EXPAND SERIAL COMMAND

FUNCTIONAL SPECIFICATIONS

LC-W3

SANYO Electric Co., Ltd
Home Electronics Group
AV Company
Projector BU

CONTENTS

1．Overview

1.1 This Functional Specification defines communication functions with Network cards for LC-W3.

1.2 Compatible to Farmware Ver. 1.x of the projector.

1.3 Commands in this document are to communicate with Network cards, but most commands are used to control a projector remotely from a computer with RS-232C.　Therefore commands in this document are defined as Expand Serial Commands.

2.　Serial Interface Specification

2.1 **Transfer Specification**

Item	Specification
Synchronous System	Asynchronous
Transmission Speed	9600 / 19200
Data Length	8 bits
Parity	N/A
Stop Bit	1
Flow Control	N/A

Note1) Transmission Speed: initial setting value is 19200

Note2) Transmission Speed can be changed in Service mode.

2.2 **Connection**

Dedicated serial cables that come with the projector must be used for the connection between a computer and a projector.

PC　　　　　　　　　**Projector**

COM 1　　　　　　　**Control Port IN**

(D-Sub 9Pin)　　　　　**(mini 8Pin)**
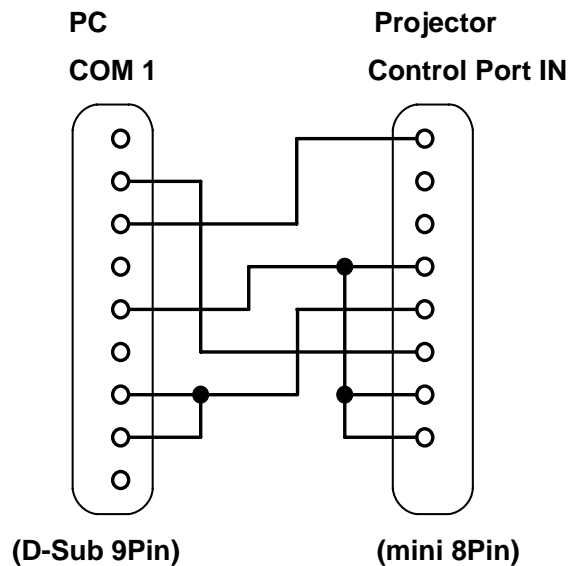
3. Notes for communication

3.1 Expand Serial Command is defined as single command/a line that starts with "C" and ends with carriage return (0x0D).

3.2 There are two types of commands; Functional Execution Commands and Status Read Command.

      - Example of Functional Execution Command: "CF_BRIGHT_032" [CR]

      - Example of Status Read Command: "CR_BRIGHT" [CR]

          Note) "_" means a space

3.3 When it takes more than a second to receive single command, it is not executed.

    When it takes more than a second to receive carriage return (0x0D) since the reception of the first data "C", it clears information of receive buffer.

3.4 When the command pipelining, allow the interval time of more than 100ms after receiving return value.
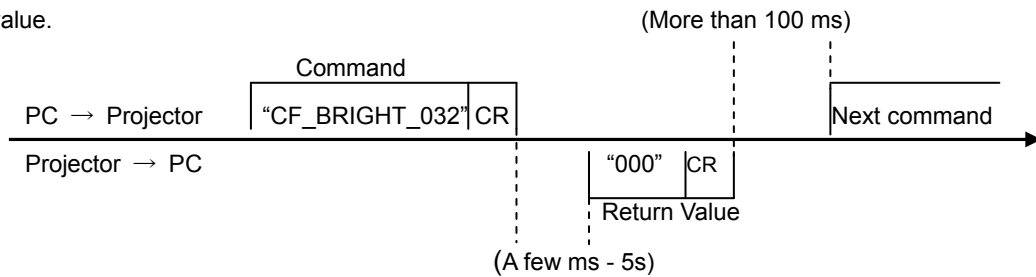
3.4.1 Do not send any subsequent command before reception of return value; however this is not the case when no response is returned after more than 5 seconds.

