

0.8" XGA2/SVGA2

LC-XB25/XB20/SB20

**EXPAND SERIAL COMMAND
FUNCTIONAL SPECIFICATION**

CONTENTS

1. Overview
2. Serial Interface Specification
 - 2.1 Communication Specification
 - 2.2 Connection
3. Note for communications
4. Name Definition
5. Functional Execution Command table
 - 5.1 Image Command Table
 - 5.2 PC Control Command Table
 - 5.3 VIDEO Control Command Table
 - 5.4 Input Control Command Table
 - 5.5 Screen Command Table
 - 5.6 Lamp Command Table
 - 5.7 Sound Command Table
 - 5.8 Setting Command Table
6. Status Read Command Table
 - 6.1 IMAGE Status Read Command table
 - 6.2 PC Status Read Command Table
 - 6.3 VIDEO Status Read Command Table
 - 6.4 Input Status Read Command Table
 - 6.5 Screen Status Read Command Table
 - 6.6 Lamp Status Read Command Table
 - 6.7 Sound Status Read Command Table
 - 6.8 Setting Status Read Command Table
 - 6.9 Other Status Read Command Table
7. Error Code Table
8. Functional Execution Command
 - 8.1 Format
 - 8.2 Transfer Example
 - 8.3 Operation Requirements
 - 8.4 Image Command
 - 8.4.1 CF_BRIGHT COMMAND
 - 8.4.2 CF_CONT COMMAND
 - 8.4.3 CF_COLOR COMMAND
 - 8.4.4 CF_TINT COMMAND
 - 8.4.5 CF_SHARP COMMAND
 - 8.4.6 CAMMA COMMAND

8.4.7 WBAL COMMAND**8.4.8 COLTEMP COMMAND****8.4.9 PROGV COMMAND****8.4.10 IMGE COMMAND****8.4.11 CF IMAGE ADJ COMMAND****8.5 PC Control command****8.5.1 CF_FSYNC COMMAND****8.5.2 CF_TDOTS COMMAND****8.5.3 CF_CLAMP COMMAND****8.5.4 CF_H-POS COMMAND****8.5.5 CF_V-POS COMMAND****8.5.6 CF_DDOTS COMMAND****8.5.7 CF_DLINE COMMAND****8.5.8 CF_PC STORE COMMAND****8.5.9 CF_PC MODE FREE COMMAND****8.6 VIDEO Control Command****8.6.1 CF_AVDDOTS COMMAND****8.6.2 CF_AVDLINECOMMAND****8.6.3 CF_AVHPOS COMMAND****8.6.4 CF_AVVPOS COMMAND****8.6.5 CF_AVSERV COMMAND****8.7 Input Control Command****8.7.1 CF_INPUT COMMAND****8.7.2 CF_SOURCE COMMAND****8.7.3 CF_INPUT_%1_%2 COMMAND****8.7.4 CF_SYSTEM COMMAND****8.8 Screen Control Command****8.8.1 CF_SCREEN COMMAND****8.8.2 CF_FLSCREN COMMAND****8.8.3 CF_UE COMMAND****8.8.4 CF_CENT COMMAND****8.8.5 CF_KEYSTONE COMMAND****8.8.6 CF_KYSTNMODE COMMAND****8.9 Lamp Command****8.9.1 CF_LAMOPH COMMAND****8.9.2 CF_ALMP MODE COMMAND****8.10 Sound Command****8.10.1 CF_VOLUME COMMAND****8.10.2 CF_MUTE COMMAND**

8.11 Setting Command

- 8.11.1 CF_BBACK COMMAND**
- 8.11.2 CF_DISP COMMAND**
- 8.11.3 CF_LOGO COMMAND**
- 8.11.4 CF_CEIL COMMAND**
- 8.11.5 CF_REAR COMMAND**
- 8.11.6 CF_RCODE COMMAND**
- 8.11.7 CF_LANG COMMAND**
- 8.11.8 CF_ON-STACOMMAND**
- 8.11.9 CF_P-MANECOMMAND**
- 8.11.10 CF_P-MANETIMECOMMAND**
- 8.11.11 CF_FANSPEEDCOMMAND**
- 8.11.12 KEYDISCOMMAND**
- 8.11.13 TERMINALCOMMAND**
- 8.11.14 STANDBYMODEOCOMMAND**
- 8.11.15 POINTERCOMMAND**
- 8.11.16 FDEFAULTCOMMAND**
- 8.11.17 LOGOCAPTURECOMMAND**

9. Status Read Command

9.1 Format

9.2 Transfer Example

9.3 Operation Requirement

9.4 IMAGE COMMAND

- 9.4.1 CR-BRIGHTCOMMAND**
- 9.4.2 CR-CONTCOMMAND**
- 9.4.3 CR-COLORCOMMAND**
- 9.4.4 CR-TINTCOMMAND**
- 9.4.5 CR-SHARPCOMMAND**
- 9.4.6 CR-GAMMACOMMAND**
- 9.4.7 CR-WBAL-RCOMMAND**
- 9.4.8 CR-WBAL-GCOMMAND**
- 9.4.9 CR-WBAL-BCOMMAND**
- 9.4.10 CR-COLTEMPCOMMAND**
- 9.4.11 CR-PROGVCOMMAND**
- 9.4.12 CR-IMAGECOMMAND**
- 9.4.13 CR-IMGGMD COMMAND**

9.5 PC COMMAND

- 9.5.1 CR-FSYNC COMMAND**
- 9.5.2 CR-TDOTS COMMAND**

- 9.5.3 CR-CLAMP COMMAND
- 9.5.4 CR-H-POS COMMAND
- 9.5.5 CR-V-POS COMMAND
- 9.5.6 CR-DDOTS COMMAND
- 9.5.7 CR-DLINECOMMAND
- 9.5.8 CR-PC STORECOMMAND
- 9.5.9 CR-SET PC ADJ COMMAND

9.6 Video Command

- 9.6.1 CR_SERSYSCOMMAND

9.7 Input Command

- 9.7.1 CR-INPUTCOMMAND
- 9.7.2 CR-COURCECOMMAND
- 9.7.3 CR-INPUT_%1COMMAND
- 9.7.4 CR-SYSTEMCOMMAND

9.8 Screen Command

- 9.8.1 CR-SCREENCOMMAND
- 9.8.2 CR-FLSCRENCOMMAND
- 9.8.3 CR-TRUECOMMAND
- 9.8.4 CR-KYSTONMODECOMMAND

9.9 Lamp COMMAND

- 9.9.1 CR_LAMPREPLCOMMAND
- 9.9.2 CR-LAMPMODECOMMAND
- 9.9.3 CR-PROJECOMMAND

9.10 Sound Status COMMAND

- 9.10.1 CR-VOLUMECOMMAND
- 9.10.2 CR-MUTECOMMAND

9.11 Setting Status COMMAND

- 9.11.1 CR-BBACKCOMMAND
- 9.11.2 CR-DISPCOMMAND
- 9.11.3 CR-RCODECOMMAND
- 9.11.4 CR-LANGCOMMAND
- 9.11.5 CR-ON-STACOMMAND
- 9.11.6 CR-P-MANE COMMAND
- 9.11.7 CR-P-MANETIMECOMMAND
- 9.11.8 CR-FANSPEEDCOMMAND
- 9.11.9 CR-KEYDISCOMMAND
- 9.11.10 CR-TERMINALCOMMAND
- 9.11.11 CR-STANDBYMODECOMMAND
- 9.11.12 CR-POINTERCOMMAND

9.12 Other Status Read Command

9.12.1 CR-SIGNAL COMMAND

9.12.2 CR-VMUTECOMMAND

9.12.3 CR-FREEZECOMMAND

9.12.4 CR-PTIMERCOMMAND

9.12.5 CR-TEMPWARNCOMMAND

9.12.6 CR-TEMPFAILCOMMAND

1 . Outview

1.1 This Functional Specification defines communication functions such as Wireless Imager for MT3A Series (0.8" XGA second model)

1.2 The Projector Firmware Ver.1.x-ready.

1.3 Commands are to communicate to such as Wireless Imager, but most commands control a remote projector with PC installed RS232C. That's why commands are defined as expand serial commands

2 Serial Interface Specification

2.1 Communication Specification

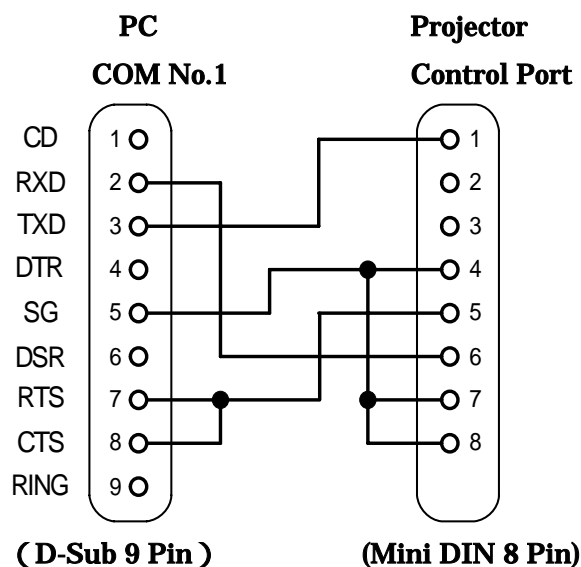
	Specification
Synchro System	Asynchronou
Transmission Speed	9600 / 19200
Data Length	8 bit
Parity	N/A
Stop Bit	1
Flow Control	N/A

Note1) transfer rate: initial setting value is 19200

Note2) transfer rate can be changed by service MODE

2.2 Connection

Must use a dedicated serial cable that come with the projector for a connection to a COMPUTER and a projector.



