

**MULTIMEDIA PROJECTOR
WUX5000 / WUX4000**

User Commands

Revision 1

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1. Overview

These specifications describe the methods of controlling both the Projector WUX5000 and WUX4000 from the PC over an RS-232C connection or LAN.

Virtually all operations possible with the remote control can be controlled from the PC.

The following symbols are used in these specifications:

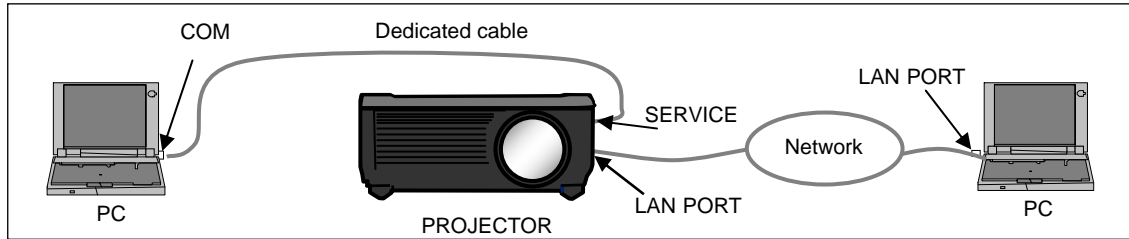
Symbol	Description
	Space(20h) with 0 or more characters, or other separator.
	Space(20h) with 1 or more characters, or other separator.
	Separator between parameters. , (comma enclosed in more than 0 space) or (1 or more space)
[]	Data in [] can be omitted.
|	Same as OR.
: =	Definition name is on the left side of this mark, and definition description is on the right side.

2. Communication Specifications

Communication Specifications

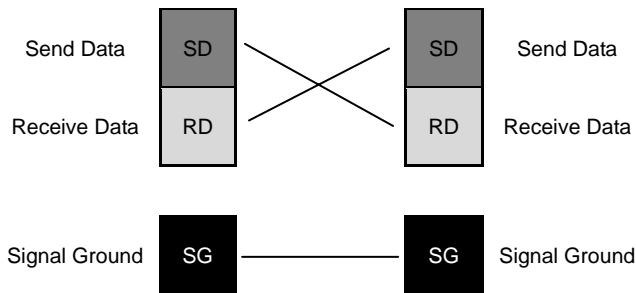
The projector can be controlled via RS-232C or LAN connection.

PC - Projector connection configuration



Item	Specifications
Connection system	PC and projector connected on a "1:1" basis
Connection signal line	3-line connection of SD, RD, and SG
Connection cable	9-pin RS-232C Cable (Cross)

Item	Specifications
Connection system	TCP / IP Connection
Connection signal line	Straight when connecting via network
Connection cable	LAN Cable
LAN	100BASE-TX / 10BASE-T



* Signal lines other than the three SD, RD, and SG lines are not used in the projector.

* Loop back its own signals on the PC side as necessary.

Usable Character Codes

Use ASCII codes in the red and blue areas.

No distinction is made between double-byte characters and single-byte characters. Do not use double-byte or triple-byte characters. They will all be recognized as single-byte characters.

Uppercase and lowercase versions of the same alphabetic characters will be recognized as the same character (case insensitive).

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
0	NUL		SP	0	@	P	`	p								
1			!	1	A	Q	a	q								
2			"	2	B	R	b	r								
3			#	3	C	S	c	s								
4			\$	4	D	T	d	t								
5			%	5	E	U	e	u								
6			&	6	F	V	f	v								
7			'	7	G	W	g	w								
8			(	8	H	X	h	x								
9			)	9	I	Y	i	y								
A	LF		*	:	J	Z	j	z								
B			+	;	K	[	k	{								
C			,	<	L	¥	l	|								
D	CR		-	=	M	]	m	}								
E			.	>	N	^	n	~								
F			/	?	O	_	o									

Item	Specifications
Delimiters	CR(0Dh), LF(0Ah), null (00h) Characters usable as delimiters. These characters alone (single characters) or CR+LF (0D0Ah) can be used as delimiters.
General Characters	20h to 7Eh Characters usable in commands.
Invalid Characters	Do not use the codes in regions other than the red and blue areas. When I used it, and they are handled in the same way as SP(20h).

Communication System (Serial)

Item	Specifications
Communication system	RS-232-C Start-stop synchronization Semi-duplex communication
Transmission speed	19.2 Kbps
Character length	8 bits / character
Stop bit	2 bits
Parity	None
Transmission format	Variable-length records with terminals as delimiters
Maximum transmission length	Maximum of 256 characters (bytes) including delimiters.
Delimiters	Delimiters are one of the following: CR, LF, CR+LF, Null (0).
	Response delimiters are identical to command delimiters.
Transmission codes	ASCII code (General-purpose characters: 20h to 7Fh)
	(Codes other than those above and delimiters are considered "other separator codes")
Communication procedure	No procedure
Flow control	None
Error control	None
Break signal	Not supported
Timeout	Tc Between characters: 5s (Timeout between CR and LF is 10ms.)
	Tr Between command / response interval: 15s

* For information about timeouts, refer to "3. Communication Flow" on P. 8.

Communication System (LAN)

Item	Specifications
Communication system	Uses the TCP / IP protocol. Port: 33336

Commands

Transmissions sent from the PC to the projector.

Transmission format

<Command character strings> <Delimiter>

<Command character strings>

Character strings consisting of 0 or more alphanumeric characters.

<Delimiters>

One of CR (0Dh), LF (0Ah), CR+LF (0Dh+0Ah), Null (00h)

Type

Possibilities of responses from the projector : possible, : not possible

Type	Description	Response
Null Commands Character string	Commands with a command character string length of 0. No command processing is performed.	OK
	<Null command character string> := <Character string with length 0>	BUSY
		WARN
		ERR
Control command Character string	Projector control command. The format is shown below.	OK
	<Control command character string> := <Control name>[□<Parameter value>]	BUSY
		WARN
		ERR
Setting command Character string	Command that sets values for each parameter. The format is shown below.	OK
	<Setting command character strings> := <Parameter name> = <Parameter value>	BUSY
		WARN
		ERR
		For the definition of <Parameter value>, refer to the parameter definitions.
Reference command Character string	Requests current value of each parameter. The format is shown below.	OK
	<Reference command character string> :=? <Parameter name> | GET□<Parameter name>	BUSY
		WARN
		ERR

Response

Transmissions sent from the Projector to the PC in response to commands from the PC.

Transmission format

`<Response character string> <Delimiter>`

<Response character string>

Character strings consisting of one or more ASCII characters.

The first two characters are always one lowercase letter and a : (colon).

The first character indicates the response type.

Response type	Meaning	Example
i	State response	i:OK i:BUSY etc.
w	Warning	w:USER_COMMAND..
e	Error	e:000B INVALID..
g	Reference command response	g:AVOL=10

<Delimiter>

Delimiters for commands sent from the PC.

Type

OK response After the processing of each command is completed, a response is sent indicating that the next command can be received.

`<OK response character string>:=i:OK`

BUSY response This response is sent when a command cannot be received during processing. Wait for a few moments, and then try sending the command again.

`<BUSY response character string>:=i:BUSY`

Example: `> IMAGE=STANDARD`
`< i:BUSY`
 * Commands are indicated by ">", and responses are indicated by "<".

WARN response This response is sent when warning information is issued.

Note that the command is not executed in this case.

`<Warning response character string>:= w:<Warning description>`

Example: `> IMAGE=STANDARD`
`< w:USER_COMMAND_VERSION_IS_UPDATED`

ERR response An error message is output.

`<Error response character string>:= e:<Error code> <Error message>`

* <Error code> is expressed as a four-digit hexadecimal number.

* Refer to "Error List"!

Example: `> abcdefg`
`< e:0002 INVALID_COMMAND`

GET response Request response for each parameter.

`<GET response character string>:=g<Parameter name>=<Value>`

Example: `> GET LANG or ? LANG`
`< g:LANG=JPN`

Other

■ Transmission recognition

On the receiving side (the Projector), the data that is able to be received within the character interval of T_c is held, and the transmission is considered received when the delimiter is received.

If the character interval received exceeds the T_c or if a delimiter is not received within 256 characters, all data already received is lost, and the mode is reset to standby to receive commands again.

3. Communication Flow

Transmission sent

At the PC, the transmission is sent within character intervals of T_c (character interval timeout).

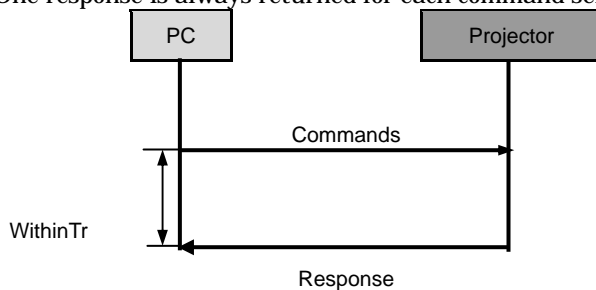
Transmission received

At the Projector, the data that is able to be received within the character interval of T_c is held, and the transmission is considered received when the delimiter is received.

If the character interval received exceeds the T_c or if a delimiter is not received within 256 characters, all data already received is lost, and the mode is reset to standby to receive commands again.

Command / Response

One response is always returned for each command sent from the PC.



* The timeout interval between command and response (T_r) is 15 seconds.

Response Reception Timeout

If a response is not received within the T_r (timeout interval between command and response) while standing by a waiting response after sending a command from the PC, it is deemed to have exceeded the "response reception timeout." Please resend the command.

Control Mode

"LOCAL mode" and "REMOTE mode" on previous models (SX50, SX6, SX60, X600, SX7, X700) have been removed. You do not need to be aware of which mode it is in (no need to use "REMOTE" and "LOCAL" commands) to send user commands.

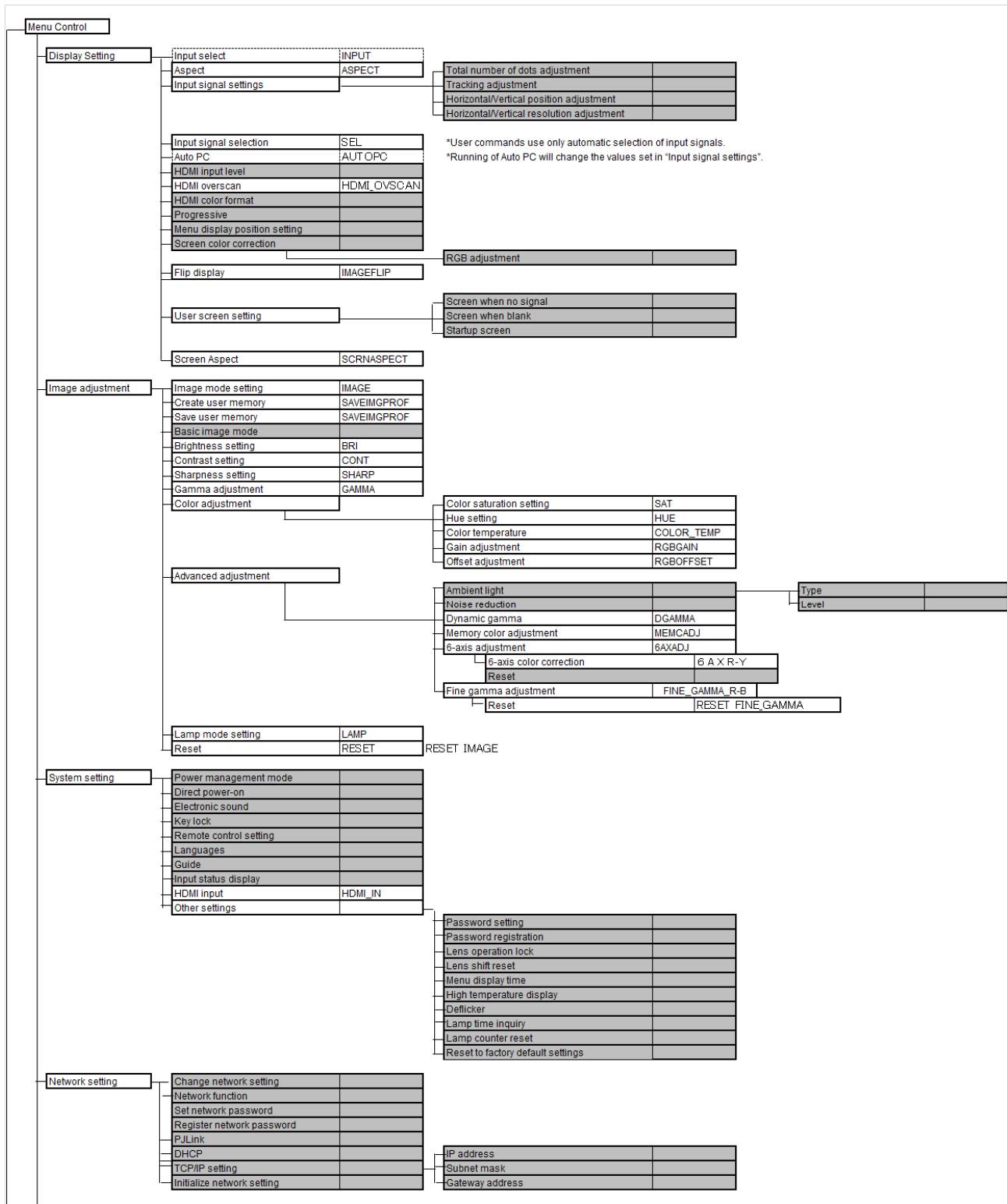
Other

If AC power is supplied to the projector, communication is possible regardless of whether the power is on or off.

