</td></tr>
</table>
<table>
<tr><td>bit</td><td>15</td><td>14</td><td>13</td><td>12</td><td>11</td><td>10</td><td>9</td><td>8</td></tr>
<tr><td>in</td><td>IN16</td><td>IN15</td><td>IN14</td><td>IN13</td><td>IN12</td><td>IN11</td><td>IN10</td><td>IN9</td></tr>
</table>
<table>
<tr><td>bit</td><td>23</td><td>22</td><td>21</td><td>20</td><td>19</td><td>18</td><td>17</td><td>16</td></tr>
<tr><td>In</td><td>IN24</td><td>IN23</td><td>IN22</td><td>IN21</td><td>IN20</td><td>IN19</td><td>IN18</td><td>IN17</td></tr>
</table>
<table>
<tr><td>bit</td><td>31</td><td>30</td><td>29</td><td>28</td><td>27</td><td>26</td><td>25</td><td>24</td></tr>
<tr><td>in</td><td>IN32</td><td>IN31</td><td>IN30</td><td>IN29</td><td>IN28</td><td>IN27</td><td>IN26</td><td>IN25</td></tr>
</table>
<table>
<tr><td>bit</td><td>39</td><td>38</td><td>37</td><td>36</td><td>35</td><td>34</td><td>33</td><td>32</td></tr>
<tr><td>in</td><td>IN40</td><td>IN39</td><td>IN38</td><td>IN37</td><td>IN36</td><td>IN35</td><td>IN34</td><td>IN33</td></tr>
</table>
<table>
<tr><td>bit</td><td>47</td><td>46</td><td>45</td><td>44</td><td>43</td><td>42</td><td>41</td><td>40</td></tr>
<tr><td>in</td><td>IN48</td><td>IN47</td><td>IN46</td><td>IN45</td><td>IN44</td><td>IN43</td><td>IN42</td><td>IN41</td></tr>
</table>
<table>
<tr><td>bit</td><td>55</td><td>54</td><td>53</td><td>52</td><td>51</td><td>50</td><td>49</td><td>48</td></tr>
<tr><td>In</td><td>IN56</td><td>IN55</td><td>IN54</td><td>IN53</td><td>IN52</td><td>IN51</td><td>IN50</td><td>IN49</td></tr>
</table>
<table>
<tr><td>bit</td><td>63</td><td>62</td><td>61</td><td>60</td><td>59</td><td>58</td><td>57</td><td>56</td></tr>
<tr><td>in</td><td>IN64</td><td>IN63</td><td>IN62</td><td>IN61</td><td>IN60</td><td>IN59</td><td>IN58</td><td>IN57</td></tr>
</table>
“1” appears for detected channel, the value is displayed in hex.
Changes in IN1 ⇒ 1
Changes in IN16 and IN2 ⇒ 8002
Changes in IN17 to IN24 ⇒ FF0000</td></tr>
<tr><td colspan="2"></td><td>out: Checking if output status changes
0 = Not change, 1 to FFFFFFFF FFFFFFFF = Changes

<table>
<tr><td>bit</td><td>7</td><td>6</td><td>5</td><td>4</td><td>3</td><td>2</td><td>1</td><td>0</td></tr>
<tr><td>out</td><td>OUT8</td><td>OUT7</td><td>OUT6</td><td>OUT5</td><td>OUT4</td><td>OUT3</td><td>OUT2</td><td>OUT1</td></tr>
</table>
<table>
<tr><td>Bit</td><td>15</td><td>14</td><td>13</td><td>12</td><td>11</td><td>10</td><td>9</td><td>8</td></tr>
<tr><td>out</td><td>OUT16</td><td>OUT15</td><td>OUT14</td><td>OUT13</td><td>OUT12</td><td>OUT11</td><td>OUT10</td><td>OUT9</td></tr>
</table>
<table>
<tr><td>bit</td><td>23</td><td>22</td><td>21</td><td>20</td><td>19</td><td>18</td><td>17</td><td>16</td></tr>
<tr><td>out</td><td>OUT24</td><td>OUT23</td><td>OUT22</td><td>OUT21</td><td>OUT20</td><td>OUT19</td><td>OUT18</td><td>OUT17</td></tr>
</table>
<table>
<tr><td>bit</td><td>31</td><td>30</td><td>29</td><td>28</td><td>27</td><td>26</td><td>25</td><td>24</td></tr>
<tr><td>out</td><td>OUT32</td><td>OUT31</td><td>OUT30</td><td>OUT29</td><td>OUT28</td><td>OUT27</td><td>OUT26</td><td>OUT25</td></tr>
</table>
<table>
<tr><td>bit</td><td>39</td><td>38</td><td>37</td><td>36</td><td>35</td><td>34</td><td>33</td><td>32</td></tr>
<tr><td>out</td><td>OUT40</td><td>OUT39</td><td>OUT38</td><td>OUT37</td><td>OUT36</td><td>OUT35</td><td>OUT34</td><td>OUT33</td></tr>
</table></td></tr>
</table>

