Canon

Projector SX80 MarkII

User Commands

Revision 1

Revision History

Revision No.	Version	Date	Page(s)	Changes	Revised by
1	01.0001	6/23/2009	---	First release	

Table of Contents

1. Overview

These specifications describe the methods of controlling the Projector WUX10 MarkII 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 with 0 or more characters (20h), Tab (09h), or other separator.
□	Space with 1 or more characters (20h), Tab (09h), or other separator.
▽	Separator between parameters △ , △ | □.
[ ]	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.

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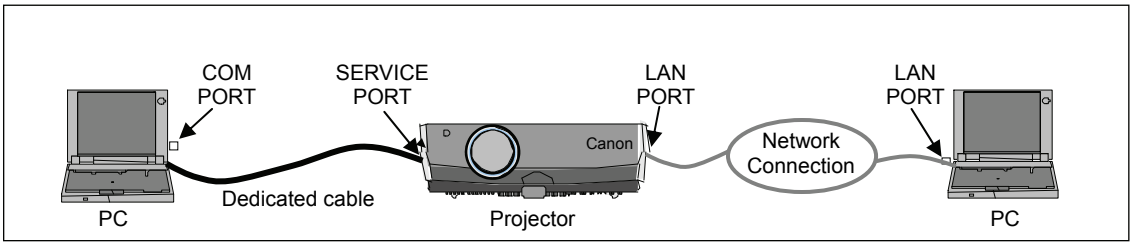
2. Communication Specifications

Communication Specifications

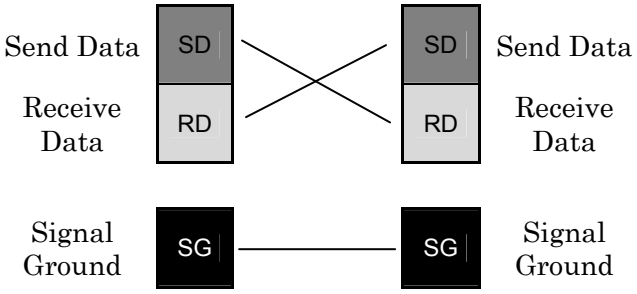
The projector can be controlled via serial or LAN connection.

PC - Projector connection status



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	9pin RS-232C Cable (Cross)

Item	Specifications
Connection system	TCP/IP Connection
Connection signal line	Straight when connecting via network
Connection cable	LAN Cable



* Signal lines other than the three lines of SD, RD and SG are not used in the projector!
* Loop back its own signals at the PC side if necessary.

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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 record with terminal as delimiter
Maximum transmission length	Maximum of 256 characters (bytes) including delimiters.
Delimiters	Delimiters are one of CR, LF, CR+LF, Null (0) (delimiters are identified automatically).
	Response delimiters are identical to command delimiters.
Transmission codes	ASCII code (General-purpose characters: 20h to 7Fh), Tab (09h)
	(Codes other than those above and delimiters are considered “other separator codes”)
	Uppercase and lowercase of alphabetic characters are considered the same character.
	Double-byte characters and single-byte characters are not distinguished. All are considered single-byte characters.
Communication procedure	No procedure
Flow control	None
Error control	None
Break signal	Not supported
Time out	Tc Character : 5s (Timeout between CR and LF is 10ms.)
	Tr Command/response interval: 15s

Communication System (LAN)

Item	Specifications
Communication system	
Transmission speed	
Character length	

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Commands

Request transmissions sent from PC to the projector.

Transmission format

△<Command character strings> △<Delimiters>

<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

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

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Response

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

Transmissionformat

<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>:
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

<Delimiters>

Delimiters for commands sent from PC.

Type

OK response — After 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
```

WARN response — This response is sent when warning information is issued.
* that this command cannot be executed.

<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
```

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Other

Transmission recognition

Transmission is recognized when delimiter is received.
Even if a maximum transmission length is received, the entire received transmission will be lost unless a delimiter is received.

The <Parameter value> is defined as shown below.

```
<Parameter value> := <Value 1>▽<Value 2> ▽.. ▽ <Value n>
<Value> := <Numerical value> | <ID> | "<Character string>"

<Numerical value> := [<Sign>] <Decimal character string (Min. 1 character to Max. 5 characters)>
```

* The range of valid values is -32768 to 32767.

<ID> := 1 or more ASCII characters (20h to 7Fh)
<Character string> := 0 or more ASCII characters (20h to 7Fh)

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3. Communication Flow

Transmission sent

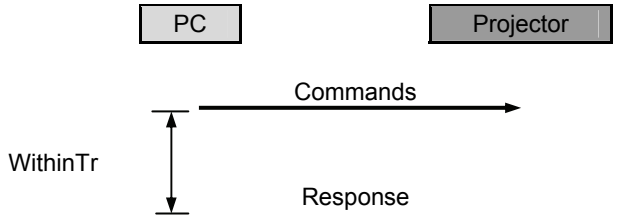
At the sending side (PC), the transmission is sent within character intervals of Tc (character interval timeout).

Transmission received

At the receiving side (Projector), data able to be received within the character interval of Tc is held, and receiving of a delimiter is considered “transmission received”.
If a received character interval exceeds Tc or a delimiter is not received within 256 characters, all data already received is lost, and the mode is reset to receive standby again.

Command/Response

One response is always returned for each command sent from the PC. (However, note that a response may not be returned when the internal receive buffer overflows due to reception of a large amount of data.)



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

Response Reception Timeout

If a response is not received within Tr (timeout interval between command and response) while in response reception standby after sending a command at the PC, resend the command in the “response reception timeout”.

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 a 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.
Response to the first processed user command will not be returned.
If user commands arrive at the LAN and service port simultaneously, both will be processed. It will be processed individually, and return a response to each command to individual ports.

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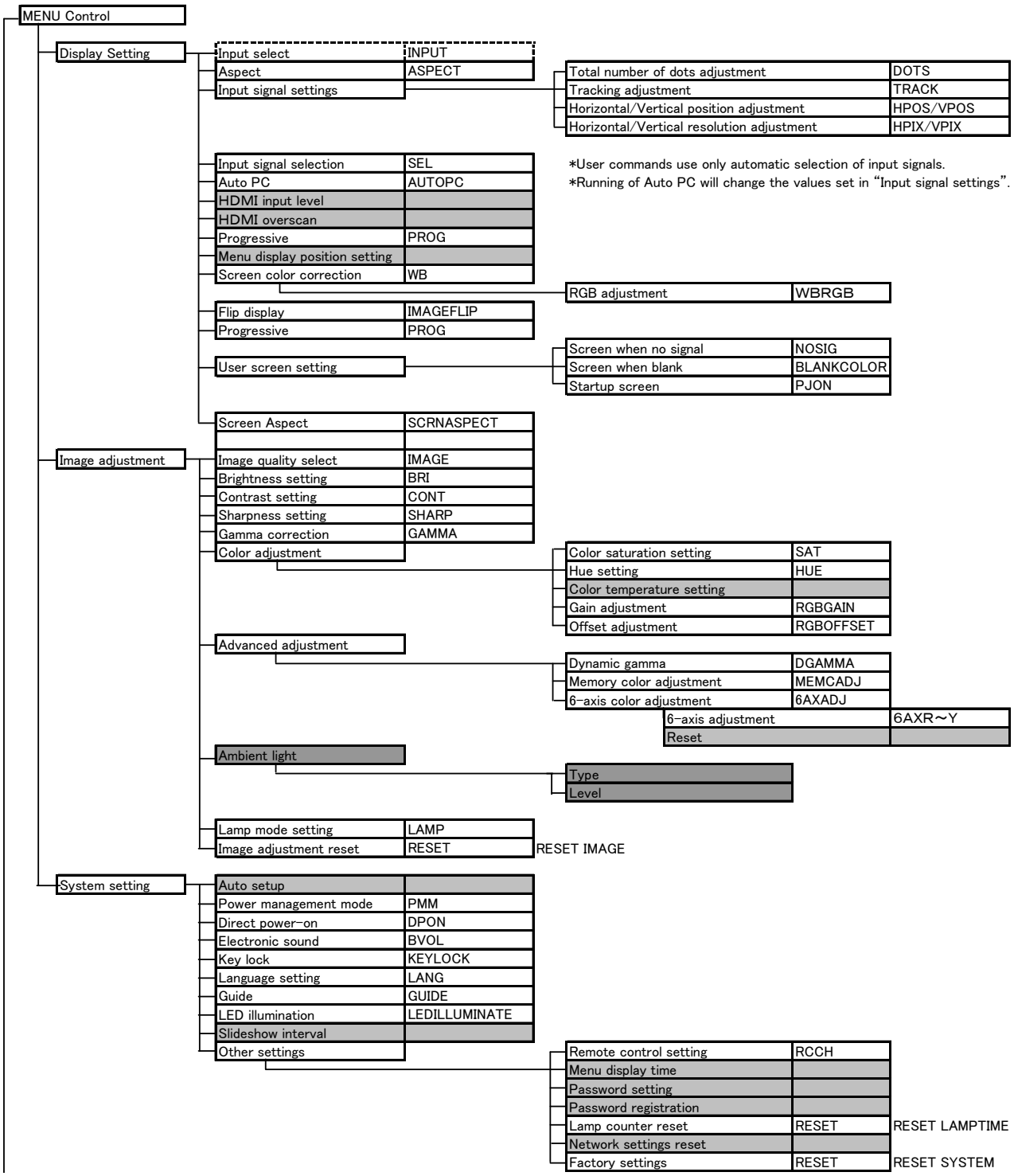
4. Command System



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- Remote Control/Key

[POWER]	POWER
[AUTO SET]	AUTOSETEXE
[ASPECT]	ASPECT
[INPUT]	INPUT
[AUTO PC]	AUTOPC
[FOCUS]	FCONTDRV / FSETPDRV
[ZOOM]	ZCONTDRV / ZSETPDRV
[D.SHIFT]	
[KEYSTONE]	VKS
[MENU]	
[D.ZOOM]	
[VOL]	AVOL
[FREEZE]	FREEZE
[BLANK]	BLANK
[MUTE]	MUTE
[IMAGE]	IMAGE
[P-TIMER]	
[LAMP]	LAMP

*Running of Auto PC will change the values set in “Input signal settings”.

- 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.