The PC side cannot send the next user command before a response for the first command is returned. If more than 2 user commands arrive at one port, "BAD_SEQUENCE" will be returned in response to the second user command.

For procedures which return "BAD SEQUENCE", change the procedure, and do not send the next user command on the PC side before a response for the first command is returned.

4. Command System



Information	Product code	PRODCODE
	Signal information	SIGNAL_INFO
	Firmware ROM version	ROMVER
	Product serial number	
	IP address	IP_ADDR
	Gateway address	GATEWAY_ADDR
	Mail sender address	
	Mail recipient address	
	Projector name	
	Projector location	
	System information ID	

Remote Control/Key


[POWER]	POWER	
[ASPECT]	ASPECT	
[INPUT]	INPUT	
[AUTO PC]	AUTOPC	*Running of Auto PC will change the values set in 'Input signal settings'.
[FOCUS]/[LENS]		
[ZOOM]/[LENS]		
[LENSSHIFT]/[LENS]		
[D-SHIFT]		
[KEystone]		
[MENU]		
[D ZOOM]	DZOOM_POS / DZOOM_RAT	
[VOL]	AVOL	
[FREEZE]	FREEZE	
[BLANK]	BLANK	
[MUTE]	MUTE	
[IMAGE]	IMAGE	
[P-TIMER]		
[LAMP]	LAMP	
[GAMMA]	GAMMA	

Emulate

Key emulate	MAIN
Remote control emulate	RC

Reference

Retrieve each data	GET *****
--------------------	-----------

*  Indicates functions that are available in the menu but not available in the user commands.

Main unit panel button emulation

POWER	POWER
MENU	MENU
LENS	LENS
INPUT	INPUT
↑	UP
↓	DOWN
←	LEFT
→	RIGHT
OK	OK

Remote control button emulation

POWER	POWER
MENU	MENU
KEYSTONE	KEYSTONE
FOCUS	FOCUS
ZOOM	ZOOM
SHIFT	SHIFT
INPUT	INPUT
AUTOPC	AUTOPC
ASPECT	ASPECT
IMAGE	IMAGE
BLANK	BLANK
MUTE	MUTE
VOL+	VOL+
VOL-	VOL-
FREEZE	FREEZE
P-TIMER	PTIMER
LAMP	LAMP
DZOOM+	DZOOM+
DZOOM-	DZOOM-
GAMMA	GAMMA
↑	UP
↓	DOWN
←	LEFT
→	RIGHT
OK	OK

5. Command List

Item	Commands	Description
1	6AXADJ	6-axis adjustment ON / OFF
2	6AXR-Y	6-axis correction R-Y hue / saturation settings
3	AMBADJ	Ambient light correction adjustment ON / OFF
4	AMBLEVEL	Ambient light level settings
5	AMBTYP	Ambient light type settings
6	ASPECT	Screen settings
7	AUTOPC	Auto PC
8	AUTOSETEXE	Auto setup
9	AVOL	Audio volume adjustment
10	BLANK	BLANK function
11	BRI	Brightness setting
12	COLOR_TEMP	Color temperature setting
13	COMVER	User command version inquiry
14	CONT	Contrast setting
15	DGAMMA	Dynamic gamma
16	DZOOM_POS	DZOOM position setting
17	DZOOM_RAT	DZOOM ratio setting
18	ERR	Error information inquiry
19	FINE_GAMMA_B	Fine gamma (B) adjustment
20	FINE_GAMMA_G	Fine gamma (G) adjustment
21	FINE_GAMMA_R	Fine gamma (R) adjustment
22	FREEZE	Freeze status
23	GAMMA	Gamma adjustment
24	HDMI_IN	HDMI input setting
25	HDMI_OVSCAN	HDMI overscan setting
26	HUE	Hue setting
27	IMAGE	Image mode setting
28	IMAGEFLIP	Flip display
29	INPUT	Input selection
30	LAMP	Lamp output setting
31	LAMPCOUNTER	Lamp ON time inquiry
32	MAIN	Front panel operation emulation
33	MEMCADJ	Memory color adjustment
34	MODE	Control mode switch
35	MUTE	Mute control

Item	Commands	Description
36	NR	Noise reduction
37	POWER	This controls the power supply
38	PRODCODE	Product information inquiry
39	RC	Remote control operation emulate
40	RGBGAIN	RGB gain adjustment
41	RGBOFFSET	RGB offset adjustment
42	ROMVER	ROM version inquiry
43	SAT	Color saturation setting
44	SAVEIMGPROF	Create user memory
45	SCRNASPECT	Screen aspect setting
46	SEL	Input signal selection
47	SHARP	Sharpness setting
48	SIGNAL_INFO	Input signal information inquiry
49	SIGNALSTATUS	Signal status inquiry
50	TEMP	Temperature sensor value inquiry

6. Details of Commands

Descriptions of each command are provided starting from the next page. The command descriptions have the format shown below.

Alphabetic command name
 This briefly describes the command function.

Format
 This indicates the command format.

Environment
 This defines the environments that support the command (power supply state, input signal state).

Power*1			Input				
OFF	ON	PM	D-RGB	A-RGB	COMP	HDMI	None
*2	*3	*4	*5	*5	*5	*5	*5

- *1 Power Executable regardless of power supply state when marked by “-”.
- *2 OFF "O" if enabled in a power OFF state.
- *3 ON "O" if enabled in a power ON state.
- *4 PM "O" if enabled while the power management state is in standby state.
- *5 Input The command is enabled in states marked by “O”.
 The command is executable regardless of input when marked by “-”.

Response
 This describes the command response.

Description
 This includes the command function, conditions, and notes.

Example
 This provides command usage examples.

6AXADJ

6-axis adjustment ON / OFF

Format

6AXADJ=<6-axis adjustment parameter:ID>
 GET 6AXADJ / ? 6AXADJ

<6-axis adjustment parameter:ID>

ON This sets the 6-axis adjustment to ON.
 OFF This sets the 6-axis adjustment to OFF.

Environment

Power			Input				
OFF	ON	PM	D-RGB	A-RGB	COMP	HDMI	None
X	O	X	-				

Response

"i:OK" is returned if the parameter was set properly.

For 'GET 6AXADJ' or '?6AXADJ', current 6-axis adjustment state is returned in

'g:6AXADJ=<6-axis adjustment parameter:ID>'

For details on other responses, refer to the "Error List".

Description

- (1) This command is used to select ON or OFF for the 6-axis adjustment.
- (2) This command functions in the same way as when "Image adjustments" - "Advanced adjustments" - "6-axis adjustment" are selected on the menu.
- (3) In the case of "6-axis adjustment," set the hue and color saturation of each axis using the 6AXR to Y "6-axis correction R to Y hue / color saturation setting" commands.
- (4) This sets the currently selected input signal and image mode.
- (5) The current 6-axis adjustment setting can be obtained using the GET command. ("GET 6AXADJ")

Example

Control

> 6AXADJ=ON The 6-axis adjustment is set to ON.
 < i:OK

Reference

> GET 6AXADJ or ?6AXADJ The 6-axis adjustment ON or OFF setting is obtained.
 < g:6AXADJ=ON

*Commands are indicated by ">", and responses are indicated by "<".

6AXR-Y

6-axis correction R-Y hue / saturation settings

Format

```

6AXR=<R hue:Number> <R saturation:Number> <R brightness:Number>
6AXG=<G hue:Number> <G saturation:Number> <G brightness:Number>
6AXB=<B hue:Number> <B saturation:Number> <B brightness:Number>
6AXC=<C hue:Number> <C saturation:Number> <C brightness:Number>
6AXM=<M hue:Number> <M saturation:Number> <M brightness:Number>
6AXY=<Y hue:Number> <Y saturation:Number> <Y brightness:Number>
GET 6AXR / ? 6AXR
GET 6AXG / ? 6AXG
GET 6AXB / ? 6AXB
GET 6AXC / ? 6AXC
GET 6AXM / ? 6AXM
GET 6AXY / ? 6AXY
    
```

Setting values for <R/G/B/C/M/Yhue:Number> are -20 to 20.

Setting values for <R/G/B/C/M/Y saturation:Number> are -20 to 20.

Setting values for <R/G/B/C/M/Y brightness:Number> are -20 to 20.

Environment

Power			Input				
OFF	ON	PM	D-RGB	A-RGB	COMP	HDMI	None
X	O	X	-				

Response

"i:OK" is returned if the parameter was set properly.

For 'GET 6AX*' or '?6AX*', current 6-axis correction R-Y hue/saturation/brightness settings are returned as

```
'g:6AX*=<*hue: Number>,<*saturation:Number>,<*brightness:Number>'
```

For details on other responses, refer to the "Error List".

Description

- (1) This sets the 6-axis correction of the hue and color saturation for R to Y.
- (2) This command functions in the same way as when "Image adjustments" - "Advanced adjustments" - "6-axis color adjustment" are selected on the menu.
- (3) If numerical parameters are outside the range, "e:0801 INVALID_VALUE" is returned.
- (4) These commands take effect when they have been set to valid using the 6-axis adjustment command (6AXADJ), and they can be set separately.
- (5) This sets the currently selected input signal and image mode.
- (6) The current 6-axis color correction can be obtained using the GET command. ("GET 6AXR/G/B/C/M/Y")

Example

Setting

```
> 6AXR=-8, 5, 3   The R hue is set to -8, the color saturation is set to 5, and the brightness is set to 3.
< i:OK
```

Reference

```
> GET 6AXR or ?6AXR   This retrieves the R hue, color saturation, and brightness.
< g:6AXR=12, -8, 4
```

* Commands are indicated by ">", and responses are indicated by "<".

AMBADJ

Ambient light correction adjustment ON / OFF

Format

AMBADJ=<Ambient light correction adjustment parameter:ID>
GET AMBADJ / ? AMBADJ

<Ambient light correction adjustment parameter:ID>

ON This sets the ambient light correction adjustment to ON.
OFF This sets the ambient light correction adjustment to OFF.

Environment

Power			Input				
OFF	ON	PM	D-RGB	A-RGB	COMP	HDMI	None
X	O	X	-				

Response

"i:OK" is returned if ON / OFF of ambient light correction adjustment was set properly.
For 'GET AMBADJ' or '?AMBADJ', current ambient light correction adjustment setting is returned as 'g:AMBADJ=<Ambient light correction adjustment parameter:ID>'
For details on other responses, refer to the "Error List".