3.4.2 However this is not the case when no response is returned after more than 5 seconds.

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

4. Notation Convention

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

    Carriage Return code is added to the end of the command.

    Response also ends with carriage return code.

4.3 _: Space Code

    Space Code is represented as (_).

4.4 %1: Parameter included in Command

    When there are more than one parameter, they are defined as %2, %3…

4.5 %%%: Error Code returned from a projector

    Acceptable: "000".

    Unacceptable: See [7. Error Code Table].

5．Functional Execution Command Table

5.1 Image Command Table

Execute command	Item
CF_BRIGHT_%1 [CR]	Set value of Brightness
CF_CONT_%1 [CR]	Set value of Contrast
CF_COLOR_%1 [CR]	Set value of Color
CF_TINT_%1 [CR]	Set value of Tint
CF_SHARP_%1 [CR]	Set value of Sharpness
CF_GAMMA_%1 [CR]	Set value of Gamma
CF_WBAL-R_%1 [CR]	Set Red value of White Balance
CF_WBAL-G_%1 [CR]	Set Green value of White Balance
CF_WBAL-B_%1 [CR]	Set Blue value of White Balance
CF_COLTEMP_%1 [CR]	Set value of Color Temprature
CF_NZRED_%1 [CR]	Set Noise reduction
CF_PROGV_%1 [CR]	Set Progressive scan
CF_IMAGE_%1 [CR]	Set Image mode
CF_IMAGEADJ_%1 [CR]	Reset or Store values of Image Adjustment
CF_APCTRL_%1 [CR]	Set Auto Picture Control
CF_COLMNSAV_%1 [CR]	Store current settings of Color Management
CF_COLMNLD_%1 [CR]	Load settings of Color Management

5.2 PC Adjust Control Command Table

Execute command	Item
CF_FSYNC_%1 [CR]	Set value of Fine Sync
CF_TDOTS_%1 [CR]	Set value of Total Dots
CF_CLPPHASE_%1 [CR]	Set value of Clamp Phase
CF_CLPWIDTH_%1 [CR]	Set value of Clamp Width
CF_H-POS_%1 [CR]	Set value of Horizontal Position
CF_V-POS_%1 [CR]	Set value of Vertical Position
CF_DDOTS_%1 [CR]	Set value of Display Dots
CF_DLINE_%1 [CR]	Set value of Display Line
CF_SETPCADJ_%1 [CR]	Turn values set in PC Adjust menu into screen image
CF_ORGMODE_%1 [CR]	Set the original signal for PC mode
CF_PCSTORE_%1 [CR]	Store current setting values in PC Adjust menu in Mode %1
CF_PCMODEFREE_%1 [CR]	Delete the registered values in Mode %1 and return it to Free status.

5.3 Input Control Command Table

Execute command	Item
CF_INPUT_%1 [CR]	Select Input
CF_SOURCE_%1 [CR]	Select Source of selected Input
CF_INPUT1_%1 [CR]	Select Input1 and also set input source to %1
CF_INPUT2_%1 [CR]	Select Input2 and also set input source to %1
CF_INPUT3_%1 [CR]	Select Input3 and also set input source to %1
CF_SYSTEM_%1 [CR]	Select System of curretnlty selected Input

5.4 Screen Control Command Table

Execute command	Item
CF_SCREEN_%1 [CR]	Select Screen size
CF_DZCENT _%1 [CR]	Cancel Digital Zoom mode
CF_KEYSTONE _%1 [CR]	Set Keystone
CF_KYSTNMODE _%1 [CR]	Set Keystone Store mode

5.5 **Lamp Command Table**

Execute command	Item
CF_LAMPH_%1 [CR]	Reset total running time for each lamp
CF_LAMPMODE_%1 [CR]	Select Lamp mode

