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Control Commands for LV series
Rev1.0.4

Updated on January 25, 2010

This file contains information about projector control commands.

Model Name
LV-7245/7240/X5
LV-7255/7250/X6
LV-7265/7260/X7
LV-7365
LV-7375/7370/7275/8300
LV-7385/7380/7285/7280/8310/8215

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1. Projector Control

The control commands allow the user to control the functions of the projector via a computer.

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2. Connection Method

The following 2 kinds of connection methods are available for sending and receiving control commands.

1. Serial connection using the serial port on the projector
A serial cable is required.

2. LAN connection using the LAN port on the projector

A LAN cable is required.

Status of supported connection

| | (1) | (2) |
|---------------|--------|----------|
| | Serial | Wired |
| | port | LAN port |
| LV-7245/7240 | | |
| LV-7255/7250 | Yes | No |
| LV-7265/7260 | | |
| LV-7365 | | |
| LV-7375/7370/ | | |
| 7275/8300 | | |
| LV-7385/7380/ | Yes | Yes |
| 7285/7280/ | | |
| 8310/8215 | | |

Yes: Supported

No : Not supported

* The serial cable and LAN cable are separately sold.

(CAUTION) (!1)

Before making connections, be sure to select [Normal] for [Standby mode].

Setting method : From the projector's menu, select [Setup] --> [Options(2)] --> [Standby mode] --> [Normal].

Supplement:

(!1) LV-7375/7300/7275/8300/7385/7380/7285/7280/8310/8215 only

3. Interface Conditions

Serial connection

The communications method conforms to the RS-232C standard.

Baud rate: 19200 bps
Data length: 8 bits
Parity bit: No parity
Stop bits: 1 bit
Communications mode: Full duplex

The control connector is described below.

[LV-7365/7265/7260/7255/7250/7245/7240]

The SERVICE PORT is a mini DIN 8-pin port.

- 1 To TxD of PC
- 2
- 3
- 4 To GND of PC
- 5
- 6
- 7 To RxD of PC
- 8

* 2, 3, 5, 6, and 8 are used inside the projector.

[LV-7385/7380/7285/7280/8310/8215/7375/7370/7275/8300]

The SERVICE PORT is a D-SUB 9-pin port.

- 1
- 2 To TxD of PC
- 3 To RxD of PC
- 4
- 5 To GND of PC
- 6
- 7 To CTS of PC
- 8 To RTS of PC
- 9

LAN connection(!)

[Wired LAN port]

LAN interface

Communication speed : Auto setting (10/100Mbps)

Certified standard : IEEE802.3 (10BASE-T)

IEEE802.3u (100BASE-TX, Auto-Negotiation)

A LAN connector (8 male RJ-45 connector)

- 1 TD+ Transmit data (+)
- 2 TD- Transmit data (-)
- 3 RD+ Receive data (+)
- 4 Not used
- 5 Not used
- 6 RD- Receive data (-)
- 7 Not used
- 8 Not used

[Port Number]

The TCP port number used is "7142".

Supplement:

(!!) LV-7385/7380/7285/7280/8310/8215/7375/7370/7275/8300 only

4. List of Commands

* Example for command

| Command name | Example |
|---|--|
| 001. POWER ON | 02H 00H 00H 00H 00H 02H |
| 002. POWER OFF | 02H 01H 00H 00H 00H 03H |
| 003. INPUT SELECT COMPUTER(*5) | 02H 03H 00H 00H 02H 01H <DATA> CKS |
| 004. INPUT SELECT VIDEO | 02H 03H 00H 00H 02H 01H 06H 0EH |
| 005. INPUT SELECT S-VIDEO | 02H 03H 00H 00H 02H 01H 0BH 13H |
| 006. BLANK ON (NO SHOW ON) | 02H 10H 00H 00H 00H 12H |
| 007. BLANK OFF (NO SHOW OFF) | 02H 11H 00H 00H 00H 13H |
| 008. SOUND MUTE ON | 02H 12H 00H 00H 00H 14H |
| 009. SOUND MUTE OFF | 02H 13H 00H 00H 00H 15H |
| 010. ONSCREEN MUTE ON | 02H 14H 00H 00H 00H 16H |
| 011. LAMP INFORMATION REQUEST | 03H 8CH 00H 00H 00H 8FH |
| 012. MUTE CONTROL | 02H 1AH 00H 00H 02H <DATA> CKS |
| 013. VOLUME ADJUST | 03H 10H 00H 00H 05H 05H <DATA> CKS |
| 014. BASE MODEL TYPE REQUEST | 00H BFH 00H 00H 01H 00H CKS |
| 015. PROJECTOR INFORMATION REQUEST | 00H BFH 00H 00H 01H 02H CKS |
| 016. ERROR STATUS REQUEST | 00H 88H 00H 00H 00H 88H |
| 017. INFORMATION REQUEST | 03H 8AH 00H 00H 00H 8DH |
| 018. FILTER COUNTER INFORMATION REQUEST | 03H 95H 00H 00H 00H 98H |
| 019. LAMP INFORMATION REQUEST 3 | 03H 96H 00H 00H 02H <DATA> CKS |
| 020. TEMP INFORMATION REQUEST | 03H 99H 00H 00H 01H <DATA> CKS |
| 021. REMOTE KEY CODE | 02H 0FH 00H 00H 02H <DATA> CKS |
| 022. FREEZE CONTROL | 01H 98H 00H 00H 01H <DATA> CKS |
| 023. IMAGE FLIP H/V SET | 03H B1H 00H 00H 02H 0AH 00H C0H |
| 024. AUTO PC EXECUTE2 | 03H BAH 00H 00H 01H <DATA> CKS |
| 025. RUNNING SENSE | 00H 81H 00H 00H 00H 81H |
| 026. COMMON DATA REQUEST | 00H C0H 00H 00H 00H C0H |
| 027. IMAGE ADJUST | 03H 10H 00H 00H 05H DATA1 to 5 CKS |
| 028. KEYSTONE ADJUST | 03H 10H 00H 00H 05H 15H FFH DATA3 to 5 CKS |
| 029. DISPLAY SETTINGS ADJUST | 03H 10H 00H 00H 05H DATA1 to 5 CKS |
| 030. LAMP INFORMATION REQUEST 2 | 03H 94H 00H 00H 00H 97H |
| 031. GAIN PARAMETER REQUEST 2 | 03H 04H 00H 00H 03H DATA1 to 3 CKS |

| | |
|---|--|
| 032. SETTING REQUEST | 00H 85H 00H 00H 01H 00H CKS |
| 033. RUNNING STATUS REQUEST | 00H 85H 00H 00H 01H 01H CKS |
| 034. INPUT STATUS REQUEST | 00H 85H 00H 00H 01H 02H CKS |
| 035. MUTE STATUS REQUEST | 00H 85H 00H 00H 01H 03H CKS |
| 036. MODEL NAME REQUEST | 00H 85H 00H 00H 01H 04H CKS |
| 037. INFORMATION STRING REQUEST | 00H D0H 00H 00H 03H 00H 00H 00H CKS |
| 038. LAMP MODE REQUEST | 03H B0H 00H 00H 01H 07H BBH |
| 039. LAMP MODE SET | 03H B1H 00H 00H 02H 07H 00H BDH |
| 040. POWER MANAGEMENT SET | 03H B1H 00H 00H 02H 17H 00H CDH |
| 041. AUTO KEYSTONE SET | 03H B1H 00H 00H 01H 93H DATA02 CKS |
| 042. OTHER ADJUST | 03H 10H 00H 00H 05H DATA1 to 5 CKS |
| 043. SET PROJECTOR NAME | 03H 8BH 00H 00H 32H DATA1 to 50 CKS |
| 044. CLOSED CAPTION REQUEST | 03H B0H 00H 00H 01H DATA1 CKS |
| 045. FAN MODE REQUEST | 03H B0H 00H 00H 01H DATA1 CKS |
| 046. WXGA MODE SETTING REQUEST | 03H B0H 00H 00H 01H DATA1 CKS |
| 047. CLOSED CAPTION SET | 03H B1H 00H 00H 02H DATA1 to 2 CKS |
| 048. FAN MODE SET | 03H B1H 00H 00H 02H DATA1 DATA2 CKS |
| 049. WXGA MODE SETTING SET | 03H B1H 00H 00H 02H DATA1 DATA2 CKS |
| 050. LAMP INFORMATION REQUEST 4 | 03H 9BH 00H 00H 03H DATA1 to DATA3 CKS |
| 051. CARBON SAVINGS INFORMATION REQUEST | 03H 9AH 00H 00H 01H DATA1 CKS |

* Availability by Model

Model No.