Description

- (1) This command is used to select ON or OFF for the ambient light correction adjustment.
- (2) This command functions in the same way as when "Image adjustment" - "Advanced adjustment" - "Ambient light" are selected on the menu.
- (3) In the case of "Ambient light correction adjustment", set the level using AMB_LEVEL of "Ambient light level" command, and set the type using AMB_TYPE of "Ambient light type" command.
- (4) This sets the currently selected input signal and image mode.
- (5) The current ambient light correction adjustment setting can be obtained using the GET command. ("GET AMBADJ")

Example

Control

> AMBADJ=ON The ambient light correction adjustment is set to ON.
< i:OK

Reference

> GET AMBADJ or ?AMBADJ The ambient light correction adjustment ON or OFF setting is obtained.
< g:AMBADJ=ON

* Commands are indicated by ">", and responses are indicated by "<".

AMBLEVEL

Ambient light level settings

Format

AMBLEVEL=<Ambient light level settings parameter:ID>
GET AMBLEVEL / ? AMBLEVEL

<Ambient light level settings parameter:ID>

WEAK This sets the ambient light level to WEAK.
MIDDLE This sets the ambient light level to MIDDLE.
STRONG This sets the ambient light level to STRONG.

Environment

Power			Input				
OFF	ON	PM	D-RGB	A-RGB	COMP	HDMI	None
X	O	X	-				

Response

"i:OK" is returned if ambient light level was set properly.
For 'GET AMBLEVEL' or '?AMBLEVEL', current ambient light level is returned as
'g:AMBLEVEL=<ambient light level settings parameter:ID>'
For details on other responses, refer to the "Error List".

Description

- (1) This sets the ambient light level.
- (2) This command functions in the same way as when "Image adjustment" - "Advanced adjustment" - "Ambient light" - "Level" are selected on the menu.
- (3) This sets the currently selected input signal and image mode.
- (4) The current ambient light level setting can be obtained using the GET command. ("GET AMBLEVEL")

Example

Setting

> AMBLEVEL=MIDDLE This sets the ambient light level to MIDDLE.
< i:OK

Reference

> GET AMBLEVEL or ?AMBLEVEL This retrieves the ambient light level.
< g:AMBLEVEL=MIDDLE

* Commands are indicated by ">", and responses are indicated by "<".

AMBTTYPE

Ambient light type settings

Format

AMBTTYPE=<Ambient light type settings parameter:ID>
GET AMBTTYPE / **? AMBTTYPE**

<Ambient light type settings parameter:ID>

TG This sets the ambient light type to Tungsten.
FL This sets the ambient light type to Fluorescent.
FL_H This sets the ambient light type to Fluorescent H.

Environment

Power			Input				
OFF	ON	PM	D-RGB	A-RGB	COMP	HDMI	None
X	O	X	-				

Response

"i:OK" is returned if ambient light type was set properly.
 For 'GET AMBTTYPE' or '?AMBTTYPE', current ambient light type is returned as
 'g:AMBTTYPE=<Ambient light type settings parameter:ID>'
 For details on other responses, refer to the "Error List".

Description

- (1) This sets the ambient light type.
- (2) This command functions in the same way as when "Image adjustment" - "Advanced adjustment" - "Ambient light" - "Type" are selected on the menu.
- (3) This sets the currently selected input signal and image mode.
- (4) The current ambient light type setting can be obtained using the GET command. ("GET AMBTTYPE")

Example

Setting

> **AMBTTYPE=FL** This sets the ambient light type to Fluorescent.
 < i:OK

Reference

> **GET AMBTTYPE** or **?AMBTTYPE** This retrieves the ambient light type.
 < g:AMBTTYPE=FL

* Commands are indicated by ">", and responses are indicated by "<".

ASPECT

Screen settings

Format

ASPECT=<Screen setting parameters:ID>
GET ASPECT / ? ASPECT

<Screen setting parameters:ID>

AUTO	Auto
4:3	4:3
16:9	16:9
ZOOM	Zoom
TRUE	Real
FULL	Full screen

Environment

Power			Input				
OFF	ON	PM	Parameter	D-RGB	A-RGB	HDMI	None
X	O	X	AUTO				*3
			4:3				*3
			16:9				*3
			ZOOM	x	x	*1	*3
			TRUE			*2	*3
			FULL	*4	*4	x	x

*1 Valid when screen aspect (16:9 or 16:9 DIS) and SD signals

*2 Progressive allowable (however, 1080p is non-allowable)

*3 Allowable / Non-Allowable differs according to selected input signal

*4 Settable when screen aspect (16:10)

Response

"i:OK" is returned if the parameter was set properly.

For 'GET ASPECT' or '?ASPECT', current screen display mode is returned as

'g:ASPECT=<Screen setting parameters:ID>'

For details on other responses, refer to the "Error List".

Description

- (1) This sets the screen sizes.
- (2) This command functions in the same way as when "Display settings" - "Aspect" are selected on the menu.
- (3) If the command cannot be supported, 'INVALID_SOURCE' is returned as an error response.
- (4) If the necessary signals are not input, 'NO_SIGNAL' is returned.
- (5) The final screen settings are retained even when the power is turned off. However, the screen settings may be different if the input terminal or input signal is changed.
- (6) The GET command can be used to retrieve the current screen display mode. ("GET ASPECT")

■ **Example**

Setting

> **ASPECT=16:9** This sets the screen size to 16:9.
 < **i:OK**

Reference

> **GET ASPECT or ?ASPECT** This retrieves the screen size.
 < **g:ASPECT=TRUE**

* Commands are indicated by ">", and responses are indicated by "<".

AUTOPC

Auto PC

Format

AUTOPC

Environment

Power			Input				
OFF	ON	PM	D-RGB	A-RGB	COMP	HDMI	None
X	O	X	X	O	X	X	X

Response

"i:OK" is returned if the control was executed properly.
For details on other responses, refer to the "Error List".

Description

- (1) This executes Auto PC.
- (2) This command is identical to pressing the "AUTOPC" button on the remote control.
- (3) If the input is not "A-RGB", 'e:200X INVALID_SOURCE (***)' is returned as an error response.
- (4) If signals are not input, "e:2010 NO_SIGNAL" is returned.
- (5) Execution of this command may modify the following setting values.
 - Total number of dots
 - Tracking
 - Horizontal / vertical positions
 - Number of horizontal / vertical display dots

Example

```
> AUTOPC
< i:OK
```

* Commands are indicated by ">", and responses are indicated by "<".

AUTOSETEXE

Auto setup

Format

AUTOSETEXE <Auto set parameter:ID>

<Auto set parameter:ID>

INPUT Automatic signal sensing execution

Environment

Power			Input				
OFF	ON	PM	D-RGB	A-RGB	COMP	HDMI	None
X	O	X	-				

Response

"i:OK" is returned when the automatic processing was completed successfully.
For details on other responses, refer to the "Error List".

Description

- (1) This command is used to execute auto setup.
- (2) One of the following responses is returned if auto setup cannot be executed due to projector settings.

Projector settings	Type	Error response
	INPUT	
set to BLANK		'e:1006 NOW_BLANK'
set to FREEZE	x	'e:1009 NOW_FREEZE'
set to D.ZOOM	x	'e:100A NOW_D.ZOOM'
set to DIS		'e:1008 INVALID_SCREEN_ASPECT'

: Executable

x : Non-executable

- (3) If the input signal cannot be detected using the automatic signal sensing, 'i:INPUT_NOT_FOUND' is returned.

Example

Setting

> **AUTOSETEXE INPUT** Automatic signal sensing is executed.
< i:OK

* Commands are indicated by ">", and responses are indicated by "<".

AVOL

Audio volume adjustment

Format

```
AVOL=<Audio volume level:Number>
GET AVOL / ? AVOL
```

Setting values for <Audio volume level:Number> are 0 to 20.

Environment

Power			Input				
OFF	ON	PM	D-RGB	A-RGB	COMP	HDMI	None
X	O	X	-				

Response

"i:OK" is returned if the parameter was set properly.

For 'GET AVOL' or '?AVOL', current audio volume level is returned as

```
'g:AVOL=<Audio volume level:Number>'
```

For details on other responses, refer to the "Error List".

Description

- (1) This adjusts the volume.
- (2) This command is identical to pressing the "VOL+" and "VOL-" button on the remote control or the "VOL" on the front panel.
- (3) If numerical parameters are outside the range, "e:0801 INVALID_VALUE" is returned.
- (4) The volume level can be set even while the sound is muted.
- (5) The GET command can be used to retrieve the current volume. ("GET AVOL")

Example

Setting

```
> AVOL=18           This sets the volume to 18.
< i:OK
```

Reference

```
> GET AVOL or ?AVOL  This retrieves the volume.
< g:AVOL=18
```

* Commands are indicated by ">", and responses are indicated by "<".

BRI

Brightness setting

Format

```
BRI=<Brightness setting:Number>
GET BRI / ? BRI
```

Setting values for <Brightness setting:Number> are -20 to 20.

Environment

Power			Input				
OFF	ON	PM	D-RGB	A-RGB	COMP	HDMI	None
X	O	X	-				

Response

"i:OK" is returned if the parameter was set properly.

For 'GET BRI' or '?BRI', current brightness is returned as

```
'g:BRI=<Brightness setting:Number>'
```

For details on other responses, refer to the "Error List".

Description

- (1) This sets the screen brightness.
- (2) This command functions in the same way as when "Image adjustments" - "Brightness" are selected on the menu.
- (3) If numerical parameters are outside the range, "e:0801 INVALID_VALUE" is returned.
- (4) This sets the currently selected input signal and image mode.
- (5) The current brightness can be acquired using the applicable GET command. ("GET BRI")

Example

Setting

```
> BRI=-10           This sets the brightness to -10.
< i:OK
```

Reference

```
> GET BRI or ?BRI   This retrieves the brightness.
< g:BRI=-10
```

* Commands are indicated by ">", and responses are indicated by "<".

COLOR_TEMP

Color temperature setting

Format

```
COLOR_TEMP=<Color temperature setting:Number>
GET COLOR_TEMP / ? COLOR_TEMP
```

Setting values for <Color temperature setting:Number> are -17 to 21.

Environment

Power			Input				
OFF	ON	PM	D-RGB	A-RGB	COMP	HDMI	None
X	O	X	-				

Response

"i:OK" is returned if color temperature was set properly.

For 'GET COLOR_TEMP' or '?COLOR_TEMP', current color temperature setting is returned as

```
'g:COLOR_TEMP=<Color temperature setting:Number>'
```

For details on other responses, refer to the "Error List".

Description

- (1) This sets the color temperature of the screen.
- (2) This command functions in the same way as when "Image adjustment" - "Color adjustment" - "Color temperature" are selected on the menu.
- (3) If numerical parameters are outside the range, "e:0801 INVALID_VALUE" is returned.
- (4) This sets the currently selected input signal and image mode.
- (5) The current color temperature can be obtained using the GET command. ("GET COLOR_TEMP")

Example

Setting

```
> COLOR_TEMP=3           This sets the color temperature to +3.
< i:OK
```

Reference

```
> GET COLOR_TEMP or ?COLOR_TEMP   This obtains the color temperature.
< g:COLOR_TEMP=3
```

* Commands are indicated by ">", and responses are indicated by "<".

COMVER

User command version inquiry

Format

GET COMVER / ? COMVER

Environment

Power			Input				
OFF	ON	PM	D-RGB	A-RGB	COMP	HDMI	None
-							

Response

Returns the user command version as

g:COMVER=<User command version:Character string>

For details on other responses, refer to the "Error List".

<User command version>:=99.9999

Description

- (1) This inquires about the user command version of the projector.
- (2) This inquiry can be executed in any status provided that AC power is supplied to the projector.
- (3) The user command version consists of a 2-digit number followed by a 4-digit number. Question marks may appear in place of the numerals if the firmware has not been upgraded correctly. (Example "?:????")

Example

```
> GET COMVER or ? COMVER
< g:COMVER="01.0000"
```

* Commands are indicated by ">", and responses are indicated by "<".

CONT

Contrast setting

Format

```
CONT=<Contrast setting:Number>
GET CONT / ? CONT
```

Setting values for <Contrast setting:Number> are -20 to 20.

Environment

Power			Input				
OFF	ON	PM	D-RGB	A-RGB	COMP	HDMI	None
X	O	X	-				

Response

"i:OK" is returned if the parameter was set properly.

For 'GET CONT' or '?CONT', current contrast setting is returned as

```
'g:CONT=<Contrast setting:Number>'
```

For details on other responses, refer to the "Error List".