POWER	POWER
AUTO SET	AUTOSET
MENU	MENU
KEYSTONE	KEYSTONE
FOCUS	FOCUS
ZOOM	ZOOM
INPUT	INPUT
AUTOPC	AUTOPC
↑	UP
↓	DOWN
←	LEFT
→	RIGHT
OK	OK

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

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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	ASCOMBO_*	Defines auto setup combination
4	ASPECT	Screen settings
5	AUTOPC	Auto PC
6	AUTOSETEXE	Auto setup
7	AVOL	Audio volume adjustment
8	BLANK	BLANK function
9	BLANKCOLOR	Screen when BLANK setting
10	BRI	Brightness setting
11	BVOL	BEEP sound setting
12	COMVER	User command version inquiry
13	CONT	Contrast setting
14	DGAMMA	Dynamic gamma
15	DOTS	Total number of dots adjustment
16	DPON	Direct power-on setting
17	ERR	Error information inquiry
18	FCONTDRV	Focus lens continuous drive control
19	FREEZE	Freeze status
20	FSTEPDRV	Focus lens step drive control
21	GAMMA	Gamma adjustment
22	GUIDE	Guide setting
23	HPIX / VPIX	Horizontal/Vertical resolution adjustment
24	HPOS / VPOS	Horizontal/Vertical position adjustment
25	HUE	Hue setting
26	IMAGE	Image mode setting
27	IMAGEFLIP	Flip display
28	INPUT	Input selection
29	KEYLOCK	Keylock setting
30	LAMP	Lamp output setting
31	LAMPCOUNTER	Lamp ON time inquiry
32	LANG	Language select
33	LEDILLUMINATE	Emotional LED lighting control
34	LMPT	Lamp time inquiry
35	MAIN	Front panel operation emulation
36	MEMCADJ	Memory color adjustment
37	MODE	Control mode switch
38	MUTE	Mute control
39	NOSIG	Display screen when no signal setting
40	PJON	Display screen at startup setting
41	PMM	Power management
42	POWER	This controls the power supply
43	PRODCODE	Product information inquiry
44	PROG	Progressive setting

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Item	Commands	Description
45	RC	Remote control operation emulate
46	RCCH	Remote control channel setting
47	RESET	Reset
48	RGBGAIN	RGB gain adjustment
49	RGBOFFSET	RGB offset adjustment
50	ROMVER	ROM version inquiry
51	SAT	Color saturation setting
52	SCRNASPECT	Screen aspect setting
53	SEL	Input signal selection
54	SHARP	Sharpness setting
55	SIGNALSTATUS	Signal status inquiry
56	TRACK	Tracking adjustment
57	VKS	Vertical keystone setting
58	WB	Screen color correction
59	WBRGB	Screen color correction (ADJUST)
60	ZCONTDRV	Zoom lens continuous drive control
61	ZSTEPDRV	Zoom lens step drive control

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6. Details of Command

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-RGB1	A-RGB2	COMP	VIDEO	S-VIDEO	HDMI	USB	None
*2	*3	*4	*5	*5	*5	*5	*5	*5	*5	*5	*6

*1 Power　Executable regardless of power supply state when marked by "-".
*2 OFF　"O" when power supply state is OFF.
*3 ON　"O" when power supply state is ON.
*4 PM　"O" when the power supply state is enabled while power management is in standby.
*5 Input　The command is enabled in states marked by "O".
The command is executable regardless of input when marked by "-".
*6 None　Input signal is required when "X".

Response

This describes the command response.

Description

This includes the command function, conditions, and notes.

Example

This provides command usage examples.

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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-RGB1	A-RGB2	COMP	VIDEO	S-VIDEO	HDMI	USB	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 "<".

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6AXR-Y

6-axis correction R-Y hue/saturation settings

Format

```
6AXR=<R hue:Number>▽<R saturation:Number>
6AXG=<G hue:Number>▽<G saturation:Number>
6AXB=<B hue:Number>▽<B saturation:Number>
6AXC=<C hue:Number>▽<C saturation:Number>
6AXM=<M hue:Number>▽<M saturation:Number>
6AXY=<Y hue:Number>▽<Y saturation: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/Y hue:Number> are -20 to 20.
Setting values for <R/G/B/C/M/Y saturation:Number> are -20 to 20.

Environment

Power			Input							
OFF	ON	PM	D-RGB	A-RGB1	A-RGB2	COMP	VIDEO	S-VIDEO	HDMI	USB	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 settings are returned as
'**g:6AX*=<*hue: Number>,<*saturation: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
< i:OK
```

The R hue is set to –8, and the color saturation is set to 5.

Reference

```
> GET 6AXR or ?6AXR
< g:6AXR=12, -8
```

This retrieves the R hue and color saturation.

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

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ASCOMBO_*

Defines auto setup combination

Format

```
ASCOMBO_AF=<Auto set combination parameter:ID>
ASCOMBO_AVK=<Auto set combination parameter:ID>
ASCOMBO_AINP=<Auto set combination parameter:ID>
ASCOMBO_ASC=<Auto set combination parameter:ID>
GET□ASCOMBO_AF   /   ?△ASCOMBO_AF
GET□ASCOMBO_AVK   /   ?△ASCOMBO_AVK
GET□ASCOMBO_AINP   /   ?△ASCOMBO_AINP
GET□ASCOMBO_ASC   /   ?△ASCOMBO_ASC
```

<Auto set combination parameter:ID>

ON	Combine
OFF	Do not combine

Environment

Power			Input								
OFF	ON	PM	D-RGB	A-RGB1	A-RGB2	COMP	VIDEO	S-VIDEO	HDMI	USB	None
X	O	X	-								

Response

"i:OK" is returned if automatic setup combination was set properly.

For '**GET ASCOMBO_***' or '**? ASCOMBO_***', current auto setup sequence combination is returned as

'**g:ASCOMBO_*=ON**' or

'**g:ASCOMBO_*=OFF**'

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

Description

(1) This sets whether to combine a sequence in the auto setup.

(2) This command functions in the same way as when "System settings" - "Auto setup" are selected on the menu.

(3) Even if it has been set using this command, AUTOSETEXE may not be executed depending on other status of the projector (screen aspect, etc.).

(4) Also refer to the AUTOSETEXE command.

(5) The current auto setup combination can be obtained using the GET command.

Example

Setting

```
> ASCOMBO_AF=ON
< i:OK
```

Auto focusing is executed during auto setup execution.

Reference

```
> GET ASCOMBO_AVK or ?ASCOMBO_AVK
< g:ASCOMBO_AVK=ON
```

Auto focus execution setting in current auto setup is obtained.

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

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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
FULL	Full screen
ZOOM	Zoom
TRUE	Real

Environment

Power			Input									
OFF	ON	PM	Parameter	D-RGB	A-RGB1	A-RGB2	COMP	VIDEO	S-VIDEO	HDMI	USB	None
X	O	X	AUTO	○	○	○	○	×	○	○	×	*4
			4:3	○	○	○	○	○	○	○	×	*4
			16:9	○	○	○	○	○	○	○	×	*4
			ZOOM	×	×	×	*1	*2	*2	*1	×	*4
			TRUE	○	○	○	*3	×	×	*3	×	*4

*1 Valid when screen aspect (16:9 or 16:9 DIS) and SD signals
*2 Settable when screen aspect (16:9 or 16:9 DIS)
*3 Progressive allowable (however, 1080p is non-allowable)
*4 Allowable/Non-Allowable differs according to selected input signal

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**")

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Example

Setting

```
> ASPECT=16:9
> i:OK
```

This sets the screen size to WIDE.

Reference

```
> GET ASPECT or ?ASPECT
< g:ASPECT=TRUE
```

This retrieves the screen size.

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

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AUTOPC

Auto PC

Format

```
AUTOPC
```

Environment

Power			Input								
OFF	ON	PM	D-RGB	A-RGB1	A-RGB2	COMP	VIDEO	S-VIDEO	HDMI	USB	None
X	O	X	X	O	O	X	X	X	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 neither "A-RGB1" nor "A-RGB2", '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

(6) To confirm modified setting values, use the GET command of the respective parameter. For details, refer to the GET commands below.

Setting	GET
Total number of dots	GET DOTS
Tracking	GET TRACK
Horizontal position	GET HPOS
Vertical position	GET VPOS
Number of horizontal display dots	GET HPIX
Number of vertical display dots	GET VPIX

Example

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

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

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AUTOSETEXE

Auto setup

Format

AUTOSETEXE□<Auto set parameter:ID>

<Auto set parameter:ID>

FOCUS	Auto focusing
VKS	Auto keystone (vertical) execution
SCRN	Automatic screen color correction execution
INPUT	Automatic signal sensing execution

Environment

Power			Input								
OFF	ON	PM	D-RGB	A-RGB1	A-RGB2	COMP	VIDEO	S-VIDEO	HDMI	USB	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
	FOCUS	VKS	SCRN	INPUT	
BLANK	×	○	×	○	'e:1006 NOW_BLANK'
FREEZE	×	×	×	×	'e:1009 NOW_FREEZE'
D.ZOOM	×	×	×	×	'e:100A NOW_D.ZOOM'
DIS*	×	×	×	○	'e:1008 INVALID_SCREEN_ASPECT'

○ : Executable
× : Non-executable

* DIS:Digital Image Shift

(3) One of the following responses is returned if an error has been detected at any part of the auto setup.

Type	Response
FOCUS	'e:F002 SYSTEM (AF)'
VKS	'e:F004 SYSTEM (AK)'
SCRN	'e:F005 SYSTEM (ASC)'

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

(5) When automatic screen color correction (SCRN) has been completed successfully, the screen color correction (WB) is set to "ADJUST".

(6) There are no parameters to be executed together. Execute them separately.

Example

Setting

```
> AUTOSETEXE FOCUS          Auto focusing is executed.
<  i:OK
```

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

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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-RGB1	A-RGB2	COMP	VIDEO	S-VIDEO	HDMI	USB	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 "<".

Revision History / Date		Changes	Revised by	Approved by

BLANK

BLANK function

Format

BLANK=<BLANK parameter:ID>

GET□BLANK / ?△BLANK

<BLANK parameter:ID>

ON	BLANK ON
OFF	BLANK OFF.