01 : LV-7255/7245/7240/X5
02 : LV-7250/X6
03 : LV-7265/7260/X7
04 : LV-7365
05 : LV-7375/7370/7275/8300
06 : LV-7385/7380/7285/7280/8310/8215

Meaning of Symbol

* : Supported
! : Available depending on the model's version
- : Not supported

Availability by Model

| Command Name | 01 | 02 | 03 | 04 | 05 | 06 |
|--------------------------------|----|----|----|----|----|----|
| 001. POWER ON | * | * | * | * | * | * |
| 002. POWER OFF | * | * | * | * | * | * |
| 003. INPUT SELECT COMPUTER(*5) | * | * | * | * | * | * |
| 004. INPUT SELECT VIDEO | * | * | * | * | * | * |
| 005. INPUT SELECT S-VIDEO | * | * | * | * | * | * |
| 006. BLANK ON (NO SHOW ON) | * | * | * | * | * | * |
| 007. BLANK OFF (NO SHOW OFF) | * | * | * | * | * | * |

| | | | | | | |
|---|---|---|---|---|---|---|
| 008. SOUND MUTE ON | * | * | * | * | * | * |
| 009. SOUND MUTE OFF | * | * | * | * | * | * |
| 010. ONSCREEN MUTE ON | * | * | * | * | * | * |
| 011. LAMP INFORMATION REQUEST | * | * | * | * | * | * |
| 012. MUTE CONTROL | * | * | * | * | * | * |
| 013. VOLUME ADJUST | - | * | * | * | * | * |
| Volume | - | * | * | * | * | * |
| Bass | - | - | - | - | - | - |
| Treble | - | - | - | - | - | - |
| Balance | - | - | - | - | - | - |
| 014. BASE MODEL TYPE REQUEST | - | * | * | * | * | * |
| 015. PROJECTOR INFORMATION REQUEST | - | * | * | * | * | * |
| 016. ERROR STATUS REQUEST | - | - | * | * | * | * |
| 017. INFORMATION REQUEST | - | - | * | * | * | * |
| 018. FILTER COUNTER INFORMATION REQUEST | - | - | * | * | * | * |
| 019. LAMP INFORMATION REQUEST 3 | - | - | * | * | * | * |
| 020. TEMP INFORMATION REQUEST | - | - | * | * | * | * |
| 021. REMOTE KEY CODE | - | * | * | * | * | * |
| 022. FREEZE CONTROL | - | - | * | * | * | * |
| 023. IMAGE FLIP H/V SET | - | - | * | * | * | * |
| 024. AUTO PC EXECUTE2 | - | - | * | * | * | * |
| 025. RUNNING SENSE | - | - | - | * | * | * |
| 026. COMMON DATA REQUEST | - | - | - | * | * | * |
| 027. IMAGE ADJUST | - | - | - | * | * | * |
| 028. KEYSTONE ADJUST | - | - | - | * | * | * |
| 029. DISPLAY SETTINGS ADJUST | - | - | - | * | * | * |
| 030. LAMP INFORMATION REQUEST 2 | - | - | - | * | * | * |
| 031. GAIN PARAMETER REQUEST 2 | - | - | - | * | * | * |
| 032. SETTING REQUEST | - | - | - | * | * | * |
| 033. RUNNING STATUS REQUEST | - | - | - | * | * | * |
| 034. INPUT STATUS REQUEST | - | - | - | * | * | * |
| 035. MUTE STATUS REQUEST | - | - | - | * | * | * |
| 036. MODEL NAME REQUEST | - | - | - | * | * | * |
| 037. INFORMATION STRING REQUEST | - | - | - | * | * | * |
| 038. LAMP MODE REQUEST | - | - | - | * | * | * |
| 039. LAMP MODE SET | - | - | - | * | * | * |
| 040. POWER MANAGEMENT SET | - | - | - | * | * | * |
| 041. AUTO KEYSTONE SET | - | - | - | * | * | * |
| 042. OTHER ADJUST | - | - | - | - | * | * |
| 043. SET PROJECTOR NAME | - | - | - | - | * | * |
| 044. CLOSED CAPTION REQUEST | - | - | - | - | * | * |
| 045. FAN MODE REQUEST | - | - | - | - | * | * |
| 046. WXGA MODE SETTING REQUEST | - | - | - | - | * | * |
| 047. CLOSED CAPTION SET | - | - | - | - | * | * |
| 048. FAN MODE SET | - | - | - | - | * | * |
| 049. WXGA MODE SETTING SET | - | - | - | - | * | * |
| 050. LAMP INFORMATION REQUEST 4 | - | - | - | - | - | * |
| 051. CARBON SAVINGS INFORMATION REQUEST | - | - | - | - | - | * |

5. Command Descriptions

Description of Terms:

(*1) Control ID

This refers to the Control ID.

Model Name : LV—7385/7380/7285/7280/8310/8215/7375/7370/7275/8300/7365/7265/7260/X7

(*2) Model code : "xxH" inscription

In case of LV series 40H

(*3) Checksum : "CKS" inscription

This is the value of the lower 1 byte (8 bits) of the resulting amount from adding all the data up to the immediately preceding data in terms of bytes.

Example)

20H 81H 01H 60H 01H 00H CKS

$20H + 81H + 01H + 60H + 01H + 00H = 103H$

CKS = 03H

(*4) Response error number

This is the value of the error number at the time of an error.

See "NAK" of "6. Table of Response Error Codes".

(*5) Term "RGB", "DVI" and "COMPUTER"

The term "RGB connector" and "DVI connector" have been changed to "COMPUTER".

001. POWER ON

Function:

This command switches on the main power of the projector.

Command:

02H 00H 00H 00H 00H 02H

Response : At the time of a success

22H 00H 01H xxH 00H CKS
(*1) (*2) (*3)

Response : At the time of a failure

A2H 00H 01H xxH 02H DATA01 DATA02 CKS
(*1) (*2) (*4) (*3)

Supplement:

The projector does not accept the other command during power on processing.

002. POWER OFF

Function:
This command switches off the main power of the projector.

Command:
02H 01H 00H 00H 00H 03H

Response : At the time of a success
22H 01H 01H xxH 00H CKS
(*1) (*2) (*3)

Response : At the time of a failure
A2H 01H 01H xxH 02H DATA01 DATA02 CKS
(*1) (*2) (*4) (*3)

Supplement:
-This command will fail during switching input signal. (NAK will be returned)
-The projector doesn't accept the other command during power off processing. (It contains a cooling period.)

003. INPUT SELECT COMPUTER (*5)

Function:
This command switches the input terminal or input signal to RGB (*5).

Command:
02H 03H 00H 00H 02H 01H DATA01 CKS
(*3)

Data Portion Contents

DATA01 Terminal number

| +-----+-----+-----+-----+ | | +-----+-----+-----+ | |
|---------------------------|------------------------|---------------------|---------------|
| Terminal | Terminal | | |
| number | name | (1) | (2) (3) |
| +-----+-----+-----+-----+ | | +-----+-----+-----+ | |
| 01H | Computer(*5) | * | x x |
| 01H | Computer1(*5) | x | * * |
| 02H | Computer2(*5) | x | * x |
| 02H | Computer2(Analog) (*5) | x | x * |



- (1) LV-X6/7260/X7
- (2) LV-7240/7245/X5/7250/7255
- (3) LV-7265/7365/7375/7370/7275/8300/7385/7380/7285/7280/8310/8215

Response : At the time of a success

| | | | | | | |
|-----|-----|------|------|-----|--------|------|
| 22H | 03H | 01H | xxH | 01H | DATA01 | CKS |
| | | (*1) | (*2) | | | (*3) |

Data Portion Contents

| | |
|--------|--|
| DATA01 | Results |
| | 00H : Normal |
| | FFH : Error (Signal select was not executed) |

Response : At the time of a failure

| | | | | | | | |
|-----|-----|------|------|-----|--------|--------|------|
| A2H | 03H | 01H | xxH | 02H | DATA01 | DATA02 | CKS |
| | | (*1) | (*2) | | (*4) | | (*3) |

004. INPUT SELECT VIDEO

Function:

This command switches the input terminal or input signal to VIDEO.

Command:

| | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|
| 02H | 03H | 00H | 00H | 02H | 01H | 06H | 0EH |
|-----|-----|-----|-----|-----|-----|-----|-----|

Response : At the time of a success

| | | | | | | |
|-----|-----|------|------|-----|--------|------|
| 22H | 03H | 01H | xxH | 01H | DATA01 | CKS |
| | | (*1) | (*2) | | | (*3) |

Data Portion Contents

| | |
|--------|--|
| DATA01 | Results |
| | 00H : Normal |
| | FFH : Error (Signal select was not executed) |

Response : At the time of a failure

| | | | | | | | |
|-----|-----|------|------|-----|--------|--------|------|
| A2H | 03H | 01H | xxH | 02H | DATA01 | DATA02 | CKS |
| | | (*1) | (*2) | | (*4) | | (*3) |

005. INPUT SELECT S-VIDEO

Function:

This command switches the input terminal or input signal to S-VIDEO.

Command:

02H 03H 00H 00H 02H 01H 0BH 13H

Response : At the time of a success

22H 03H 01H xxH 01H DATA01 CKS
(*1) (*2) (*3)

Data Portion Contents

DATA01 Results
00H : Normal
FFH : Error (Signal select was not executed)

Response : At the time of a failure

A2H 03H 01H xxH 02H DATA01 DATA02 CKS
(*1) (*2) (*4) (*3)

006. BLANK ON (NO SHOW ON)

Function:

This command mutes a picture.

Command:

02H 10H 00H 00H 00H 12H

Response : At the time of a success

22H 10H 01H xxH 00H CKS
(*1) (*2) (*3)

Response : At the time of a failure

A2H 10H 01H xxH 02H DATA01 DATA02 CKS
(*1) (*2) (*4) (*3)

Supplement:

* BLANK function (Picture Mute) is cancelled for the following:

Input connector switching

Video signal switching

007. BLANK OFF (NO SHOW OFF)

Function:

This command cancels the picture muting.

Command:

02H 11H 00H 00H 00H 13H

Response : At the time of a success

22H 11H 01H xxH 00H CKS
(*1) (*2) (*3)

Response : At the time of a failure

A2H 11H 01H xxH 02H DATA01 DATA02 CKS
(*1) (*2) (*4) (*3)

008. SOUND MUTE ON

Function:

This command mutes the sound.

Command:

02H 12H 00H 00H 00H 14H

Response : At the time of a success

22H 12H 01H xxH 00H CKS
(*1) (*2) (*3)

Response : At the time of a failure

A2H 12H 01H xxH 02H DATA01 DATA02 CKS
(*1) (*2) (*4) (*3)

Supplement:

* Sound mute is cancelled for the following:

Input connector switching

Video signal switching

Volume adjustment

009. SOUND MUTE OFF

Function:

This command cancels the sound muting.

Command:

02H 13H 00H 00H 00H 15H

Response : At the time of a success
22H 13H 01H xxH 00H CKS
(*1) (*2) (*3)

Response : At the time of a failure
A2H 13H 01H xxH 02H DATA01 DATA02 CKS
(*1) (*2) (*4) (*3)

010. ONSCREEN MUTE ON

Function:

This command mutes the on-screen display.