3 Note for communications

3.1 The expand command is defined one Command/one line that starts "C" and ends carriage return (0x0D)

3.2 When a projector receives carriage return (0x0D), it starts decoding.

-Functional Execution

(Ex.) "CF_BRIGHT_032" [CR]

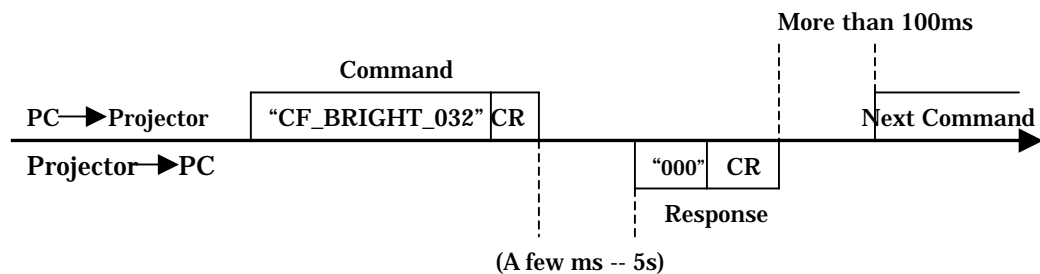
-Status Read Command

(Ex.) "CR_RIGHT" [CR] Note) _means a space

3.3 When it takes more than one second to receive one Command, it does not execute the Command.

Since the projector has received the first data "C", when it takes more than 1 second until the projector receives a carriage return (0x0D), it clears information of buffer.

3.4 When a COMPUTER keeps sending some Command, it must wait sending next command after 100ms when the COMPUTER receives the return command.



3.4.1 When a COMPUTER sends next command before receiving a return command, the projector may not operate properly.

3.4.2 Except no response after 5 seconds

3.5 It takes about 5 seconds for internal initialization after plugging in AC. During this time it cannot process command. Do not issue any commands.

4 Name Definition

4.1 Data from a controller to a projector is represented as COMMAND, and data from a projector to a controller for the incoming command is represented as RESPONSE.

4.2 [CR]: Carriage Return Code

The Command ends carriage return code. Also response Command ends carriage return, too.

4.3 : Space Code

All space Code is indicated by (_).

4.4 %1: Parameter in Command

When there are some parameters, the parameters are defined as %2, %3...

4.5 %%%: Error Code from a projector

"000": Normal Reception

See " 7.Error Code Table " for error number.

4.6 %a : Parameter for response from a projector

When there are a few parameters, the parameter defines as %b, %c...

5 Functional Execution Command Table

5.1 Image Command Table

Execute Command	Item
CF_BRIGHT_%1[CR]	Set Brightness value
CF_CONT_%1[CR]	Set Contrast value
CF_COLOR_%1[CR]	Set Color value
CF_TINT_%1[CR]	Set Tint value
CF_SHARP_%1[CR]	Set Sharpness value
CF_GAMMA_%1[CR]	Set-GAMMA value
CF_WBAL-R_%1[CR]	Set White Balance Red value
CF_WBAL-G_%1[CR]	Set White Balance Green value
CF_WBAL-B_%1[CR]	Set White Balance Blue value
CF_COLTEMP_%1[CR]	Set Color Temp. value
CF_PROGV_%1[CR]	Set or Cancel for Progressive
CF_IMAGE_%1[CR]	Set Image MODE.
CF_IMAGEADJ_%1[CR]	Reset and store for Image Adjustment.

5.2 PC Control Command Table

Execute Command	Item
CF_FSYNC_%1[CR]	Set Fine Sync value.
CF_TDOTS_%1[CR]	Set Total Dots value.
CF_CLAMP_%1[CR]	Set Clamp value.
CF_H-POS_%1[CR]	Set Horizontal Position value.
CF_V-POS_%1[CR]	Set Vertical Position value.
CF_DDOTS_%1[CR]	Set Display Dots value.
CF_DLINE_%1[CR]	Set Display Line value.
CF_PCSTORE_%1[CR]	Store e current PC Adj. Status to MODE 1, 2, 3, 4, or 5.
CF_PCMODEFREE_%1[CR]	Reset MODE1, 2, 3, 4, and 5.

5.3 VIDEO Control Command Table

Execute Command	Item
CF_AVDDOTS_%1[CR]	Set AV Horizontal Resolution Value
CF_AVDLIN_%1[CR]	Set AV Vertical Resolution Value
CF_AVHPOS_%1[CR]	Set AV Horizontal Position Value.
CF_AVVPOS_%1[CR]	Set AV Vertical Position Value.
CF_AVSERV_%1[CR]	Reset AV Horizontal /Vertical Resolution that are set in such as CF_AVDDOTS/CF_AVDLIN to default setting.

5.4 Input Control Command Table

Execute Command	Item
CF_INPUT_%1[CR]	Select Input.
CF_SOURCE_%1[CR]	Select Input Sauce.
CF_INPUT_%1_%2[CR]	Select Input and Source.
CF_SYSTEM_%1[CR]	Select System.

5.5 Screen Command Table

Execute Command	Item
CF_SCREEN_%1[CR]	Select Screen size.
CF_FLSCREEN_%1[CR]	Set and Cancel Full Screen.
CF_TRUE_%1[CR]	Set and Cancel True for Screen.
CF_DZCENT_%1[CR]	Cancel DIGITAL zooms.
CF_KEystone_%1[CR]	Set Keystone
CF_KYSTNMODE_%1[CR]	Set Keystone store MODE

5.6 Lamp Command Table

Execute Command	Item
CF_LAMPH_%1[CR]	Reset lamp total running time.
CF_LAMPMODE_%1[CR]	Select lamp MODE.

5.7 Sound Command Table

Execute Command	Item
CF_VOLUME_%1[CR]	Set Volume value
CF_MUTE_%1[CR]	Control Sound Mute ON/OFF

5.8 Setting Command Table

Execute Command	Item
CF_BBACK_%1[CR]	Set Blue Back function.
CF_DISP_%1[CR]	Set Display function.
CF_LOGO_%1[CR]	Set Logo function.
CF_CEIL_%1[CR]	Set Ceiling function.
CF_REAR_%1[CR]	Set Rear Function.
CF_RCODE_%1[CR]	Select Remote Control Reception Code.
CF_LANG_%1[CR]	Select OSD language.
CF_ON-STA_%1[CR]	Set Power ON Start Function.
CF_P-MANE_%1[CR]	Set Power management function.
CF_P-MANETIME_%1[CR]	Set Power management time
CF_FANSPEED_%1[CR]	Select Fan Speed.
CF_KEYDIS_%1[CR]	RC//KEY inhibit
CF_TERMINAL_%1[CR]	Set TERMINAL.
CF_STANDBYMODE_%1[CR]	Set STANDBYMODE
CF_POINTER_%1_%2[CR]	Set POINTER
CF_FDEFAULT_%1[CR]	Set Factory Default
CF_LOGOCAPTURE_%1[CR]	Capture the current image on the screen.

6 Status Read Command Table

6.1 IMAGE Status Read Command Table

Status read command	Item
CR_BRIGHT[CR]	Get Brightness
CR_CONT[CR]	Get Contrast
CR_COLOR[CR]	Get Color
CR_TINT[CR]	Get Tint
CR_SHARP[CR]	Get Sharpness
CR_GAMMA[CR]	Get-GAMMA
CR_WBAL-R[CR]	White Balance Red
CR_WBAL-G[CR]	White Balance Green
CR_WBAL-B[CR]	White Balance Blue
CR_COLTEMP[CR]	Get Color temperature setting value
CR_PROGV[CR]	Get Progressive setting value
CR_IMAGE[CR]	Get Selected. Image
CR_IMGGMD[CR]	Get Image-GAMMA setting value

6.2 PC Status Read Command Table

Status read command	Item
CR_FSYNC[CR]	Get Fine Sync setting value
CR_TDOTS[CR]	Get Total Dots setting value
CR_CLAMP[CR]	Get Clamp setting value
CR_H-POS[CR]	Get Horizontal Position setting value
CR_V-POS[CR]	Get Vertical Position setting value
CR_DDOTS[CR]	Get Display Dots setting value
CR_DLINE[CR]	Get Display Line setting value
CR_PCSTORE[CR]	Get Free or Store is selected. for PC Adj.; MODE 1-5.
CR_SETPCADJ[CR]	Get current PC signal for PC display status.

6.3 VIDEO Status Read Command Table

Status read command	Item
CR_SERSYS[CR]	Get selected. current signal. When in AUTO MODE, it returns a result by AUTO detect.

6.4 Input Status Read Command Table

Status read command	Item
CR_INPUT[CR]	Get selected. input status
CR_SOURCE[CR]	Get selected. input Source status
CR_INPUT_%1[CR]	Get Input and the Source.
CR_SYSTEM[CR]	Get selected. system status in input MODE

6.5 Screen Status Read Command Table

Status read command	Item
CR_SCREEN[CR]	Get selected. screen size status
CR_FLSCREEN[CR]	Get Full Screen MODE
CR_TRUE[CR]	Get True MODE Setting status.
CR_KYSTNMODE[CR]	Get Keystone Store MODE setting status

6.6 Lamp Status Read Command Table

Status read command	Item
CR_LAMPREPL[CR]	Get information for lamp replacement time.
CR_LAMPMODE[CR]	Get lamp MODE status
CR_PROJH[CR]	Get projector total running time.