<table>
<tr><td colspan="2">@PSH</td><td>Unsolicited status notification (Cont'd)</td></tr>
<tr><td colspan="2" rowspan="2">Parameter</td><td>
<table>
<tr><td>bit</td><td>47</td><td>46</td><td>45</td><td>44</td><td>43</td><td>42</td><td>41</td><td>40</td></tr>
<tr><td>out</td><td>OUT48</td><td>OUT47</td><td>OUT46</td><td>OUT45</td><td>OUT44</td><td>OUT43</td><td>OUT42</td><td>OUT41</td></tr>
</table>
<table>
<tr><td>bit</td><td>55</td><td>54</td><td>53</td><td>52</td><td>51</td><td>50</td><td>49</td><td>48</td></tr>
<tr><td>out</td><td>OUT56</td><td>OUT55</td><td>OUT54</td><td>OUT53</td><td>OUT52</td><td>OUT51</td><td>OUT50</td><td>OUT49</td></tr>
</table>
<table>
<tr><td>bit</td><td>63</td><td>62</td><td>61</td><td>60</td><td>59</td><td>58</td><td>57</td><td>56</td></tr>
<tr><td>out</td><td>OUT64</td><td>OUT63</td><td>OUT62</td><td>OUT61</td><td>OUT60</td><td>OUT59</td><td>OUT58</td><td>OUT57</td></tr>
</table>
"1" appears for detected channel, the value is displayed in hex.
Changes in OUT1 ⇒ 1
Changes in OUT16 and OUT2 ⇒ 8002
Changes in OUT17 to OUT24 ⇒ FF0000
</td></tr>
<tr><td>system: Checking if system status changes
0 = Not change, 1 = Changes</td></tr>
<tr><td rowspan="2">Getting example</td><td>Response</td><td>@PSH,1,0,0<CR><LF></td></tr>
<tr><td>Description</td><td>Getting status change information
- Input status : Changes in IN1
- Output status : No changes
- System status : No changes</td></tr>
<tr><td colspan="2">Remarks</td><td>Only if "@GPH / @SPH Unsolicited notification interval" is set, the FDX-S sends unsolicited command.</td></tr>
</table>

<table>
<tr><td colspan="2">@AIN</td><td>Input signal status (For each channel)</td></tr>
<tr><td rowspan="2">Getting</td><td>Command</td><td>@AIN, in<CR><LF></td></tr>
<tr><td>Response</td><td>@AIN, status_1, status_2, status_3, status_4, status_5, status_6, status_7, status_8, status_9, status_10, status_11, status_12, status_13, status_14, status_15, status_16, status_17, status_18, status_19<CR><LF></td></tr>
<tr><td colspan="2">Parameter</td><td>in: Input channel
1 to n = IN1 to INn

status_1: Input channel
<table><tr><th>Value</th><th>Description</th></tr><tr><td>1</td><td>1 to n = IN1 to INn</td></tr></table>
status_2: Model number
<table><tr><th>Value</th><th>Description</th></tr><tr><td>FDX-S16U</td><td>Model number</td></tr></table>
status_3: Version
<table><tr><th>Value</th><th>Description</th></tr><tr><td>01.00.00</td><td>Version</td></tr></table>
status_4: The number of valid data
<table><tr><th>Value</th><th>Description</th></tr><tr><td>15</td><td>“15” (fixed)</td></tr></table>
status_5: Input board
<table><tr><th>Value</th><th>Description</th></tr><tr><td>0</td><td>No board is installed.</td></tr><tr><td>1</td><td>Board is installed.</td></tr></table>If no board is installed, no information of status_6 and later.