Command:

02H 14H 00H 00H 00H 16H

Response : At the time of a success
22H 14H 01H xxH 00H CKS
(*1) (*2) (*3)

Response : At the time of a failure
A2H 14H 01H xxH 02H DATA01 DATA02 CKS
(*1) (*2) (*4) (*3)

Supplement:

* This is available only during on-screen display.

011. LAMP INFORMATION REQUEST

Function:

This command acquires the lamp information of projector.

Command:

03H 8CH 00H 00H 00H 8FH

Response : At the time of a success
23H 8CH 01H xxH 10H DATA01 to DATA16 CKS
(*1) (*2) (*3)

| Data Portion | Contents |
|--------------|----------|
|--------------|----------|

| | |
|--------------|---|
| DATA01 to 04 | Lamp counter (Normal mode) (second) |
| DATA05 to 08 | Reserved |
| DATA09 to 12 | Lamp Use Warning Starting Time (Normal mode) (second) |

DATA13 to 16 Lamp Use Prohibited Time (Normal mode) (second)

Response : At the time of a failure

| | | | | | | | |
|-----|-----|------|------|-----|--------|--------|------|
| A3H | 8CH | 01H | xxH | 02H | DATA01 | DATA02 | CKS |
| | | (*1) | (*2) | | | (*4) | (*3) |

Supplement:

Example for acquiring remaining lamp time (in terms of Normal mode values)

: Lamp Hour Meter (Normal mode)

DATA01 DATA02 DATA03 DATA04
30H 2AH 00H 00H : 10800 second

```
: Starting time for lamp usage warning message
```

(in terms of Normal mode values)

DATA09 DATA10 DATA11 DATA12
00H DDH 6DH 00H : 7200000 second

Lamp remaining time (in terms of Normal mode values)

$$= (7200000 - 10800) / 3600 = 1997 \text{ hour}$$

012. MUTE CONTROL

Function:

This command controls the mute of picture, sound and on-screen.

Command:

02H 1AH 00H 00H 02H DATA01 DATA02 CKS
(*3)

Data Portion Contents

| | |
|--------|---|
| DATA01 | Setting Items 00H : Picture 01H : Sound 02H : OSD (DATA2 can be specified only for "On") |
| DATA02 | Setting Value 00H : Off 01H : On |

Response : At the time of a success

| | | | | | | |
|-----|-----|------|------|-----|--------|------|
| 22H | 1AH | 01H | xxH | 01H | DATA01 | CKS |
| | | (*1) | (*2) | | | (*3) |

Data Portion Contents

| | |
|--------|--------------|
| DATA01 | Results |
| | 00H : Normal |
| | 01H : Error |

Response : At the time of a failure

| | | | | | | | |
|-----|-----|------|------|-----|--------|--------|------|
| A2H | 1AH | 01H | xxH | 02H | DATA01 | DATA02 | CKS |
| | | (*1) | (*2) | | | (*4) | (*3) |

Supplement:

* Mute is cancelled in the following cases:

Input connector switching

Video signal switching

Volume adjustment

013. VOLUME ADJUST

Function:

This command sets the volume.

Command:

03H 10H 00H 00H 05H DATA01 to DATA05 CKS
(*3)

Data Portion Contents

| | |
|--------|--|
| DATA01 | 05H fixed |
| DATA02 | Setting items |
| | 00H : Volume |
| | 01H : Bass |
| | 02H : Treble |
| | 03H : Balance |
| DATA03 | Setting mode |
| | 00H : Absolute value specification |
| | 01H : Relative value specification |
| DATA04 | Setting Value (Lower ranking 8 bits) |
| DATA05 | Setting Value (Upper ranking 8 bits) |

Response : At the time of a success

| | | | | | | | |
|-----|-----|------|------|-----|--------|--------|------|
| 23H | 10H | 01H | xxH | 02H | DATA01 | DATA02 | CKS |
| | | (*1) | (*2) | | | | (*3) |

Data Portion Contents

DATA01 to 02Results
0000H : Normal
0000H Other : Error

Response : At the time of a failure

A3H 10H 01H xxH 02H DATA01 DATA02 CKS
 (*1) (*2) (*4) (*3)

Supplement:

Command example:

* Setting Volume to "10"

03H 10H 00H 00H 05H 05H 00H 00H 0AH 00H 27H

014. BASE MODEL TYPE REQUEST

Function:

This command acquires the projector type.

Command:

00H BFH 00H 00H 01H 00H C0H

Response : At the time of a success

20H BFH 01H xxH 10H DATA01 to DATA16 CKS
 (*1) (*2) (*3)

Data Portion Contents

DATA01 00H fixed

DATA02 to 03 Projector type

See DATA13 to 14

DATA04 to 12 Model name (NULL termination character string)

DATA13 to 14 Projector type

| DATA02 | DATA03 | DATA13 | DATA14 |
|--------|--------|--------|-----------------------|
| 01H | 03H | 00H | 06H LV-7250/X6 |
| 01H | 03H | 00H | 07H LV-7265/7260/X7 |
| 01H | 10H | 00H | 08H LV-7365 |
| FFH | 10H | 05H | 09H LV-7375 |
| FFH | 10H | 06H | 09H LV-7370 |
| FFH | 10H | 07H | 09H LV-8300 |
| FFH | 10H | 08H | 09H LV-7275 |
| FFH | 10H | 0AH | 10H LV-7385 |
| FFH | 10H | 0BH | 10H LV-7380 |

| | | | | |
|---------|---------|---------|---------|---------|
| +-----+ | +-----+ | +-----+ | +-----+ | +-----+ |
| FFH | 10H | 0CH | 10H | LV-7285 |
| +-----+ | +-----+ | +-----+ | +-----+ | +-----+ |
| FFH | 10H | 0DH | 10H | LV-7280 |
| +-----+ | +-----+ | +-----+ | +-----+ | +-----+ |
| FFH | 10H | 0EH | 10H | LV-8310 |
| +-----+ | +-----+ | +-----+ | +-----+ | +-----+ |
| FFH | 10H | 0FH | 10H | LV-8215 |
| +-----+ | +-----+ | +-----+ | +-----+ | +-----+ |

DATA15 to 16Reserved

Response : At the time of a failure

A0H BFH 01H xxH 02H DATA01 DATA02 CKS
 (*1) (*2) (*4) (*3)

015. PROJECTOR INFORMATION REQUEST

Function:

This command acquires basic operation states of projector.

Command:

00H BFH 00H 00H 01H 02H C2H

Response : At the time of a success

20H BFH 01H xxH 10H DATA01 to DATA16 CKS
 (*1) (*2) (*3)

| Data Portion | Contents |
|--------------|---|
| DATA01 | 02H fixed |
| DATA02 | Projector Processing Status 00H : Idle 04H : Power On 05H : Cooling 06H : Idle(Error Standby) Other : Not Supported Other than above : (nondisclosure) internal use of code during a state transition period |
| DATA03 | Indicate Contents 00H : Picture signal displaying 01H : No Signal 02H : Viewer displaying 03H : Test Pattern displaying 04H : LAN displaying 05H : Test Pattern (User) displaying |

| | |
|--------|---|
| | 10H : Signal selection in progress Other : Not Supported |
| DATA04 | Select source input type 1 01H : 1 02H : 2 03H : 3 04H : 4 05H : 5 Other : Not Supported |
| DATA05 | Select source input type 2 01H : COMPUTER (RGB) 02H : VIDEO 03H : S-VIDEO 04H : COMPONENT 05H : Reserved 06H : DIGITAL 07H : VIEWER 08H : SLOT1 09H : SLOT2 0AH : SLOT3 0BH : SLOT4 0CH : DIGITAL2 0DH : SCART 10H : AUTO FFH : Not Source Input Other : Not Supported |
| DATA06 | Indication signal type (Effective only when Select source input type 2 is 02H or 03H) x0H : NTSC3.58 x1H : NTSC4.43 x2H : PAL x3H : PAL60 x4H : SECAM x5H : B/W60 x6H : B/W50 x7H : PALNM x8H : NTSC3.58 LBX x9H : NTSC3.58 SQZ xAH : COMPONENT(60Hz) xBH : COMPONENT(50Hz) xCH : Unknown xDH : NTSC xEH : PAL-M xFH : PAL-N FFH : Not Video Input Other : Not Supported |

* "x" means indefinite

DATA07 BLANK (Picture Mute)
00H : OFF
01H : ON

DATA08 Sound Mute
00H : OFF
01H : ON

DATA09 On-screen mute
00H : OFF
01H : ON

DATA10 FREEZE(!1)
00H : OFF
01H : ON

DATA11 to DATA16 Reserved

Response : At the time of a failure

| | | | | | | | |
|-----|-----|------|------|-----|--------|--------|------|
| A0H | BFH | 01H | xxH | 02H | DATA01 | DATA02 | CKS |
| | | (*1) | (*2) | | (*4) | | (*3) |

Supplement:

(!1) LV-7385/7380/7285/7280/8310/8215/7375/7370/7275/8300 only

016. ERROR STATUS REQUEST

Function:

This command acquires the error information occurring with the projector.

Command:

00H 88H 00H 00H 00H 88H

Response : At the time of a success

| | | | | | | |
|-----|-----|------|------|-----|------------------|------|
| 20H | 88H | 01H | xxH | 0CH | DATA01 to DATA12 | CKS |
| | | (*1) | (*2) | | | (*3) |

Data Portion Contents

* A "0" bit means normal and "1" means error.

* "None" means the bit is fixed to "0".