6.7 Sound Status Read Command Table

Status read command	Item
CR_VOLUME[CR]	Get Volume value
CR_MUTE[CR]	Get sound mute setting value

6.8 Setting Status Read Command Table

Status read command	Item
CR_BBACK[CR]	Get Blue Back setting value
CR_DISP[CR]	Get Display setting value
CR_LOGO[CR]	Get Log setting value
CR_RCODE[CR]	Get selected. remote Control code status
CR_LANG[CR]	Get selected. language.
CR_ON-STA[CR]	Get ON Start setting status
CR_P-MANE[CR]	Get Power management setting status
CR_P-MANETIME[CR]	Get the start time for Power management
CR_FANSPEED[CR]	F Get selected. FAN CONTROL SPEED
CR_KEYDIS[CR]	Get RC/KEY prohibit status.
CR_TERMINAL[CR]	Get TERMINAL setting status.
CR_STANDBYMODE[CR]	Get STANDBYMODE Setting Status.
CR_POINTER[CR]	Get POINTER setting status.

6.9 Other Status Read Command Table

Status read command	Item
CR_SIGNAL[CR]	Get the status if there is signal or no signal
CR_VMUTE[CR]	Get No Show setting status
CR_FREEZE[CR]	Get Freeze Setting Status
CR_PTIMER[CR]	Get Timer operational status
CR_TEMPWARN[CR]	Get if sensors are exceeding critical temperature or not
CR_TEMPFAIL[CR]	Get the temperature when sensors approached critical temperature

7 Error Code Table

Error/ode	Content
?	-When receives data that cannot be decoded -Parameter determination error (digit number error, and incorrect letter included)
000	NORMAL Reception (not error)
101	The function is not available in the selected. MODE.
102	Selected. the value is out of range (Selected. Value will not be reflected)
103	Command mismatched to the Hardware. (Command for unpopulated option function)
201	When sending command, the increment is maximum value or the decrement is minimum value.
301	Processing image capture. Re-try it again later.
303	Processing Memory Card Viewer. Re-try it again later.

8 Functional Execution Command

8.1 Format

- The following format's commands issued form a PC

Pattern1:"CF_COMMAND" [CR]

Pattern2:"CF_COMMAND_%1" [CR]

CF_:Header

COMMAND:Letters

%1:Parameter(Letters)

_:Space (To separate COMMAND and parameter)

- When a projector decoded a received data and ready to receive the next Command, it will return acknowledgment.

"000" [CR]: (0x06,0x0D) When received Function Execute Command

"nnn" [CR]:Unable to execute any value except "000" value for any specific reason.

See the Ode/ode for its contents

- When received an undecodable data

Returns "?" [CR]

8.2 Transfer Example

When setting projector total command to 1344 by expand command

PC → PJ : "CF_TDOTS_1344" [CR]

PC ← PJ : "000" [CR] ----- Reception OK

8.3 Operation Requirements

When the functional execution command is limited, the projector sends an error command as shown in the table below.

Projector Status	Available Function Execution Command
STANDBYMODE	C00:POWER ON
Processing Count Down	C00:POWER ON (Terminate Count Down)
Processing Cooling Down	N/A
Cooling Down due to abnormal temperature	N/A
Abnormal Temperature	N/A
Abnormal Power (60sECOnDs after Power has turned to abnormal)	N/A
Processing Power Save Cooling Down	N/A
Processing Power Save	C00:POWER ON C01:POWER OFF

Note:) When the projector receives other commands in the above status, they return error code to show the status.

8.4 IMAGE Command

8.4.1 CF_BRIGHT Command

COMMAND	"CF_BRIGHT_%1" [CR]	
%1	"000-063"----- Directly select the Bright Setting Value "UP"----- Bright setting value +1 "DN"----- Bright setting value -1	
Details	Set the User control Bright Value The value set by the command will not be saved to the projector. Therefore, when ALL OFF the projector, the value will return to the original setting. (For STANDBYMODE, this value stays.) Only valid when it is in the usual Power ON State.	
Response	Acceptable	"000" [CR]
	Unacceptable	"Error Code" [CR]

8.4.2 CF_CONTCOMMAND

COMMAND	"CF_CONT_%1" [CR]	
%1	"000-063"----- Directly select for conntrast setting value "UP"----- Contrast setting value "DN"----- Contrast setting value-1	
Details	Set the user Control contrast value. The value set by this command will not be saved to the projector. Therefore, when ALL OFF the projector, the value will return to the original setting (For STANDBYMODE, this value stays.) Only valid when it is in the usual Power ON status.)	
Response	Acceptable	"000" [CR]
	Unacceptable	"Error Code" [CR]

8.4.3 CF_COLORCOMMAND

COMMAND	"CF_COLOR_%1" [CR]	
%1	"000-063"----- Directly Color setting value "UP"----- Color setting value+1 "DN"----- Color setting value-1	
Details	Set the user Control Color value. The value set by this command will not be saved to the projector. Therefore, when ALL OFF the projector, the value will return to the original setting. (For STANDBYMODE, this value stays.) Only valid when it is in the usual Power On state.	
Response	Acceptable	"000" [CR]
	Unacceptable	"Error Code" [CR]

8.4.4 CF_TINTCOMMAND

COMMAND	"CF_TINT_%1" [CR]	
%1	"000-063"----- Directly select for Tint setting value "UP"----- Current Setting value +1 "DN"----- Current Setting value-1	
Details	Set the user Control tint value. The value set by this command will not be save to the projector. Therefore, when ALL OFF the projector, the value will return to the original setting. (For STANDBYMODE, this value stays.) Only valid when it is in the NORMAL Power ON state.	
Response	Acceptable	"000" [CR]
	Unacceptable	"Error Code" [CR]

8.4.5 CF_SHARPCOMMAND

COMMAND	"CF_SHARP_%1" [CR]	
%1	"000-015"----- Directly select for Gamma setting value "UP"----- Current Sharpness setting value + 1 "DN"----- Current Sharpnes ssetting value -1	
Details	Set the user Control Sharpness value. The value set by this Command will not be saved to the projector. Therefore, when ALL OFF the projector, the value will return to the original setting. (For STANDBYMODE, this value stays.) Only valid when it is the usual Power ON state.	
Response	Acceptable	"000" [CR]
	Unacceptable	"Error Code" [CR]

8.4.6 CF_GAMMACOMMAND

COMMAND	"CF_GAMMA_%1" [CR]	
%1	"000-015"----- Directly select for-GAMMA setting value "UP"-----GAMMA setting value + 1 "DN"-----GAMMA setting value-1	
Details	Set the User Control-GAMMA Value The value set by this Command will not be saved to the projector. Therefore, when ALL OFF the projector, the value will return to the original setting. (For STANDBYMODE, this value stays) Only valid when it is in the usual Power On state.	
Response	Acceptable	"000" [CR]
	Unacceptable	"Error Code" [CR]

8.4.7 CF_WBAL-COMMAND

COMMAND	"CF_WBAL-%1_%2" [CR]	
%1	"R" ----- RED "G" ----- GREEN "B" ----- BLUE	
%2	"000-063"-- Directly select color value by White Balance %1 determination "UP"----- Color value for White Balance %1 determination +1 "DN"----- Color value for White Balance %1 determination -1	
Details	Set the user Control value by white balance %1 determination. The value set by this Command will not be saved to the projector. Therefore, when ALL OFF the projector, the value will return to the original setting. (For STANDBYMODE, this value stays.) Only valid when it is in the usual Power On state.	
Response	Acceptable	"000" [CR]
	Unacceptable	"Error Code" [CR]

8.4.8 CF_COLTEMP COMMAND

COMMAND	"CF_COLTEMP_%1" [CR]	
%1	"000"..... XLow "001"..... Low "002".....MID "003"..... High	
Details	Set the Color Temp. (When it is in usual Power ON state, this is valid.) The value set by this Command will not be saved to the projector. Therefore, when ALL OFF the projector, the value will return to the original setting. (For STANDBYMODE, this value stays.) Only valid when it is in the usual Power On state.	
Response	Acceptable	"000" [CR]
	Unacceptable	"Error Code" [CR]

8.4.9 CF_PROGV COMMAND

COMMAND	"CF_PROGV_%1" [CR]	
%1	"L1"----- Select Progressive MODE L1 "L2"----- Select Progressive MODE L2 "OFF"----cancel Progressive	
Details	Set/Cancel for Progressive. (When it is in usual Power ON state, this is valid.) The value set by this Command will not be saved to the projector. Therefore, when ALL OFF the projector, the value will return to the original setting. (For STANDBYMODE, this value stays.) Only valid when it is in the usual Power On state.	
Response	Acceptable	"000" [CR]
	Unacceptable	"Error Code" [CR]

8.4.10 CF_IMAGECOMMAND

COMMAND	"CF_IMAGE_%1" [CR]	
%1	"STAND" ----- Standard(Image adjustment is set to factory default setting value) "REAL" ----- Real(Fixed value to display a graphic image with natural tone.) "CINEMA" ---- Cinema(Fixed value to focus on the tone reproduction for movie.) "CUSTOM1" -- Image1 (the value is set and store by a user) "CUSTOM2" -- Image2 (the value is set and store by a user) "CUSTOM3" -- Image3 (the value is set and store by a user) "CUSTOM4" -- Image4 (the value is set and store by a user)	
Details	Select an Image MODE. (When it is in usual Power ON state, this is valid.) Parameter "CUSTOM1" to "CUSTOM4" is the same as selecting custom on OSD menu. The value set by this Command is stored in EEPROM. When ALL OFF the projector the value will return to the original setting.	
Response	Acceptable	"000" [CR]
	Unacceptable	"Error Code" [CR]

8.4.11 CF_IMAGE ADJ COMMAND

COMMAND	"CF_IMAGEADJ_%1" [CR]	
%1	"RST"-----Reset Image adjustment "STR1"----Store current image adjustment to Image 1 "STR2"----Store current image adjustment to Image 2 "STR3"----Store current adjustment to Image 3 "STR4"----Store current adjustment to Image 4	
Details	Reset or Store for image adjustment. (When it is in usual Power ON state, this invalid.) "STR1"-"STR4" is the same as "Image1"-"Image4" when choosing" Store" on OSD menu. The setting value set in "Image1" to "Image4" is stored, so even if the projector is set to ALL OFF and is turned on again, the setting value will be able to be back.	
Response	Acceptable	"000" [CR]
	Unacceptable	"Error Code" [CR]