Environment

Power			Input								
OFF	ON	PM	D-RGB	A-RGB1	A-RGB2	COMP	VIDEO	S-VIDEO	HDMI	USB	None
X	O	X	-								

Response

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

For '**GET BLANK**' or '**?BLANK**', current BLANK status is returned as

'**g:BLANK=ON**'

'**g:BLANK=OFF**'

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

Description

(1) This command is used to set the BLANK function.

(2) This command is identical to pressing the “VOL+” and "VOL-" button.

(3) Executing this command in a FREEZE status will cancel the FREEZE status and become BLANK.

(4) The current BLANK settings can be obtained using the GET command. ("**GET BLANK**")

Example

Setting

> BLANK=ON Set to "User" screen when screen is BLANK.

< i:OK

Reference

> GET BLANK or ?BLANK The current BLANK status is referenced.

< g:BLANK=ON

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

Revision History / Date		Changes	Revised by	Approved by

BLANKCOLOR

Screen when BLANK setting

Format

BLANKCOLOR=<Screen when BLANK setting parameter:ID>
GET□BLANKCOLOR / ?△BLANKCOLOR

<Screen when BLANK setting parameter:ID>

BLACK	Black screen
BLUE	Blue screen

Environment

Power			Input								
OFF	ON	PM	D-RGB	A-RGB1	A-RGB2	COMP	VIDEO	S-VIDEO	HDMI	USB	None
X	O	X	-								

Response

"i:OK" is returned if the parameter was set properly.
For '**GET BLANKCOLOR**' or '**?BLANKCOLOR**', current screen when BLANK setting is returned as

'g:BLANKCOLOR=<BLANK display screen setting parameter:ID>'

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

Description

(1) This command is used to set the screen when BLANK.
(2) This command functions in the same way as when "Display settings" - "User screen setting" - "Screen when blank" are selected on the menu.
(3) The current screen when BLANK setting can be obtained using the GET command. ("**GET BLANKCOLOR**")

Example

Setting

> BLANKCOLOR=BLACK Set to "Black screen" when screen is BLANK.
< Ok

Reference

> GET BLANKCOLOR or ?BLANKCOLOR Screen when BLANK setting is obtained.
< g:BLANKCOLOR=BLACK

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

Revision History / Date		Changes	Revised by	Approved 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-RGB1	A-RGB2	COMP	VIDEO	S-VIDEO	HDMI	USB	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 "<".

Revision History / Date		Changes	Revised by	Approved by

BVOL

BEEP sound setting

Format

BVOL=<Beep sound setting:Number>
GET□BVOL / ?△BVOL

<Beep sound setting:Number>
0 BEEP sound mute
1 BEEP sound output

Environment

Power			Input								
OFF	ON	PM	D-RGB	A-RGB1	A-RGB2	COMP	VIDEO	S-VIDEO	HDMI	USB	None
X	O	X	-								

Response

"i:OK" is returned if the parameter was set properly.
For '**GET BVOL**' or '**?BVOL**', current BEEP sound setting is returned as
'**g:BVOL=<Beep sound setting:Number>**'
For details on other responses, refer to the "Error List".

Description

(1) This sets the BEEP sound output.
(2) This command functions in the same way as when "System setting" - "Electronic sound" are selected on the menu.
(3) The beep sound can be set even while the sound is muted, but it will not sound even if (beep sound output) has been set.
(4) The current beep sound output status can be acquired using the applicable GET command. ("**GET BVOL**")

Example

Setting

> BVOL=0 This mutes the BEEP sound.
< i:OK

Reference

> GET BVOL or ?BVOL This retrieves the BEEP sound output state.
< g:BVOL=1

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

Revision History / Date		Changes	Revised by	Approved by

COMVER

User command version inquiry

Format

GET□COMVER / ?△COMVER

Environment

Power			Input							
OFF	ON	PM	D-RGB	A-RGB1	A-RGB2	COMP	VIDEO	S-VIDEO	HDMI	USB	None
-			-							

Response

Returns the user command version as

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

<User command version>:=99.9999

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

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 "<".

Revision History / Date		Changes	Revised by	Approved 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-RGB1	A-RGB2	COMP	VIDEO	S-VIDEO	HDMI	USB	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 "<".

Revision History / Date		Changes	Revised by	Approved by

DGAMMA

Dynamic gamma

Format

DGAMMA=<Dynamic gamma setting parameter:ID>

GET□DGAMMA / ?△DGAMMA

<Dynamic gamma setting parameter:ID>

OFF	Off
WEAK	Weak
STRONG	Strong

Environment

Power			Input								
OFF	ON	PM	D-RGB	A-RGB1	A-RGB2	COMP	VIDEO	S-VIDEO	HDMI	USB	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 "<".

Revision History / Date		Changes	Revised by	Approved by

DOTS

Total number of dots adjustment

Format

```
DOTS=<Number of dots:Number>
GET□DOTS   /   ?△DOTS
```

Environment

Power			Input								
OFF	ON	PM	D-RGB	A-RGB1	A-RGB2	COMP	VIDEO	S-VIDEO	HDMI	USB	None
X	O	X	X	O	O	X	X	X	X	X	X

Response

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

For '**GET DOTS**' or '**?DOTS**', current total number of dots is returned as

'**g:DOTS=<Number of dots:Number>**'

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

Description

(1) This designates the total number of dots for one horizontal period.

(2) This command functions in the same way as when "Display setting" - "Input signal settings" - "Total number of dots" are selected on the menu.

(3) If the input is neither "A-RGB1" nor "A-RGB2", 'e:200X INVALID_SOURCE(***)' is returned as an error response.

(4) If signals are not input, 'e:2010 NO_SIGNAL' is returned.

(5) Adjustment range is limited. If number is invalid, "e:0801 INVALID_VALUE" is returned.

(6) The GET command can be used to obtain the current total number of dots. ("**GET DOTS**")

Example

Setting

```
> DOTS=1650
< i:OK
```

The total number of dots is 1650.

Reference

```
> GET DOTS or ?DOTS
< g:DOTS=1200
```

This retrieves the total number of dots.

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

Revision History / Date		Changes	Revised by	Approved by

DPON

Direct power-on setting

Format

```
DPON=<Direct power-on setting parameter:ID>
GET□DPON   /   ?△DPON
```

<Direct power-on setting parameter:ID>

ON	This sets direct power-on to ON.
OFF	This sets direct power-on to OFF.

Environment

Power			Input								
OFF	ON	PM	D-RGB	A-RGB1	A-RGB2	COMP	VIDEO	S-VIDEO	HDMI	USB	None
X	O	X	-								

Response

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

For '**GET DPON**' or '**?DPON**', current direct power-on setting is returned as

```
'g:DPON=<Direct power-on setting parameter:ID>'
```

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

Description

(1) This command is used to set direct power-on function to ON or OFF.

(2) This command functions in the same way as when "System setting" - "Direct power-on" are selected on the menu.

(3) Direct power-on cannot be set to ON when "OFF" has been selected as the power management setting (**PMM=OFF**).
("e:1004 POWER_MANAGEMENT_OFF" is returned.)

(4) The current direct power-on setting can be obtained using the GET command. ("**GET DPON**")

Example

Setting

```
> DPON=ON
< i:OK
```

Direct power-on is set to ON.

Reference

```
> GET DPON on ?DPON
< g:DPON=ON
```

The current direct power-on setting is obtained.

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

Revision History / Date		Changes	Revised by	Approved by

ERR

Error information inquiry

Format

```
GET□ERR   /   ?△ERR
```

Environment

Power			Input							
OFF	ON	PM	D-RGB	A-RGB1	A-RGB2	COMP	VIDEO	S-VIDEO	HDMI	USB	None
-			-							

Response

Returns the current error information as

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

<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_AK	AK error
FAULTY_ASC	ASC error
FAULTY_AF	AF error
FAULTY_POWER_ZOOM	Zoom error
FAULTY_POWER_FOCUS	Focus error

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

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 "<".

Revision History / Date		Changes	Revised by	Approved by

FCONTDRV

Focus lens continuous drive control

Format

```
FCONTDRV=<Focus lens continuous control parameter:ID>
```

<Focus lens continuous control parameter:ID>

STOP	This stops the focusing.
FAR	This initiates focusing toward the far end.
NEAR	This initiates focusing toward the near end.

Environment

Power			Input								
OFF	ON	PM	D-RGB	A-RGB1	A-RGB2	COMP	VIDEO	S-VIDEO	HDMI	USB	None
X	O	X	-								

Response

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

Description

(1) This command is used to drive the focus lens.
(2) This command functions in the same way as when first the "FOCUS" button on the remote control or main unit panel is pressed and then the "↑" or "↓" button is pressed.
(3) Focus drive is started by specifying "NEAR" or "FAR".
To stop the drive, add the "STOP" parameter and send this command.
If no instruction was given to stop the drive, the drive stops at the drive direction end.
(4) The following commands are acknowledged during focus drive, but focus drive will also stop at the same time.
a. POWER
b. FCONTDRV=STOP
(5) The following commands are acknowledged during focus drive, and a response is returned while the drive continues.

a. GET MODE	e. GET PRODCODE	i. LOCAL
b. GET POWER	f. GET ROMVER	j. RC
c. GET ERR	g. GET COMVER	k. MAIN
d. GET LAMPCOUNTER	h. REMOTE	l. [NULL]

(6) For other commands not included in (4) nor (5), "i:BUSY (FOCUS)" is returned, and focus drive continues.
(7) There are no GET commands available for this command.

Example

Control

```
> FCONTDRV=NEAR
< i:OK
```

Control over the focusing to the near end is started.

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

Revision History / Date		Changes	Revised by	Approved 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-RGB1	A-RGB2	COMP	VIDEO	S-VIDEO	HDMI	USB	None
X	O	X	-								

Response

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

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

'gFREEZE=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 "<".

Revision History / Date		Changes	Revised by	Approved by

FSTEPDRV

Focus lens step drive control

Format

```
FSTEPDRV=<Focus lens step control parameter:ID>
```

<Focus lens step control parameter:ID>

FAR	This initiates focusing toward the far end.
NEAR	This initiates focusing toward the near end.

Environment

Power			Input								
OFF	ON	PM	D-RGB	A-RGB1	A-RGB2	COMP	VIDEO	S-VIDEO	HDMI	USB	None
X	O	X	-								

Response

"i:OK" is returned when focusing was completed successfully after step drive.
For details on other responses, refer to the "Error List".