Description

- (1) This sets the screen contrast.
- (2) This command functions in the same way as when "Image adjustment" - "Contrast setting" are selected on the menu.
- (3) If numerical parameters are outside the range, "e:0801 INVALID_VALUE" is returned.
- (4) This sets the currently selected input signal and image mode.
- (5) The current contrast can be acquired using the applicable GET command. ("GET CONT")

Example

Setting

```
> CONT=3           This sets the contrast to +3.
< i:OK
```

Reference

```
> GET CONT or ?CONT   This retrieves the contrast.
< g:CONT=3
```

* Commands are indicated by ">", and responses are indicated by "<".

DGAMMA

Dynamic gamma

Format

DGAMMA=<Dynamic gamma setting parameter:ID>
 GET DGAMMA / ? DGAMMA

<Dynamic gamma setting parameter:ID>

OFF Off
 WEAK Weak
 MIDDLE Middle
 STRONG Strong

Environment

Power			Input				
OFF	ON	PM	D-RGB	A-RGB	COMP	HDMI	None
X	O	X	-				

Response

"i:OK" is returned if the parameter was set properly.

For 'GET DGAMMA' or '?DGAMMA', current dynamic gamma setting is returned as

'g:DGAMMA=<Dynamic gamma setting parameter:ID>'

For details on other responses, refer to the "Error List".

Description

- (1) The command is used to set the dynamic gamma function.
- (2) This command functions in the same way as when "Image adjustment" - "Advanced adjustment" - "Dynamic gamma" are selected on the menu.
- (3) This sets the currently selected input signal and image mode.
- (4) The current dynamic gamma function status can be acquired using the applicable GET command. ("GET DGAMMA")

Example

Setting

> DGAMMA=WEAK This sets the dynamic gamma function to WEAK.
 < i:OK

Reference

> GET DGAMMA or ?DGAMMA This retrieves the dynamic gamma function state.
 < g:DGAMMA=WEAK

* Commands are indicated by ">", and responses are indicated by "<".

DZOOM_POS

DZOOM position setting

Format

```
DZOOM_POS=<DZOOM position X:Number>,<DZOOM position Y:Number>
GET DZOOM_POS / ? DZOOM_POS
```

<DZOOM position X / Y:Number> is a signed integer indicating the central position of the enlarged input image.

Environment

Power			Input				
OFF	ON	PM	D-RGB	A-RGB	COMP	HDMI	None
X	O	X	O	O	O	O	X

Response

"i:OK" is returned when the DZOOM position setting was completed successfully.

For 'GET DZOOM_POS' or '?DZOOM_POS', the current DZOOM position is returned as

```
'g:DZOOM_POS=<DZOOM position X:Number>,<DZOOM position Y:Number>'
```

For details on other responses, refer to the "Error List".

Description

- (1) This command is used to set the DZOOM position (center position of the displayed enlarged input image).
- (2) This command is identical to pressing the arrow keys to move while DZOOM is enabled, however, the position can be specified in more detail.
- (3) If a position outside the range is specified, the position is automatically moved to the nearest position within the range.
- (4) 0 for <DZOOM position X / Y:Number> indicates the center position of the input image.
- (5) Positive direction for <DZOOM position X / Y:Number> corresponds to RIGHT and UP keys, and negative direction corresponds to LEFT and DOWN keys.
- (6) The numerical value for <DZOOM position X / Y:Number> represents units in pixels of the input image.
 * For example, in a case where an input image of XGA (1024 x 768) size is enlarged twice the size (range of 512 x 384 is displayed), up to ±256 for <DZOOM position X:Number>, and up to ±192 for <DZOOM position Y:Number> can be specified.

Example

Control

```
> DZOOM_POS=100,200      This sets the DZOOM position shifted 100 right and 200 up.
< i:OK
```

Reference

```
> GET DZOOM_POS or ?DZOOM_POS      This retrieves the total number of dots.
< g:DZOOM_POS=100,200
```

* Commands are indicated by ">", and responses are indicated by "<".

ERR

Error information inquiry

Format

GET ERR / ? ERR

Environment

Power			Input				
OFF	ON	PM	D-RGB	A-RGB	COMP	HDMI	None
-							

Response

Returns the current error information as

'g:ERR=<ErrorID:Character string>'

For details on other responses, refer to the "Error List".

<ErrorID:Character string>

NO_ERROR	No error
ABNORMAL_TEMPERATURE	Temperature error
FAULTY_LAMP	Lamp error
FAULTY_LAMP_COVER	Lamp cover error
FAULTY_COOLING_FAN	Cooling fan error
FAULTY_POWER_SUPPLY	Power supply error
FAULTY_AIR_FILTER	Air filter error
FAULTY_POWER_ZOOM	Zoom error
FAULTY_POWER_FOCUS	Focus error
FAULTY_POWER_LENS_SHIFT	Lens shift error
FAULTY_LENS_CONNECTOR	Lens connector error

Description

- (1) This inquires about the current error information.
- (2) This inquiry can be executed in any status provided that AC power is supplied to the projector.
- (3) Information when the warning LED of the projector is flashing can be obtained. "NO_ERROR" is returned when the warning LED is not lighted.

Example

```
> GET ERR or ? ERR
< g:ERR=FAULTY_LAMP
```

* Commands are indicated by ">", and responses are indicated by "<".

FINE_GAMMA_R

Fine gamma (R) adjustment

Format

```
FINE_GAMMA_R=<Fine gamma (R) adjustment point 1 adjustment value:Number>,
                <Fine gamma (R) adjustment point 2 adjustment value:Number>,
                . . . ,<Fine gamma (R) adjustment point n adjustment value:Number>
GET FINE_GAMMA_R / ? FINE_GAMMA_R
```

Adjustment values for <Fine gamma (R) adjustment point n adjustment value:Number> are 0 to 1024.

Environment

Power			Input				
OFF	ON	PM	D-RGB	A-RGB	COMP	HDMI	None
X	O	X	-				

Response

"i:OK" is returned if the fine gamma (R) adjustment was set properly.

For 'GET FINE_GAMMA_R' or '?FINE_GAMMA_R', current fine gamma (R) adjustment value is returned as
'g:FINE_GAMMA_R=<Number of adjustment points>:<Fine gamma (R) adjustment point 1
adjustment value:Number>, <Fine gamma (R) adjustment point 2
adjustment value:Number>,
. . . ,<Fine gamma (R) adjustment point n adjustment value:Number>

For details on other responses, refer to the "Error List".

Description

- (1) This executes the fine gamma (R) adjustment.
- (2) This command functions in the same way as when "Image adjustment" - "Advanced adjustment" - "Fine gamma adjustment" are selected on the menu.
- (3) If numerical parameters are outside the range, "e:0801 INVALID_VALUE" is returned.
- (4) This sets the currently selected input signal and image mode.
- (5) The current fine gamma setting can be acquired using the applicable GET command. ("GET FINE_GAMMA_R")

Example

Setting

```
> FINE_GAMMA_R=0,128,256,384,512,640,768,896,1024
    This executes the fine gamma (R) adjustment.
< i:OK
```

Reference

```
> GET FINE_GAMMA_R or ?FINE_GAMMA_R
    This retrieves the fine gamma (R) adjustment value.
< g:FINE_GAMMA_R=9:0,128,256,384,512,640,768,896,1024
```

* Commands are indicated by ">", and responses are indicated by "<".

FINE_GAMMA_G

Fine gamma (G) adjustment

Format

```

FINE_GAMMA_G=<Fine gamma (G) adjustment point 1 adjustment value:Number>,
                <Fine gamma (G) adjustment point 2 adjustment value:Number>,
                . . . ,<Fine gamma (G) adjustment point n adjustment value:Number>
GET FINE_GAMMA_G / ? FINE_GAMMA_G
    
```

Adjustment values for <Fine gamma (G) adjustment point n adjustment value:Number> are 0 to 1024.

Environment

Power			Input				
OFF	ON	PM	D-RGB	A-RGB	COMP	HDMI	None
X	O	X	-				

Response

"i:OK" is returned if the fine gamma (G) adjustment was set properly.

For 'GET FINE_GAMMA_G' or '?FINE_GAMMA_G', current fine gamma (G) adjustment value is returned as
'g:FINE_GAMMA_G=<Number of adjustment points>:<Fine gamma (G) adjustment point 1
adjustment value:Number>, <Fine gamma (G) adjustment point 2
adjustment value:Number>,
. . . ,<Fine gamma (G) adjustment point n adjustment value:Number>

For details on other responses, refer to the "Error List".

Description

- (1) This executes the fine gamma (G) adjustment.
- (2) This command functions in the same way as when "Image adjustment" - "Advanced adjustment" - "Fine gamma adjustment" are selected on the menu.
- (3) If numerical parameters are outside the range, "e:0801 INVALID_VALUE" is returned.
- (4) This sets the currently selected input signal and image mode.
- (5) The current fine gamma setting can be acquired using the applicable GET command. ("GET FINE_GAMMA_G")

Example

Setting

```

> FINE_GAMMA_G=0,128,256,384,512,640,768,896,1024
    This executes the fine gamma (G) adjustment.
< i:OK
    
```

Reference

```

> GET FINE_GAMMA_G or ?FINE_GAMMA_G
    This retrieves the fine gamma (G) adjustment value.
< g:FINE_GAMMA_G=9:0,128,256,384,512,640,768,896,1024
    
```

* Commands are indicated by ">", and responses are indicated by "<".

FINE_GAMMA_B

Fine gamma (B) adjustment

Format

```

FINE_GAMMA_B=<Fine gamma (B) adjustment point 1 adjustment value:Number>,
              <Fine gamma (B) adjustment point 2 adjustment value:Number>,
              . . . ,<Fine gamma (B) adjustment point n adjustment value:Number>
GET FINE_GAMMA_B / ? FINE_GAMMA_B
    
```

Adjustment values for <Fine gamma (B) adjustment point n adjustment value:Number> are 0 to 1024.

Environment

Power			Input				
OFF	ON	PM	D-RGB	A-RGB	COMP	HDMI	None
X	O	X	-				

Response

"i:OK" is returned if the fine gamma (B) adjustment was set properly.

For 'GET FINE_GAMMA_B' or '?FINE_GAMMA_B', current fine gamma (B) adjustment value is returned as
'g:FINE_GAMMA_B=<Number of adjustment points>:<Fine gamma (B) adjustment point 1
adjustment value:Number>, <Fine gamma (B) adjustment point 2
adjustment value:Number>,
. . . ,<Fine gamma (B) adjustment point n adjustment value:Number>

For details on other responses, refer to the "Error List".

Description

- (1) This executes the fine gamma (B) adjustment.
- (2) This command functions in the same way as when "Image adjustment" - "Advanced adjustment" - "Fine gamma adjustment" are selected on the menu.
- (3) If numerical parameters are outside the range, "e:0801 INVALID_VALUE" is returned.
- (4) This sets the currently selected input signal and image mode.
- (5) The current fine gamma setting can be acquired using the applicable GET command. ("GET FINE_GAMMA_B")

Example

Setting

```

> FINE_GAMMA_B=0,128,256,384,512,640,768,896,1024
    This executes the fine gamma (B) adjustment.
< i:OK
    
```

Reference

```

> GET FINE_GAMMA_B or ?FINE_GAMMA_B
    This retrieves the fine gamma (B) adjustment value.
< g:FINE_GAMMA_B=9:0,128,256,384,512,640,768,896,1024
    
```

* Commands are indicated by ">", and responses are indicated by "<".

FREEZE

Freeze status

Format

FREEZE=<FREEZE parameter:ID>
GET FREEZE / ? FREEZE

<FREEZE parameter:ID>

ON Image now frozen
 OFF Image now not frozen

Environment

Power			Input				
OFF	ON	PM	D-RGB	A-RGB	COMP	HDMI	None
X	O	X	O	O	O	O	X

Response

"i:OK" is returned if the parameter was set properly.

For 'GET FREEZE' or '?FREEZE', current freeze status is returned as

'g:FREEZE=ON'
 'g:FREEZE=OFF'

For details on other responses, refer to the "Error List".