8.5 PC Control COMMAND**8.5.1 CF_FSYNC COMMAND**

COMMAND	"CF_FSYNC_%1" [CR]	
%1	"0000-0031"---- Directly set Fine Sync setting value "UP"----- Fine Sync setting value + 1 "DN"----- Fine Sync setting value-1	
Details	Set Fine Sync for PC signal (Only valid when it is in the usual Power ON status.) The value set by this Command will not be saved to the projector. Therefore, when ALL OFF the projector, the value will return to the original setting. (STANDBYMODE stays.)	
Response	Acceptable	"000" [CR]
	Unacceptable	"101" [CR] ----Input is-VIDEO

8.5.5 CF_V-POS COMMAND

COMMAND	“CF_V-POS_%1” [CR]	
%1	<p>“0000-nnnn”-- Directly set Vertical Position “nnnn” means maximum value. This value is from current Total Line value – display Line value.</p> <p>“UP”----- Vertical Position setting value +1. “DN”----- Vertical Position setting value-1</p>	
Details	Set vertical position of PC signal. Only valid when it is in the usual Power ON status.) The value set by this Command will not be saved to the projector. Therefore, when ALL OFF the projector, the value will return to the original setting. (stays in STANDBYMODE)	
Response	Acceptable	“000” [CR]
	Unacceptable	“101” [CR] ----Input-VIDEO

8.5.6 CF_DDOTS COMMAND

COMMAND	“CF_DDOTS_%1” [CR]	
%1	<p>“0100-nnnn”—Directly set Display Dots value. “nnnn” means maximum value. This value is from current Total Dots value-Horizontal position value</p> <p>“UP”----- Display Dots + 1 “DN”----- Display Dots -1</p>	
Details	<p>et Display Dots of PC signal The value set by this Command will not be saved to the projector. Therefore, when ALL OFF the projector, the value will return to the original setting. (stay in STANDBYMODE.) (stays in STANDBYMODE.) (Only valid when it is in the usual Power ON status.)</p>	
Response	Acceptable	“000” [CR]
	Unacceptable	“101” [CR] ----Input-VIDEO

8.5.7 CF_DLINECOMMAND

COMMAND	“CF_DLINE_%1” [CR]	
%1	<p>“0100-nnnn”—directly specify display Line value. “nnnn” means maximum. This value is from current Total Line value – Vertical Position value.</p> <p>“UP”----- Display Line + 1</p> <p>“DN”----- Display Line -1</p>	
Details	<p>Set Display Line of PC signal (Only valid when it is in the usual Power ON status.)</p> <p>The value set by this Command will not be saved to the projector.</p> <p>Therefore, when ALL OFF the projector, the value will return to the original setting. (stays in STANDBYMODE.)</p> <p>(stays in STANDBYMODE.)</p>	
Response	Acceptable	“000” [CR]
	Unacceptable	“101” [CR] ----Input-VIDEO

8.5.8 CF_PC STORECOMMAND

COMMAND	"CF_PCSTORE_%1" [CR]	
%1	"MODE1" --- Store current PC Adjust status to MODE 1 "MODE2" ...Store current PC Adjust status to MODE 2 "MODE3" ...Store current PC Adjust status to MODE 3 "MODE4" ...Store current PC Adjust status to MODE 4 "MODE5" ...Store current PC Adjust status to MODE 5	
Details	Store current PC Adjust status (each parameter status such as Total dots) to MODE1-5. This command operates the same operation as storing to MODE1-MODE5 in PC Adjust Menu. (Only valid when it is in the usual Power ON status.)	
Response	Acceptable	"000" [CR]
	Unacceptable	"101" [CR] ----Input-VIDEO

8.5.9 CF_PC MODE FREECOMMAND

COMMAND	"CF_PCMODEFREE_%1" [CR]	
%1	"MODE1" ...reset MODE 1 to Free "MODE2" ...reset MODE 2 o Free "MODE3" ...reset MODE 3 o Free "MODE4" ...reset MODE 4 to Free "MODE5" ...reset MODE 5 to Free	
Details	Reset MODE 1, 2, 3, 4, and 5 to Free. This command works as the same when resetting Modes in PC adjust menu. (Only valid when it is in the usual Power ON status.)	
Response	Acceptable	"000" [CR]
	Unacceptable	"101" [CR] ----Input-VIDEO

8.6 VIDEO Control COMMAND**8.6.1 CF_AVDDOTS COMMAND**

COMMAND	"CF_AVDDOTS_%1" [CR]	
%1	"UP".....Current setting value +1 "DN".....Current setting value -1	
Details	Set AV Service MODE Horizontal Resolution. (Only valid when it is in the usual Power ON status.) The setting value is stored in EEPROM. When ALL OFF the projector, the value will return to the original setting. When there e is no signal, the projector returns "101"[CR].	
Response	Acceptable	"000" [CR]
	Unacceptable	"101" [CR] ----Input-VIDEO

8.6.2 CF_AVDLINECOMMAND

COMMAND	"CF_AVDLINE_%1" [CR]	
%1	"UP".....Current Setting+1 "DN".....Current Setting-1	
Details	Set AV service MODE vertical resolution value. (Only valid when it is in the usual Power ON status.) The setting value is stored in EEPROM. When ALL OFF the projector, the value will return to the original setting. When there is no signal, the projector returns "101" [CR].	
Response	Acceptable	"000" [CR]
	Unacceptable	"101" [CR] ----Input-VIDEO

8.6.3 CF_AVHPOS COMMAND

COMMAND	"CF_AVHPOS_%1" [CR]	
%1	"UP".....Current Setting+1 "DN".....Current Setting-1	
Details	Set AV service MODE horizontal position value. (Only valid when it is in the usual Power ON status.) The setting value is stored in EEPROM. When ALL OFF the projector, the value will return to the original setting. When there is no signal, the projector returns "101" [CR].	
Response	Acceptable	"000" [CR]
	Unacceptable	"101" [CR] ----Input S-VIDEO

8.6.4 CF_AVVPOS COMMAND

COMMAND	"CF_AVVPOS_%1" [CR]	
%1	"UP".....Current Setting+1 "DN".....Current Setting-1	
Details	Set AV service MODE vertical position value. (Only valid when it is in the usual Power ON status.) The setting value is stored in EEPROM. When ALL OFF the projector, the value will return to the original setting. When there is no signal, the projector returns "101" [CR].	
Response	Acceptable	"000" [CR]
	Unacceptable	"101" [CR] ----Input-VIDEO

8.6.5 CF_AVSERV COMMAND

COMMAND	"CF_AVSERV_%1" [CR]	
%1	"RST"	
Details	Set AV horizontal/vertical resolution that is set in such as "CF_A V DDOTS"/"CF_AVDLINE" to default setting value. (Only valid when it is in the usual Power ON status.) The setting value is stored in EEPROM. When ALL OFF the projector, the value will return to the original setting. When there is no signal, the projector returns "101" [CR].	
Response	Acceptable	"000" [CR]
	Unacceptable	"101" [CR] ----Input-VIDEO

8.7 Input Control COMMAND

8.7.1 CF_INPUT COMMAND

COMMAND	"CF_INPUT_%1" [CR]	
%1	"COMPUTER1"..... Select COMPUTER 1 input "COMPUTER2"..... COMPUTER 2 input "VIDEO"..... VIDEO input	
Details	Select Input.(Only valid when it is in the usual Power ON status.) The Command works as the same as the remote controls's unit "INPUT" button. Note1:) If trying to select Input-2 TERMINAL when setting Input-2(COMPUTER)to MONITOR Out, the projector returns "101". Note2:)The selection of Input-1 is not COMPUTER-1 but Memory card/Wireless/Network when Option box is installed to Input-1 (COMPUTER1).	
Response	Acceptable	"000" [CR]
	Unacceptable	"%%%" [CR]

8.7.2 CF_SOURCECOMMAND

COMMAND	"CF_SOURCE_%1" [CR]	
%1	Input=1	"DIGITAL"..... Select DVI input "ANALOG"..... Select ANALOG input 0 "HDCP"..... Select DVI HDCP input
	Input=2	"ANALOG".....Select RGB "YPBPR".....Select Component VIDEO input "SCART"..... Select Scart input
	Input=3	"AUTO"..... Select VIDEO Auto MODE "VIDEO"..... Select Composite VIDEO input "S-VIDEO"..... Select S-VIDEO input
Details	Select current input source. (Only valid when it is in the usual Power ON status.) When selected Input and specified %1 are not matched, the projector returns"101" and does not execute the command. Note) When the option, MCI BOX is installed to Input-1 (COMPUTER1), selection for source is invalid. ➡ error code "101"	
Response	Acceptable	"000" [CR]
	Unacceptable	"%%%" [CR]

8.7.3 CF_INPUT_%1_%2 COMMAND

COMMAND	"CF_INPUT_%1_%2" [CR]	
%1	"COMPUTER1".... Select COMPUTER 1 input "COMPUTER2".... Select COMPUTER 2 input "VIDEO"..... Select VIDEO input	
%2	When %1 is COMPUTER1... "ANALOG"..... Select ANALOG RGB input "DIGITAL".....Select DIV input "HDCP"..... Select DCHP input When %1 is COMPUTER2 "ANALOG".....Select ANALOG RGB input "YPBPR".....Select Component input "SCART"..... Select SCART input When %1 is VIDEO "AUTO"..... Select VIDEO AUTO MODE "VIDEO"..... Select VIDEO "S-VIDEO"..... Select S-VIDEO	
Details	Select Input and also the source that is specified in %2. (Only valid when it is in the usual Power ON status.)	
Response	Acceptable	"000" [CR]
	Unacceptable	"%%%" [CR]