Description

(1) This command is used to drive the focus lens.
(2) This command functions in the same way as when first the "FOCUS" button on the remote control or main unit panel is pressed and then the "←" or "→" button is pressed.
(3) The amount by which the lens is focused is constant, and it is fixed for the system.
(4) If a focusing error occurs, step drive cannot be controlled.
(5) There are no GET commands available for this command.

Example

Control

```
> FSTEPDRV=NEAR
< I:OK
```

1-step control is exercised over the focus toward the NEAR end.

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

Revision History / Date		Changes	Revised by	Approved 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-RGB1	A-RGB2	COMP	VIDEO	S-VIDEO	HDMI	USB	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
< i:OK
```

This sets the gamma correction to –1.

Reference

```
> GET GAMMA or ?GAMMA
< g:GAMMA=3
```

This retrieves the gamma adjustment.

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

Revision History / Date		Changes	Revised by	Approved by

GUIDE

Guide setting

Format

```
GUIDE=<Guide setting parameter:ID>
GET□GUIDE   /   ?△GUIDE
```

<Guide setting parameter: ID>

ON	Guide display ON
OFF	Guide display OFF

Environment

Power			Input								
OFF	ON	PM	D-RGB	A-RGB1	A-RGB2	COMP	VIDEO	S-VIDEO	HDMI	USB	None
X	O	X	-								

Response

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

For '**GET GUIDE**' or '**?GUIDE**', current guide setting is returned as

```
'g:GUIDE=<Guide setting parameter:ID>'
```

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

Description

(1) This command is used to set the guide function display to ON or OFF.

(2) This command functions in the same way as when "System setting" - "Guide" are selected on the menu.

(3) The guide is cleared immediately when "GUIDE=OFF" is received while the guide is displayed.

(4) The current guide setting can be obtained using the GET command. ("**GET GUIDE**")

Example

Setting

```
> GUIDE=ON
< i:OK
```

The guide display is set to ON.

Reference

```
> GET GUIDE or ?GUIDE
< g:GUIDE=ON
```

The guide display setting status is obtained.

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

Revision History / Date		Changes	Revised by	Approved by

HPIX/VPIX

Horizontal/Vertical resolution adjustmen

Format

```
HPIX=<Horizontal resolution:Number>
VPIX=<Vertical resolution:Number>
GET□HPIX   /   ?△HPIX
GET□VPIX   /   ?△VPIX
```

Environment

Power			Input								
OFF	ON	PM	D-RGB	A-RGB1	A-RGB2	COMP	VIDEO	S-VIDEO	HDMI	USB	None
X	O	X	O	O	O	X	X	X	X	X	X

Response

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

For '**GET HPIX**' or '**?HPIX**' ('**GET VPIX**' or '**?VPIX**'), current horizontal (vertical) resolution is returned as

'**g:HPIX=<Horizontal resolution:Number>**'

('**g:VPIX=<Vertical resolution:Number>**')

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

Description

(1) This adjusts the horizontal and vertical resolution (number of dots) on the screen.

(2) This command functions in the same way as when "Display setting" - "Input signal settings" - "Horizontal resolution adjustment" or "Vertical resolution adjustment" are selected on the menu.

(3) If the input is neither "A-RGB1" nor "A-RGB2", 'e:200X INVALID_SOURCE(***)' is returned as an error response.

(4) If signals are not input, 'e:2010 NO_SIGNAL' is returned.

(5) Adjustment range is limited. If number is invalid, "e:0801 INVALID_VALUE" is returned.

(6) The GET command can be used to retrieve the current horizontal and vertical position. ("**GET HPIX**" "**GET VPIX**")

Example

Setting

```
> HPIX=1024
< i:OK
```

This sets the horizontal resolution to 1024.

Reference

```
> GET VPIX or ?VPIX
< g:VPIX= 864
```

This retrieves the vertical resolution.

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

Revision History / Date		Changes	Revised by	Approved by

HPOS/VPOS

Horizontal/Vertical position adjustment

Format

```
HPOS=<Horizontal position:Number>
VPOS=<Vertical position:Number>
GET□HPOS   /   ?△HPOS
GET□VPOS   /   ?△VPOS
```

Environment

Power			Input								
OFF	ON	PM	D-RGB	A-RGB1	A-RGB2	COMP	VIDEO	S-VIDEO	HDMI	USB	None
X	O	X	X	O	O	X	X	X	X	X	X

Response

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

For '**GET HPOS**' or '**?HPOS**' ('**GET VPOS**' or '**?VPOS**'), current horizontal (vertical) position is returned as

```
'g:HPOS=<Horizontal position:Number>'
('g:VPOS=<Vertical position:Number>')
```

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

Description

(1) This adjusts the horizontal and vertical position on the screen.
(2) This command functions in the same way as when "Display setting" - "Input signal settings" - "Horizontal position adjustment" or "Vertical position adjustment" are selected on the menu.
(3) If the input is neither "A-RGB1" nor "A-RGB2", 'e:200X INVALID_SOURCE(***)' is returned as an error response.
(4) If signals are not input, 'e:2010 NO_SIGNAL' is returned.
(5) Adjustment range is limited. If number is invalid, "e:0801 INVALID_VALUE" is returned.
(6) The GET command can be used to retrieve the current horizontal and vertical position. ("**GET HPOS**" "**GET VPOS**")

Example

Setting

```
>HPOS=12
<i:OK
```

This sets the horizontal position to 12.

Reference

```
>GET VPOS or ?VPOS
<g:VPOS=8
```

This acquires the vertical position.

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

Revision History / Date		Changes	Revised by	Approved 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-RGB1	A-RGB2	COMP	VIDEO	S-VIDEO	HDMI	USB	None
X	O	X	X	X	X	O			X	X	O
							O	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 the input is neither "COMP", "S-VIDEO" nor "VIDEO", 'e:200X INVALID_SOURCE(***)' is returned as an error response.
(4) When input is "VIDEO" or "S-VIDEO" and if signals are not input, 'e:2010 NO_SIGNAL' is returned.
(5) If numerical parameters are outside the range, "e:0801 INVALID_VALUE" is returned.
(6) This sets the currently selected input signal and image mode.
(7) 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 "<".

Revision History / Date		Changes	Revised by	Approved by

IMAGE

Image mode setting

Format

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

<Image mode setting parameter:ID>

STANDARD	Standard
PRESENTATION	Presentation
SRGB	sRGB
MOVIE	Movie
PHOTO	Environmental light compatible sRGB
DCM_SIM	DICOM monochrome *

* "e:000A INVALID_PARAMETER" is returned if the model is not DICOM compatible

Environment

Power			Input								
OFF	ON	PM	D-RGB	A-RGB1	A-RGB2	COMP	VIDEO	S-VIDEO	HDMI	USB	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
Progressive	PROG
Saturation/Hue	SAT/ HUE
Memory color adjustment	MEMCADJ
RGB gain/offset adjustment	RGBGAIN/RGBOFFSET
Lamp mode	LAMP
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**")

Revision History / Date		Changes	Revised by	Approved by

Example

Setting

```
> IMAGE=PRESENTATION
< i:OK
```

This sets the image mode to "Presentation".

Reference

```
> GET IMAGE or ?IMAGE
< g:IMAGE=CINEMA
```

This references the current image mode.

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

Revision History / Date		Changes	Revised by	Approved by

IMAGEFLIP

Flip display

Format

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

<Image flip setting parameters:ID>

NONE	None
CEILING	Ceiling, Flip horizontally
REAR	Rear, Flip vertically
REAR_CEILING	Rear ceiling, Flip horizontally and vertically

Environment

Power			Input							
OFF	ON	PM	D-RGB	A-RGB1	A-RGB2	COMP	VIDEO	S-VIDEO	HDMI	USB	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 (set to VKS:0).

(4) The current flip display status can be acquired using the applicable GET command. ("**GET IMAGEFLIP**")

Example

Setting

```
> IMAGEFLIP=REAR
< i:OK
```

This displays the image backwards (flip vertically) on the screen.

Reference

```
> GET IMAGEFLIP or ?IMAGEFLIP
< g:IMAGEFLIP=REAR_CEILING
```

This retrieves the flip display state.

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

Revision History / Date		Changes	Revised by	Approved by

INPUT

Input selection

Format

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

<Input selection parameters:ID>

D-RGB	D-RGB
A-RGB1	A-RGB1
A-RGB2	A-RGB2
COMP	Component
VIDEO	Video
S-VIDEO	S-Video
HDMI	HDMI
USB	USB Extension

Environment

Power			Input								
OFF	ON	PM	D-RGB	A-RGB1	A-RGB2	COMP	VIDEO	S-VIDEO	HDMI	USB	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=VIDEO
< i:OK
```

The input is set to VIDEO.

Reference

```
> GET INPUT or ?INPUT
< g:INPUT=A-RGB1
```

This retrieves the input signal.

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

Revision History / Date		Changes	Revised by	Approved by

KEYLOCK

Keylock setting

Format

```
KEYLOCK=<Key lock setting parameters:ID>
GET□KEYLOCK   /   ?△KEYLOCK
```

<Key lock setting parameters:ID>

OFF	No locking (OFF)
MAIN	Main key lock
RC	Remote control key lock

Environment

Power			Input								
OFF	ON	PM	D-RGB	A-RGB1	A-RGB2	COMP	VIDEO	S-VIDEO	HDMI	USB	None
X	O	X	-								

Response

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

For '**GET KEYLOCK**' or '**?KEYLOCK**', current keylocking setting is returned as

```
'g:KEYLOCK=<Key lock setting parameters:ID>'
```

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

Description

(1) This command is used to lock the keys so as to restrict the operations performed using the remote control or main unit.

(2) This command functions in the same way as when "System setting" - "Key lock" are selected on the menu.

(3) This command will not affect the emulation function (remote control or main unit commands) even if the main unit or remote control keys are locked.

(4) The current key lock setting can be acquired using the applicable GET command. ("**GET KEYLOCK**")

Example

Setting

```
> KEYLOCK=RC
< i:OK
```

This locks the remote control keys.

Reference

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

This retrieves the key lock state.

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

Revision History / Date		Changes	Revised by	Approved 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-RGB1	A-RGB2	COMP	VIDEO	S-VIDEO	HDMI	USB	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 "<".