Description

- (1) This command is used to freeze the image.
- (2) This command is identical to pressing the "FREEZE" button on the remote control.
- (3) The current freeze status can be obtained using the GET command. ("GET FREEZE")

Example

Setting

> **FREEZE=ON** Freezes image.
 < **i:OK**

Reference

> **GET FREEZE or ?FREEZE** The current freeze status is referenced.
 < **g:FREEZE=ON**

* Commands are indicated by ">", and responses are indicated by "<".

GAMMA

Gamma adjustment

Format

GAMMA=<Gamma adjustment:Number>
GET GAMMA / ? GAMMA

Setting values for <Gamma adjustment: Number> are -10 to 10.

Environment

Power			Input				
OFF	ON	PM	D-RGB	A-RGB	COMP	HDMI	None
X	O	X	-				

Response

"i:OK" is returned if the parameter was set properly.

For 'GET GAMMA' or '?GAMMA', current gamma adjustment is returned as

'g:GAMMA=<Gamma adjustment:Number>'

For details on other responses, refer to the "Error List".

Description

- (1) This performs the Gamma adjustment.
- (2) This command functions in the same way as when "Image adjustment" - "Gamma adjustment" are selected on the menu.
- (3) If numerical parameters are outside the range, "e:0801 INVALID_VALUE" is returned.
- (4) This sets the currently selected input signal and image mode.
- (5) The current gamma adjustment can be acquired using the applicable GET command. ("GET GAMMA")

Example

Setting

> **GAMMA=-1** This sets the gamma correction to -1.
 < **i:OK**

Reference

> **GET GAMMA or ?GAMMA** This retrieves the gamma adjustment.
 < **g:GAMMA=3**

* Commands are indicated by ">", and responses are indicated by "<".

HDMI_IN

HDMI input setting

Format

```
HDMI_IN=<HDMI input setting parameter:ID>
GET HDMI_IN / ? HDMI_IN
```

<HDMI input setting parameter:ID>

AUTO Select this when connecting to an AV equipment. Image processing and menu displays are adjusted respective to the connected video equipment.

PC Select this when connecting to a computer. Image processing and menu displays are adjusted respective to the connected computer.

Environment

Power			Input				
OFF	ON	PM	D-RGB	A-RGB	COMP	HDMI	None
X	O	X	-				

Response

"i:OK" is returned if HDMI input was set properly.

For 'GET HDMI_IN' or '?HDMI_IN', current HDMI input setting status is returned as

```
'g:HDMI_IN=<HDMI input setting parameter:ID>'
```

For details on other responses, refer to the "Error List".

Description

- (1) This switches the HDMI input setting to [AV input] / [PC input].
- (2) This command functions in the same way as when "System setting" - "HDMI input" are selected on the menu.
- (3) The current HDMI input setting can be acquired using the applicable GET command. ("GET HDMI_IN").

Example

Setting

```
> HDMI_IN=AUTO This sets the HDMI input to AV source.
< i:OK
```

Reference

```
> GET HDMI_IN or ?HDMI_IN This retrieves the setting status of the HDMI input setting.
< g:HDMI_IN=AUTO
```

* Commands are indicated by ">", and responses are indicated by "<".

HDMI_OVSCAN

HDMI overscan setting

Format

```
HDMI_OVSCAN=<HDMI overscan setting parameter:ID>
GET HDMI_OVSCAN / ? HDMI_OVSCAN
```

<HDMI overscan setting parameter:ID>

```
OFF          Turns overscan to OFF
ON           Turns overscan to ON
```

Environment

Power			Input				
OFF	ON	PM	D-RGB	A-RGB	COMP	HDMI	None
X	O	X	-	-	-	O	O

Response

"i:OK" is returned if HDMI overscan was set properly.

For 'GET HDMI_OVSCAN' or '?HDMI_OVSCAN', current HDMI overscan setting status is returned as

```
'g:HDMI_OVSCAN=<HDMI overscan setting parameter:ID>'
```

For details on other responses, refer to the "Error List".

Description

- (1) This switches the HDMI overscan setting to [OFF] / [ON].
- (2) This command functions in the same way as when "Display setting" - "HDMI overscan" are selected on the menu.
- (3) The current HDMI overscan setting can be acquired using the applicable GET command ("GET HDMI_OVSCAN").
- (4) The setting is fixed to [OFF] depending on the setting status of other functions or the status of the input signal.

Example

Setting

```
> HDMI_OVSCAN=ON          This sets the HDMI overscan to ON.
< i:OK
```

Reference

```
> GET HDMI_OVSCAN or ?HDMI_OVSCAN
                                This retrieves the setting status of the HDMI overscan setting.
< g:HDMI_OVSCAN=ON
```

* Commands are indicated by ">", and responses are indicated by "<".

HUE

Hue setting

Format

```
HUE=<Hue setting value:Number>
GET HUE / ? HUE
```

Setting values for <Hue setting value:Number> are -20 to 20.

Environment

Power			Input				
OFF	ON	PM	D-RGB	A-RGB	COMP	HDMI	None
X	O	X	-				

Response

"i:OK" is returned if the parameter was set properly.
 For 'GET HUE' or '?HUE', current hue setting is returned as
 'g:HUE=<Hue setting value:Number>'

For details on other responses, refer to the "Error List".

Description

- (1) This sets the screen hue.
- (2) This command functions in the same way as when "Image adjustment" - "Color adjustment" - "Hue setting" are selected on the menu.
- (3) If numerical parameters are outside the range, "e:0801 INVALID_VALUE" is returned.
- (4) This sets the currently selected input signal and image mode.
- (5) The GET command can be used to retrieve the current hue. ("GET HUE")

Example

Setting

```
>HUE=8           This sets the hue to +8.
<i:OK
```

Reference

```
>GET HUE or ?HUE   This retrieves the hue.
<g:HUE=1
```

* Commands are indicated by ">", and responses are indicated by "<".

IMAGE

Image mode setting

Format

```
IMAGE=<Image mode setting parameter:ID>
GET IMAGE / ? IMAGE
```

<Image mode setting parameter:ID>

STANDARD	Standard
PRESENTATION	Presentation
VIVID_PHOTO	Vivid photo
PHOTO_SRGB	Photo / sRGB
DCM_SIM	DICOM Sim*
DYNAMIC	Dynamic
VIDEO	Video
CINEMA	Cinema
USER_1	User 1
USER_2	User 2
USER_3	User 3
USER_4	User 4
USER_5	User 5

* Only available on DICOM models.

Environment

Power			Input				
OFF	ON	PM	D-RGB	A-RGB	COMP	HDMI	None
X	O	X	-				

Response

"i:OK" is returned if the parameter was set properly.

For 'GET IMAGE' or '?IMAGE', current image mode is returned as

```
'g:IMAGE=<Image mode setting parameter:ID>'
```

For details on other responses, refer to the "Error List".

Description

- (1) This sets the image quality.
- (2) This command functions in the same way as when "Image adjustment" - "Image mode setting" are selected on the menu.
- (3) The final settings for the image mode are retained even when the power is turned off.
- (4) Changing the setting may modify the following setting values.

Setting	Commands related to the settings
Brightness	BRI
Contrast	CONT
Sharpness	SHARP
Gamma adjustment	GAMMA
Dynamic gamma	DGAMMA
Saturation / Hue	SAT / HUE
Memory color adjustment	MEMCADJ
RGB gain / offset adjustment	RGBGAIN / RGBOFFSET
Lamp mode	LAMP

Setting	Commands related to the settings
6-axis adjustment	6AXADJ
6-axis color correction	6AXR ~ Y

(5) The current image quality can be acquired using the applicable GET command. ("**GET IMAGE**")

Example

Setting

> **IMAGE=PRESENTATION** This sets the image mode to "Presentation".
 < **i:OK**

Reference

> **GET IMAGE or ?IMAGE** This references the current image mode.
 < **g:IMAGE=CINEMA**

* Commands are indicated by ">", and responses are indicated by "<".

IMAGEFLIP

Flip display

Format

IMAGEFLIP=<Image flip setting parameters:ID>
 GET IMAGEFLIP / ? IMAGEFLIP

<Image flip setting parameters:ID>

NONE None
 CEILING Ceiling
 REAR Rear projection
 REAR_CEILING Rear projection with ceiling

Environment

Power			Input				
OFF	ON	PM	D-RGB	A-RGB	COMP	HDMI	None
X	O	X	-				

Response

"i:OK" is returned if the parameter was set properly.

For 'GET IMAGEFLIP' or '?IMAGEFLIP', current flip display setting is returned as

'g:IMAGEFLIP=<Image flip setting parameters:ID>'

For details on other responses, refer to the "Error List".

Description

- (1) This command is used to flip the screen display in various ways (vertically or horizontally).
- (2) This command functions in the same way as when "Display setting" - "Flip display" are selected on the menu.
- (3) When the display is flipped, the "keystone distortion" settings are initialized.
- (4) The current flip display status can be acquired using the applicable GET command. ("GET IMAGEFLIP")

Example

Setting

> IMAGEFLIP=REAR This displays the image in a rear projection (flip vertically).
 < i:OK

Reference

> GET IMAGEFLIP or ?IMAGEFLIP This retrieves the flip display state.
 < g:IMAGEFLIP=REAR_CEILING

* Commands are indicated by ">", and responses are indicated by "<".

INPUT

Input selection

Format

```
INPUT=<Input selection parameters:ID>
GET INPUT / ? INPUT
```

```
<Input selection parameters:ID>
D-RGB          Digital PC
A-RGB          Analog PC
COMP           Component
HDMI           HDMI
```

Environment

Power			Input				
OFF	ON	PM	D-RGB	A-RGB	COMP	HDMI	None
X	O	X	-				

Response

"i:OK" is returned if the parameter was set properly.
 For 'GET INPUT' or '?INPUT', current input selection is returned as
 'g:INPUT=<Input selection parameters:ID>'
 For details on other responses, refer to the "Error List".

Description

- (1) This controls the input selection.
- (2) This command is identical to pressing the "INPUT" button on the remote control.
- (3) The input can be selected automatically using the auto setup command (AUTOSETEXE=INPUT).
- (4) The current input can be acquired using the applicable GET command. ("GET INPUT")

Example

Setting

```
> INPUT=HDMI          The input is set to HDMI.
< i:OK
```

Reference

```
> GET INPUT or ?INPUT  This retrieves the input signal.
< g:INPUT=A-RGB
```

* Commands are indicated by ">", and responses are indicated by "<".

LAMP

Lamp output setting

Format

LAMP=<Lamp output setting parameters:ID>
GET LAMP / ? LAMP

<Lamp output setting parameters:ID>
 NORMAL Normal
 SILENT Silent cooling

Environment

Power			Input				
OFF	ON	PM	D-RGB	A-RGB	COMP	HDMI	None
X	O	X	-				

Response

"i:OK" is returned if the parameter was set properly.
 For 'GET LAMP' or '?LAMP', current lamp output is returned as
 'g:LAMP=<Lamp output setting parameters:ID>'

For details on other responses, refer to the "Error List".

Description

- (1) This command is used to set the light quantity of the lamp to "NORMAL" or "SILENT" (reduced light quantity appropriate for silent cooling).
- (2) This command functions in the same way as when "Image adjustment" - "Lamp mode setting" are selected on the menu.
- (3) This sets the currently selected input signal and image mode.
- (4) The current lamp output can be acquired using the applicable GET command. ("GET LAMP")

Example

Setting

> **LAMP=NORMAL** The lamp output is set to "NORMAL".
 < **i:OK**

Reference

> **GET LAMP or ?LAMP** This retrieves the lamp output.
 < **g:LAMP=SILENT**

* Commands are indicated by ">", and responses are indicated by "<".

LAMPCOUNTER

Lamp ON time inquiry

Format

GET LAMPCOUNTER / ? LAMPCOUNTER

Environment

Power			Input				
OFF	ON	PM	D-RGB	A-RGB	COMP	HDMI	None
-							

Response

Returns current lamp on time as

'g:LAMPCOUNTER="<Lamp ON time:Character string>"

For details on other responses, refer to the "Error List".

<Lamp ON time:Character string>

Lamp ON time	ON time:H
"[G_____]"	0 ~ 539
"[GG_____]"	540 ~ 1079
"[GGG_____]"	1080 ~ 1619
"[GGGG_____]"	1620 ~ 2159
"[GGGGG_____]"	2160 ~ 2699
"[GGGGGY_____]"	2700 ~ 2849
"[GGGGGY_]"	2850 ~ 2999
"[GGGGGYR]"	3000 ~

For all other responses, refer to "Error List."