status_6: Horizontal pixels of input video
<table><tr><th>Value</th><th>Description</th></tr><tr><td>0</td><td>No signal is input.</td></tr><tr><td>1920</td><td>1920 pixels</td></tr></table>
status_7: Vertical pixels of input video
<table><tr><th>Value</th><th>Description</th></tr><tr><td>0</td><td>No signal is input.</td></tr><tr><td>1080</td><td>1080 lines</td></tr></table></td></tr>
</table>

<table>
<tr><th>@AIN</th><th>Input signal status (For each channel) (Cont’d)</th></tr>
<tr><td>Parameter</td><td>
status_8: Vertical sync frequency of input video
<table>
<tr><th>Value</th><th>Description</th></tr>
<tr><td>0</td><td>No signal is input.</td></tr>
<tr><td>59.94</td><td>59.94 Hz</td></tr>
</table>
status_9: Progressive or interlace scan
<table>
<tr><th>Value</th><th>Description</th></tr>
<tr><td>1</td><td>0: No signal is input.
1: Progressive
2: Interlace</td></tr>
</table>
status_10: HDMI/DVI mode of input video
<table>
<tr><th>Value</th><th>Description</th></tr>
<tr><td>2</td><td>0: No signal is input.
1: DVI signal input
2: HDMI signal input
3: SDI signal input</td></tr>
</table>
status_11: Color space of input video
<table>
<tr><th>Value</th><th>Description</th></tr>
<tr><td>1</td><td>0: No signal is input.
1: RGB input
2: YCbCr 4:2:2 input
3: YCbCr 4:4:4 input
4: YCbCr 4:2:0 input
255: Unknown</td></tr>
</table>
status_12: Color range of input video
<table>
<tr><th>Value</th><th>Description</th></tr>
<tr><td>2</td><td>0: No signal is input.
1: Limited range input
2: Full range input</td></tr>
</table>
status_13: Color depth of input video
<table>
<tr><th>Value</th><th>Description</th></tr>
<tr><td>1</td><td>0: No signal is input.
1: 24 bit/pixel (8 bit/component)
2: 30 bit/pixel (10 bit/component)
3: 36 bit/pixel (12 bit/component)</td></tr>
</table>
</td></tr>
</table>

@AIN — **Input signal status (For each channel) (Cont'd)**

Parameter

status_14: +5 V input status

Value	Description
1	0: No +5 V signal is input. 1: +5 V signal is input.

status_15: Presence of input video HDCP encryption (Encryption from source device)

Value	Description
2	0: No signal is input. 1: Without HDCP 2: HDCP 1.4 3: HDCP 2.2 Type 0 4: HDCP 2.2 Type 1

status_16: Audio input type

Value	Description
1	0: No signal is input. 1: LPCM 2: Compressed audio

status_17: Audio input sampling frequency

Value	Description
5	0: No signal is input. 1: 22.05 kHz 2: 24.0 kHz 3: 32 kHz 4: 44.1 kHz 5: 48 kHz 6: 88.2 kHz 7: 96 kHz 8: 176 kHz 9: 192 kHz 10: 768.0 kHz 255: Unknown

status_18: Audio input bit length

Value	Description
9	0: No signal is input. 1: 16 bit 2: 17 bit 3: 18 bit 4: 19 bit 5: 20 bit 6: 21 bit 7: 22 bit 8: 23 bit 9: 24 bit 255: Unknown

<table>
<tr><td colspan="2">@AIN</td><td>Input signal status (For each channel) (Cont’d)</td></tr>
<tr><td colspan="2">Parameter</td><td>status_19: Audio input HBR mode

<table><tr><th>Value</th><th>Description</th></tr><tr><td>1</td><td>0: No signal is input.
1: Mode other than HBR
(PCM mode, other compressed audio)
2: HBR mode</td></tr></table></td></tr>
<tr><td rowspan="2">Getting example</td><td>Command
Response</td><td>@AIN,1<CR><LF>
@AIN,1,FDX-S16U,01.00.00,15,1,1920,1080,59.94,1,2,1,2,1,1,2,1,5,9,1
<CR><LF></td></tr>
<tr><td>Description</td><td>Getting all statuses of IN1 input signal
- Input channel : IN1
- Model number : FDX-S16U
- Version : 01.00.00
- The number of valid data : 15
- Input board : Installed
- Horizontal pixels of input video : 1920 pixels
- Vertical pixels of input video : 1080 lines
- Input video frequency : 59.94 Hz
- Progressive or interlace scan : Progressive
- HDMI/DVI mode of input video : HDMI signal input
- Color space of input video : RGB input
- Color range of input video : Full range input
- Color depth of input video : 24 bit/pixel (8 bit/component)
- +5V input status : +5 V signal is input.
- Presence of input video HDCP encryption : HDCP 1.4
- Audio input type : LPCM
- Audio input sampling frequency : 48 kHz
- Audio input bit length : 24 bit
- Audio input HBR mode : Mode other than HBR</td></tr>
<tr><td colspan="2">Remarks</td><td>—</td></tr>
</table>