8.7.4 CF_SYSTEMCOMMAND

COMMAND	"CF_SYSTEM_%1" [CR]	
%1	Input is PC	"MODE1"----- Select MODE 1 "MODE2"----- Select MODE 2 "MODE3"----- Select MODE 3 "MODE4"----- Select MODE 4 "MODE5"----- Select MODE 5
	Input-VIDEO	"AUTO"----- Select System" AUTO" "NTSC"----- Select NTSC "NTSC443"-- Select NTSC4.43 "PAL"----- Select PAL "SECAM"----- Select SECAM "PAL-M"----- Select PAL-M "PAL-N"----- Select PAL-N "1080 I "----- Select 1080i "1035 I "----- Select 1035i "720 P "----- Select 720p "575 P "----- Select 575p "480 P "----- Select 480p "575 I "----- Select 575i "480 I "----- Select 480i
Details	Select current Input system. (Only valid when it is in the usual Power ON status.) When Input does not meet the requirement for specified %11, the response will be "101" and the Command does not execute. Note 1) "NTSC" / "NTSC4.43" / "PAL" / "SECAM" / "PAL-M" / "PAL-N" is available only when Input-VIDEO or S-VIDEO. Note 2) "1080I" / "1035I" / "720p" / "575P" / "480P" / "575I" / "480I" is available only when Input is Y, Pb/Cb, Pr/Cr.	
Response	Acceptable	"000" [CR]
	Unacceptable	"Error Code" [CR]

8.8 Screen Control COMMAND

8.8.1 CF_SCREENCOMMAND

COMMAND	"CF_SCREEN_%1" [CR]	
%1	Input is COMPUTER	"NORMAL"Select 4:3 "WIDE"..... Select 16:9 "TRUE" Select TRUE "DZOOM_UP".... Zoom Out with DIGITAL zoom "DZOOM DN"-- Zoom in with DIGITAL zoom
	Input is VIDEO	"NORMAL" ---- Select 4:3 "WIDE" ----- Select 16:9 screen
Details	Select screen size. (Only valid when it is in the usual Power ON status.) When Input does not meet the requirement for the specified %1, the response will be "101"[CR], and the Command is not executed.	
Response	Acceptable	"000" [CR]
	Unacceptable	"Error Code" [CR]

8.8.2 CF_FLSCRENCOMMAND

COMMAND	"CF_FLSCREN_%1" [CR]	
%1	"ON"----- Select Full Screen "OFF"---- Cancel Full Screen	
Details	Input is COMPUTER	Set/Cancel Full Screen. (Only valid when it is in the usual Power ON status.) The value set by this Command will not be saved to the projector. Therefore, when ALL OFF the projector, the value will return to the original setting. (stay in STANDBYMODE.) (stays in STANDBYMODE.)
	Input-VIDEO series	Invalid
Response	Acceptable	"000" [CR]
	Unacceptable	"Error Code" [CR]

8.8.3 CF_TRUECOMMAND

COMMAND	"CF_TRUE_%1" [CR]	
%1	"ON"----- Select True "OFF"---- Cancel True	
Details	T Set/Cancel True Only valid when it is in the usual Power On state and input is COMPUTER.	
Response	Acceptable	"000" [CR]
	Unacceptable	"101" [CR] Input-VIDEO

8.8.4 CF_DZCENTCOMMAND

COMMAND	"CF_DZCENT_%1" [CR]	
%1	"CENT"-----Cancel DIGITAL Zoom (CENT : "CENTER")	
Details	Cancel DIGITAL Zoom Only valid when it is n the usual Power ON state and Input is COMPUTER.	
Response	Acceptable	Acceptable
	Unacceptable	Unacceptable

8.8.5 CF_KEYSTONECOMMAND

COMMAND	"CF_KEYSTONE_%1" [CR]	
%1	"UP"----- Make the screen image length at the top edge shorter with small range. "FUP" ---- Make the screen image length at the top edge shorter with large range. "DN" ---- Make the screen image length at the bottom edge shorter with small range. "FDN" ---- Make the screen image length at the bottom edge shorter with large range. "LEFT"---- Make the screen image length at the left edge shorter with small range. "FLFT"---- Make the screen image length at the left shorter with large range. "RIGHT"-- Make the screen image length at the right edge shorter with small range. "FRGT"---- Make the screen image length at the right edge shorter with large range. "RST"----- Keystone off	
Details	Change Keystone range. (Only valid when it is in the usual Power ON status.)	
Response	Acceptable	"000" [CR]
	Unacceptable	"Error Code" [CR] "201"[CR]When Keysotne value is maximum or minimum.

8.8.6 CF_KYSTNMODECOMMAND

COMMAND	"CF_KYSTNMODE_%1" [CR]	
%1	"STR"----- Set Keystone store MODE to Store "RST" ---- Set Keystone store MODE to Reset	
Details	Set Keystone store MODE (Only valid when it is in the usual Power ON status.)	
Response	Acceptable	"000" [CR]
	Unacceptable	"Error Code" [CR]

8.9 Lamp COMMAND

8.9.1 CF_LAMPH COMMAND

COMMAND	"CF_LAMPPH_%1" [CR]	
%1	"RST"	
Details	Reset total lamp running time. (Only valid when it is in the usual Power ON status.)	
Response	Acceptable	"000" [CR]
	Unacceptable	"Error Code" [CR]

8.9.2 CF_LAMP MODECOMMAND

COMMAND	"CF_LAMPHMODE_%1" [CR]	
%1	"NORMAL"-- Set lamp to NORMAL MODE "ECO"----- Set lamp to silent MODE. "AUTO"----- Set lamp to AUTO MODE	
Details	Select lamp MODE. (Only valid when it is in the usual Power ON status.) The value set is stored in EEPROM. When ALL OFF the projector, the value will return to the original setting.	
Response	Acceptable	"000" [CR]
	Unacceptable	"Error Code" [CR]

8.10 Sound COMMAND

8.10.1 CF_VOLUMECOMMAND

COMMAND	"CF_VOLUME_%1" [CR]	
%1	"000-063"----- Directly set Volume value "UP"----- Volume setting value +1. "DN"----- Volume setting value -1.	
Details	Control Volume setting value. (Only valid when it is in the usual Power ON status.) The same operation as a remote Control's turning up/down the volume. Also, the Command directly sets the volume value. When setting volume value like remote Control unit" operation, Sound Mute ON will be canceled. The setting value will be stored in a projector.	
Response	Acceptable	"000" [CR]
	Unacceptable	"Error Code" [CR]

8.10.2 CF_MUTECOMMAND

COMMAND	"CF_MUTE_%1" [CR]	
%1	"ON"----- set Sound Mute to ON "OFF"---- set Sound Mute to OFF	
Details	Control Sound Mute ON/OFF.(Only valid when it is in the usual Power ON status.)	
Response	Acceptable	"000" [CR]
	Unacceptable	"Error Code" [CR]

8.11 Setting COMMAND**8.11.1 CF_BBACK COMMAND**

COMMAND	"CF_BBACK_%1" [CR]	
%1	"ON"----- Select Blue Back "OFF"---- Cancel Blue Back	
Details	Set/cancel Blue Back. (Only valid when it is in the usual Power ON status.) The value set is stored in EEPROM. When ALL OFF the projector, the value will return to the original setting.	
Response	Acceptable	"000" [CR]
	Unacceptable	"Error Code" [CR]

8.11.2 CF_DISP COMMAND

COMMAND	"CF_DISP_%1" [CR]	
%1	"ON"----- Select Display "OFF"----Cancel Display	
Details	Set/Cancel Display. (Only valid when it is in the usual Power ON status.) The value set is stored in EEPROM. When ALL OFF the projector, the value will return to the original setting.	
Response	Acceptable	"000" [CR]
	Unacceptable	"Error Code" [CR]

8.11.3 CF_LOGO COMMAND

COMMAND	"CF_LOGO_%1" [CR]	
%1	"OFF" Cancel Logo "DEFAULT".... Set Default Logo Display "U S E R"..... Set Captured Logo Display	
Details	Set/Cancel Logo. (Only valid when it is in the usual Power ON status.) The value set is stored in EEPROM. When ALL OFF the projector, the value will return to the original setting.	
Response	Acceptable	"000" [CR]
	Unacceptable	"Error Code" [CR]

8.11.4 CF_CEIL COMMAND

COMMAND	"CF_CEIL_%1" [CR]	
%1	"ON"----- Select Ceiling "OFF"---- Cancel Ceiling	
Details	Set/Cancel Ceiling (Only valid when it is in the usual Power ON status.) The value set is stored in EEPROM. When ALL OFF the projector, the value will return to the original setting.	
Response	Acceptable	"000" [CR]
	Unacceptable	"Error Code" [CR]

8.11.5 CF_REARCOMMAND

COMMAND	"CF_REAR_%1" [CR]	
%1	"ON"----- Select Rear "OFF"---- Cancel Rear	
Details	Set/Cancel Rear (Only valid when it is in the usual Power ON status.) When Rear is ON, it will be a mirror-reversed image. The value set is stored in EEPROM. When ALL OFF the projector, the value will return to the original setting.	
Response	Acceptable	"000" [CR]
	Unacceptable	"Error Code" [CR]