Description

- (1) This inquires about the current lamp ON time.
- (2) This inquiry can be executed in any status provided that AC power is supplied to the projector.

Example

> GET LAMPCOUNTER or ? LAMPCOUNTER

< g:LAMPCOUNTER=" [GG_____]"

* Commands are indicated by ">", and responses are indicated by "<".

MAIN

Front panel operation emulation

Format

MAIN <Main unit panel emulation button parameters:ID>

<Main unit panel emulation button parameters:ID>

POWER	POWER button
POWER_OFF	POWER button pressed twice
MENU	MENU
LENS	LENS
INPUT	INPUT
UP	UP
UP+REP	Hold down the UP button
*-REP	Release the button
DOWN	DOWN
DOWN+REP	Hold down the DOWN button
*-REP	Release the button
LEFT	LEFT
LEFT+REP	Hold down the LEFT button
*-REP	Release the button
RIGHT	RIGHT
RIGHT+REP	Hold down the RIGHT button
*-REP	Release the button
OK	OK

* After setting the status of the button to be pressed down, send a command from the PC to release the pressed status after predetermined time.

Environment

Power			Input				
OFF	ON	PM	D-RGB	A-RGB	COMP	HDMI	None
-							

Response

"i:OK" is returned when the button press request has been acknowledged successfully.
(It does not indicate if the operation for the pressed button was executed properly.)

Description

- (1) This emulates the pressing of the front panel buttons for controlling the projector.
- (2) With the emulation of the front panel operations, the functions of the buttons corresponding to the parameters cannot necessarily be executed. Emulation simply consists in emulating the pressing of the buttons.
- (3) A parameter with '+REP' signifies "button press start." (This is the same as the status in which the front panel button is held down.)
Be absolutely sure to send the '*-REP' parameter, and end the button pressing last of all.
The button pressing is ended in the cases below as well.
<1> When a panel or remote control button has been operated
<2> When some command has been received

Example

Setting

```
> MAIN MENU
< i:OK
```

* Commands are indicated by ">", and responses are indicated by "<".

MEMCADJ

Memory color adjustment

Format

MEMCADJ=<Memory color adjustment parameter:ID>
GET MEMCADJ / ? MEMCADJ

<Memory color adjustment parameter:ID>
OFF No adjustment
MEM_L Memory color adjustment - light
MEM_M Memory color adjustment - medium
MEM_H Memory color adjustment - heavy

Environment

Power			Input				
OFF	ON	PM	D-RGB	A-RGB	COMP	HDMI	None
X	O	X	-				

Response

i:OK' is returned when memory color has been adjusted successfully.
For 'GET MEMCADJ' or '?MEMCADJ', current memory color adjustment is returned as
'g:MEMCADJ=<Memory color adjustment parameter:ID>'
For details on other responses, refer to the "Error List".

Description

- (1) This command is used by selecting "No adjustment", "Memory color adjustment - light" to "Memory color adjustment - heavy".
- (2) This command functions in the same way as when "Image adjustment" - "Advanced adjustment" - "Memory color adjustment" are selected on the menu.
- (3) This sets the currently selected input signal and image mode.
- (4) The current memory color adjustment setting can be obtained using the GET command. ("GET MEMCADJ")

Example

Control

> MEMCADJ=MEM_M This sets the tone adjustment to "Memory color adjustment - medium".
< i:OK

Reference

> GET MEMCADJ or ?MEMCADJ This retrieves the memory color adjustment level.
< g:MEMCADJ=MEM_M

* Commands are indicated by ">", and responses are indicated by "<".

MODE

Control mode switch

Format

```
REMOTE
LOCAL
GET MODE / ? MODE
```

Environment

Power			Input				
OFF	ON	PM	D-RGB	A-RGB	COMP	HDMI	None
-			-				

Response

"i:OK" is always returned with the control mode switch setting.

For 'GET MODE' or '?MODE', current control mode is returned as

```
'g:MODE=REMOTE'
'g:MODE=LOCAL'
```

For details on other responses, refer to the "Error List".

Description

- (1) There are no 'local' and 'remote' control modes with this version of the user commands, however, this command exists to maintain compatibility with previous versions of the user commands.
- (2) The current control mode can be obtained using the GET command. ("GET MODE")

Example

Mode switch

```
> REMOTE
< i:OK
```

Mode reference

```
> GET MODE or ?MODE
< g:MODE=LOCAL
```

* Commands are indicated by ">", and responses are indicated by "<".

MUTE

Mute control

Format

MUTE=<Mute control parameter: ID>
GET MUTE / ? MUTE

<Mute control parameter: ID>

ON This prohibits the audio / beep sound.
OFF This permits the audio / beep sound.

Environment

Power			Input				
OFF	ON	PM	D-RGB	A-RGB	COMP	HDMI	None
X	O	X	-				

Response

"i:OK" is returned if the parameter was set properly.

For 'GET MUTE' or '?MUTE', current mute setting is returned as

'g:MUTE=<Mute control parameter: ID>'

For details on other responses, refer to the "Error List".

Description

- (1) This command is used to set the sound output muting to ON or OFF.
- (2) Mute control enables simultaneous control of the audio and beep sound.
- (3) This command is identical to pressing the MUTE button on the remote control.
- (4) The mute setting is always "OFF" when the power has just been turned on.
- (5) The volume can be set even when it is on "MUTE".
- (6) The current muting status can be acquired using the applicable GET command. ("GET MUTE")

Example

Setting

> MUTE=ON This mutes the volume.
< i:OK

Reference

> GET MUTE or ?MUTE This retrieves the volume state.
< g:MUTE=ON

* Commands are indicated by ">", and responses are indicated by "<".

NR

Noise reduction

Format

NR=<Noise reduction setting parameter:ID>
 GET NR / ? NR

<Noise reduction setting parameter:ID>

OFF Off
 WEAK Weak
 MIDDLE Middle
 STRONG Strong

Environment

Power			Input				
OFF	ON	PM	D-RGB	A-RGB	COMP	HDMI	None
X	O	X	X	X	O	O	O

Response

"i:OK" is returned if noise reduction was set properly.

For 'GET NR' or '?NR', current noise reduction setting is returned as

'g:NR=<Noise reduction setting parameter:ID>'

"FUNCTION_NOT_AVAILABLE" is returned if PC is selected for HDMI input.

For details on other responses, refer to the "Error List".

Description

- (1) This sets the noise reduction function.
- (2) This command functions in the same way as when "Image adjustment" - "Advanced adjustment" - "Noise reduction" are selected on the menu.
- (3) This sets the currently selected input signal and image mode.
- (4) The current noise reduction function status can be acquired using the applicable GET command ("GET NR").

Example

Setting

> NR=MIDDLE This sets the noise reduction function to MIDDLE.
 < i:OK

Reference

> GET NR or ?NR This retrieves the noise reduction function status.
 < g:NR=MIDDLE

* Commands are indicated by ">", and responses are indicated by "<".

POWER

This controls the power supply

Format

```
POWER <Parameter:ID>
GET POWER / ? POWER
```

<Parameter:ID>

```
ON          Power ON
OFF         Power OFF
```

Environment

Power			Input				
OFF	ON	PM	D-RGB	A-RGB	COMP	HDMI	None
-							

Response

"i:OK" is returned if the parameter was set properly.

For 'GET POWER' or '?POWER', current power supply status is returned as shown in the table below.

Response	Status
'g:POWER=OFF'	OFF
'g:POWER=OFF2ON'	OFF -> ON in transition
'g:POWER=ON'	ON
'g:POWER=ON2PMM'	ON -> Standby in transition
'g:POWER=PMM'	Standby
'g:POWER=PMM2ON'	Standby -> ON in transition
'g:POWER=ON2OFF'	ON -> OFF in transition

For details on other responses, refer to the "Error List".

Description

- (1) This performs ON / OFF control of the power supply.
- (2) This command is identical to pressing the POWER button on the remote control.
- (3) Processing of other commands (including ZOOM / FOCUS) will be interrupted at "POWER OFF" when the power is ON.
- (4) 'i:BUSY' will be returned at "POWER ON" during power OFF transition. For other cases, 'i:OK' will always be returned.
- (5) The current power supply status can be referenced using the applicable GET command. ("GET POWER")
- (6) After sending this command, use GET POWER to obtain the power supply state at regular intervals, and check that it is in the controlled state (off or on).
- (7) Even when it is powered up by using this command, "Prepare for lamp replacement", "Lamp replacement warning", "Clean filter warning" will display for 10 seconds as usual.

Example

Control

```
> POWER ON
< i:OK
```

Reference

```
> GET POWER or ?POWER
< g:POWER=OFF
```

* Commands are indicated by ">", and responses are indicated by "<".

PRODCODE

Product information inquiry

Format

GET PRODCODE / ? PRODCODE

Environment

Power			Input				
OFF	ON	PM	D-RGB	A-RGB	COMP	HDMI	None
-			-				

Response

Product name is returned as

g:PRODCODE="<Product name:Character string>"

For details on other responses, refer to the "Error List".

<Product name:Character string>

WUX5000 / WUX4000

Description

- (1) This inquires about the product name of the projector.
- (2) This inquiry can be executed in any status provided that AC power is supplied to the projector.

Example

> GET PRODCODE or ? PRODCODE

< g:PRODCODE="WUX5000"

or

< g:PRODCODE="WUX4000"

* Commands are indicated by ">", and responses are indicated by "<".

RC

Remote control operation emulate

Format

RC <Remote control emulation button parameters:ID>

<Remote control emulation button parameters:ID>

POWER	POWER button
POWER_OFF	POWER button pressed twice
MENU	MENU
INPUT	INPUT
ASPECT	ASPECT
AUTOPC	AUTOPC
KEYSTONE	KEYSTONE
UP	UP
UP+REP	Hold down the UP button
*-REP	Release the button
DOWN	DOWN
DOWN+REP	Hold down the DOWN button
*-REP	Release the button
LEFT	LEFT
LEFT+REP	Hold down the LEFT button
*-REP	Release the button
RIGHT	RIGHT
RIGHT+REP	Hold down the RIGHT button
*-REP	Release the button
OK	OK
IMAGE	IMAGE
GAMMA	GAMMA
FREEZE	FREEZE
VOL_P	VOL +
VOL_P+REP	Hold down the VOL + button
*-REP	Release the button
VOL_M	VOL -
VOL_M+REP	Hold down the VOL - button
*-REP	Release the button
BLANK	BLANK
MUTE	MUTE
P-TIMER	P_TIMER
LAMP	LAMP
DZOOM_P	DZOOM +
DZOOM_P+REP	Hold down the DZOOM + button
*-REP	Release the button
DZOOM_M	DZOOM -
DZOOM_M+REP	Hold down the DZOOM - button
*-REP	Release the button
FOCUS	FOCUS
ZOOM	ZOOM
SHIFT	SHIFT

* After setting the status of the button to be pressed down, send a command from the PC to release the pressed status after predetermined time. .

Environment

Power			Input				
OFF	ON	PM	D-RGB	A-RGB	COMP	HDMI	None
-							

■ Response

"i:OK" is returned when the button press request has been acknowledged successfully.
 (It does not indicate if the operation for the pressed button was executed properly.)

■ Description

- (1) This emulates pressing of the remote control buttons for controlling the projector.
- (2) With the emulation of the remote control operations, the functions of the buttons corresponding to the parameters cannot necessarily be executed.
 Emulation simply consists in emulating the pressing of the buttons.
- (3) A parameter with '+REP' signifies "button press start". (This is the same as the status in which the remote control button is held down.)
 Be absolutely sure to send the '*-REP' parameter, and end the button pressing last of all.
 The button pressing is ended in the cases below as well.
 <1> When a panel or remote control button has been operated
 <2> When a command has been received

■ Example

Setting

```
> RC POWER
< i:OK
```

* Commands are indicated by ">", and responses are indicated by "<".

RGBGAIN

RGB gain adjustment

Format

```
RGBGAIN=<R gain setting:Number> <G gain setting:Number> <B gain setting:Number>
GET RGBGAIN / ? RGBGAIN
```

Setting values for <R/G/B gain setting:Number> are -60 to 60.