<table>
<tr><td colspan="2">@AOT</td><td>Output signal status (For each channel)</td></tr>
<tr><td rowspan="2">Getting</td><td>Command</td><td>@AOT,out<CR><LF></td></tr>
<tr><td>Response</td><td>@AOT, status_1, status_2, status_3, status_4, status_5, status_6, status_7, status_8, status_9, status_10, status_11, status_12, status_13, status_14, status_15, status_16, status_17, status_18, status_19, status_20, status_21, status_22, status_23, status_24, status_25<CR><LF></td></tr>
<tr><td colspan="2" rowspan="6">Parameter</td><td>out: Output channel
1 to n = OUT1 to OUTn</td></tr>
<tr><td>status_1: Output channel

<table><tr><th>Value</th><th>Description</th></tr><tr><td>1</td><td>1 to n = OUT1 to OUTn</td></tr></table></td></tr>
<tr><td>status_2: Model number

<table><tr><th>Value</th><th>Description</th></tr><tr><td>FDX-S16U</td><td>Model number</td></tr></table></td></tr>
<tr><td>status_3: Version

<table><tr><th>Value</th><th>Description</th></tr><tr><td>01.00.00</td><td>Version</td></tr></table></td></tr>
<tr><td>status_4: The number of valid data

<table><tr><th>Value</th><th>Description</th></tr><tr><td>21</td><td>“21” (fixed)</td></tr></table></td></tr>
<tr><td>status_5: Output board

<table><tr><th>Value</th><th>Description</th></tr><tr><td>0</td><td>No board is installed.</td></tr><tr><td>1</td><td>Board is installed.</td></tr></table>If no board is installed, no information of status_6 and later.</td></tr>
<tr><td>status_6: Selected input

<table><tr><th>Value</th><th>Description</th></tr><tr><td>1</td><td>0 = OFF
1 to n = IN1 to INn</td></tr></table></td></tr>
</table>

<table>
<tr><th>@AOT</th><th>Output signal status (For each channel) (Cont’d)</th></tr>
<tr><td>Parameter</td><td>
status_7: Horizontal pixels of output video
<table>
<tr><th>Value</th><th>Description</th></tr>
<tr><td>0</td><td>No signal is output.</td></tr>
<tr><td>1920</td><td>1920 pixels</td></tr>
</table>
status_8: Vertical pixels of output video
<table>
<tr><th>Value</th><th>Description</th></tr>
<tr><td>0</td><td>No signal is output.</td></tr>
<tr><td>1080</td><td>1080 lines</td></tr>
</table>
status_9: Vertical sync frequency output video
<table>
<tr><th>Value</th><th>Description</th></tr>
<tr><td>0</td><td>No signal is output.</td></tr>
<tr><td>59.94</td><td>59.94 Hz</td></tr>
</table>
status_10: Progressive or interlace scan
<table>
<tr><th>Value</th><th>Description</th></tr>
<tr><td>1</td><td>0: No signal is output.
1: Progressive
2: Interlace</td></tr>
</table>
status_11: HDMI/DVI mode of output video
<table>
<tr><th>Value</th><th>Description</th></tr>
<tr><td>2</td><td>0: No signal is output.
1: DVI signal output
2: HDMI signal output
3: SDI signal output</td></tr>
</table>
status_12: Color space of output video
<table>
<tr><th>Value</th><th>Description</th></tr>
<tr><td>1</td><td>0: No signal is output.
1: RGB output
2: YCbCr 4:2:2 output
3: YCbCr 4:4:4 output
4: YCbCr 4:2:0 output</td></tr>
</table>
</td></tr>
</table>