8.11.6 CF_RCODECOMMAND

COMMAND	"CF_RCCODE_%1" [CR]	
%1	"001"-----Select Code 1 "002"-----Select Code 2 "003"-----Select Code 3 "004"-----Select Code 4 "005"-----Select Code 5 "006"-----Select Code 6 "007"-----Select Code 7 "008"-----Select Code 8	
Details	Select a remote Control code.(Only valid when it is in the usual Power ON status.) The value set is stored in EEPROM. When ALL OFF the projector, the value will return to the original setting.	
Response	Acceptable	"000" [CR]
	Unacceptable	"Error Code" [CR]

8.11.7 CF_LANGCOMMAND

COMMAND	"CF_LANG_%1" [CR]	
%1	"ENG"---- Select English "DEU"---- Select German "FRA"---- Select French "ITA"---- Select Italy "ESP"---- Select Spanish "POR"---- Select Portuguese "NED"---- Select Dutch "SVE"---- Select Swedish "JPN"---- Select Japanese "CHI"---- Select Chinese "KOR"---- Select Korean "RUS"---- Select Russian	
Details	Set OSD language. (Only valid when it is in the usual Power ON status.) The value set is stored in EEPROM. When ALL OFF the projector, the value will return to the original setting.	
Response	Acceptable	"000" [CR]
	Unacceptable	"Error Code" [CR]

8.11.8 CF_ON-STACOMMAND

COMMAND	"CF_ON-STA_%1" [CR]	
%1	"ON"----- Select Power On Start "OFF"---- Cancel Power On Start	
Details	Set/Cancel Power ON Start. (Only valid when it is in the usual Power ON status.) The value set is stored in EEPROM. When ALL OFF the projector, the value will return to the original setting.	
Response	Acceptable	"000" [CR]
	Unacceptable	"Error Code" [CR]

8.11.9 CF_P-MANECOMMAND

COMMAND	"CF_P-MANE_%1" [CR]	
%1	"OFF"----- Set Power management to O F F "READY"----- Set Power management to Ready "SHUTDOWN"-- Set Power management to Shut Down	
Details	Set/Cancel Power management.(Only valid when it is in the usual Power ON status.) The value set is stored in EEPROM. When ALL OFF the projector, the value will return to the original setting.	
Response	Acceptable	"000" [CR]
	Unacceptable	"Error Code" [CR]

8.11.10 CF_P-MANETIMECOMMAND

COMMAND	"CF_P-MANETIME_%1" [CR]	
%1	"01"-"30"-- Directly set the time by the minute "UP"----- Set the time 1 minute longer "DN"----- Set the time 1 minute shorter	
Details	Set Power management time. (Only valid when it is in the usual Power ON status.) The value set is stored in EEPROM. When ALL OFF the projector, the value will return to the original setting.	
Response	Acceptable	"000" [CR]
	Unacceptable	"Error Code" [CR]

D3-2

8.11.11 CF_FANSPEEDCOMMAND

COMMAND	"CF_FANSPEED_%1" [CR]	
%1	"MAX"-----Select maximum speed "NOR"-----Select NORMAL speed	
Details	Change Fan Control speed. Only valid when it is in the usual Power ON status.) The value set is stored in EEPROM. When ALL OFF the projector, the value will return to the original setting.	
Response	Acceptable	"000" [CR]
	Unacceptable	"Error Code" [CR]

8.11.12 CF_KEYDISCOMMAND

COMMAND	"CF_KEYDIS_%1" [CR]	
%1	N/A" --- RC and KEY are available "RC" ...Bar the use of RC "KEY" ...Bar the use of KEY	
Details	Set bar the use of RC/KEY. (Only valid when it is in the usual Power ON status.)	
Response	Acceptable	"000" [CR]
	Unacceptable	"Error Code" [CR]

8.11.13 CF_TERMINALCOMMAND

COMMAND	"CF_TERMINAL_%1" [CR]	
%1	"COMPUTER"..... Set Input mode "MONITOR"..... Set Monitor Out Mode	
Details	Set TERMINAL(Only valid when it is in the usual Power ON status.) In this model, Terminal is COMPTUER2.	
Response	Acceptable	"000" [CR]
	Unacceptable	"Error Code" [CR]

8.11.14 CF_STANDBYMODECOMMAND

COMMAND	"CF_STANDBYMODE_%1" [CR]	
%1	"ECO"..... Standby power requirement is smaller "NORMAL".... Normal Standby power requirement	
Details	Set STANDBYMODE (Only valid when it is in the usual Power ON status.)	
Response	Acceptable	"000" [CR]
	Unacceptable	"Error Code" [CR]

8.11.15 CF_POINTERCOMMAND

COMMAND	"CF_POINTER_%1_%2" [CR]	
%1	"SPOTLIGHT".... Select Spotlight "ARROW"..... Select Arrow "FINGER"..... Select Finger "LASER"..... Select Laser mark	
%2	"MAX"..... Maximum Spotlight "MID"..... Medium Spotlight "MIN"..... Minimum Spotlight	
Details	Select POINTER image (Only valid when it is in the usual Power ON status.) Note1) %2 is available when "SPOTLIGHT" is specified only. When "ARROW"/"FINGER"/"LASER", specify "CF_POINTER_%1"[CR]. Note2) When "SPOTLIGHT", %2 cannot be omitted.	
Response	Acceptable	"000" [CR]
	Unacceptable	"Error Code" [CR]

8.11.16CF_FDEFAULTCOMMAND

COMMAND	"CF_FDEFAULT_%1" [CR]	
%1	"RST"	
Details	Set Factory Default. (Only valid when it is in the usual Power ON status.)	
Response	Acceptable	"000" [CR]
	Unacceptable	"Error Code" [CR]

8.11.17CF_LOGOCAPTURECOMMAND

COMMAND	"CF_LOGOCAPTURE_%1" [CR]	
%1	"START"..... Capture ON	
Details	Capture the current image on screen. When beginning to capture the image, any command is not available until the capture has done. When sending the command during the process, the projector returns the error code, "301".	
Response	Acceptable	"000" [CR]
	Unacceptable	"Error Code" [CR]

9 Status Read Command

9.1 FORMAT

1. PC issues Commands as below

"CR_ **COMMAND**" [CR]

COMMAND: Character Line

2. When projector receives the appropriate Command, it returns a character line as the required data.

"000_ "%1 [CR]

%1:Required Data (character line)

3. When receiving data cannot be decode, the projector returns"?" [CR]

9.2 Transfer Example

Get total dots of projector by expand Commands

PC → PJ : "CR TDOTS" [CR]

PC ← PJ : "000 1344" [CR]

9.3 Operation Requirement

Should be always operated

9.4 IMAGECOMMAND

9.4.1 CR_BRIGHTCOMMAND

COMMAND	"C R_ BRIGHT" [CR]	
Details	Get Contrast of user Control	
Response	Acceptable	"000_ %a" [CR]
	%a	"000"-- "063"
	Unacceptable	"?" [CR]

9.4.2 CR_CONTCOMMAND

COMMAND	"C R_ C O N T " [CR]	
Details	Get Contrast of user Control	
Response	Acceptable	"000_ %a" [CR]
	%a	"000"-- "063"
	Unacceptable	"?" [CR]

9.4.3 CR_COLORCOMMAND

COMMAND	"CR_ COLOR" [CR]	
Details	Get Color value of user Control	
Response	Acceptable	"000_ %a" [CR]
	%a	"000"-- "063"
	Unacceptable	"?" [CR]

9.4.4 CR_TINTCOMMAND

COMMAND	"C R_TINT" [CR]	
Details	Get Tint value of user Control	
Response	Acceptable	"000_%a" [CR]
	%a	"000"-- "063"
	Unacceptable	"Error code" [CR] --- invalid "?" [CR] ----- When receives unclear command

9.4.5 CR_SHARPCOMMAND

COMMAND	"C R_SHARP" [CR]	
Details	Get SHARPNESS value of user Control	
Response	Acceptable	"000_%a" [CR]
	%a	"000"-- "015"
	Unacceptable	"?" [CR]

9.4.6 CR_GAMMACOMMAND

COMMAND	"C R_GAMMA" [CR]	
Details	Get-GAMMA value of user Control	
Response	Acceptable	"000_%a" [CR]
	%a	"000"-- "015"
	Unacceptable	"?" [CR]

9.4.7 CR_WBAL-RCOMMAND

COMMAND	"C R_WBAL-R" [CR]	
Details	Get White Balance Red value of user Control	
Response	Acceptable	"000_%a" [CR]
	%a	"000"-- "063"
	Unacceptable	"?" [CR]

9.4.8 CR_WBAL-GCOMMAND

COMMAND	"C R_WBAL-G" [CR]	
Details	Get White Balance Green of user Control	
Response	Acceptable	"000_%a" [CR]
	%a	"000"-- "063"
	Unacceptable	"?" [CR]

9.4.9 CR_WBAL-BCOMMAND

COMMAND	"C R_WBAL-B" [CR]	
Details	Get White Balance Blue of user Control	
Response	Acceptable	"000_%a" [CR]
	%a	"000"-- "063"
	Unacceptable	"?" [CR]

9.4.10 CR_COLTEMPCOMMAND

COMMAND	"C R_COLTEMP" [CR]	
Details	Get Color Temp setting status	
Response	Acceptable	"000_%a" [CR]
	%a	"000"..... XLow "001"..... Low "002"..... Mid "003"..... High "ADJ".....Processing White Balance Adjustment
	Unacceptable	"?" [CR]

9.4.11 CR_PROGVCOMMAND

COMMAND	"C R_PROGV" [CR]	
Details	Get Progressive setting status	
Response	Acceptable	"000_%a" [CR]
	%a	"L1"----- Progressive MODE L1 setting "L2"----- Progressive MODE L2setting "OFF"--- Progressive cancellation
	Unacceptable	"?" [CR]