Environment

Power			Input				
OFF	ON	PM	D-RGB	A-RGB	COMP	HDMI	None
X	O	X	-				

Response

"i:OK" is returned if the parameter was set properly.

For 'GET RGBGAIN' or '?RGBGAIN', current RGB gain adjustment values are returned as

```
'g:RGBGAIN=<R gain setting:Number>,<G gain setting:Number>,<B gain setting:Number>'
```

For details on other responses, refer to the "Error List".

Description

- (1) This command is used to adjust the gain of the R, G and B colors.
- (2) This command functions in the same way as when "Image adjustment" - "Color adjustment" - "Gain adjustment" are selected on the menu.
- (3) If numerical parameters are outside the range, "e:0801 INVALID_VALUE" is returned.
- (4) This sets the currently selected input signal and image mode.
- (5) The current RGB gain values can be obtained using the GET command. ("GET RGBGAIN")

Example

Setting

```
> RGBGAIN=10, 11, 12           The R gain is set to 10, G gain to 11 and B gain to 12.
< i:OK
```

Reference

```
> GET RGBGAIN or ?RGBGAIN     The RGB gain values are obtained.
< g:RGBGAIN=-10, 0, 19
```

* Commands are indicated by ">", and responses are indicated by "<".

RGBOFFSET

RGB offset adjustment

Format

```
RGBOFFSET=<R offset setting:Number> <G offset setting:Number> <B offset
                setting:Number>
GET RGBOFFSET / ? RGBOFFSET
```

Setting values for <R/G/B offset setting:Number> are -60 to 60.

Environment

Power			Input				
OFF	ON	PM	D-RGB	A-RGB	COMP	HDMI	None
X	O	X	-				

Response

"i:OK" is returned if the parameter was set properly.

For 'GET RGBOFFSET' or '?RGBOFFSET', current RGB offset adjustment values are returned as

```
'g:RGBOFFSET=<R offset setting:Number>,<G offset setting:Number>,<B offset setting:Number>'
```

For details on other responses, refer to the "Error List".

Description

- (1) This command is used to adjust the offset of the R, G and B colors.
- (2) This command functions in the same way as when "Image adjustment" - "Color adjustment" - "Offset adjustment" are selected on the menu.
- (3) If numerical parameters are outside the range, "e:0801 INVALID_VALUE" is returned.
- (4) This sets the currently selected input signal and image mode.
- (5) The current RGB offset values can be obtained using the GET command. ("GET RGBOFFSET")

Example

Setting

```
> RGBOFFSET=10, 11, 12           The R offset is set to 10, G offset to 11 and B offset to 12.
< i:OK
```

Reference

```
> GET RGBOFFSET or ?RGBOFFSET   The RGB offset values are obtained.
< g:RGBOFFSET=-10, 0, 19
```

* Commands are indicated by ">", and responses are indicated by "<".

ROMVER

ROM version inquiry

Format

GET ROMVER / ? ROMVER

Environment

Power			Input				
OFF	ON	PM	D-RGB	A-RGB	COMP	HDMI	None
-							

Response

ROM version of the firmware is returned as

`g:ROMVER=<ROM version:Character string>`

For details on other responses, refer to the "Error List".

`<ROM version>:=99.999999`

Description

- (1) This inquires about the version of the firmware.
- (2) This inquiry can be executed in any status provided that AC power is supplied to the projector.

Example

```
> GET ROMVER or ? ROMVER
< g:ROMVER="01.030602"
```

* Commands are indicated by ">", and responses are indicated by "<".

SAT

Color saturation setting

Format

```
RGBGAIN=<R gain setting:Number> <G gain setting:Number> <B gain setting:Number>
GET RGBGAIN / ? RGBGAIN
```

Setting values for <Color saturation setting value:Number> are -20 to 20.

Environment

Power			Input				
OFF	ON	PM	D-RGB	A-RGB	COMP	HDMI	None
X	O	X	-				

Response

"i:OK" is returned if the parameter was set properly.

For 'GET SAT' or '?SAT', current saturation setting value is returned as

```
'g:SAT=<Color saturation setting value:Number>'
```

For details on other responses, refer to the "Error List".

Description

- (1) This sets the screen color saturation.
- (2) This command functions in the same way as when "Image adjustment" - "Color adjustment" - "Color saturation setting" are selected on the menu.
- (3) If numerical parameters are outside the range, "e:0801 INVALID_VALUE" is returned.
- (4) This sets the currently selected input signal and image mode.
- (5) The GET command can be used to retrieve the current color saturation. ("GET SAT")

Example

Setting

```
> SAT=-10           This sets the color saturation to -10.
< i:OK
```

Reference

```
> GET SAT or ?SAT   This retrieves the color saturation.
< g:SAT=1
```

* Commands are indicated by ">", and responses are indicated by "<".

SAVEIMGPROF

Create, save, delete user memory / Create user memory status

Format

SAVEIMGPROF=<User memory save to parameter:ID>

<User memory save to parameter:ID>

USER_1	Save to User 1
USER_2	Save to User 2
USER_3	Save to User 3
USER_4	Save to User 4
USER_5	Save to User 5
DEL_ALL	Delete all User memory

<User memory presence parameter:ID>

0	User memory not created
1	User memory created

Environment

Power			Input				
OFF	ON	PM	D-RGB	A-RGB	COMP	HDMI	None
X	O	X	O	O	O	O	O

Response

"i:OK" is returned if the user memory was saved properly.

For 'GET SAVEIMGPROF' or '?SAVEIMGPROF', presence of user memory can be confirmed as

```
'g:SAVEIMGPROF=<Number of user memories>:<User 1 present parameter>,
<User 2 present parameter>,<User 3 present parameter>,
<User 4 present parameter>,<User 5 present parameter>'
```

For details on other responses, refer to the "Error List".

Description

- (1) This command is used to create user memory.
- (2) This command functions in the same way as "Image adjustment" - "Create user memory" and "Save user memory".
- (3) The create user memory status can be confirmed using the GET SAVEIMGPROF command ("GET SAVEIMGPROF").

Example

Setting

```
> SAVEIMGPROF=USER_2      Saves the current image adjustment value to user memory 2.
< i:OK
```

Reference

```
> GET SAVEIMGPROF          Confirms the create user memory status.
< g:SAVEIMGPROF=5:0,1,1,0,0  User memory 3 and user memory 3 have been created.
```

* Commands are indicated by ">", and responses are indicated by "<".

SCRNASPECT

Screen aspect setting

Format

SCRNASPECT=<Screen aspect setting parameter:ID>
GET SCRNASPECT / ? SCRNASPECT

<Screen aspect setting parameter:ID>

16:10	16:10
16:9	16:9 display
4:3	4:3 display
16:9_DIS	16:9 digital image shift
4:3_DIS	4:3 digital image shift

Environment

Power			Input				
OFF	ON	PM	D-RGB	A-RGB	COMP	HDMI	None
X	O	X	-				

Response

"i:OK" is returned if the parameter was set properly.

For 'GET SCRNASPECT' or '?SCRNASPECT', current screen aspect setting is returned as

'g:SCRNASPECT=<Screen aspect setting parameter:ID>'

For details on other responses, refer to the "Error List".

Description

- (1) This sets the screen aspect.
- (2) This command functions in the same way as when "Display setting" - "Screen aspect" are selected on the menu.
- (3) The GET command can be used to retrieve the current screen aspect. ("GET SCRNASPECT")
- (4) The final screen aspect settings are retained even when the power is turned off.

Example

Setting

> SCRNASPECT=16:9 This sets the screen aspect to 16:9.
> i:OK

Reference

> GET SCRNASPECT or ?SCRNASPECT This retrieves the screen aspect.
< g:SCRNASPECT=4:3

* Commands are indicated by ">", and responses are indicated by "<".

SEL

Input signal selection

Format

```
SEL=<Input signal selection parameter:ID>
GET SEL / ? SEL
```

```
<Input signal selection parameter:ID>
    AUTO          Auto
```

Environment

Power			Input				
OFF	ON	PM	D-RGB	A-RGB	COMP	HDMI	None
X	O	X	X	X	O	X	X

Response

"i:OK" is returned if the parameter was set properly.

For 'GET SEL' or '?SEL', current input signal is returned as

```
'g:SEL=<Detected input signal:ID>'
```

(Refer to "Description".)

For details on other responses, refer to the "Error List".

Description

- (1) This selects the input signal.
- (2) This command functions in the same way as when "Display setting" - "Input signal selection" - "AUTO" are selected on the menu.
- (3) If the input is not "COMP", 'e:200X INVALID_SOURCE (***)' is returned as an error response.
- (4) If signals are not input, 'e:2010 NO_SIGNAL' is returned.
- (5) The current input signal can be acquired using the applicable GET command. ("GET SEL")

List of signals which can be detected

Parameter	Remarks
1080p	
1080i	Includes 540p (1080i non-interlaced signal)
1035i	
720p	
576p	
480p	
576i	
480i	

Example

Setting

```
> SEL=AUTO          This sets the input signal selection to "AUTO".
< i:OK
```

Reference

```
> GET SEL or ?SEL   This retrieves the input signal.
< g:SEL=1080p
```

* Commands are indicated by ">", and responses are indicated by "<".

SHARP

Sharpness setting

Format

```
SHARP=<Sharpness setting:Number>
GET SHARP / ? SHARP
```

Setting values for <Sharpness setting:Number> are -10 to 10.

Environment

Power			Input				
OFF	ON	PM	D-RGB	A-RGB	COMP	HDMI	None
X	O	X	-				

Response

"i:OK" is returned if the parameter was set properly.

For 'GET SHARP' or '?SHARP', current sharpness setting is returned as

```
'g:SHARP=<Sharpness setting:Number>'
```

For details on other responses, refer to the "Error List".

Description

- (1) This sets the screen sharpness.
- (2) This command functions in the same way as when "Image adjustment" - "Sharpness setting" are selected on the menu.
- (3) If numerical parameters are outside the range, "e:0801 INVALID_VALUE" is returned.
- (4) This sets the currently selected input signal and image mode.
- (5) The current sharpness can be acquired using the applicable GET command. ("GET SHARP")

Example

Setting

```
> SHARP=3           This sets the sharpness to 3.
< i:OK
```

Reference

```
> GET SHARP or ?SHARP  This retrieves the sharpness.
< g:SHARP=3
```

* Commands are indicated by ">", and responses are indicated by "<".

SIGNAL_INFO

Input signal information inquiry

Format

GET SIGNAL_INFO / ? SIGNAL_INFO

Environment

Power			Input				
OFF	ON	PM	D-RGB	A-RGB	COMP	HDMI	None
X	O	X	-				

Response

Current input signal information is returned as

```
'g:SIGNAL_INFO="<Input signal information:Character string>"'
```

For details on other responses, refer to the "Error List".

Description

- (1) This acquires the status of the input signal entering the projector.
- (2) This functions in the same way as "Information" - "Input signal".

Example

```
> GET SIGNAL_INFO or ? SIGNAL_INFO
< g:SIGNAL_INFO="1920 x 1200 60"
```

* Commands are indicated by ">", and responses are indicated by "<".

SIGNALSTATUS

Signal status inquiry

Format

GET SIGNALSTATUS / ? SIGNALSTATUS

Environment

Power			Input				
OFF	ON	PM	D-RGB	A-RGB	COMP	HDMI	None
X	O	X	-				

Response

Current image signal input status is returned as

'g:SIGNALSTATUS=<Signal status:ID>'

For details on other responses, refer to the "Error List".

<Signal status:ID>

Signal status	Meaning
NO_SIGNAL	Signal not detected
DISPLAYING	Image now displayed or display enable status
SETTING	Signal detection and display preparation in progress

Description

- (1) This inquires about the current image signal input status.
- (2) This returns the signal status of the selected input. Use INPUT command for the input selection.
- (3) "e:1006:NOW_BLANK" is returned when it is set to BLANK.

Example

```
> GET SIGNALSTATUS or ? SIGNALSTATUS
< g:SIGNALSTATUS=NO_SIGNAL
```

* Commands are indicated by ">", and responses are indicated by "<".