Revision History / Date		Changes	Revised by	Approved by

LAMPCOUNTER

Lamp ON time inquiry

Format

GET□LAMPCOUNTER / ?△LAMPCOUNTER

Environment

Power			Input							
OFF	ON	PM	D-RGB	A-RGB1	A-RGB2	COMP	VIDEO	S-VIDEO	HDMI	USB	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～ 359
"[GG_____]"	360～ 719
"[GGG_____]"	720～ 1079
"[GGGG_____]"	1080～1439
"[GGGGG_____]"	1440～1799
"[GGGGGY_____]"	1800～1899
"[GGGGGYY_]"	1900～1999
"[GGGGGYYR]"	2000～

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 "<".

Revision History / Date		Changes	Revised by	Approved by

LANG

Language select

Format

```
LANG=<Language selection parameters:ID>
GET□LANG   /   ?△LANG
```

<Language selection parameters:ID>

ENG	English	DUT	Dutch	NOR	Norwegian
FRA	French	RUS	Russian	TUR	Turkish
GER	German	CHS	Chinese (simplified)	POL	Polish
ITA	Italian	CHT	Chinese (traditional)	HUN	Hungarian
SPA	Spanish	KOR	Korean	CZE	Czech
POR	Portuguese	JPN	Japanese	ARA	Arabic
SWE	Swedish	FIN	Finnish	DAN	Danish

Environment

Power			Input							
OFF	ON	PM	D-RGB	A-RGB1	A-RGB2	COMP	VIDEO	S-VIDEO	HDMI	USB	None
X	O	X	-								

Response

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

For '**GET LANG**' or '**?LANG**', current selected language is returned as

```
'g:LANG=<Language selection parameters:ID>'
```

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

Description

(1) This switches the screen display language.

(2) This command functions in the same way as when "System setting" - "Languages" are selected on the menu.

(3) The currently set language can be acquired using the applicable GET command. ("**GET LANG**")

Example

Setting

```
> LANG=SWE
< i:OK
```

This sets the display language to “Swedish”.

Reference

```
> GET LANG or ?LANG
< g:LANG=SWE
```

This retrieves the language.

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

Revision History / Date		Changes	Revised by	Approved by

LEDILLUMINATE

Emotional LED lighting control

Format

LEDILLUMINATE=<LED lighting control setting parameter:ID>
GET□LEDILLUMINATE / ?△LEDILLUMINATE

<LED lighting control setting parameter:ID>

ON	This sets the LED display to ON.
OFF	This sets the LED display to OFF.

Environment

Power			Input								
OFF	ON	PM	D-RGB	A-RGB1	A-RGB2	COMP	VIDEO	S-VIDEO	HDMI	USB	None
X	O	X	-								

Response

"i:OK" is returned if the parameter was set properly.
For '**GET LEDILLUMINATE**' or '**?LEDILLUMINATE**', current emotional LED lighting setting is returned as
'g:LEDILLUMINATE=<LED lighting control setting parameter:ID>'
For details on other responses, refer to the "Error List".

Description

(1) This command is used to control the lighting of the emotional LED.
(2) This command functions in the same way as when "System setting" - "LED illumination" are selected on the menu.
(3) The current LED illumination setting can be obtained using the GET command. ("**GET LEDILLUMINATE**")

Example

Setting

> LEDILLUMINATE=ON The LED display is set to ON.
< i:OK

Reference

> GET LEDILLUMINATE or ?LEDILLUMINATE The ON or OFF setting for the LED display is obtained.
< g:LEDILLUMINATE=ON

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

Revision History / Date		Changes	Revised by	Approved by

LMPT

Lamp time inquiry

Format

GET□LMPT / ?△LMPT

LMPT=<hhhh>:<mm>

<hhhh>

Hours 0～65565

<mm>

Minutes 00～59

Environment

Power			Input							
OFF	ON	PM	D-RGB	A-RGB1	A-RGB2	COMP	VIDEO	S-VIDEO	HDMI	USB	None
X	O	X	-							

Response

For '**GET LMPT**' or '**?LMPT**', current lamp time is returned as

'g:LMPT=<hhhh>:<mm>'

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

Description

(1) This inquires the lamp time. Value of 0h0m to 65565h59m is returned.

(2) Because inner equivalent value is returned, the hour of the lamp is not the same as the actual hour.

(3) This inquiry can be executed during stand-by.

(4) There are no setting commands available.

Example

Setting

None

Reference

> GET LMPT	This retrieves the lamp time.
< g:LMPT=12:34	12 hours 34 minutes

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

Revision History / Date		Changes	Revised by	Approved by

MAIN

Front panel operation emulation

Format

```
MAIN□<Main unit panel emulation button parameters:ID>
```

<Main unit panel emulation button parameters:ID>

POWER	POWER
	POWER_OFF, POWER button pressed twice
MENU	MENU
AUTO SET	AUTOSET
INPUT	INPUT
AUTOPC	AUTOPC
KEYSTONE	KEYSTONE
UP	UP
	UP+REP, Button press start
DOWN	DOWN
	DOWN+REP, Button press start
LEFT	LEFT
	LEFT+REP, Button press start
RIGHT	RIGHT
	RIGHT+REP, Button press start
OK	OK
FOCUS	FOCUS
ZOOM	ZOOM
	*-REP, Button press end

* Use the application to adjust the time between pressing of keys.

Environment

Power			Input								
OFF	ON	PM	D-RGB	A-RGB1	A-RGB2	COMP	VIDEO	S-VIDEO	HDMI	USB	None
X	O	X	-								

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 FOCUS
< i:OK
```

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

Revision History / Date		Changes	Revised by	Approved 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-RGB1	A-RGB2	COMP	VIDEO	S-VIDEO	HDMI	USB	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 "<".

Revision History / Date		Changes	Revised by	Approved by

MODE

Control mode switch

Format

```
REMOTE
LOCAL
GET□MODE   /   ?△MODE
```

Environment

Power			Input								
OFF	ON	PM	D-RGB	A-RGB1	A-RGB2	COMP	VIDEO	S-VIDEO	HDMI	USB	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) However, differences between previous versions of the user commands are as follows.

<1> Drive will not stop during zoom or focus. (Stopped with previous versions.)

<2> The power management standby status will not change. (Changed to "Power ON" (Lamp ON) with previous versions.)

<3> The digital zoom will not change. (Cancelled with previous versions.)

<4> The presentation timer display will not change. (Cancelled with previous versions.)

<5> The BLANK status will not change. (Cancelled 'NoShow' with previous versions.)

<6> The FREEZE status will not change. (Cancelled FREEZE with previous versions.)

<7> Process under execution will continue. (Process was interrupted with previous versions.)

(3) 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 "<".

Revision History / Date		Changes	Revised by	Approved by

MUTE

Mute control

Format

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

<Mute control parameter: ID>

ON	This turns off the audio/beep sound.
OFF	This returns the audio/beep sound to its original setting.

Environment

Power			Input								
OFF	ON	PM	D-RGB	A-RGB1	A-RGB2	COMP	VIDEO	S-VIDEO	HDMI	USB	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 "<".

Revision History / Date		Changes	Revised by	Approved by

NOSIG

Display screen when no signal setting

Format

```
NOSIG=<Parameters for setting display screen in no-signal mode:ID>
GET□NOSIG  /  ?△NOSIG
```

<Parameters for setting display screen in no-signal mode:ID>

BLACK	Black screen
BLUE	Blue screen

Environment

Power			Input								
OFF	ON	PM	D-RGB	A-RGB1	A-RGB2	COMP	VIDEO	S-VIDEO	HDMI	USB	None
X	O	X	-								

Response

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

For 'GET NOSIG' or '?NOSIG', current display screen when no signal setting is returned as

```
'g:NOSIG=<Parameters for setting display screen in no-signal mode:ID>'
```

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

Description

(1) This sets the display screen when no image signals are input.

(2) This command functions in the same way as when "Display setting" - "User screen setting" - "Screen when no signal" are selected on the menu.

(3) The GET command can be used to obtain the current display screen at no signal. ("**GET NOSIG**")

Example

Setting

```
> NOSIG=BLUE
< i:OK
```

This sets the “Blue” screen when no signals are input.

Reference

```
> GET NOSIG or ?NOSIG
< g:NOSIG=BLUE
```

This retrieves the screen when no signals are input.

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

Revision History / Date		Changes	Revised by	Approved by

PJON

Display screen at startup setting

Format

```
PJON=<Parameters for setting display screen at startup:ID>
GET□PJON   /   ?△PJON
```

<Parameters for setting display screen at startup:ID>

CANON	Canon logo
SKIP	No display

Environment

Power			Input								
OFF	ON	PM	D-RGB	A-RGB1	A-RGB2	COMP	VIDEO	S-VIDEO	HDMI	USB	None
X	O	X	-								

Response

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

For '**GET PJON**' or '**?PJON**', current display screen at startup setting is returned as

```
'g:PJON=<Parameters for setting display screen at startup:ID>'
```

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

Description

(1) This sets the screen displayed at startup.

(2) This command functions in the same way as when "Display setting" - "User screen setting" - "Startup screen" are selected on the menu.

(3) The GET command can be used to obtain the current screen displayed at startup. ("**GET PJON**")

Example

Setting

```
> PJON=CANON
< i:OK
```

This sets the startup screen to “Canon logo”.

Reference

```
> GET PJON or ?PJON
< g:PJON=SKIP
```

This retrieves the startup screen.

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

Revision History / Date		Changes	Revised by	Approved by

PMM

Power management

Format

```
PMM=<Power management setting parameters:ID>
GET□PMM   /   ?△PMM
```

<Power management setting parameters:ID>

OFF	OFF
STANDBY	Standby mode
EXIT	Exit mode

Environment

Power			Input								
OFF	ON	PM	D-RGB	A-RGB1	A-RGB2	COMP	VIDEO	S-VIDEO	HDMI	USB	None
X	O	X	-								

Response

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

For '**GET PMM**' or '**?PMM**', current power management setting is returned as

'g:PMM=<Power management setting parameters:ID>'

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

Description

(1) This sets the power management mode.

(2) This command functions in the same way as when "System setting" - "Power management mode" are selected on the menu.

(3) Power management cannot be set to OFF if ON has been selected as the direct power-on setting (DPON=ON).
("**e:1005 DIRECT_POWER_ON**" is returned)

(4) The current power management mode can be acquired using the applicable GET command.
("**GET PMM**")

Example

Setting