9.4.12 CR_IMAGECOMMAND

COMMAND	"C R_IMAGE" [CR]	
Details	Get image setting status Required data "CUSTOM1" to "CUSTOM4" is the same as "IMAGE1" to "IMAGE4" on OSD menu.	
Response	Acceptable	"000_%a" [CR]
	%a	"STAND"----- Standard "REAL" ----- Real "CINEMA"----- Cinema "CUSTOM1"-"CUSTOM4"-- Image1-4
	Unacceptable	"Error code" [CR] ---- Invalid "?" [CR] ----- When the projector received unclear command

9.4.13 CR_IMGGMD COMMAND

COMMAND	"CR_IMGGMD" [CR]	
Details	Get Standard/High Contrast/Cinema for image-GAMMA setting.	
Response	Acceptable	"000_%a" [CR]
	%a	"STD" = Standard "REL" = Real "CNM" = Cinema
	Unacceptable	"?" [CR]

9.5 PC COMMAND**9.5.1 CR_FSYNC COMMAND**

COMMAND	"C R_FSYNC" [CR]	
Details	Get Fine Sync value	
Response	Acceptable	"000_%a" [CR]
	%a	"0000"-- "0031"
	Unacceptable	"Error code" [CR] ---- Invalid "?" [CR] ----- When the projector received unclear command

9.5.2 CR_TDOTS COMMAND

COMMAND	"CR_TDOTS" [CR]	
Details	Get Total Dots value	
Response	Acceptable	"000_%a" [CR]
	%a	"nnnn"--"9999" (nnnn = Display Dots + Horizontal Position)
	Unacceptable	"Error code" [CR] ---- Invalid "?" [CR] ----- When the projector received unclear command

9.5.3 CR_CLAMP COMMAND

COMMAND	"CR_CLAMP" [CR]	
Details	Get Clamp value	
Response	Acceptable	"000_%a" [CR]
	%a	"0000"-- "0127"
	Unacceptable	"Error code" [CR] ---- Invalid "?" [CR] ----- When the projector received unclear command

9.5.4 CR_H-POS COMMAND

COMMAND	"C R_H-POS" [CR]	
Details	Get Horizontal Position value	
Response	Acceptable	"000_%a" [CR]
	%a	"0000"--"nnnn" (nnnn = Total Dots - Display Dots)
	Unacceptable	"Error code" [CR] ---- Invalid "?" [CR] ----- When the projector received unclear command

9.5.5 CR_V-POS COMMAND

COMMAND	"C R_V-POS" [CR]	
Details	Get Vertical Position value	
Response	Acceptable	"000_%a" [CR]
	%a	"0000"--"nnnn" (nnnn = Total Line - Display Line)
	Unacceptable	"Error code" [CR] ---- Invalid "?" [CR] ----- When the projector received unclear command

9.5.6 CR_DDOTS COMMAND

COMMAND	"C R_DDOTS" [CR]	
Details	Get Display Dots value	
Response	Acceptable	"000_%a" [CR]
	%a	"0100"--"nnnn" (nnnn = Total Dots – Horizontal Position value)
	Unacceptable	"Error code" [CR] ---- Invalid "?" [CR] ----- When the projector received unclear command

9.5.7 CR_DLINECOMMAND

COMMAND	"CR_DLINE" [CR]	
Details	Get Display Line value	
Response	Acceptable	"000_%a" [CR]
	%a	"0100"--"nnnn" (nnnn = Total Line – Vertical Position value
	Unacceptable	"Error code" [CR] ---- Invalid "?" [CR] ----- When the projector received unclear command

9.5.8 CR_PC STORECOMMAND

COMMAND	"CR_PCSTORE" [CR]	
Details	Get the status if MODE1-MODE5 is Free or Stored for PC Adjust. Each data MODE1-MODE5 will be shown in 5 bytes. (F:Free, S:Stored)	
Response	Acceptable	"000_%a" [CR]
	Required Data	"FFFFF"--- All Free "SFFFF"--- Only MODE1 is Stored, and others are Free : "FFFFS"--- Only MODE5 is Stored, and others are Free "SSSSS"--- All Stored
	Unacceptable	"?" [CR]

9.5.9 CR_SET PC ADJ COMMAND

COMMAND	"CR_SETPCADJ" [CR]	
Details	Get PC signal for current system	
Response	Acceptable	"000_%1" [CR]
	%1	"XGA1" "HDTV1080" "MODE1"--- "MODE5" ...Etc.
	Unacceptable	"?" [CR]

9.6 VIDEO COMMAND**9.6.1 CR_SERSYSCOMMAND**

COMMAND	"CR_SERSYS" [CR]	
Details	Select selected. signal. When AUTO MODE, it returns by AUTO-detect. Only available when Input-VIDEO. (Unavailable when Input is COMPUTER.)	
Response	Acceptable	"000_%a" [CR]
	% a	"1080I60"-- 1080i 60Hz "1080I50"-- 1080i 50Hz "1035I"----- 1035i "720P"----- 720p "575P"----- 575p "480P"----- 480p "575I"----- 575i (include composite signal such as PAL) "480I"----- 480i (include composite signal such as NTSC) "NO SIGNAL"--- When No Signal
	Unacceptable	"101" [CR] -- When Input is PC series "?" [CR]

9.7 Input COMMAND

9.7.1 CR_INPUTCOMMAND

COMMAND	"CR_INPUT" [CR]	
Details	Get selected. INPUT No.	
Response	Acceptable	"000_%a" [CR]
	%a	"COMPUTER1".... COMPUTER1 Input is selected. "COMPUTER2".... COMPUTER2 Input is selected.. "VIDEO"..... VIDEO Input is selected.
	Unacceptable	"?" [CR]

9.7.2 CR_SOURCECOMMAND

COMMAND	"CR_SOURCE" [CR]	
Details	Get selected. Source	
Response	Acceptable	"000_%1" [CR]
	%1	"DIGITAL" A DVI input is selected. "ANALOG"ANALOG RGB is selected.. "SCART"SCART is selected.. "HDCP"HDCP is selected.. "VIDEO"VIDEO input is selected.. "S-VIDEO"S-VIDEO is selected.. "YPBPR"YPBPR input is selected.. "MCI" MCI Input is selected. "W I "Wireless Imager Input is selected. "NETWORK".... Network Input is selected.
	Unacceptable	"Error code" [CR] ---- Invalid "?" [CR] ----- When the projector received unclear command

9.7.3 CR_INPUT_%1COMMAND

COMMAND	"CR_INPUT_%1" [CR]	
%1	"COMPUTER1".... Specify COMPUTER 1 input "COMPUTER2".... Specify COMPUTER 2 input "VIDEO"..... Specify VIDEO input	
Details	Get specified input source	
Response	Acceptable	"000_%a" [CR]
	%a	When %1 is COMPUTER1... "ANALOG"..... ANALOG RGB is selected "DEGITAL".... DVI mode "HDCP"..... HDCPmode When %1 is COMPUTER2... "ANALOG"..... ANALOG RGB mode "YPBPR"..... Component mode "SCART"..... SCART mode "OUT"..... MONITOR OUT mode When %1 is VIDEO... "AUTO"..... VIDEO AUTO is selected "VIDEO"..... Composite VIDEO input is selected. "S-VIDEO".... S-VIDEO input is selected
	Unacceptable	"?" [CR]

9.7.4 CR_SYSTEMCOMMAND

COMMAND	"CR_SYSTEM" [CR]		
Details	Get selected. system		
Response	Acceptable		"000_%1" [CR]
	%1	INPUT IS PC	"101"
		INPUT IS VIDEOL	"AUTO" AUTO is selected. "NTSC" NTSC is selected. "NNTSC443".... NTSC4.43 is selected. "PAL" PAL is selected. "SECAM" SECAM is selected. "PAL-M" PAL-M is selected. "PAL-N" PAL-N is selected. "1080 I" 1080i is selected. "1035 I" 1035i is selected. "720P" 720p is selected. "575P" 575p is selected. "480P" 480p is selected. "575I" 575i is selected. "480I" 480i is selected.
	Unacceptable		"101" [CR] When Input is PC "?" [CR] When received command is unclear

9.8 Screen COMMAND**9.8.1 CR_SCREENCOMMAND**

COMMAND	"CR_SCREEN" [CR]		
Details	Get selected Screen Size		
Response	Acceptable		"000_%a" [CR]
	%a	Input is PC	"NORMAL" Select 4:3 screen "WIDE" Select 16:9 screen "TRUE" True Size
		Input is VIDEO	"NORMAL" Select 4:3 Screen "WIDE" Select 16:9 screen
	Unacceptable		"Error Code" [CR] Invalid "?" [CR] COMMAND

9.8.2 CR_FLSCREENCOMMAND

COMMAND	"CR_FLSCREEN" [CR]	
Details	Get the screen size status that Full Screen is selected. or not.	
Response	Acceptable	"000_%1" [CR]
	%a	"ON" = Full Screen is set. "OFF" = Full Screen is not set.
	Unacceptable	"Error code" [CR] ---- Invalid "?" [CR] ----- When the projector received unclear command

9.8.3 CR_TRUECOMMAND

COMMAND	"CR_TRUE" [CR]	
Details	Get information if the screen setting is True or not.	
Response	Acceptable	"000_%1" [CR]
	%a	"ON" True is set. "OFF" True is not set.
	Unacceptable	"Error code" [CR] ---- Invalid "?" [CR] ----- When the projector received unclear command

9.8.4 CR_KYSTNMODECOMMAND

COMMAND	"CR_KYSTNMODE" [CR]	
Details	Get Keystone Store MODE setting status	
Response	Acceptable	"000_%a" [CR]
	%a	"STR"-- "Store MODE" is Store "RST"-- "Store MODE" is Reset
	Unacceptable	"?" [CR] COMMAND