DATA01 Error Status(1)
bit0 : Lamp cover error

bit1 : Temperature error(Bimetal)
 bit2 : None
 bit3 : Fan error
 bit4 : Fan error
 bit5 : Power error
 bit6 : Lamp(or Lamp1) error
 bit7 : Lamp(or Lamp1) has reached its end of life

DATA02 Error Status(2)
 bit0 : Lamp(or Lamp1) has been used beyond its limit
 bit1 : Formatter error
 bit2 : Lamp2 error
 bit3 : None
 bit4 : None
 bit5 : None
 bit6 : None
 bit7 : None

DATA03 Error Status(3)
 bit0 : None
 bit1 : FPGA error
 bit2 : Temperature error(Sensor)
 bit3 : Lamp(or Lamp1) housing error (!)
 bit4 : Lamp(or Lamp1) data error (!)
 bit5 : Mirror cover error
 bit6 : Lamp2 has reached its end of life
 bit7 : Lamp2 has been used beyond its limit

DATA04 Error Status(4)
 bit0 : Lamp2 housing error
 bit1 : Lamp2 data error
 bit2 : High temperature due to dust pile-up
 bit3 : A foreign object sensor error
 bit4 : None
 bit5 : Ballast Communication Error
 bit6 : Iris Calibration Error
 bit7 : None

DATA05 to 12Reserved

Response : At the time of a failure

A0H 88H 01H xxH 02H DATA01 DATA02 CKS
 (*1) (*2) (*4) (*3)

017. INFORMATION REQUEST

Function:

This command acquires the projector information.

Command:

03H 8AH 00H 00H 00H 8DH

Response : At the time of a success

23H 8AH 01H xxH 62H DATA01 to DATA98 CKS
(*1) (*2) (*3)

| Data Portion | Contents |
|--------------|--|
| DATA01 to 49 | Projector name (NULL termination character string) |
| DATA50 to 82 | Reserved |
| DATA83 to 86 | Lamp counter (second) (!) |
| DATA87 to 90 | Filter counter (second) |
| DATA91 to 94 | Panel usage (second) |
| DATA95 to 98 | Projector usage (second) |

Response : At the time of a failure

A3H 8AH 01H xxH 02H DATA01 DATA02 CKS
(*1) (*2) (*4) (*3)

Supplement:

(!) Lamp counter

This is the timer for normal lamp mode conversion.

Lamp Timer Acquisition Examples

DATA83 DATA84 DATA85 DATA86 : Lamp Timer
00H 00H 00H 00H : Total 0 seconds
C0H 65H 52H 00H : Total 5400000 seconds = 1500 hours
00H E4H 57H 00H : Total 5760000 seconds = 1600 hours

* The projector's hours of use is not converted to Normal mode values.

The projector's hours of use is truncated after decimal point.

018. FILTER COUNTER INFORMATION REQUEST

Function:

This command acquires the information about the projector's filter.

Command:

03H 95H 00H 00H 00H 98H

Response : At the time of a success

23H 95H 01H xxH 08H DATA01 to DATA08 CKS
(*1) (*2) (*3)

| Data Portion | Contents |
|--------------|--|
| DATA01 to 04 | Filter counter (second) (!) |
| DATA05 to 08 | Starting time for filter usage warning message (second)(!) |

Response : At the time of a failure

A3H 95H 01H xxH 02H DATA01 DATA02 CKS
 (*1) (*2) (*4) (*3)

Supplement:

(!) If the model does not have filter, "-1" will be sent.

019. LAMP INFORMATION REQUEST 3

Function:

This command acquires the information on the projector lamp.

Command:

03H 96H 00H 00H 02H DATA01 DATA02 CKS
 (*3)

Data Portion Contents

| | |
|--------|--|
| DATA01 | Target 00H : Lamp1 01H : Lamp2 |
| DATA02 | Item 00H : Lamp counter (in terms of Normal mode values) (second)(!3) 01H : Lamp counter (second)(!4) 04H : lamp remaining amount until lamp warning message (100% to -X%(!2)) 05H : Lamp counter (Normal mode) (second) 06H : Lamp counter (Quiet mode) (second) 08H : Remaining time until lamp warning message starts to appear (in terms of specified values) 09H : Remaining time until lamp warning message starts to appear (in terms of Normal mode values) 0AH : Remaining time until lamp warning message starts to appear (in terms of Quiet mode values) 10H : Remaining time until inhibition of lamp usage (in terms of specified values) 11H : Remaining time until inhibition of lamp usage (in terms of Normal mode values) 12H : Remaining time until inhibition of lamp usage (in terms of Quiet mode values) |

Response : At the time of a success

23H 96H 01H xxH 06H DATA01 to DATA06 CKS

| Data Portion | Contents |
|--------------|--------------------------------------|
| DATA01 | same values as DATA01 of the command |
| DATA02 | same values as DATA02 of the command |
| DATA03 to 06 | Acquired information(!) |

| | | | | | | | |
|-----|-----|------|------|-----|--------|--------|------|
| A3H | 96H | 01H | xxH | 02H | DATA01 | DATA02 | CKS |
| | | (*1) | (*2) | | | (*4) | (*3) |

* In case of acquiring lamp counter
03H 96H 00H 00H 02H 00H 01H 9CH

| | | | |
|--------|--------|--------|-----------------------|
| DATA03 | DATA04 | DATA05 | DATA06 : lamp counter |
| 50H | 46H | 00H | 00H : 18000 seconds |

* In case of acquiring the remaining time until lamp warning message starts to appear (in terms of specified values)
03H 96H 00H 00H 02H 00H 08H A3H

| | | | |
|--------|--------|--------|-------------------------|
| DATA03 | DATA04 | DATA05 | DATA06 : Remaining time |
| 40H | 7EH | 05H | 00H : 360000 seconds |

- (!1) If "time" is specified for "Options for acquisition", values in seconds will be returned.
But, the value to acquire is updated only by the minute unit.
- (!2) $X = 100 - ((\text{Lamp Use Prohibited Time} * 100) / \text{Lamp Use Warning Starting Time})$
Example) The case of Lamp Use Prohibited Time 2100[H],
Lamp Use Warning Starting Time 2000[H] Model.
 $X = 100 - ((2100 * 100) / 2000) = -5[\%]$
- (!3) Lamp counter (in terms of Normal mode values)
This is the timer for normal lamp mode conversion.
- (!4) Lamp counter
This is the lamp total usage. It is displayed in the projector's menu.

Function:

This command acquires the information about temperature inside the projector.

Command

03H 99H 00H 00H 01H DATA01 CKS
(*3)

Data Portion Contents

DATA01 Target sensor
00H : Intake (outside air) temperature
01H : Exhaust (Lamp) temperature
02H or later reserved

Response : At the time of a success

23H 99H 01H xxH 05H DATA01 to DATA05 CKS
(*1) (*2) (*3)

Data Portion Contents

DATA01 Setting Items
(Same as DATA01 of the transmit data)
DATA02 to 05 Temperature information
(0.1 degree Celsius/32.18 degrees
Fahrenheit: 0 degree Celsius/32 degrees Fahrenheit
or less will be returned as 0 degree Celsius/32
degrees Fahrenheit)

Response : At the time of a failure

A3H 99H 01H xxH 02H DATA01 DATA02 CKS
(*1) (*2) (*4) (*3)

Supplement:

Example for Temp

DATA02 DATA03 DATA04 DATA05
CBH 01H 00H 00H : 45.9 degrees Celsius/
114.6 degrees Fahrenheit

021. REMOTE KEY CODE

Function:

This command sends remote control key codes of projector.

Command:

02H 0FH 00H 00H 02H DATA01 DATA02 CKS
(*3)

Data Portion Contents

DATA01 to 02Remote control key code (Word type)

| Key number | DATA01 | DATA02 | Key name |
|------------|--------|--------|-----------------------------|
| 1 | 01H | 00H | POWER(!1) |
| 2 | 02H | 00H | POWER ON(!1) |
| 3 | 03H | 00H | POWER OFF(!1) |
| 4 | 04H | 00H | INPUT (AUTO)(!1) |
| 5 | 05H | 00H | AUTO PC |
| 6 | 06H | 00H | MENU |
| 7 | 07H | 00H | UP |
| 8 | 08H | 00H | DOWN |
| 9 | 09H | 00H | RIGHT |
| 10 | 0AH | 00H | LEFT |
| 11 | 0BH | 00H | OK |
| 12 | 0CH | 00H | BACK |
| 13 | 0DH | 00H | INFO. |
| 15 | 0FH | 00H | D.ZOOM UP(!1) |
| 16 | 10H | 00H | D.ZOOM DOWN(!1) |
| 19 | 13H | 00H | BLANK(!1) |
| 41 | 29H | 00H | IMAGE(!1) |
| 59 | 3BH | 00H | KEystone(!1) |
| 75 | 4BH | 00H | COMPUTER1(*5)(!1) |
| 76 | 4CH | 00H | COMPUTER2(*5)(!1) |
| 79 | 4FH | 00H | VIDEO1(!1) |
| 81 | 51H | 00H | S-VIDEO1(!1) |
| 132 | 84H | 00H | VOLUME UP(!1) |
| 133 | 85H | 00H | VOLUME DOWN(!1) |
| 134 | 86H | 00H | KEystone UP(!1) |
| 135 | 87H | 00H | KEystone DOWN(!1) |
| 138 | 8AH | 00H | FREEZE(!1) |
| 163 | A3H | 00H | ASPECT(!1) |
| 215 | D7H | 00H | SEQSOURCE(input search)(!1) |

Response : At the time of a success

22H 0FH 01H xxH 01H DATA01 CKS
 (*1) (*2) (*3)

Data Portion Contents

DATA01 Results
 00H : Normal
 FFH : Error

Response : At the time of a failure

A2H 0FH 01H xxH 02H DATA01 DATA02 CKS
 (*1) (*2) (*4) (*3)

Example:

Example for acquiring AUTO PC key code

02H 0FH 00H 00H 02H 05H 00H 18H

Supplement:

(!1) LV-7385/7380/7285/7280/8310/8215/7375/7370/7275/8300 only

022. FREEZE CONTROL

Function:

This command controls the freeze.

Command:

01H 98H 00H 00H 01H DATA01 CKS
(*3)

Data Portion Contents

DATA01 Target
01H : Freeze ON
02H : Freeze OFF

Response : At the time of a success

21H 98H 01H xxH 01H DATA01 CKS
(*1) (*2) (*3)

Data Portion Contents

DATA01 Results
00H : Normal
01H : Error

Response : At the time of a failure

A1H 98H 01H xxH 02H DATA01 DATA02 CKS
(*1) (*2) (*4) (*3)

023. IMAGE FLIP H/V SET

Function:

This command sets the Image flip H/V of the projector.