<table>
<tr><th>@AOT</th><th>Output signal status (For each channel) (Cont’d)</th></tr>
<tr><td>Parameter</td><td>
status_13: Color range of output video
<table>
<tr><th>Value</th><th>Description</th></tr>
<tr><td>2</td><td>0: No signal is output.
1: Limited range output
2: Full range output</td></tr>
</table>
status_14: Color depth of output video
<table>
<tr><th>Value</th><th>Description</th></tr>
<tr><td>1</td><td>0: No signal is output.
1: 24 bit/pixel (8 bit/component)
2: 30 bit/pixel (10 bit/component)
3: 36 bit/pixel (12 bit/component)</td></tr>
</table>
status_15: Hot plug detection
<table>
<tr><th>Value</th><th>Description</th></tr>
<tr><td>1</td><td>0: Hot plug is detected.
1: No hot plug is detected.</td></tr>
</table>
status_16: HDCP encryption
<table>
<tr><th>Value</th><th>Description</th></tr>
<tr><td>4</td><td>0: No HDCP encryption
1: HDCP is being encrypted.
2: HDCP is being encrypted.
3: HDCP is being encrypted.
4: HDCP encryption ends normally.
5: HDCP encryption ends abnormally.</td></tr>
</table>
status_17: HDCP output
<table>
<tr><th>Value</th><th>Description</th></tr>
<tr><td>1</td><td>0: No HDCP output
1: HDCP 1.4 output
2: HDCP 2.2 Type 0 output
3: HDCP 2.2 Type 1 output</td></tr>
</table>
</td></tr>
</table>

<table>
<tr><th>@AOT</th><th>Output signal status (For each channel) (Cont’d)</th></tr>
<tr><td>Parameter</td><td>
status_18: Audio output type
<table>
<tr><th>Value</th><th>Description</th></tr>
<tr><td>1</td><td>0: No signal is output.
1: LPCM
2: Compressed audio</td></tr>
</table>
status_19: Reading EDID
<table>
<tr><th>Value</th><th>Description</th></tr>
<tr><td>2</td><td>0: Not connected
(EDID is not received)
1: Failed
2: Completed</td></tr>
</table>
status_20: HDMI/DVI mode (sink)
<table>
<tr><th>Value</th><th>Description</th></tr>
<tr><td>2</td><td>0: Not connected
(EDID is not received)
1: DVI mode
2: HDMI mode (LPCM supported)
3: HDMI mode (Compressed audio supported)</td></tr>
</table>
status_21: Color space (sink)
<table>
<tr><td>bit</td><td>7</td><td>6</td><td>5</td><td>4</td><td>3</td><td>2</td><td>1</td><td>0</td></tr>
<tr><td>Color</td><td>-</td><td>-</td><td>-</td><td>-</td><td>YCbCr 4:2:0</td><td>YCbCr 4:4:4</td><td>YCbCr 4:2:2</td><td>RGB</td></tr>
<tr><td colspan="9">“1” appears for supported color space, the value is displayed in hex.
“0”: Not connected. (EDID is not received)</td></tr>
</table>
status_22: Color depth (sink)
<table>
<tr><th>Value</th><th>Description</th></tr>
<tr><td>1</td><td>0: Not connected
(EDID is not received)
1: 24 bit/pixel (8 bit/component)
2: 30 bit/pixel (10 bit/component)
3: 36 bit/pixel (12 bit/component)</td></tr>
</table>
</td></tr>
</table>

<table>
<tr><th>@AOT</th><th>Output signal status (For each channel) (Cont’d)</th></tr>
<tr><td>Parameter</td><td>status_23: HDCP (sink)

<table><tr><th>Value</th><th>Description</th></tr><tr><td>2</td><td>0: Not connected
(EDID is not received)
1: HDCP is not supported.
2: HDCP 1.4 supported
3: HDCP 2.2 supported</td></tr></table>
status_24: SCDC (sink)

<table><tr><th>Value</th><th>Description</th></tr><tr><td>2</td><td>0: Not connected
(EDID is not received)
1: SCDC is not supported.
2: SCDC supported</td></tr></table>
status_25: HDR (sink)

<table><tr><th>Value</th><th>Description</th></tr><tr><td>2</td><td>0: Not connected
(EDID is not received)
1: HDR is not supported.
2: HDR supported</td></tr></table></td></tr>
</table>