9.9 Lamp COMMAND**9.9.1 CR_LAMPREPLCOMMAND**

COMMAND	"CR_LAMPREPL" [CR]	
Details	Get lamp replacement time information	
Response	Acceptable	"000_%1" [CR]
	%1	"1Y"-- over the lamp replacement time "1N"-- have not reached the lamp replacement time
	Unacceptable	"?" [CR]

9.9.2 CR_LAMPMODECOMMAND

COMMAND	"CR_LAMPMODE" [CR]	
Details	Get lamp replacement time information	
Response	Acceptable	"000_%1" [CR]
	%1	"NORMAL" Lamp MODE is NORMAL "ECO" Lamp MODE is silent "AUTO" Lamp MODE is AUTO
	Unacceptable	"?" [CR]

9.9.3 CR_PROJHCOMMAND

COMMAND	"CR_PROJH" [CR]	
Details	Get total projector running time. (h= hours)	
Response	Acceptable	"000_%1" [CR]
	%1	"0000000"-- "9999999"
	Unacceptable	"?" [CR]

9.10 Sound Status COMMAND**9.10.1 CR_VOLUMECOMMAND**

COMMAND	"CR_VOLUME" [CR]	
Details	Get User Control Volume	
Response	Acceptable	"000_%a" [CR]
	%a	"000"-- "063"
	Unacceptable	"?" [CR]

9.10.2 CR_MUTECOMMAND

COMMAND	"CR_MUTE" [CR]	
Details	Get sound mute setting value	
Response	Acceptable	"000_%a" [CR]
	%a	"ON"---- Sound mute is ON "OFF"-- Sound mute is OFF
	Unacceptable	"?" [CR]

9.11 Setting Status COMMAND**9.11.1 CR_BBACKCOMMAND**

COMMAND	"CR_BBACK" [CR]	
Details	Get Blue Back setting value	
Response	Acceptable	"000_%a" [CR]
	%a	"ON"----- Set Blue Back "OFF"---- Cancel Blue Back
	Unacceptable	"?" [CR]

9.11.2 CR_DISPCOMMAND

COMMAND	"CR_DISP" [CR]	
Details	Get Display setting status	
Response	Acceptable	"000_%a" [CR]
	%a	"ON"----- Set Display "OFF"--- Cancel Display
	Unacceptable	"?" [CR]

9.11.3 CR_LOGOCOMMAND

COMMAND	"CR_LOGO" [CR]	
Details	Get Logo setting status	
Response	Acceptable	"000_%1" [CR]
	%1	"OFF".....Cancel Logo Function "DEFAULT".... Logo Function Default "USER"..... Logo Function User
	Unacceptable	"?" [CR]

9.11.4 CR_RCODECOMMAND

COMMAND	"CR_RCCODE" [CR]	
Details	Get the selected. code in Remote Control MODE	
Response	Acceptable	"000_%a" [CR]
	%a	"001"= Code 1 is selected. "002"= Code 2 is selected. "003"= Code 3 is selected. "004"= Code 4 is selected. "005"= Code 5 is selected. "006"= Code 6 is selected. "007"= Code 7 is selected. "008"= Code 8 is selected.
	Unacceptable	"?" [CR]

9.11.5 CR_LANGCOMMAND

COMMAND	"CR_LANG" [CR]	
Details	Get selected. language	
Response	Acceptable	"000_%a" [CR]
	%a	"ENG"---- English is selected. "DEU"---- German is selected. "FRA"---- French is selected. "ITA"---- Italian is selected. "ESP"---- Spanish is selected. "POR"---- Portuguese is selected. "NED"---- Dutch is selected. "SVE"---- Swedish is selected. "JPN"---- Japanese is selected. "CHI"---- Korean is selected. "KOR"---- Chinese is selected. "RUS"---- Russian is selected.
	Unacceptable	"?" [CR]

9.11.6 CR_ON-STACOMMAND

COMMAND	"CR_ON-STA" [CR]	
Details	Get selected Power on start	
Response	Acceptable	"000_%a" [CR]
	%a	"ON" = Set Power ON Start "OFF" = Cancel Power ON Start
	Unacceptable	"?" [CR]

9.11.7 CR_P-MANECOMMAND

COMMAND	"CR_P-MANE" [CR]	
Details	Get the time to start Power management	
Response	Acceptable	"000_%a" [CR]
	%a	"OFF"----- Power management is Canceled "READY"----- Power management is Ready "SHUTDOWN"-- Power management is set to Shut Down MODE
	Unacceptable	"?" [CR]

9.11.8 CR_P-MANETIMECOMMAND

COMMAND	"CR_P-MAETIME" [CR]	
Details	Get the time to start Power management	
Response	Acceptable	"000_%a" [CR]
	%a	"001"- "030"-- 1mininute to 30 minutes
	Unacceptable	"?" [CR]

9.11.9 CR_FANSPEEDCOMMAND

COMMAND	"CR_FANSPEED" [CR]	
Details	Get Fan Control Speed	
Response	Acceptable	"000_%a" [CR]
	%a	"MAX"--- Fan Control Speed is Max. "NOR"--- Fan Control Speed is NORMAL
	Unacceptable	"?" [CR]

9.11.10 CR_KEYDISCOMMAND

COMMAND	"CR_KEYDIS" [CR]	
Details	Get RC//KEY status	
Response	Acceptable	"000_%a" [CR]
	%a	"N/A" = Both RC & KEY are available. "RC" = RC is locked "KEY" = KEY is locked
	Unacceptable	"?" [CR]

9.11.11 CR_TERMINALCOMMAND

COMMAND	"CR_TERMINAL" [CR]	
Details	Get Terminal Setting status	
Response	Acceptable	"000_%a" [CR]
	%a	"COMPUTER".... COMPUTER input mode "MONITOR"..... MONITOR Out mode
	Unacceptable	"?" [CR]

9.11.12 CR_STANDBYMODECOMMAND

COMMAND	"CR_STANDBYMODE" [CR]	
Details	Get the setting status for Stand By Mode	
Response	Acceptable	"000_%a" [CR]
	%a	"ECO"..... Eco Mode "NORMAL"..... Normal Mode
	Unacceptable	"?" [CR]

9.11.13 CR_POINTERCOMMAND

COMMAND	"CR_POINTER" [CR]	
Details	Get pointer setting status	
Response	Acceptable	"000_%a_%b" [CR]
	%a	"SPOTLIGHT".... Spotlight Mode "ARROW"..... Arrow Mode "FINGER"..... Finger Mode "LASER"..... Laser Mark Mode
	%b	When SPOTLIGHT... "MAX".....Maximum "MID"..... Middle "MIN"..... Minimum When ARROW/FINGER/LASER... N/A
	Unacceptable	"?" [CR]

9.12 Other Status Read COMMAND**9.12.1 CR_SIGNALCOMMAND**

COMMAND	"CR_SIGNAL" [CR]	
Details	Get information if there is signal or not	
Response	Acceptable	"000_%a" [CR]
	%a	"ON" = There is signal "OFF" = No signal
	Unacceptable	"?" [CR]

9.12.2 CR_VMUTECOMMAND

COMMAND	"CR_VMUTE" [CR]	
Details	Get No Show setting status	
Response	Acceptable	"000_%a" [CR]
	%a	"ON"----- Set No Show "OFF"--- Cancel No Show
	Unacceptable	"?" [CR]

9.12.3 CR_FREEZECOMMAND

COMMAND	"CR_FREEZE" [CR]	
Details	Get Freeze setting status	
Response	Acceptable	"000_%a" [CR]
	%a	"ON"----- Set No Show "OFF"--- Cancel No Show
	Unacceptable	"?" [CR]

9.12.4 CR_PTIMERCOMMAND

COMMAND	"CR_PTIMER" [CR]	
Details	Get Presentation Timer status	
Response	Acceptable	"000_%a" [CR]
	%a	"ON"----- Presentation timer is active "STOP"--- Presentation timer is pause "OFF"----- Presentation timer is inactive
	Unacceptable	"?" [CR]

9.12.5 CR_TEMPWARNCOMMAND

COMMAND	"CR_TEMPWARN" [CR]	
Details	Get if the sensors are exceeding or approaching critical temperature. When some sensors are installed inside the projector, get each sensor's temperature.	
Response	Acceptable	"000_%a_%b_%c" [CR]
	%a %b %c	%a...temperature sensor 1 status %b...temperature sensor 2 status %c...temperature sensor 3 status "W"--- Exceeding critical temperature (Warning) "S"--- Sensor temperature is safe. "N"--- Not relate to the temperature Ex. When "S_W_S" [CR] means that sensor 1 is safety temperature, sensor 2 is exceeding critical temperature, and sensor 3 is safety temperature. Note) Depends on projector Models, when the temperature difference between sensor 1 and sensor 2 is over the specified temperature, the sensor may show "W". In this case, sensor 3 shows that the temperature difference is "W", "S", or "N".
	Unacceptable	"?" [CR]

9.12.6 CR_TEMPFAILCOMMAND

COMMAND	"CR_TEMPFAIL" [CR]	
Details	Get the temperature inside a projector. When some temperature sensors are installed in the projector, it is possible to know the temperature all at once.	
Response	Acceptable	"000_%a_%b_%c" [CR]
	%a %b %c	%a = Temperature, sensor 1 %b = Temperature, sensor 2 %c = Temperature, sensor 3 (Ex.) "_31.5 F" [CR] _means a space. When the temperature sinks to -, the first character "-"like "-05.5F" [CR]. Last character indicates the sensor's status. Exceeding critical temperature = "F" Sensor temperature is safe = "S" Not relate to the temperature = "N" "_31.5F"indicates 31.5 degrees and safety temperature. When the temperature is safe, the data will be " 00.0S". Every time the projector is reset, " 00.0S"is set. In short, previous data is deleted.
	Unacceptable	"?" [CR]