```
> PMM=STANDBY          This sets the power management to "standby".
< i:OK
```

Reference

```
> GET PMM or ?PMM      This retrieves the power management mode.
< g:PMM=EXIT
```

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

Revision History / Date		Changes	Revised by	Approved 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-RGB1	A-RGB2	COMP	VIDEO	S-VIDEO	HDMI	USB	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) 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).
(6) The current power supply status can be referenced using the applicable GET command. ("**GET POWER**")
(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 "<".

Revision History / Date		Changes	Revised by	Approved by

PRODCODE

Product information inquiry

Format

```
GET□PRODCODE   /   ?△PRODCODE
```

Environment

Power			Input							
OFF	ON	PM	D-RGB	A-RGB1	A-RGB2	COMP	VIDEO	S-VIDEO	HDMI	USB	None
-			-							

Response

Product name is returned as

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

<Product name:Character string>

SX80MarkII

SX80MarkIIM

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

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="SX80MarkII"
```

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

Revision History / Date		Changes	Revised by	Approved by

PROG

Progressive setting

Format

```
PROG=<Progressive conversion setting parameters:ID>
GET□PROG   /   ?△PROG
```

<Progressive conversion setting parameters:ID>

0	OFF
1	ON
2	AUTO

Environment

Power			Input								
OFF	ON	PM	D-RGB	A-RGB1	A-RGB2	COMP	VIDEO	S-VIDEO	HDMI	USB	None
X	O	X	X	X	X	O	O	O	O	X	X

Response

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

For '**GET PROG**' or '**?PROG**', progressive conversion setting is returned as

```
'g:PROG=<Progressive conversion setting parameters:ID>'
```

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

Description

(1) This command is used to set the progressive conversion processing to ON or OFF.

(2) This command functions in the same way as when "Display setting" - "Progressive" are selected on the menu.

(3) This sets the currently selected input signal and image mode.

(4) The current value can be acquired using the applicable GET command. ("**GET PROG**")

＊ The menu display statuses are as listed in the table below by model.

Menu display statuses, etc.
When signals from a progressive source are input, the progressive conversion setting cannot be selected, and the field will be blank on the menu.

Example

Setting

```
> PROG=0
< i:OK
```

This sets the progressive conversion setting to OFF.

Reference

```
> GET PROG or ?PROG
< g:PROG=1
```

This acquires the progressive conversion processing status.

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

Revision History / Date		Changes	Revised by	Approved by

RC

Remote control operation emulate

Format

```
RC□<Remote control emulation button parameters:ID>
```

<Remote control emulation button parameters:ID>

POWER	POWER
-	POWER_OFF, POWER button pressed twice
MENU	MENU
AUTO SET	AUTOSET
INPUT	INPUT
ASPECT	ASPECT
AUTOPC	AUTOPC
KEYSTONE	KEYSTONE
UP	UP
	UP+REP, Button press start
DOWN	DOWN
	DOWN+REP, Button press start
LEFT	LEFT
	LEFT+REP, Button press start
RIGHT	RIGHT
	RIGHT+REP, Button press start
OK	OK
IMAGE	IMAGE
FREEZE	FREEZE
VOL +	VOL_P
	VOL_P+REP, Button press start
VOL -	VOL_M
	VOL_M+REP, Button press start
BLANK	BLANK
MUTE	MUTE
P-TIMER	P_TIMER
LAMP	LAMP
DZOOM +	DZOOM_P
	DZOOM_P+REP, Button press start
DZOOM -	DZOOM_M
	DZOOM_M+REP, Button press start
FOCUS	FOCUS
ZOOM	ZOOM
-	*-REP, Button press start

* Use the application to adjust the time between pressing of keys.

Environment

Power			Input								
OFF	ON	PM	D-RGB	A-RGB1	A-RGB2	COMP	VIDEO	S-VIDEO	HDMI	USB	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.)

Revision History / Date		Changes	Revised by	Approved by

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) Function for transfer to special mode (service mode) is unavailable.
(4) 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 "<".

Revision History / Date		Changes	Revised by	Approved by

RCCH

Remote control channel setting

Format

```
RCCH=<Remote control setting parameters:ID>
GET□RCCH   /   ?△RCCH
```

<Remote control setting parameters:ID>

1	Remote control channel 1
2	Remote control channel 2

Environment

Power			Input								
OFF	ON	PM	D-RGB	A-RGB1	A-RGB2	COMP	VIDEO	S-VIDEO	HDMI	USB	None
X	O	X	-								

Response

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

For '**GET RCCH**' or '**?RCCH**', current remote control channel setting is returned as

```
'g:RCCH=<Remote control setting parameters:ID>'
```

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

Description

(1) This command is used to set the channel of the remote control used at the projector end to 1 or 2.

(2) This command functions in the same way as when "System setting" - "Other settings" - "Remote control setting" are selected on the menu.

(3) The current remote control setting can be acquired using the applicable GET command. ("**GET RCCH**")

Example

Setting

```
> RCCH=1
< i:OK
```

This sets the remote control channel to ch1.

Reference

```
> GET RCCH or ?RCCH
< g:RCCH=2
```

This retrieves the remote control setting state.

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

Revision History / Date		Changes	Revised by	Approved by

RESET

Reset

Format

```
RESET□<Reset parameters:ID>
```

<Reset parameters:ID>

LAMPTIME	Lamp on time reset
IMAGE	Current image adjustment reset
SYSTEM	Initial system settings(same as "Factory settings" in the menu)
ALL	Initialize all

Environment

Power			Input								
OFF	ON	PM	D-RGB	A-RGB1	A-RGB2	COMP	VIDEO	S-VIDEO	HDMI	USB	None
X	O	X	-								

Response

"i:OK" is returned if the reset process is successful.
Furthermore, the internal status established when a response other than the normal response ("i:OK") has been returned is indeterminate.
For details on other responses, refer to the "Error List".

Description

(1) This resets the projector settings.
(2) What can be specified by the reset parameters for each "reset type" is provided below.

■ Reset of lamp on time
(a) The counter indicating the lamp replacement period is reset.
(b) This command functions in the same way as when "System setting" - "Lamp counter" - "Reset" are selected on the menu.
(c) Execute this command after replacing the lamp.

■ Current image adjustment reset
(a) The adjustment settings of the currently-selected image mode are initialized.
(b) This command functions in the same way as when "Image adjustment" - "Image adjustment reset" are selected on the menu.
* If there is an input signal, the image adjustment items are initialized and then the adjustment values are optimized for the signal.

■ Reset of system settings
(a) The following items are initialized.
・Image adjustment items (all image modes)
・Initial settings executed
* For details, refer to 'RESET items' at the end of these specifications.
(b) This command functions in the same way as when "System setting" - "Other settings" - "Factory settings" are selected on the menu.

■ Initialize all
(a) The following items are initialized.
・Image adjustment items (all image modes)
・Initial settings executed
・Input source
・Language
* For details, refer to 'RESET items' at the end of these specifications.

Revision History / Date		Changes	Revised by	Approved by

Notes

(a) The power must never be turned off while this command is being executed!

(b) After the 'Factory settings,' be absolutely sure to turn the power off and then restart.

(c) NO_SIGNAL' may be returned as the response to the command after 'Current image adjustment reset' or 'System initial setting' has been executed.

Example

Control

```
> RESET  LAMPTIME          This resets the lamp on time.
< i:OK
```

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

Revision History / Date		Changes	Revised by	Approved 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-RGB1	A-RGB2	COMP	VIDEO	S-VIDEO	HDMI	USB	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
< i:OK
```

The R gain is set to 10, G gain to 11 and B gain to 12.

Reference

```
> GET RGBGAIN or ?RGBGAIN
< g:RGBGAIN=-10, 0, 19
```

The RGB gain values are obtained.

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

Revision History / Date		Changes	Revised by	Approved 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-RGB1	A-RGB2	COMP	VIDEO	S-VIDEO	HDMI	USB	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
< i:OK
```

The R offset is set to 10, G offset to 11 and B offset to 12.

Reference

```
> GET RGBOFFSET or ?RGBOFFSET
< g:RGBOFFSET=-10, 0, 19
```

The RGB offset values are obtained.

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

Revision History / Date		Changes	Revised by	Approved by

ROMVER

ROM version inquiry

Format

GET□ROMVER / ?△ROMVER

Environment

Power			Input							
OFF	ON	PM	D-RGB	A-RGB1	A-RGB2	COMP	VIDEO	S-VIDEO	HDMI	USB	None
-			-							

Response

ROM version of the firmware is returned as

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

<ROM version>:=99.999999

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

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 "<".

Revision History / Date		Changes	Revised by	Approved 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-RGB1	A-RGB2	COMP	VIDEO	S-VIDEO	HDMI	USB	None
X	O	X	O	O	O	O	O	O	X	O	O

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 the input is "HDMI", 'e:200X INVALID_SOURCE(***)' is returned as an error response.
(4) When image mode is not set to "PHOTO", 'e:2020 INVALID_IMAGE_MODE' is returned as an error response even if the input is "D-RGB", "A-RGB1", "A-RGB2" or "USB".
(5) If numerical parameters are outside the range, "e:0801 INVALID_VALUE" is returned.
(6) This sets the currently selected input signal and image mode.
(7) 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 "<".

Revision History / Date		Changes	Revised by	Approved by

SCRNASPECT

Screen aspect setting

Format

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

<Screen aspect setting parameter:ID>

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

Environment

Power			Input								
OFF	ON	PM	D-RGB	A-RGB1	A-RGB2	COMP	VIDEO	S-VIDEO	HDMI	USB	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
> i:OK
```

This sets the screen aspect to 16:9.

Reference

```
> GET SCRNASPECT or ?SCRNASPECT
< g:SCRNASPECT=4:3
```

This retrieves the screen aspect.

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

Revision History / Date		Changes	Revised by	Approved 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-RGB1	A-RGB2	COMP	VIDEO	S-VIDEO	HDMI	USB	None
X	O	X	X	X	X	O	O	O	X	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 neither "COMP", "S-VIDEO" nor "VIDEO", '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 (1)

Parameter	Remarks
PAL	Includes PAL-M and PAL-N
SECAM	
NTSC	Includes NTSC4.43
1080p	
1080i	Includes 540p (1080i non-interlaced signal)
1035i	

List of signals which can be detected (2)

Parameter	Remarks
720p	
576p	
480p	
576i	Includes 288p (PAL non-interlaced signal)
480i	Includes 240p (NTSC non-interlaced signal)
UNKNOWN	No-color, 1080p, and other signals

Revision History / Date		Changes	Revised by	Approved by

Example

Setting

```
> SEL=AUTO
< i:OK
```

This sets the input signal selection to “AUTO”.

Reference

```
> GET SEL or ?SEL
< g:SEL=575p
```

This retrieves the input signal.

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

Revision History / Date		Changes	Revised by	Approved 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-RGB1	A-RGB2	COMP	VIDEO	S-VIDEO	HDMI	USB	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
< i:OK
```

This sets the sharpness to 3.