5.6 **Sound Command Table**

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

5.7 **Setting Command Table**

Execute command	Item
CF_BACKGND_1[CR]	Set screen status when there is no signal
CF_DISP_%1 [CR]	Set On Screen Display function
CF_LOGO_%1_%2 [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 language for OSD
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 time for Power Management
CF_FANSPEED_%1 [CR]	Select Fan Speed
CF_KEYDIS_%1 [CR]	Prohibit RC/KEY control
CF_FDEFAULT_%1 [CR]	Reset to Factory Default settings
CF_PJPINCODE_%1[CR]	Enter PJ PIN code to cancel PJ lock

5.8 **Other Command Table**

Execute command	Item
CF_KEYEMU_%1 [CR]	The same operation as RC/Control Key
CF_MENU_%1 [CR]	Set ON/OFF of Menu
CF_POWER_%1 [CR]	Set ON/OFF of Power
CF_FREEZE_%1 [CR]	Set Freeze function

6. Status Read Command Table

6.1 Image Status Read Command Table

Status Read command	Item
CR_BRIGHT [CR]	Get value of Brightness
CR_CONT [CR]	Get value of Contrast
CR_COLOR [CR]	Get value of Color
CR_TINT [CR]	Get value of Tint
CR_SHARP [CR]	Get value of Sharpness
CR_GAMMA [CR]	Get value of Gamma
CR_WBAL-R [CR]	Get Red value of White Balance
CR_WBAL-G [CR]	Get Green value of White Balance
CR_WBAL-B [CR]	Get Blue value of White Balance
CR_COLTEMP [CR]	Get setting value of Color temperature
CR_NZRED [CR]	Get setting status of Noise reduction
CR_PROGV [CR]	Get setting status of Progressive scan
CR_IMAGE [CR]	Get Selected Image status
CR_IMGGMD [CR]	Get setting value of Image Gamma
CR_APCTRL [CR]	Get setting status of Auto Picture Control

6.2 PC Adjust Status Read Command Table

Status Read command	Item
CR_FSYNC [CR]	Get setting value of Fine Sync
CR_TDOTS [CR]	Get setting value of Total Dots
CR_CLPPHASE [CR]	Get setting value of Clamp phase
CR_CLPWIDTH [CR]	Get setting value of Clamp width
CR_H-POS [CR]	Get setting value of Horizontal Position
CR_V-POS [CR]	Get setting value of Vertical Position
CR_DDOTS [CR]	Get setting value of Display Dots
CR_DLINE [CR]	Get setting value of Display Line
CR_ORGMODE [CR]	Get the original signal for PC Adj. mode
CR_PCSTORE [CR]	Get Free or Stored status for PC Adj. mode 1-10
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 currently selected signal. In Auto mode, it returns a result by Auto detection.

6.4 Input Status Read Command Table

Status Read command	Item
CR_INPUT [CR]	Get selected Input status
CR_SOURCE [CR]	Get selected source of currently selected Input
CR_SRCINP1 [CR]	Get selected source for Input 1
CR_SRCINP2 [CR]	Get selected source for Input 2
CR_SRCINP3 [CR]	Get selected source for Input 3
CR_SYSTEM [CR]	Get selected system of currently selected Input
CR_SYSLIST [CR]	Get possible system list
CR_MODELIST [CR]	Get possible mode list

6.5 Screen Status Read Command Table

Status Read command	Item
CR_SCREEN [CR]	Get selected screen size
CR_KYSTNMODE [CR]	Get setting status of Keystone Store Mode

6.6 **Lamp Status Read Command Table**

Status Read command	Item
CR_LAMPREPL [CR]	Get information for Lamp replacement time
CR_LAMPH [CR]	Get information for Lamp runnig time
CR_LAMPCORRESPH [CR]	Get lamp running time multiplied by a coefficient
CR_LAMPMODE [CR]	Get Lamp Mode status
CR_PROJH [CR]	Get total running time of projector

6.7 **Sound Status Read Command Table**

Status Read command	Item
CR_VOLUME [CR]	Get value of Volume
CR_MUTE [CR]	Get setting status of Sound Mute