@AOT		**Output signal status (For each channel) (Cont'd)**
Getting example	Command Response	@AOT,1<CR><LF> @AOT,1,FDX-S16U,01.00.00,21,1,1,1920,1080,59.94,1,2,1,2,1,1,4,1,1,2,2,7,1,2,2,2<CR><LF>
	Description	Getting all statuses of OUT1 output signal - Output channel : OUT1 - Model number : FDX-S16U - Version : 01.00.00 - The number of valid data : 21 - Output board : Installed - Selected input : IN1 - Horizontal pixels of output video : 1920 pixels - Vertical pixels of output video : 1080 lines - Output video frequency : 59.94 Hz - Progressive or interlace scan : Progressive - HDMI/DVI mode of output video : HDMI signal output - Color space of output video : RGB output - Color range of output video : Full range output - Color depth of output video : 24 bit/pixel (8 bit/component) - Hot plug detection : Hot plug is detected. - HDCP encryption : Encryption ends normally. - HDCP output : HDCP 1.4 output - Audio output type : LPCM - Reading EDID : Completed - HDMI/DVI mode (sink) : HDMI mode (LPCM supported) - Color space (sink) : RGB, YCbCr 4:2:2, and YCbCr 4:4:4 supported - Color depth (sink) : 24 bit/pixel (8 bit/component) - HDCP (sink) : HDCP 1.4 supported - SCDC (sink) : SCDC supported - HDR (sink) : HDR supported
Remarks		―

<table>
<tr><td colspan="2">@GAA</td><td>Alarm status</td></tr>
<tr><td rowspan="2">Getting</td><td>Command</td><td>@GAA<CR><LF></td></tr>
<tr><td>Response</td><td>@GAA, status_1, status_2, status_3, status_4, status_5_1, staus_5_2, ・・・, status_5_16, status_6_1, status_6_2, ・・・ , status_6_16, status_7_1, status_7_2, ・・・, status_7_10<CR><LF></td></tr>
<tr><td colspan="2">Parameter</td><td>status_1: Model number

<table><tr><th>Value</th><th>Description</th></tr><tr><td>FDX-S16U</td><td>Model number</td></tr></table>
status_2: Version

<table><tr><th>Value</th><th>Description</th></tr><tr><td>01.00.00</td><td>Version</td></tr></table>
status_3: The number of valid data

<table><tr><th>Value</th><th>Description</th></tr><tr><td>12</td><td>FDX-S08U/S08 : “9” (fixed)
FDX-S16U/S16 : “12” (fixed)
FDX-S32U/S32 : “22” (fixed)
FDX-S64 : “43” (fixed)</td></tr></table>
status_4: Power supply voltage status and audio board status

<table><tr><th>Value</th><th>Description</th></tr><tr><td>0</td><td>0: Normal
1: Problem in power voltage
2: Problem in audio board
(OPTION A for FDX-S64)
4: Problem in audio board
(OPTION B for FDX-S64)
3: Problem in power voltage and audio board (OPTION A)
6: Problem in both audio boards
(OPTION A and OPTION B)
7: Problem in power voltage and both audio boards
(OPTION A, OPTION B)</td></tr></table></td></tr>
</table>

<table>
<tr><th>@GAA</th><th>Alarm status (Cont'd)</th></tr>
<tr><td>Parameter</td><td>
status_5_1-16: Input board status

FDX-S08U/S08 : Two boards of status_5_1 to status_5_2
FDX-S16U/S16 : Four boards of status_5_1 to status_5_4
FDX-S32U/S32 : Eight boards of status_5_1 to status_5_8
FDX-S64 : 16 boards of status_5_1 to status_5_16

<table>
<tr><th>Value</th><th>Description</th></tr>
<tr><td>0</td><td>0: Normal
2: Temperature problem
4: Problem other than temperature
-1: No board is installed.</td></tr>
</table>

status_6_1-16: Output board status

FDX-S08U/S08 : Two boards of status_6_1 to status_6_2
FDX-S16U/S16 : Four boards of status_6_1 to status_6_4
FDX-S32U/S32 : Eight board of status_6_1 to status_6_8
FDX-S64 : 16 boards of status_6_1 to status_6_16

<table>
<tr><th>Value</th><th>Description</th></tr>
<tr><td>0</td><td>0: Normal
2: Temperature problem
4: Problem other than temperature
-1: No board is installed.</td></tr>
</table>

status_7_1-10: Fan status

FDX-S08U/S08 : Four boards of status_7_1 to status_7_4
FDX-S16U/S16 : Three fans of status_7_1 to status_7_3
FDX-S32U/S32 : Five fans of status_7_1 to status_7_5
FDX-S64 : 10 boards of status_7_1 to status_7_10