Reference

```
> GET SHARP or ?SHARP
< g:SHARP=3
```

This retrieves the sharpness.

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

Revision History / Date		Changes	Revised by	Approved by

SIGNALSTATUS

Signal status inquiry

Format

```
GET□SIGNALSTATUS   /   ?△SIGNALSTATUS
```

Environment

Power			Input							
OFF	ON	PM	D-RGB	A-RGB1	A-RGB2	COMP	VIDEO	S-VIDEO	HDMI	USB	None
X	O	X	-								

Response

Current image signal input status is returned as

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

<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

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

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 during blanking.

Example

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

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

Revision History / Date		Changes	Revised by	Approved by

TRACK

Tracking adjustment

Format

TRACK=<Adjustment value:Number>

GET□TRACK / ?△TRACK

Environment

Power			Input								
OFF	ON	PM	D-RGB	A-RGB1	A-RGB2	COMP	VIDEO	S-VIDEO	HDMI	USB	None
X	O	X	X	O	O	X	X	X	X	X	X

Response

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

For '**GET TRACK**' or '**?TRACK**', current tracking adjustment value is returned as

'**g:TRACK=<Adjustment value:Number>**'

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

Description

(1) This is used for adjustment when tracking (synchronization) is out of sync and the screen flickers.

(2) This command functions in the same way as when "Display setting" - "Input signal selection" - "Tracking adjustment" are selected on the menu.

(3) If the input is neither "A-RGB1" nor "A-RGB2", 'e:200X INVALID_SOURCE(***)' is returned as an error response.

(4) If signals are not input, 'e:2010 NO_SIGNAL' is returned.

(5) Adjustment range is limited. If number is invalid, "e:0801 INVALID_VALUE" is returned.

(6) The GET command can be used to retrieve the current tracking adjustment values. ("**GET TRACK**")

Example

Setting

> TRACK=25 The tracking adjustment value is set to 25.

< i:OK

Reference

> GET TRACK or ?TRACK This retrieves the tracking adjustment setting value.

< g:TRACK=21

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

Revision History / Date		Changes	Revised by	Approved by

VKS

Vertical keystone setting

Format

VKS=<Vertical keystone distortion value:Number>

GET□VKS / ?△VKS

Environment

Power			Input								
OFF	ON	PM	D-RGB	A-RGB1	A-RGB2	COMP	VIDEO	S-VIDEO	HDMI	USB	None
X	O	X	-								

Response

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

For '**GET VKS**' or '**?VKS**', current vertical keystone setting value is returned as

'**g:VKS=<Vertical keystone distortion value:Number>**'

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

Description

(1) This sets the vertical keystones.

(2) This command is identical to pressing the “KEYSTONE” button on the remote control.

(3) The settable keystone range varies depending on the input signal, screen size, number of horizontal and vertical dots, and other factors.
If keystone values are outside the range, "e:0801 INVALID_VALUE" is returned.

(4) The GET command can be used to obtain the current vertical/horizontal keystone value. ("**GET VKS**")

Example

Setting

> VKS=-23 This sets the vertical keystone to –23.

< i:OK

Reference

> GET VKS or ?VKS This retrieves the vertical keystone.

< g:VKS=-23

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

Revision History / Date		Changes	Revised by	Approved by

WB

Screen color correction

Format

WB=<Screen color correction parameters:ID>
GET□WB / ?△WB

<Screen color correction parameters:ID>

NORMAL	Standard
GREENBOARD	Blackboard
ADJUST	Adjust

Environment

Power			Input								
OFF	ON	PM	D-RGB	A-RGB1	A-RGB2	COMP	VIDEO	S-VIDEO	HDMI	USB	None
X	O	X	-								

Response

"i:OK" is returned if the parameter was set properly.
For '**GET WB**' or '**?WB**', current screen color correction is returned as

'g:WB=<Screen color correction parameters:ID>'

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

Description

(1) The screen color correction is set to “Normal”, “Blackboard”, or “Adjust”.
(2) This command functions in the same way as when "Display setting" - "Screen color correction" are selected on the menu.
(3) When "ADJUST" has been selected, adjust the RGB adjustment values using the WBRGB command.
(4) The current screen color correction can be acquired using the applicable GET command. ("**GET WB**")

Example

Setting

> WB=NORMAL This sets the screen color correction to “Normal”.
< i:OK

Reference

> GET WB or ?WB This retrieves the screen color correction.
< g:WB=GREENBOARD

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

Revision History / Date		Changes	Revised by	Approved by

WBRGB

Screen color correction (ADJUST)

Format

WBRGB=<R adjustment value:Number>▽<G adjustment value:Number>▽<B adjustment value:Number>
GET□WBRGB / ?△WBRGB

Setting values for <R/G/B adjustment value:Number> are -20 to 20.

Environment

Power			Input								
OFF	ON	PM	D-RGB	A-RGB1	A-RGB2	COMP	VIDEO	S-VIDEO	HDMI	USB	None
X	O	X	-								

Response

"i:OK" is returned if the parameter was set properly.
For '**GET WBRGB**' or '**? WBRGB**', current screen color correction (adjustment) value are returned as
'**g:WBRGB=<R adjustment value:Number>,<G adjustment value:Number>,<B adjustment value:Number>**'
For details on other responses, refer to the "Error List".

Description

(1) This sets the RGB adjustment values of the screen color correction.
(2) This command functions in the same way as when "Display setting" - "Screen color correction" - "RGB adjustment" are selected on the menu.
(3) If numerical parameters are outside the range, "e:0801 INVALID_VALUE" is returned.
(4) Although this setting is enabled when Adjustment (ADJUST) is selected by the screen color correction command (WB), it can be made independently.
(5) The GET command can be used to retrieve the current RGB adjustment values. ("**GET WBRGB**")

Example

Setting

```
> WBRGB=10, 11, 12
< i:OK
```

This sets R to 10, G to 11, and B to 12.

Reference

```
> GET WBRGB or ?WBRGB
< g:WBRGB=-10, 0, 19
```

This retrieves the RGB adjustment values.

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

Revision History / Date		Changes	Revised by	Approved by

ZCONTDRV

Zoom lens continuous drive control

Format

```
ZCONTDRV=<Zoom lens continuous control parameter:ID>
```

<Zoom lens continuous control parameter:ID>

STOP	This stops the zooming.
WIDE	This zooms to the wide-angle end.
TELE	This zooms to the telephoto end.

Environment

Power			Input								
OFF	ON	PM	D-RGB	A-RGB1	A-RGB2	COMP	VIDEO	S-VIDEO	HDMI	USB	None
X	O	X	-								

Response

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

Description

(1) This command is used to drive the zoom lens continuously.
(2) This command functions in the same way as when first the "ZOOM" button on the remote control or main unit panel is pressed and then the "↑" or "↓" button is pressed.
(3) Zoom drive is started by specifying "TELE" or "WIDE".
To stop the drive, send the "ZCONTDRV=STOP" command.
If no instruction was given to stop the drive, the drive stops at the drive direction end.
(4) The following commands are acknowledged during zoom drive, but zoom drive will also stop at the same time.
a. POWER
b. ZCONTDRV=STOP
(5) The following commands are acknowledged during zoom drive, and a response is returned while the drive continues.

a. GET MODE	e. GET PRODCODE	i. LOCAL
b. GET POWER	f. GET ROMVER	j. RC
c. GET ERR	g. GET COMVER	k. MAIN
d. GET LAMPCOUNTER	h. REMOTE	l. [NULL]

(6) There are no GET commands available for this command.

Example

Control

```
> ZCONTDRV=TELE
< I:OK
```

Control over the zooming to the telephoto end is started.

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

Revision History / Date		Changes	Revised by	Approved by

ZSTEPDRV

Zoom lens step drive control

Format

```
ZSTEPDRV=<Zoom lens step control parameter:ID>
```

<Zoom lens step control parameter:ID>

WIDE	This zooms to the wide-angle end.
TELE	This zooms to the telephoto end.

Environment

Power			Input								
OFF	ON	PM	D-RGB	A-RGB1	A-RGB2	COMP	VIDEO	S-VIDEO	HDMI	USB	None
X	O	X	-								

Response

"i:OK" is returned when zooming was completed successfully after step drive.
For details on other responses, refer to the "Error List".

Description

(1) This command is used to drive the zoom lens.
(2) This command functions in the same way as when first the "ZOOM" button on the remote control or main unit panel is pressed and then the "←" or "→" button is pressed.
(3) The amount by which the lens is zoomed is constant, and it is fixed in the system.
(4) If a zooming error occurs, step drive cannot be controlled.
(5) There are no GET commands available for this command.

Example

Control

```
> ZSTEPDRV=TELE
< I:OK
```

1-step control is exercised over the zoom toward the TELE end.

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

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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 (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 (LOGO_CAPTURE)	User image registration is in progress.	Wait until user image registration is complete.
		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.	Resend the command after exiting the current menu mode.
11	F001	e	SYSTEM (UNKNOWN)	An internal error has occurred.	Resend the command.
	F002	e	SYSTEM (AF)	An error occurred at AUTOSETEXE=FOCUS.	Eliminate the cause of the error, and resend the command.
	F004	e	SYSTEM (AK)	An error occurred at AUTOSETEXE=VKS.	
	F005	e	SYSTEM (ASC)	An error occurred at AUTOSETEXE=SCRN.	