Command:

03H B1H 00H 00H 02H DATA01 DATA02 CKS
(*3)

Data Portion Contents

DATA01 0AH fixed
DATA02 Setting Value
 00H : None
 01H : Rear, Ceiling mounted
 02H : Rear
 03H : Ceiling mounted

Response : At the time of a success

23H B1H 01H xxH 02H DATA01 DATA02 CKS
 (*1) (*2) (*3)

Data Portion Contents

DATA01 0AH fixed
DATA02 Results
 00H : Normal
 01H : Error

Response : At the time of a failure

A3H B1H 01H xxH 02H DATA01 DATA02 CKS
 (*1) (*2) (*4) (*3)

024. AUTO PC EXECUTE2

Function:

This command executes the AUTO PC function.

Command:

03H BAH 00H 00H 01H DATA01 CKS
 (*3)

Data Portion Contents

DATA01 Setting Items
 00H fixed
 Other : Reserved

Response : At the time of a success

23H BAH 01H xxH 01H DATA01 CKS
 (*1) (*2) (*3)

Data Portion Contents

DATA01 Setting Items

(Same as DATA01 of the transmit data)

Response : At the time of a failure

A3H BAH 01H xxH 02H DATA01 DATA02 CKS
(*1) (*2) (*4) (*3)

025. RUNNING SENSE

Function:

This command acquires the operation mode of the projector.

Command:

00H 81H 00H 00H 00H 81H

Response: At the time of a success

20H 81H 01H xxH 01H DATA01 CKS
(*1) (*2) (*3)

| Data Portion | Contents |
|--------------|----------|
|--------------|----------|

| | |
|--------|---|
| DATA01 | Status of operation |
| | Bit 7 : Power On/Off processing |
| | 0 = No execution(Normal condition) |
| | 1 = During execution |
| | Bit 6 : Selecting signal processing |
| | 0 = No execution(Normal condition) |
| | 1 = During execution |
| | Bit 5 : Cooling processing |
| | 0 = No execution(Normal condition) |
| | 1 = During execution |
| | Bit 4 : Reserved |
| | Bit 3 : No power-off period |
| | 0 = Power-off possible (Normal condition) |
| | 1 = Power-off Impossible |
| | Bit 2 : Reserved |
| | Bit 1 : Projector status |
| | 0 = Idling |
| | 1 = Power On |
| | Bit 0 : Reserved |

Response: At the time of a failure

A0H 81H 01H xxH 02H DATA01 DATA02 CKS
(*1) (*2) (*4) (*3)

026. COMMON DATA REQUEST

Function:

This command acquisition of the detailed conditions of the projector.

Command:

00H C0H 00H 00H 00H C0H

Response: At the time of a success

20H C0H 01H xxH 80H DATA01 to DATA128 CKS
 (*1) (*2) (*3)

| Data Portion | Contents |
|--------------|---|
| DATA01 | Projector type See DATA70 to 71 |
| DATA02 | Control ID 1 to 254 FFH : Not Support |
| DATA03 | Reserved |
| DATA04 | Projector status 00H : Idling 01H : Power On FFH : Not Support |
| DATA05 | Cooling processing 00H : No execution(Normal condition) 01H : During execution FFH : Not Support |
| DATA06 | Indication signal number(Entry list number - 1) FFH : Not Support |
| DATA07 | Type 1 of input terminal to be selected (!1) 01H : 1 02H : 2 03H : 3 04H : 4 05H : 5 FFH : Not Support |
| DATA08 | Type 2 of input terminal to be selected (!1) 01H : COMPUTER (RGB) 02H : VIDEO 03H : S-VIDEO 04H : COMPONENT 05H : Reserved 06H : DIGITAL 07H : VIEWER 08H : SLOT1 09H : SLOT2 FFH : Not Support |
| DATA09 | Indication signal type * Valid only when Type 2 of input terminal is 02H or 03H |

| | |
|--------------|--|
| | x0H : NTSC3.58 |
| | x1H : NTSC4.43 |
| | x2H : PAL |
| | x3H : PAL60 |
| | x4H : SECAM |
| | x5H : B/W60 |
| | x6H : B/W50 |
| | x7H : PALNM |
| | x8H : NTSC3.58 LBX |
| | x9H : NTSC3.58 SQZ |
| | xDH : NTSC |
| | xEH : PAL-M |
| | xFH : PAL-N |
| | * x: undefined |
| DATA10 to 12 | Reserved (undefined) |
| DATA13 to 20 | Horizontal frequency of the indication signal(string) ("000" kHz + NULL(0)+ NULL(0)) All NULL(0) : Not Support |
| DATA21 to 28 | Vertical frequency of the indication signal(string) ("000" Hz + NULL(0)+ NULL(0)) All NULL(0) : Not Support |
| DATA29 | Picture mute 00H : OFF 01H : ON FFH : Not Support |
| DATA30 | Sound mute 00H : OFF 01H : ON FFH : Not Support |
| DATA31 | Reserved |
| DATA32 | FREEZE(!2) 00H : OFF 01H : ON FFH : Not Support |
| DATA33 to 34 | Test pattern display DATA33 : Test pattern display 1 00H : No display(Normal condition) DATA34 : Test pattern display 2 Bit 2 : BLUE pattern FFH = No display Bit 1 : GREEN pattern FFH = No display Bit 0 : RED pattern FFH = No display |
| DATA35 to 50 | Reserved |
| DATA51 to 65 | User registration name (14 characters + NULL) All NULL(0) : Not Support |
| DATA66 | Forced On-screen mute FFH : Not Support |

| | |
|---------------|--|
| DATA67 | On-screen display FFH : Not Support |
| DATA68 | Selecting signal processing 00H : No execution(Normal condition) 01H : During execution |
| DATA69 | Status of operation 00H : Idling 04H : Power On 05H : Cooling 06H : Idling(Error occurrence) FFH : Not Support |
| DATA70 to 71 | internal use of code during a state transition period Projector type |
| | -----++-----+-----+----- DATA01 DATA70 DATA71 -----++-----+-----+----- |
| | 03H 00H 06H LV-7250/X6 |
| | 03H 00H 07H LV-7265/7260/X7 |
| | 10H 00H 08H LV-7365 |
| | 10H 05H 09H LV-7375 |
| | 10H 06H 09H LV-7370 |
| | 10H 07H 09H LV-8300 |
| | 10H 08H 09H LV-7275 |
| | 10H 0AH 10H LV-7385 |
| | 10H 0BH 10H LV-7380 |
| | 10H 0CH 10H LV-7285 |
| | 10H 0DH 10H LV-7280 |
| | 10H 0EH 10H LV-8310 |
| | 10H 0FH 10H LV-8215 |
| DATA72 | PC Card insertion FFH : Not Support |
| DATA73 | USB Mouse connection FFH : Not Support |
| DATA74 | Entry list type FFH : Not Support |
| DATA75 to 82 | Reserved |
| DATA83 | On-screen mute FFH : Not Support |
| DATA84 | Reserved |
| DATA85 | Indicate Contents 00H : Picture signal displaying 01H : No Signal 02H : Viewer displaying 03H : Test pattern displaying 04H : LAN displaying 10H : Signal selection in progress FFH : Not Support |
| DATA86 to 128 | Reserved |

Response: At the time of a failure

A0H C0H 01H xxH 02H DATA01 DATA02 CKS
(*1) (*2) (*4) (*3)

Supplement:

(!1) LV-7365/7375/7370/7275/8300/7385/7380/7285/7280/8310/8215

| +-----+-----+----- | |
|-------------------------|--------------------------|
| Selected input terminal | DATA07 DATA08 |
| +-----+-----+----- | |
| Computer1 | 1 (01H) COMPUTER (01H) |
| Computer2(Analog) | 2 (02H) COMPUTER (01H) |
| Computer2(Digital) | 2 (01H) COMPUTER (06H) |
| Video | 1 (01H) VIDEO (02H) |
| S-Video | 1 (01H) S-VIDEO (03H) |
| +-----+-----+----- | |

(!2) LV-7385/7380/7285/7280/8310/8215/7375/7370/7275/8300 only

027. IMAGE ADJUST

Function:

This command adjusts the Image adjustment.

Command:

03H 10H 00H 00H 05H DATA01 to DATA05 CKS
(*3)

| Data Portion | Contents |
|--------------|---|
| ----- | |
| DATA01 | Adjustment items 00H : Brightness 01H : Contrast 02H : Color level 03H : Color balance 04H : Sharpness |
| DATA02 | FFH fixed |
| DATA03 | Adjustment mode 00H : Absolute value specification 01H : Relative value specification |
| DATA04 | Adjustment value (Lower ranking 8 bits) |
| DATA05 | Adjustment value (Upper ranking 8 bits) |

Response: At the time of a success

23H 10H 01H xxH 02H DATA01 DATA02 CKS
(*1) (*2) (*3)

| Data Portion | Contents |
|--------------|----------|
|--------------|----------|

| | |
|--------------|---------------------|
| DATA01 to 02 | Results |
| | 0000H : Normal |
| | 0000H Other : Error |

Response: At the time of a failure

| | | | | | | | |
|-----|------|------|-----|-----|--------|--------|-----|
| A3H | 10H | 01H | xxH | 02H | DATA01 | DATA02 | CKS |
| | (*1) | (*2) | | | (*4) | (*3) | |

Supplement:

Command example:

* Setting Brightness to 10

| | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 03H | 10H | 00H | 00H | 05H | 00H | FFH | 00H | 0AH | 00H | 21H |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|

* Setting Brightness to -10

| | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 03H | 10H | 00H | 00H | 05H | 00H | FFH | 00H | F6H | FFH | 0CH |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|

028. KEYSTONE ADJUST

Function:

This command adjusts the Keystone.