6.8 **Setting Status Read Command Table**

Status Read command	Item
CR_BACKGND [CR]	Get setting status of Screen when there is no signal
CR_DISP [CR]	Get setting status of Display
CR_LOGO [CR]	Get setting status of Logo
CR_LOGOLOCK[CR]	Get setting status of Logo Lock
CR_CEIL [CR]	Get setting status of Ceiling
CR_REAR [CR]	Get setting status of Rear
CR_RCODE [CR]	Get selected Remote Control code
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 setting time for Power Management
CR_FANSPEED [CR]	Get selected Fan Control Speed
CR_KEYDIS [CR]	Get RC/KEY prohibited status
CR_SECURITY [CR]	Get setting status of Security
CR_PJLOCKNOW[CR]	Get setting status of current PJ Lock
CR_PJLOCKMENU[CR]	Get PJ Lock setting status on the menu

6.9 **Other Status Read Command Table**

Status Read command	Item
CR_STATUS [CR]	Get operating status of Projector
CR_SIGNAL [CR]	Get status of singal existence
CR_VMUTE [CR]	Get setting status of No show function
CR_FREEZE [CR]	Get setting status of Freeze function
CR_ALLPFAIL [CR]	Get all information of Power Failure
CR_HMPFAIL [CR]	Get total number of detectable Power Failure
CR_PFAIL01 [CR]	Get Item name of Power Failure No.01 and error status
CR_PFAIL02 [CR] ¦ CR_PFAIL50 [CR]	Get Item name of Power Failure No.02 and error status ¦ Get Item name of Power Failure No.50 and error status
CR_TEMPFAIL [CR]	Get temperature when sensors approach abnormal temperature
CR_TEMP [CR]	Get current temperature

7．**Error Code Table**

Error Code	Contents
?	-When the received data cannot be decoded -Parameter decignation error (wrong digit number, including invalid value, etc.)
000	Normal reception (This is "Not" error)
102	Directly specified value or values are out of range. (Not reflected)
103	Command mismatched to Hardware (the command is for Optional function which is not implemented)
201	Incremented or decremented value or values are beyond upper or lower limits.
301	Not executable due to screen capturing in process. Prompting reissue of the command after a while.
402	Not executable due to PIN code in operation. Prompting reissue of the command after a while.
101	Error not applicable to above errors

8. Functional Execution Command

8.1 Format

1) PC issues commands in format as below:

Pattern1: "CF_ COMMAND " [CR]

Pattern2: "CF_ COMMAND _" %1 [CR]

CF_: Header

COMMAND: String

%1: Parameter (String)

_: Space (To separate COMMAND and Parameter)

2) The projector decodes the received command and when it is ready to receive the next command, it returns the response.

"000" [CR]:（0x06,0x0D）When receiving Functional Execution Command

"nnn" [CR]: Except "000", when it is unable to execute command for any specific reason.

<u>See Error Code Table for details</u>

3) When the received data cannot be decoded, the projector returns **"?" [CR]**

8.2 Transfer Example

When setting projector's total dots to 1344 by Expand Serial command

PC → PJ: "CF_TDOTS_1344" [CR]

PC → PJ: "000" [CR] - - - - - - - - - - Acceptable

8.3 Operation Requirements

Functional Execution Command is limited when the projector status is as below.

However, Status Read Command is still effective under following conditions.

Projector Status	Available Functional Execution Command
Standby Mode	C00: Power ON CF POWER ON
Countdown in process	C00: Power ON CF POWER ON (Terminates Count Down)
Cooling Down in process	N/A
Cooling Down due to Abnormal Temperature	N/A
Abnormal Temperature	N/A
Power Failure (60 seconds after Power failure occured)	N/A
Power-Save Cooling Down in process	N/A
Cooling Down in process due to Shutter management	N/A
Power Save in process	C00: Power ON C01: Power OFF CF POWER ON CF POWER OFF

Note) When projector receives the another command in the above status, it returns error code

which shows the status.