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Item	Code	TYPE	Error character strings	Error	Remedy
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. Current input source is indicated in parentheses.	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.
16	2020	e	INVALID_IMAGE_MODE	Cannot execute command with current image mode.	Change the image mode.
17	0801 0802	e	INVALID_VALUE	Numerical parameters are invalid or outside the specified range.	Set the parameters in the correct range.
	1003	e	IP_NOT_AVAILABLE	IP conversion is not possible.	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.
	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.)

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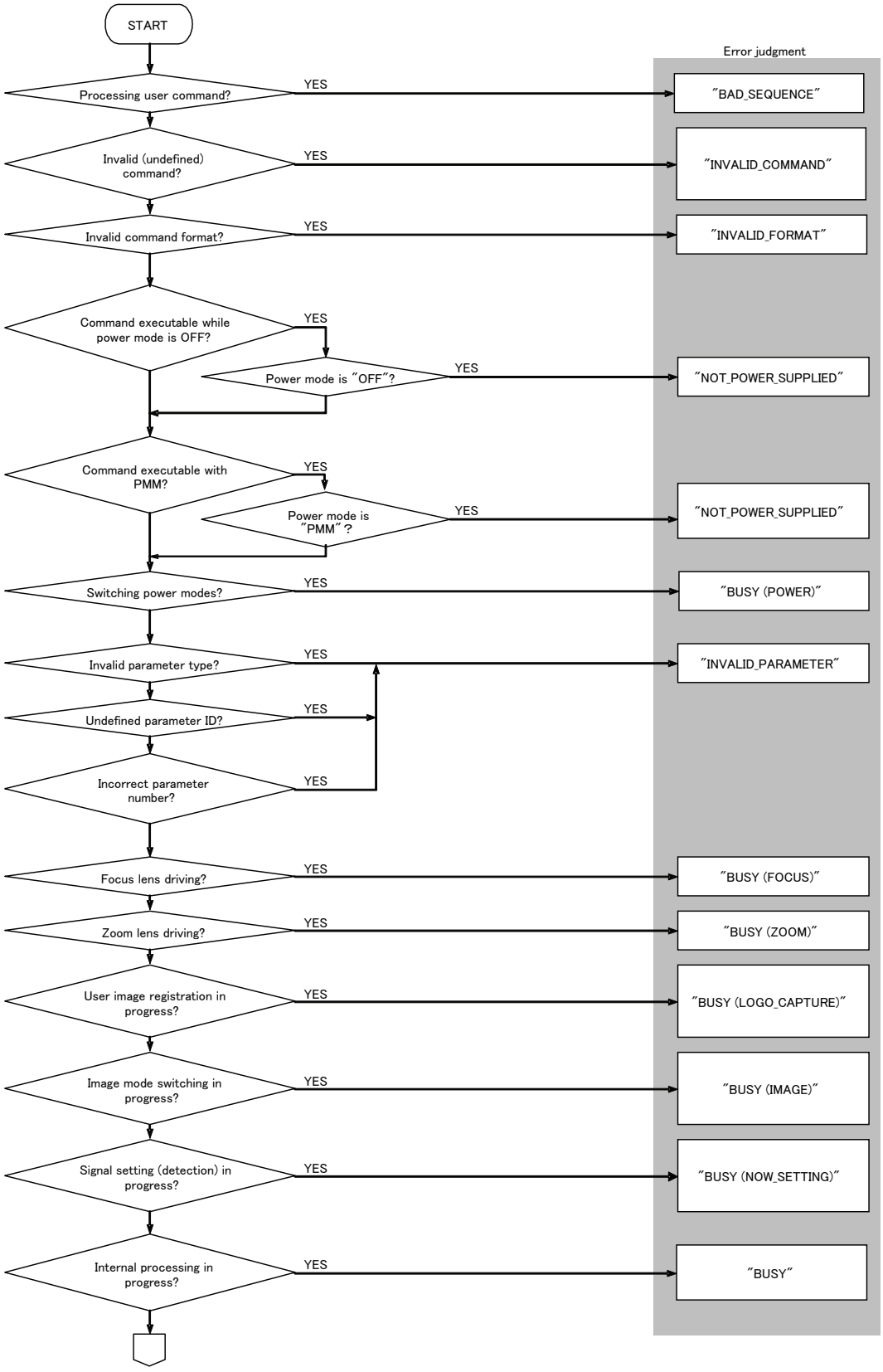
8. Error Processing



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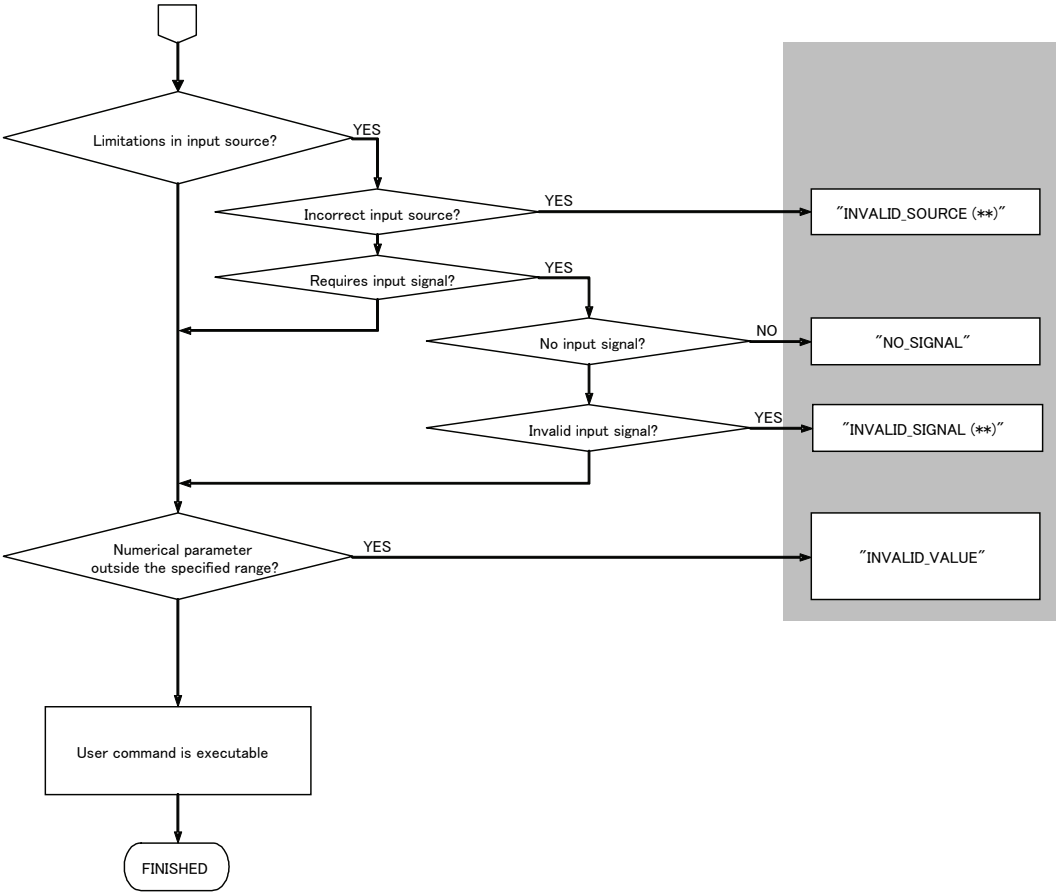

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9. Other

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

Function	PC command parameter
Digital zoom	DZOOM_P, DZOOM_M
Presentation timer	P_TIMER

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Appendix 1. Reset Items

What is initialized by the "RESET" command is set forth in the table below.

ALL	SYSTEM	IMAGE	Item	Setting	Reference command
●			Input source switching	A-RGB1	INPUT
●	●		Screen aspect	4:3	SCRNASPECT
●	●		Aspect	Video: 4:3 Other: AUTO	ASPECT
●	●		HDMI overscan	ON	----------
●	●		HDMI input level	AUTO	----------
●	●		Input signal select	AUTO	SEL
●	●		Progressive	2	PROG
●	●		Menu display position	Center	----------
●	●		Screen color correction	NORMAL	WB
●	●		〃 adjustment values (R,G,B)	0, 0, 0	WBRGB
●	●		Flip display	NONE	IMAGEFLIP
●	●		No signal screen	BLUE	NOSIG
●	●		Screen when BLANK	BLACK	BLANKCOLOR
●	●		Startup screen	CANON	PJON
●	●		Image mode	DICOM model: DCM_SIM Other: STANDARD	IMAGE
●	●	●	Brightness	0	BRI
●	●	●	Contrast	0	CONT
●	●	●	Sharpness	0	SHARP
●	●	●	Gamma	0	GAMMA
●	●	●	Saturation	0	SAT
●	●	●	Hue	0	HUE
●	●	●	Color temperature	0	----------
●	●	●	RGB gain adjustment	0, 0, 0	RGBGAIN
●	●	●	RGB offset adjustment	0, 0, 0	RGBOFFSET
●	●	●	Dynamic gamma	Video: WEAK Other: OFF	DGAMMA
●	●	●	Flesh tone adjustment	IMAGE is PHOTO: MEDIUM Other: OFF	FTONEADJ
●	●	●	6-axis adjustment ON/OFF	OFF	6AXADJ
●	●	●	6-axis adjustment (SAT, HUE)	0, 0	6AXR～Y
●	●	●	Ambient light type	Fluorescent lamp	----------
●	●	●	Ambient light level	Medium	----------
●	●	●	Lamp mode	NORMAL	LAMP
●	●		Auto setup	Auto focus: ON Auto keystone: ON Auto input: ON Automatic screen color correction: OFF	----------
●	●		Power management	OFF	PMM
●	●		Direct power-on	OFF	DPON
●	●		BEEP sound	1	BVOL
●	●		Keylock	OFF	KEYLOCK

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ALL	SYSTEM	IMAGE	Item	Setting	Reference command
●			Language	ENG	LANG
●	●		Guide	ON	GUIDE
●	●		LED illumination	ON	LEDILLUMINATION
●	●		Slideshow interval	None	----------
●			Remote control	1	RCCH
●	●		Menu display time	Normal	----------
●	●		Password setting	OFF	----------
●	●		Password character	None	----------
●	●		Volume	10	AVOL
●	●		Vertical keystone	0	VKS
●	●		Digital image shift	0	----------
●	●		Presentation timer	OFF	----------
●	●		Mute	OFF	MUTE
●	●		Lamp ready indicator off flag	OFF	----------

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