Command:

| | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|------------------|-----|
| 03H | 10H | 00H | 00H | 05H | 15H | 01H | DATA03 to DATA05 | CKS |
| | | | | | | | (*3) | |

| Data Portion | Contents |
|--------------|----------|
|--------------|----------|

| | |
|--------|---|
| DATA01 | 15H fixed |
| DATA02 | 01H fixed |
| DATA03 | Adjustment mode |
| | 00H : Absolute value specification |
| | 01H : Relative value specification |
| DATA04 | Adjustment value (Lower ranking 8 bits) |
| DATA05 | Adjustment value (Upper ranking 8 bits) |

Response: At the time of a success

| | | | | | | | |
|-----|-----|------|------|-----|--------|--------|-----|
| 23H | 10H | 01H | xxH | 02H | DATA01 | DATA02 | CKS |
| | | (*1) | (*2) | | | (*3) | |

| Data Portion | Contents |
|--------------|----------|
|--------------|----------|

| | |
|--------------|---------------------|
| DATA01 to 02 | Results |
| | 0000H : Normal |
| | 0000H Other : Error |

Response: At the time of a failure

A3H 10H 01H xxH 02H DATA01 DATA02 CKS
(*1) (*2) (*4) (*3)

Supplement:

Command example:

* Setting Keystone to 10

03H 10H 00H 00H 05H 15H 01H 00H 0AH 00H 38H

* Setting Keystone to -10

03H 10H 00H 00H 05H 15H 01H 00H F6H FFH 23H

029. DISPLAY SETTINGS ADJUST

Function:

This command adjusts the Display settings.

Command:

03H 10H 00H 00H 05H DATA01 to DATA05 CKS
(*3)

| Data Portion | Contents |
|--------------|--|
| DATA01 to 02 | Adjustment items |
| | +-----+-----+-----+ |
| | DATA01 DATA02 Adjustment items |
| | +-----+-----+-----+ |
| | 18H 00H Aspect |
| | +-----+-----+-----+ |
| DATA03 | Adjustment mode |
| | 00H fixed(Only absolute value specification) |
| DATA04 | Adjustment value (Lower ranking 8 bits) |
| DATA05 | Adjustment value (Upper ranking 8 bits) |

Response: At the time of a success

23H 10H 01H xxH 02H DATA01 DATA02 CKS
(*1) (*2) (*3)

| Data Portion | Contents |
|--------------|---------------------|
| DATA01 to 02 | Results |
| | 0000H : Normal |
| | 0000H Other : Error |

Response: At the time of a failure

A3H 10H 01H xxH 02H DATA01 DATA02 CKS
(*1) (*2) (*4) (*3)

Supplement:

Command example:

* Setting the Aspect to Wide zoom

03H 10H 00H 00H 05H 18H 00H 00H 01H 00H 31H

| Adjustment items | Adjustment value |
|------------------|-----------------------|
| Aspect | 0000H : Normal / Auto |
| | 0001H : Wide zoom |
| | 0002H : Cinema / 16:9 |
| | 0003H : True size |
| | 0004H : 4:3 |
| | 0005H : 15:9 |
| | 0006H : 16:10 |
| | 0007H : Letterbox |

030. LAMP INFORMATION REQUEST 2

Function:

This command acquires lamp remaining amount.

Command:

03H 94H 00H 00H 00H 97H

Response: At the time of a success

23H 94H 01H xxH 05H DATA01 to DATA05 CKS
(*1) (*2) (*3)

| Data Portion | Contents |
|--------------|--|
| DATA01 to 04 | Reserved |
| DATA05 | lamp remaining amount (100% to -X%) (!1) |

Response: At the time of a failure

A3H 94H 01H xxH 02H DATA01 DATA02 CKS
(*1) (*2) (*4) (*3)

(!1) $X = 100 - ((\text{Lamp Use Prohibited Time} * 100) / \text{Lamp Use Warning Starting Time})$

Example) The case of Lamp Use Prohibited Time 2100[H],
Lamp Use Warning Starting Time 2000[H] Model.

$X = 100 - ((2100 * 100) / 2000) = -5[\%]$

031. GAIN PARAMETER REQUEST 2

Function:

This command acquires the adjustment values.

Command:

03H 04H 00H 00H 03H DATA01 to DATA03 CKS
(*3)

| Data Portion | Contents |
|--------------|-----------------------|
| DATA01 to 02 | Acquirement items (!) |
| DATA03 | 00H fixed |

Response: At the time of a success

23H 04H 01H xxH 0DH DATA01 to DATA13 CKS
(*1) (*2) (*3)

| Data Portion | Contents |
|--------------|---|
| DATA01 | Adjustment status 00H : Displaying impossible 01H : Adjustment impossible 02H : Adjustment possible FFH : Selected gain is not available. |
| DATA02 | Maximum adjustment value (Lower ranking 8 bits) |
| DATA03 | Maximum adjustment value (Upper ranking 8 bits) |
| DATA04 | Minimum adjustment value (Lower ranking 8 bits) |
| DATA05 | Minimum adjustment value (Upper ranking 8 bits) |
| DATA06 | Default adjustment value (Lower ranking 8 bits) |
| DATA07 | Default adjustment value (Upper ranking 8 bits) |
| DATA08 | Current value (Lower ranking 8 bits) |
| DATA09 | Current value (Upper ranking 8 bits) |
| DATA10 to 13 | Reserved |

Response: At the time of a failure

A3H 04H 01H xxH 02H DATA01 DATA02 CKS
(*1) (*2) (*4) (*3)

Supplement:

(!1) See the "Acquirement items" for further information about Acquirement items.

[Acquirement items]

| DATA01 | DATA02 | Acquirement name |
|--------|--------|----------------------------------|
| 00H | 00H | Image adjustment / Brightness |
| 01H | 00H | Image adjustment / Contrast |
| 02H | 00H | Image adjustment / Color level |
| 03H | 00H | Image adjustment / Color balance |
| 04H | 00H | Image adjustment / Sharpness |
| 05H | 00H | Volume |

| | | | | | | |
|---------------------------|-----|--|-----|--|-----------------|-----|
| | 05H | | 01H | | Sound / Bass | |
| | 05H | | 02H | | Sound / Treble | |
| | 05H | | 03H | | Sound / Balance | |
| | 15H | | 01H | | Keystone V | |
| | 18H | | 00H | | Aspect | |
| | 97H | | 00H | | Screen color | |
| | 9FH | | 00H | | Auto iris | (!) |
| +-----+-----+-----+-----+ | | | | | | |

Command example:

In case of acquiring Image adjustment - Brightness.

03H 04H 00H 00H 03H 00H 00H 00H 0AH

(!1) LV-7285/7280 only

032. SETTING REQUEST

Function:

This command acquires the function information of projector.

Command:

00H 85H 00H 00H 01H 00H 86H

Response: At the time of a success

20H 85H 01H xxH 20H DATA01 to DATA32 CKS
(*1) (*2) (*3)

| Data Portion | Contents |
|--------------|-------------------------------------|
| DATA01 to 03 | Projector type |
| | -----++-----+-----+----- |
| | DATA01 DATA02 DATA03 |
| | -----++-----+-----+----- |
| | 03H 00H 06H LV-7250/X6 |
| | 03H 00H 07H LV-7265/7260/X7 |
| | 10H 00H 08H LV-7365 |
| | 10H 05H 09H LV-7375 |
| | 10H 06H 09H LV-7370 |
| | 10H 07H 09H LV-8300 |
| | 10H 08H 09H LV-7275 |
| | 10H 0AH 10H LV-7385 |
| | 10H 0BH 10H LV-7380 |
| | 10H 0CH 10H LV-7285 |
| | 10H 0DH 10H LV-7280 |
| | 10H 0EH 10H LV-8310 |
| | 10H 0FH 10H LV-8215 |
| | -----++-----+-----+----- |

| | |
|--------------|---|
| DATA04 | Sound function 00H : Not available 01H : Available |
| DATA05 | Calendar function 00H : No function 01H or 03H : Timer function, sleep timer function 02H : Sleep timer function |
| DATA06 to 32 | Reserved |

Response: At the time of a failure

A0H 85H 01H xxH 02H DATA01 DATA02 CKS
(*1) (*2) (*4) (*3)

033. RUNNING STATUS REQUEST

Function:

This command acquires the status of the projector operation.

Command:

00H 85H 00H 00H 01H 01H 87H

Response: At the time of a success

20H 85H 01H xxH 10H DATA01 to DATA16 CKS
(*1) (*2) (*3)

| Data Portion | Contents |
|--------------|----------|
|--------------|----------|

| | |
|--------------|---|
| DATA01 to 02 | Reserved |
| DATA03 | Projector status 00H : Idling 01H : Power On FFH : Not Support |
| DATA04 | Cooling processing 00H : No execution(Normal condition) 01H : During execution FFH : Not Support |
| DATA05 | Power On/Off processing 00H = No execution(Normal condition) 01H = During execution FFH : Not Support |
| DATA06 | Status of operation 00H : Idling 04H : Power On 05H : Cooling 06H : Idling(Error occurrence) FFH : Not Support |

| | |
|--------------|---|
| | internal use of code during a state transition period |
| DATA07 | PC Card insertion FFH : Not Support |
| DATA08 | USB Mouse connection FFH : Not Support |
| DATA09 to 16 | Reserved |

Response: At the time of a failure

| | | | | | | | |
|-----|------|------|-----|-----|--------|--------|-----|
| A0H | 85H | 01H | xxH | 02H | DATA01 | DATA02 | CKS |
| | (*1) | (*2) | | | (*4) | (*3) | |

034. INPUT STATUS REQUEST

Function:

This command acquires the status of input signal of the projector.