8.4 **Image Command**

8.4.1 **CF_ BRIGHT Command**

Command	"CF_BRIGHT_%1" [CR]	
%1	"000-063"-------------- Directly specify setting value of Brightness "UP"--------------------- Increment setting value of Brightness by 1 "DN"--------------------- Decrement setting value of Brightness by 1	
Details	Set user controlled value of Brightness (Available only in the normal Power ON status) The value set by this command will not be stored in the projector. Therefore, when the power is turned to ALL OFF, the value returns to the original setting. (It is stored in Standby mode.)	
Response	Acceptable	"000" [CR]
	Unacceptable	"Error Code" [CR]

8.4.2 **CF_CONT Command**

Command	"CF_CONT_%1" [CR]	
%1	"000-063"-------------- Directly specify setting value of Contrast "UP"--------------------- Increment setting value of Contrast by 1 "DN"--------------------- Decrement setting value of Contrast by 1	
Details	Set user controlled value of Contrast (Available only in the normal Power ON status) The value set by this command will not be stored in the projector. Therefore, when the power is turned to ALL OFF, the value returns to the original setting. (It is stored in Standby mode.)	
Response	Acceptable	"000" [CR]
	Unacceptable	"Error Code" [CR]

8.4.3 **CF_COLOR Command**

Command	"CF_COLOR_%1" [CR]	
%1	"000-063"-------------- Directly specify setting value of Color "UP"--------------------- Increment setting value of Color by 1 "DN"--------------------- Decrement setting value of Color by 1	
Details	Set user controlled value of Colorl (Available only in the normal Power ON status) The value set by this command will not be stored in the projector. Therefore, when the power is turned to ALL OFF, the value returns to the original setting. (It is stored in Standby mode.)	
Response	Acceptable	"000" [CR]
	Unacceptable	"Error Code" [CR]

8.4.4 **CF_TINT Command**

Command	"CF_TINT_%1" [CR]	
%1	"000-063"-------------- Directly specify setting value of Tint "UP"--------------------- Increment setting value of Tint by 1 "DN"--------------------- Decrement setting value of Tint by 1	
Details	Set Tint value (Available only in the normal Power ON status) The value set by this command will not be saved to the projector. Therefore, when ALL is OFF, the value returns to the original setting. (It is stored in Standby mode.)	
Response	Acceptable	"000" [CR]
	Unacceptable	"Error Code" [CR]

8.4.5 CF_SHARP Command

Command	"CF_SHARP_%1" [CR]
%1	"000-031"-------------- Directly specify setting value of Sharpness "UP"-------------------- Increment setting value of Sharpness by 1 "DN"-------------------- Decrement setting value of Sharpness by 1
Details	Set user controlled value of Sharpness (Available only in the normal Power ON status) The value set by this command will not be stored in the projector. Therefore, when the power is turned to ALL OFF, the value returns to the original setting. (It is stored in Standby mode.)
Response	Acceptable	"000" [CR]
	Unacceptable	"Error Code" [CR]

8.4.6 CF_GAMMA Command

Command	"CF_GAMMA_%1" [CR]
%1	"000-015"---------------- Directly specify setting value of Gamma "UP"---------------------- Increment setting value of Gamma by 1 "DN"---------------------- Decrenment setting value of Gamma by 1
Details	Set user controlled value of Gamma (Available only in the normal Power ON status) The value set by this command will not be stored in the projector. Therefore, when the power is turned to ALL OFF, the value returns to the original setting. (It is stored in Standby mode.)
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 specify value of Color selected in White Balance %1 "UP"------------ Increment setting value of Color specified in White Balance %1 by 1 "DN"------------ Decrement setting value of Color specified in White Balance %1 by 1
Details	Set value of Color specified in White Balance %1 (Available only in the normal Power ON status) The value set by this command will not be stored in the projector. Therefore, when the power is turned to ALL OFF, the value returns to the original setting. (It is stored in Standby mode.)
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 Color Temperature (Available only in the normal Power ON status) The value set by this command will not be stored in the projector. Therefore, when the power is turned to ALL OFF, the value returns to the original setting. (It is