<table>
<tr><th>Value</th><th>Description</th></tr>
<tr><td>0</td><td>0: Normal
1: Abnormal</td></tr>
</table>
</td></tr>
</table>

@GAA		**Alarm status (Cont'd)**
Getting example	Command Response	@GAA<CR><LF> @GAA,FDX-S16U,01.00.00,12,0,0,0,-1,-1,0,0,-1,-1,0,0,0<CR><LF>
	Description	Getting all alarm statuses - Model number : FDX-S16U - Version : 01.00.00 - The number of valid data : 12 - Power supply voltage and audio board status: Normal - Input board status: Input boards 1 to 2 : Normal Input boards 3 to 4 : No board is installed. - Output board status: Output boards 1 to 2 : Normal Output boards 3 to 4 : No board is installed. - Fan status: Fans 1 to 3 : Normal
Getting example	Command Response	@GAA<CR><LF> @GAA,FDX-S32U,01.00.00,22,0,0,0,0,0,-1,-1,-1,-1,0,0,0,0,-1,-1,-1,-1,0,0,0, 0,0<CR><LF>
	Description	Getting all alarm statuses - Model number : FDX-S32U - Version : 01.00.00 - The number of valid data : 22 - Power supply voltage and audio board status: Normal - Input board status: Input boards 1 to 4 : Normal Input boards 5 to 8 : No board is installed. - Output board status: Output boards 1 to 4 : Normal Output boards 5 to 8 : No board is installed. - Fan status: Fans 1 to 5 : Normal
Remarks		The numbers of I/O boards, fans, and power units differ depending on models.

3.4.20 RS-232C transmission mode

HDBaseT only

@G++ / @S++		**RS-232C transmission sending channel**
Getting	Command	@G++<CR><LF>
	Response	@G++, ch_1, ・・・, ch_8 (, ch_9, ・・・, ch_n)<CR><LF>
Setting	Command	@S++, ch_1 (, ch_2, ・・・)<CR><LF>
	Response	@S++, ch_1 (, ch_2, ・・・)<CR><LF>
Parameter		ch_1 to ch_n: RS-232C transmission sending channel 1 to n = OUT1 to OUTn, 101 to 100+n = IN1 to INn
Getting example	Command	@G++<CR><LF>
	Response	@G++,1,2,3,4<CR><LF>
	Description	Getting the RS-232C transmission sending channel OUT1 to OUT4: RS-232C transmission sending channel
Setting example	Command	@S++,1,12<CR><LF>
	Response	@S++,1,12<CR><LF>
	Description	Setting OUT1 and OUT12 to RS-232C transmission sending channel Completed
Remarks		―

HDBaseT only

@G+R / @S+R		RS-232C transmission receiving channel
Getting	Command	@G+R<CR><LF>
	Response	@G+R, channel<CR><LF>
Setting	Command	@S+R, channel<CR><LF>
	Response	@S+R, channel<CR><LF>
Parameter		channel: RS-232C transmission receiving channel 1 to n = OUT1 to OUTn, 101 to 100+n = IN1 to INn
Getting example	Command Response	@G+R<CR><LF> @G+R,4<CR><LF>
	Description	Getting the RS-232C transmission receiving channel OUT4: RS-232C transmission receiving channel
Setting example	Command Response	@S+R,1<CR><LF> @S+R,1<CR><LF>
	Description	Setting OUT1 to RS-232C transmission receiving channel Completed
Remarks		―

HDBaseT only

@G+S / @S+S		RS-232C transmission mode
Getting	Command	@G+S<CR><LF>
	Response	@G+S, mode<CR><LF>
Setting	Command	@S+S, mode<CR><LF>
	Response	@S+S, mode<CR><LF>
Parameter		mode: Setting RS-232C transmission mode 0 = Normal mode, 1 = RS-232C mode After setting to RS-232C transmission mode, RS-232C is used for the communication with FDX-S until a normal mode command is received.
Getting example	Command Response	@G+S<CR><LF> @G+S,1<CR><LF>
	Description	Getting to the RS-232C transmission mode RS-232C transmission mode
Setting example	Command Response	@S+S,0<CR><LF> @S+S,0<CR><LF>
	Description	Setting the RS-232C transmission mode to normal mode Completed
Remarks		―

User Guide (Command Guide) of FDX-S Series

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