Command:

00H 85H 00H 00H 01H 02H 88H

Response: At the time of a success

| | | | | | | | |
|-----|-----|------|------|-----|-----------|--------|-----|
| 20H | 85H | 01H | xxH | 10H | DATA01 to | DATA16 | CKS |
| | | (*1) | (*2) | | | (*3) | |

| Data Portion | Contents |
|--------------|---|
| DATA01 | Selecting signal processing 00H : No execution(Normal condition) 01H : During execution FFH : Not Support |
| DATA02 | Signal number(Entry list number - 1) FFH : Not Support |
| DATA03 to 04 | Selected input terminal +-----+-----+-----+ Terminal name DATA03 DATA04 +-----+-----+-----+ Computer1 01H 01H Computer2(Analog) 02H 01H Computer2(Digital) 01H 06H Video 01H 02H S-Video 01H 03H +-----+-----+-----+ |
| DATA05 | Entry list type FFH : Not Support |
| DATA06 | Test pattern display 00H : No display(Normal condition) 01H : Displaying FFH : Not Support |

| | |
|--------------|---------------------------------|
| DATA07 to 08 | Reserved |
| DATA09 | Indicate Contents |
| | 00H : Picture signal displaying |
| | 01H : No signal |
| | 02H : Viewer displaying |
| | 03H : Test pattern displaying |
| | 04H : LAN displaying |
| | FFH : Not Support |
| DATA10 to 16 | Reserved |

Response: At the time of a failure

| | | | | | | | |
|-----|-----|------|------|-----|--------|--------|-----|
| A0H | 85H | 01H | xxH | 02H | DATA01 | DATA02 | CKS |
| | | (*1) | (*2) | | (*4) | (*3) | |

035. MUTE STATUS REQUEST

Function:

This command acquires the status of the mute of projector.

Command:

| | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|
| 00H | 85H | 00H | 00H | 01H | 03H | 89H |
|-----|-----|-----|-----|-----|-----|-----|

Response: At the time of a success

| | | | | | | | |
|-----|-----|------|------|-----|-----------|--------|-----|
| 20H | 85H | 01H | xxH | 10H | DATA01 to | DATA16 | CKS |
| | | (*1) | (*2) | | | (*3) | |

| Data Portion | Contents |
|--------------|-----------------------|
| ----- | |
| DATA01 | Picture mute |
| | 00H : OFF |
| | 01H : ON |
| | FFH : Not Support |
| DATA02 | Sound mute |
| | 00H : OFF |
| | 01H : ON |
| | FFH : Not Support |
| DATA03 | On-screen mute |
| | FFH : Not Support |
| DATA04 | Forced on-screen mute |
| | FFH : Not Support |
| DATA05 | On-screen display |
| | FFH : Not Support |
| DATA06 to 16 | Reserved |

Response: At the time of a failure

| | | | | | | | |
|-----|-----|------|------|-----|--------|--------|-----|
| A0H | 85H | 01H | xxH | 02H | DATA01 | DATA02 | CKS |
| | | (*1) | (*2) | | (*4) | (*3) | |

036. MODEL NAME REQUEST

Function:

This command acquires the model name of the projector.

Command:

00H 85H 00H 00H 01H 04H 8AH

Response: At the time of a success

20H 85H 01H xxH 20H DATA01 to DATA32 CKS
(*1) (*2) (*3)

| Data Portion | Contents |
|--------------|----------|
|--------------|----------|

| | |
|--------------|--|
| DATA01 to 32 | Model name (NULL termination character string) |
|--------------|--|

Response: At the time of a failure

A0H 85H 01H xxH 02H DATA01 DATA02 CKS
(*1) (*2) (*4) (*3)

037. INFORMATION STRING REQUEST

Function:

This command acquires information character string displayed from projector.

Command:

00H D0H 00H 00H 03H DATA01 to DATA03 CKS
(*3)

| Data Portion | Contents |
|--------------|----------|
|--------------|----------|

| | |
|--------|--|
| DATA01 | Resource language selection 00H : English fixed |
| DATA02 | Classification by information type (!1) |
| DATA03 | Selection for character string to be acquired 01H : Acquisition of information character string |

Response: At the time of a success

20H D0H 01H xxH ??H DATA01 to DATA?? CKS
(*1) (*2) (*3)

| Data Portion | Contents |
|--------------|----------|
|--------------|----------|

| | |
|------------------|--|
| DATA01 | Classification by information type (!1) (Same as DATA02 of the transmit data) |
| DATA02 | Character string types (Same as DATA03 of the transmit data) |
| DATA03 | String length of label / information (not including NULL character) |
| DATA04 to DATAxx | Character string of label / information (NULL termination character string) |

Response: At the time of a failure

| | | | | | | | |
|-----|-----|------|------|-----|--------|--------|-----|
| A0H | D0H | 01H | xxH | 02H | DATA01 | DATA02 | CKS |
| | | (*1) | (*2) | | (*4) | (*3) | |

Supplement:

(!1)Information

| type Number | Title | Description |
|-------------|-------|----------------------|
| 3 (03H) | | Horizontal Frequency |
| 4 (04H) | | Vertical Frequency |

038. LAMP MODE REQUEST

Function:

This command acquires the setting of the lamp mode of projector.

Command:

| | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|
| 03H | B0H | 00H | 00H | 01H | 07H | BBH |
|-----|-----|-----|-----|-----|-----|-----|

Response: At the time of a success

| | | | | | | | |
|-----|-----|------|------|-----|--------|--------|-----|
| 23H | B0H | 01H | xxH | 02H | DATA01 | DATA02 | CKS |
| | | (*1) | (*2) | | | (*3) | |

| Data Portion | Contents |
|--------------|--|
| DATA01 | 07H fixed |
| DATA02 | Setting Value 00H : Normal 01H : Quiet |

Response: At the time of a failure

| | | | | | | | |
|-----|-----|------|------|-----|--------|--------|-----|
| A3H | B0H | 01H | xxH | 02H | DATA01 | DATA02 | CKS |
| | | (*1) | (*2) | | (*4) | (*3) | |

039. LAMP MODE SET

Function:

This command sets the lamp mode of projector.

Command:

03H B1H 00H 00H 02H DATA01 DATA02 CKS
(*3)

| Data Portion | Contents |
|--------------|--|
| DATA01 | 07H fixed |
| DATA02 | Setting Value 00H : Normal 01H : Quiet |

Response: At the time of a success

23H B1H 01H xxH 02H DATA01 DATA02 CKS
(*1) (*2) (*3)

| Data Portion | Contents |
|--------------|--|
| DATA01 | 07H fixed |
| DATA02 | Results 00H : Normal 01H : Error |

Response: At the time of a failure

A3H B1H 01H xxH 02H DATA01 DATA02 CKS
(*1) (*2) (*4) (*3)

040. POWER MANAGEMENT SET

Function:

This command sets the power management of projector.

Command:

03H B1H 00H 00H 02H DATA01 DATA02 CKS
(*3)

| Data Portion | Contents |
|--------------|--|
| DATA01 | 17H fixed |
| DATA02 | Setting Value 00H : OFF 01H : 0:05 02H : 0:10 03H : 0:20 04H : 0:30 |

Response: At the time of a success

23H B1H 01H xxH 02H DATA01 DATA02 CKS
(*1) (*2) (*3)

| Data Portion | Contents |
|--------------|--|
| DATA01 | 17H fixed |
| DATA02 | Results 00H : Normal 01H : Error |

Response: At the time of a failure

A3H B1H 01H xxH 02H DATA01 DATA02 CKS
(*1) (*2) (*4) (*3)

041. AUTO KEYSTONE SET

Function:

This command sets the Auto keystone.

Command:

03H B1H 00H 00H 02H DATA01 DATA02 CKS
(*3)

| Data Portion | Contents |
|--------------|--|
| DATA01 | 93H fixed |
| DATA02 | Setting Value 00H : On 01H : Off |

Response: At the time of a success

23H B1H 01H xxH 02H DATA01 DATA02 CKS
(*1) (*2) (*3)

| Data Portion | Contents |
|--------------|--|
| DATA01 | 93H fixed |
| DATA02 | Results 00H : Normal 01H : Error |

Response: At the time of a failure

A3H B1H 01H xxH 02H DATA01 DATA02 CKS
(*1) (*2) (*4) (*3)

042. OTHER ADJUST

Function:

This command adjusts the various gains.

Command:

03H 10H 00H 00H 05H DATA01 to DATA05 CKS
(*3)

| Data Portion | Contents |
|--------------|---|
| DATA01 | Target gain 53H : Image mode 97H : Screen color 9FH : Auto iris (!1) |
| DATA02 | FFH fixed |
| DATA03 | Adjustment mode specification 00H fixed(Only absolute value specification) |
| DATA04 | Adjustment value (Lower ranking 8 bits) |
| DATA05 | Adjustment value (Upper ranking 8 bits) |

Response: At the time of a success

23H 10H 01H xxH 02H DATA01 DATA02 CKS
(*1) (*2) (*3)

| Data Portion | Contents |
|--------------|--|
| DATA01 to 02 | Results 0000H : Normal 0000H Other : Error |

Response: At the time of a failure

A3H 10H 01H xxH 02H DATA01 DATA02 CKS
(*1) (*2) (*4) (*3)

Supplement:

Command example:

| | |
|-------------|---|
| Target gain | Adjustment value ----- |
| Image mode | 0000H : Standard 0001H : Presentation 0002H : Cinema 0003H : Video 0004H : sRGB |
| Wall color | 0000H : Off 0001H : Light blue 0002H : Pink |

0003H : Light rose
 0004H : Light yellow
 0005H : Light green
 0006H : Sky blue
 0007H : Greenboard
 0008H : Greenboard(Gray)
 0009H : Whiteboard

(!1) LV-7285/7280 only

043. SET PROJECTOR NAME

Function:

This command sets projector name.

Command:

03H 8BH 00H 00H 32H 00H DATA01 to DATA49 CKS
 (*3)

| Data Portion | Contents |
|--------------|--|
| DATA01 to 16 | Projector name (NULL termination character string) |
| DATA17 to 49 | Reserved |

Response: At the time of a success

23H 8BH 01H xxH 02H 00H DATA01 CKS
 (*1) (*2) (*3)

| Data Portion | Contents |
|--------------|----------------------------|
| DATA01 | Results |
| | 00H : Normal |
| | 01H : Error |
| | 02H : Error(Length over) |

Response: At the time of a failure

A3H 8BH 01H xxH 02H DATA01 DATA02 CKS
 (*1) (*2) (*4) (*3)

044. CLOSED CAPTION REQUEST

Function:

This command acquires the setting of the closed caption of projector.

