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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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Contents

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

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

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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(!1)

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

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4. List of Commands

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* 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	-	-	-	-	-	*

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

	1AH	Computer2(Digital)(*5)	x	x	*

* : Supported
x : Not supported

(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 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 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 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

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

Data Portion	Contents
DATA01	same values as DATA01 of the command
DATA02	same values as DATA02 of the command
DATA03 to 06	Acquired information(!1)

Response : At the time of a failure

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

Supplement:

* In case of acquiring lamp counter

03H 96H 00H 00H 02H 00H 01H 9CH

Example of acquisition

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

Lamp counter = 18000 / 3600 = 5 hour

* 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

Example of acquisition

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

Remaining time until lamp warning message starts to appear
= 360000/ 3600 = 100 hours

(!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 - ((Lamp Use Prohibited Time * 100) / 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.

020. TEMP INFORMATION REQUEST

****

Function:
This command acquires the information about temperature inside the projector.

Command

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

Data Portion Contents

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 02 Remote 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

internal use of code during a state transition period

DATA70 to 71 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
DATA03	Adjustment mode 00H fixed(Only absolute value specification)
DATA04	Adjustment value (Lower ranking 8 bits)
DATA05	Adjustment value (Upper ranking 8 bits)

DATA01	DATA02	Adjustment items
18H	00H	Aspect

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 - ((Lamp Use Prohibited Time * 100) / 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	(!1)

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 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

01H : Lamp2

DATA02 Unit (!4)

00H : Second

01H : Reserved

02H : Hour

DATA03 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 - ((Lamp Use Prohibited Time * 100) / 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

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* 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 Error types	DATA02 Error 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