TEMP

Temperature sensor value inquiry

Format

GET TEMP / ? TEMP

Environment

Power			Input				
OFF	ON	PM	D-RGB	A-RGB	COMP	HDMI	None
-			-				

Response

For 'GET TEMP' or '?TEMP', temperature sensor value is returned as

'TEMP=<Number of sensors>,<Sensor 1 value>,...,<Sensor n value>'

Description

- (1) There are cases when number of sensors is 0. In this case, there will not be a comma.

Example

```
> GET TEMP or ?TEMP      This retrieves the temperature sensor value.
< g:TEMP=1,80.5
```

* Commands are indicated by ">", and responses are indicated by "<".

7. Error List

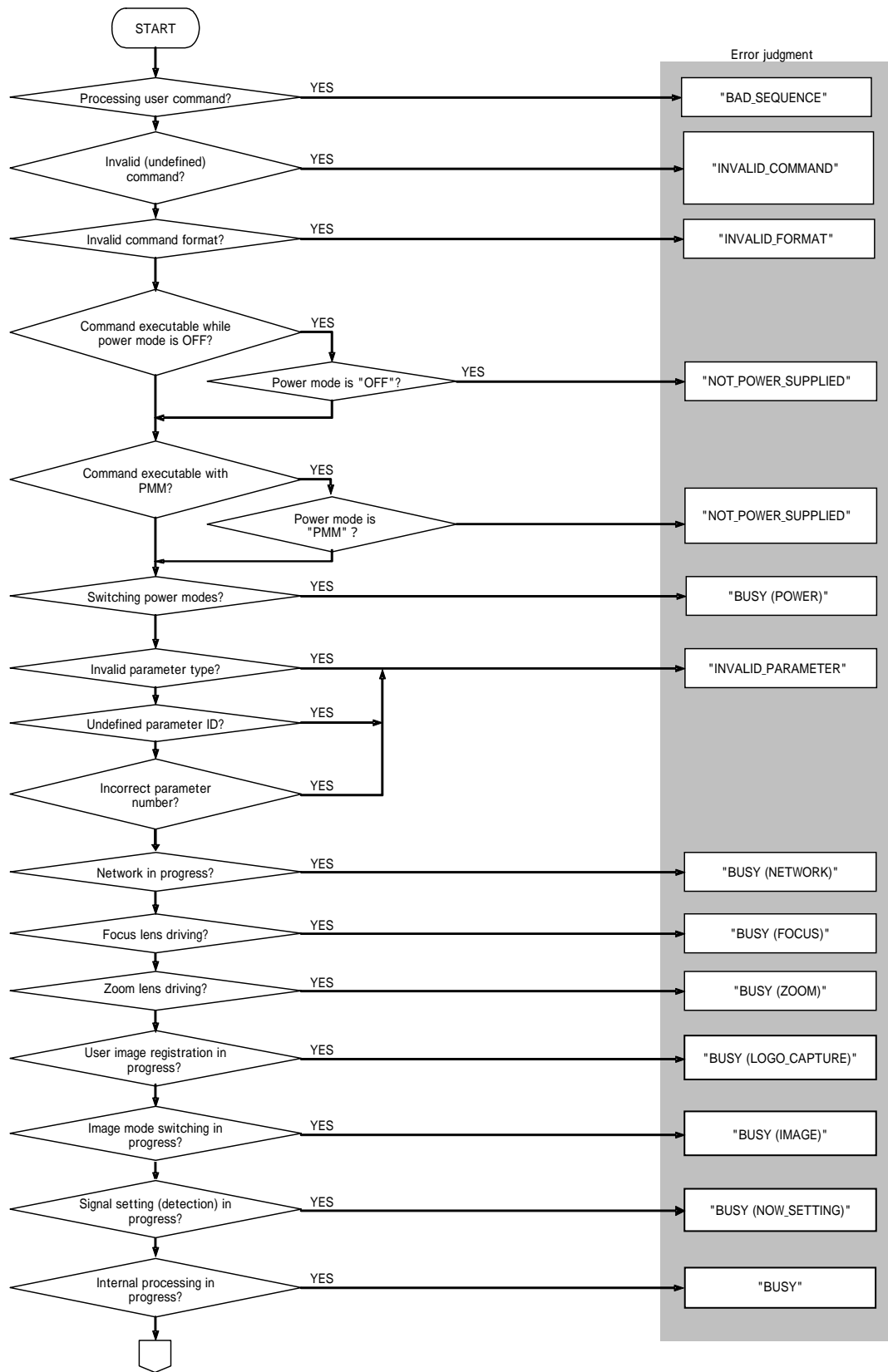
Item	Code	TYPE	Error character strings	Error	Remedy
1	0001	e	BAD_SEQUENCE	Communication sequence error	Wait until a response is received before sending the next command.
2	0002	e	INVALID_COMMAND	Invalid (undefined) command.	Send a valid command.
3	0004	e	INVALID_FORMAT	Invalid command format.	Send the command in the valid format.
4	0005	e	NOT_POWER_SUPPLIED	The projector's power is off.	Turn on the power using the POWER ON command.
5	-	i	BUSY (POWER)	The projector is switching power modes.	Wait until the power mode is ON, OFF or PMM.
6	000A	e	INVALID_PARAMETER	The parameter (type) is invalid (undefined). Includes cases when the number of parameters is incorrect.	Use the correct parameters.
7	000B	e	JOB_TIMEOUT	Internal processing in the projector has timed out.	Resend the command.
9	-	i	BUSY (NETWORK)	Executing network related functions.	Wait until the network related functions have finished execution.
		i	BUSY (FOCUS)	The focus lens is being driven.	Wait until the projector has finished driving the focus lens.
		i	BUSY (ZOOM)	The zoom lens is being driven.	Wait until the projector has finished driving the zoom lens.
		i	BUSY (IMAGE)	Image mode switching is in progress.	Wait until the projector has switched the image mode.
		i	BUSY (NOW_SETTING)	Signal setting (detection) in progress.	Wait until the processing is completed.
		i	BUSY	Internal processing in the projector is in progress.	Wait until the current processing is complete.
10	1006	e	NOW_BLANK	Cannot execute command since blanking operation is in progress.	Resend the command after canceling the blanking operation.
	1009	e	NOW_FREEZE	Cannot execute command since freeze operation is in progress.	Resend the command after canceling the freeze operation.
	100A	e	NOW_D.ZOOM	Cannot execute command since D. zooming is in progress.	Resend the command after canceling D. zooming.
	100B	e	NOW_SPECIAL_MENU	Cannot execute command in current menu mode. (Password display, etc.)	Resend the command after exiting the current menu mode.
11	F001	e	SYSTEM (UNKNOWN)	Internal error has occurred.	Resend the command.
12	E0XX	e	COMMUNICATION_ERROR	A communication protocol violation has occurred in the projector.	Resend the command.
	1008	e	INVALID_SCREEN_ASPECT	Cannot execute command under current screen aspect ratio setting.	Change the screen aspect ratio setting.
14	200X	e	INVALID_SOURCE (****)	Cannot execute command with current input source.	Change the input source.
15	2010	e	NO_SIGNAL	No input signal.	Supply the input signal.
	201X	e	INVALID_SIGNAL (****)	Cannot execute command with current input signal. Current input signal is indicated in parentheses.	Change the input signal.

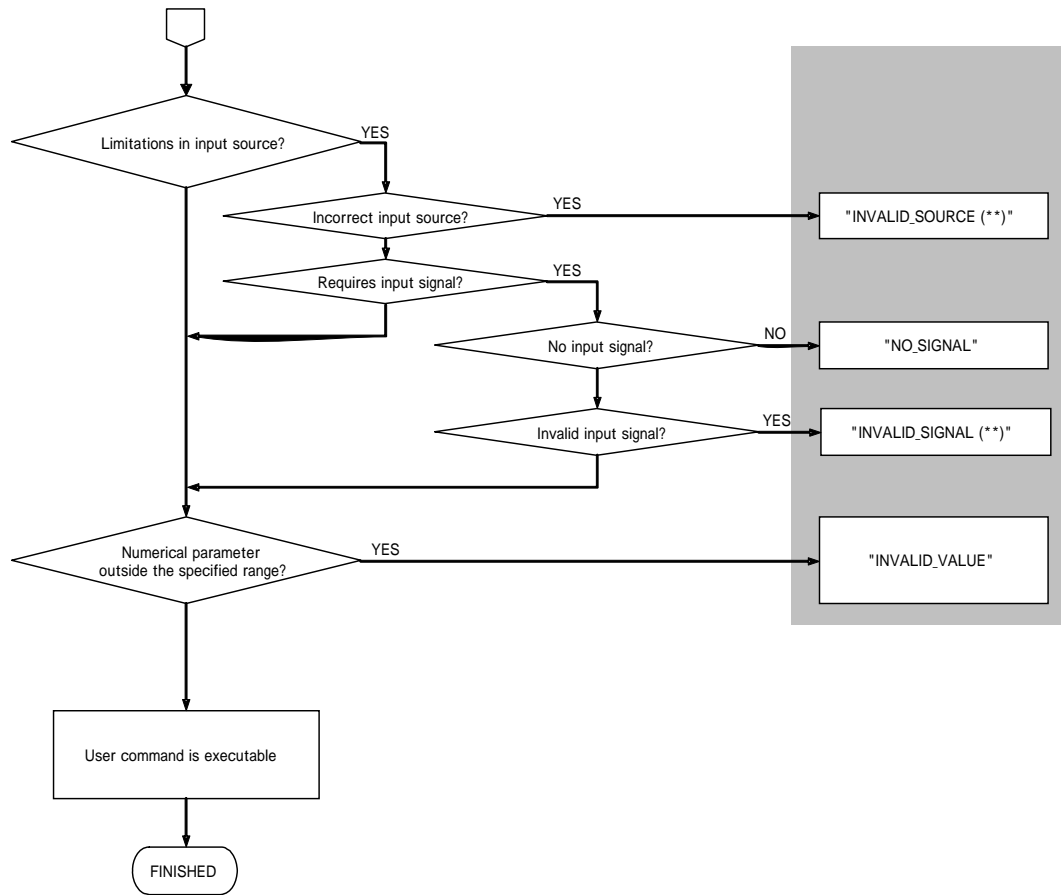
Item	Code	TYPE	Error character strings	Error	Remedy
	201F	e	INVALID_SIGNAL	Cannot execute command with current input signal.	Change the input signal.
17	0801	e	INVALID_VALUE	Numerical parameters are invalid or outside the specified range.	Set the parameters in the correct range.
18	1002	e	NO_LOGO_CAPTURED	Cannot execute command because the user image is not registered.	Register the user image.
	1003	e	IP_NOT_AVAILABLE	Cannot execute PROGRESSIVE conversion.	Switch to the correct input signal.
	1004	e	POWER_MANAGEMENT_OFF	DPON=ON cannot be set when PMM=OFF.	Use a setting other than PMM=OFF.
	1005	e	DIRECT_POWER_ON	PMM=OFF cannot be set when DPON=ON.	Use the DPON=OFF setting.
	1010	e	INACTIVE_PARAMETER	Parameter is currently in a disabled state.	Set the parameter when it is enabled.
	1011	e	FUNCTION_NOT_AVAILABLE	Objective function is currently in a disabled state.	Set the function when it is enabled.
	2020	e	INVALID_IMAGE_MODE	Cannot set in current image mode.	Set when other image mode is selected.
	203X	e	INVALID_RESOLUTION (***)	Invalid input signal resolution. Additional information is indicated in parentheses. OVER_PANEL_RES: input signal resolution exceeds panel resolution.	Switch to an input signal with the correct resolution.
19	-	i	INPUT_NOT_FOUND	Input was not switched since there is no input signal at AUTOSETEXE=INPUT.	Notification of status only; no particular measures needed.

* Error codes are 4-digit hexadecimal strings. X represents any character from 0 to 9 or from A to F.

* Items with lower numbers have a higher priority. (Even when multiple errors have occurred, the error with the highest rank is returned. However, errors of the same item number are ranked with the same priority.)

8. Error Processing





9. Other

Use the remote control emulation function (RC command) for the following functions.

Function	PC command parameter
Presentation timer	P_TIMER