Command:

03H B0H 00H 00H 01H 09H BDH

Response: At the time of a success

23H B0H 01H xxH 02H DATA01 DATA02 CKS
(*1) (*2) (*3)

| Data Portion | Contents |
|--------------|-----------------|
| DATA01 | 09H fixed |
| DATA02 | Setting Value |
| | 00H : Off |
| | 01H : Caption 1 |
| | 02H : Caption 2 |
| | 03H : Caption 3 |
| | 04H : Caption 4 |
| | 05H : Text 1 |
| | 06H : Text 2 |
| | 07H : Text 3 |
| | 08H : Text 4 |

Response: At the time of a failure

A3H B0H 01H xxH 02H DATA01 DATA02 CKS
(*1) (*2) (*4) (*3)

045. FAN MODE REQUEST

Function:

This command acquires the setting of the fan mode of projector.

Command:

03H B0H 00H 00H 01H 1AH CEH

Response: At the time of a success

23H B0H 01H xxH 02H DATA01 DATA02 CKS
(*1) (*2) (*3)

| Data Portion | Contents |
|--------------|---------------------|
| DATA01 | 1AH fixed |
| DATA02 | Setting Value |
| | 00H : Auto |
| | 01H : High |
| | 02H : High altitude |

Response: At the time of a failure

A3H B0H 01H xxH 02H DATA01 DATA02 CKS
(*1) (*2) (*4) (*3)

046. WXGA MODE SETTING REQUEST

Function:

This command acquires the setting of the WXGA mode of projector.

Command:

03H B0H 00H 00H 01H C3H 77H

Response: At the time of a success

23H B0H 01H xxH 02H DATA01 DATA02 CKS
(*1) (*2) (*3)

| Data Portion | Contents |
|--------------|--|
| DATA01 | C3H fixed |
| DATA02 | Setting Value 00H : Off 01H : On |

Response: At the time of a failure

A3H B0H 01H xxH 02H DATA01 DATA02 CKS
(*1) (*2) (*4) (*3)

047. CLOSED CAPTION SET

Function:

This command sets the closed caption of projector.

Command:

03H B1H 00H 00H 02H DATA01 DATA02 CKS
(*3)

| Data Portion | Contents |
|--------------|--|
| DATA01 | 09H fixed |
| DATA02 | Setting Value 00H : Off 01H : Caption 1 02H : Caption 2 03H : Caption 3 04H : Caption 4 05H : Text 1 06H : Text 2 07H : Text 3 |

08H : Text 4

Response: At the time of a success

23H B1H 01H xxH 02H DATA01 DATA02 CKS
(*1) (*2) (*3)

| Data Portion | Contents |
|--------------|--|
| DATA01 | 09H fixed |
| DATA02 | Results 00H : Normal 01H : Error |

Response: At the time of a failure

A3H B1H 01H xxH 02H DATA01 DATA02 CKS
(*1) (*2) (*4) (*3)

048. FAN MODE SET

Function:

This command sets the fan mode of projector.

Command:

03H B1H 00H 00H 02H DATA01 DATA02 CKS
(*3)

| Data Portion | Contents |
|--------------|--|
| DATA01 | 1AH fixed |
| DATA02 | Setting Value 00H : Auto 01H : High 02H : High altitude |

Response: At the time of a success

23H B1H 01H xxH 02H DATA01 DATA02 CKS
(*1) (*2) (*3)

| Data Portion | Contents |
|--------------|--|
| DATA01 | 1AH fixed |
| DATA02 | Results 00H : Normal 01H : Error |

Response: At the time of a failure

A3H B1H 01H xxH 02H DATA01 DATA02 CKS

(*1) (*2) (*4) (*3)

049. WXGA MODE SETTING SET

Function:

This command sets the WXGA mode of projector.

Command:

03H B1H 00H 00H 02H DATA01 DATA02 CKS
(*3)

| Data Portion | Contents |
|--------------|----------|
|--------------|----------|

| | |
|--------|---------------|
| DATA01 | C3H fixed |
| DATA02 | Setting Value |
| | 00H : Off |
| | 01H : On |

Response: At the time of a success

23H B1H 01H xxH 02H DATA01 DATA02 CKS
(*1) (*2) (*3)

| Data Portion | Contents |
|--------------|----------|
|--------------|----------|

| | |
|--------|--------------|
| DATA01 | C3H fixed |
| DATA02 | Results |
| | 00H : Normal |
| | 01H : Error |

Response: At the time of a failure

A3H B1H 01H xxH 02H DATA01 DATA02 CKS
(*1) (*2) (*4) (*3)

050. LAMP INFORMATION REQUEST 4

Function:

This command acquires the information on the projector lamp.

Command:

03H 9BH 00H 00H 03H DATA01 DATA02 DATA03 CKS
(*3)

| Data Portion | Contents |
|--------------|----------|
|--------------|----------|

| | |
|--------|-------------|
| DATA01 | Target |
| | 00H : Lamp1 |

| | |
|--------|--|
| DATA02 | 01H : Lamp2 |
| | Unit (!4) |
| | 00H : Second |
| | 01H : Reserved |
| DATA03 | 02H : Hour |
| | Item |
| | 00H : Lamp counter (!2) |
| | 01H : Lamp counter (!3) |
| | 04H : lamp remaining amount until lamp warning message (100% to -X%(!1)) |
| | 05H : Lamp counter (Normal mode) |
| | 06H : Lamp counter (Eco mode) |
| | 08H : Remaining time until lamp warning message starts to appear (in terms of specified values) |
| | 09H : Remaining time until lamp warning message starts to appear (in terms of Normal mode values) |
| | 0AH : Remaining time until lamp warning message starts to appear (in terms of Eco mode values) |
| | 10H : Remaining time until inhibition of lamp usage (in terms of specified values) |
| | 11H : Remaining time until inhibition of lamp usage (in terms of Normal mode values) |
| | 12H : Remaining time until inhibition of lamp usage (in terms of Eco mode values) |

Response: At the time of a success

23H 9BH 01H xxH 07H DATA01 to DATA07 CKS
(*1) (*2) (*3)

| Data Portion | Contents |
|--------------|--------------------------------------|
| DATA01 | same values as DATA01 of the command |
| DATA02 | same values as DATA02 of the command |
| DATA03 | same values as DATA03 of the command |
| DATA04 to 07 | Acquired information |

Response: At the time of a failure

A3H 9BH 01H xxH 02H DATA01 DATA02 CKS
(*1) (*2) (*4) (*3)

Supplement:

* In case of acquiring lamp's use of hours

03H 9BH 00H 00H 03H 00H 00H 01H CKS

Example of acquisition

DATA04 DATA05 DATA06 DATA07 : lamp's use of hours
50H 46H 00H 00H : 18000 seconds

Lamp Usage = 18000 / 3600 = 5 hour

(!1) $X = 100 - ((\text{Lamp Use Prohibited Time} * 100) / \text{Lamp Use Warning Starting Time})$

Example) The case of Lamp Use Prohibited Time 2100[H],
Lamp Use Warning Starting Time 2000[H] Model.

$$X = 100 - ((2100 * 100) / 2000) = -5[\%]$$

(!2) Lamp counter (in terms of Normal mode values)

This is the timer for normal lamp mode conversion.

(!3) Lamp counter

This is the lamp total usage. It is displayed in the projector's menu.

(!4) This setting is ignored, if the Item's unit is not time.

051. CARBON SAVINGS INFORMATION REQUEST

Function:

This command acquires the Carbon Saving values on the projector.

Command:

03H 9AH 00H 00H 01H DATA01 CKS
(*3)

| Data Portion | Contents |
|--------------|----------|
|--------------|----------|

| | |
|--------|---------------------------------|
| DATA01 | Acquirement items |
| 00H | Total Carbon Savings |
| 01H | Carbon Savings during operation |

Response: At the time of a success

23H 9AH 01H xxH 09H DATA01 to DATA09 CKS
(*1) (*2) (*3)

| Data Portion | Contents |
|--------------|----------|
|--------------|----------|

| | |
|--------------|--|
| DATA01 | Same as DATA01 of the transmit data |
| DATA02 to 05 | Carbon Savings (Kilogram Maximum: 99999[kg]) |
| DATA06 to 09 | Carbon Savings (Milligram Maximum: 999999[mg]) |

Response: At the time of a failure

A3H 9AH 01H xxH 02H DATA01 DATA02 CKS
(*1) (*2) (*4) (*3)

Supplement:

Example for Total Carbon Savings

DATA02 DATA03 DATA04 DATA05 : Kilogram
9CH 09H 00H 00H : 2460 [kg]

DATA06 DATA07 DATA08 DATA09 : Milligram
06H F9H 00H 00H : 63750 [mg]

Total Carbon Savings
 = (2460 * 1000) + (63750 / 1000) = 2460063.75 [g]
 = 2460 + (63750 / 1000 / 1000) = 2460.06375 [kg]

6. Response

* At the time of a success:

This returns ACK without adding data portion to the command that does not request data.
 This returns ACK with adding data to the data portion for the command that requests data.

* At the time of a failure:

This adds a cause of not accepting the command to data portion to return it.

(Example) Power On

Command:
 02H 00H 00H 00H 00H CKS

Response:
 A2H 00H 01H 40H 02H DATA01 DATA02 CKS

7. Table of Response Error Codes

| DATA01 | DATA02 | |
|-------------|-------------|--|
| Error types | description | Error contents |
| 00H | 00H | Unknown command |
| 00H | 01H | Unsupported command |
| 01H | 00H | Invalid values specified. |
| 01H | 01H | Specified terminal is unavailable or cannot be selected. |
| 02H | 03H | Setting not possible |
| 02H | 0DH | Power Off inhibited |