Response	stored in Standby mode.)	
	Acceptable	"000" [CR]
	Unacceptable	"Error Code" [CR]

8.4.9 CF_NZRED Command

Command	"CF_NZRED_%1" [CR]	
%1	"OFF" ---------------- Cancel Noise Reduction "L1" ------------------- Set Noise Reduction L1 "L2" ------------------- Set Noise Reduction L2 "UP" ----------------- Switch setting forward direction (OFF→L1→L2→OFF) "DN" ----------------- Switch setting backward direction (OFF→L2→L1→OFF)	
Details	Set or Cancel Noise Reduction (Available only in the normal Power ON status) The value set by this command will not be stored in the projector. Therefore, when the power is turned to ALL OFF, the value returns to the original setting. (It returns to the original setting in Standby mode as well.)	
Response	Acceptable	"000" [CR]
	Unacceptable	"Error Code" [CR]

8.4.10 CF_PROGV Command

Command	"CF_PROGV_%1" [CR]	
%1	"ON" ----------------- Select Progressive scan On mode "FILM" ------------------- Select Film mode "OFF" ---------------- Select Progressive scan Off mode "UP" ----------------- Switch setting forward direction (OFF→ON→FILM→OFF) "DN" ----------------- Switch setting backward direction (OFF→FILM→ON→OFF)	
Details	Set or Cancel Progressive scan (Available only in the normal Power ON status) The value set by this command will not be stored in the projector. Therefore, when the power is turned to ALL OFF, the value returns to the original setting. (It is stored in Standby mode.)	
Response	Acceptable	"000" [CR]
	Unacceptable	"Error Code" [CR]

8.4.11 CF_IMAGE Command

Command	"CF_IMAGE__%1" [CR]	

%1	"STANDPC" --------- Standard (PC)
	          (Image adjust value is set to factory default for Still Image)
	"STANDAV" --------- Standard (AV)
	          (Image adjust value is set to factory default for Moving Image)
	"REAL------------ Real (Fixed value to display graphic image with natural tone)
	"CINEMA"------- Cinema (Fixed value to focus on tone reproduction for movie)
	"CUSTOM1" ------------- Image1（the value set and stored by user）
	"CUSTOM2" ------------- Image2（the value set and stored by user）
	"CUSTOM3" ------------- Image3（the value set and stored by user）
	"CUSTOM4" ------------- Image4（the value set and stored by user）
	"CUSTOM5" ------------- Image5（the value set and stored by user）
	"CUSTOM6" ------------- Image6（the value set and stored by user）
	"CUSTOM7" ------------- Image7（the value set and stored by user）
	"CUSTOM8" ------------- Image8（the value set and stored by user）
	"CUSTOM9" ------------- Image9（the value set and stored by user）
	"CUSTOM10" ----------- Image10（the value set and stored by user）	

Details	Select Image Mode (Available only in the normal Power ON status) Parameter "CUSTOM1" to "CUSTOM10" corresponds to "Image1" to "Image10"	

	displayed when selecting Image on OSD menu. The value set by this command is stored in EEPROM so that the setting can remain effective even after the power is turned to ALL OFF.	
Response	Acceptable	"000" [CR]
	Unacceptable	"Error Code" [CR]

8.4.12 CF_IMAGEADJ Command

Command	"CF_IMAGEADJ_%1"[CR]
%1	"RST"------ Reset Image adjustment value "STR1"---- Store current image adjustment value to Image 1 "STR2"---- Store current image adjustment value to Image 2 "STR3"---- Store current image adjustment value to Image 3 "STR4"---- Store current image adjustment value to Image 4 "STR5"---- Store current image adjustment value to Image 5 "STR6"---- Store current image adjustment value to Image 6 "STR7"---- Store current image adjustment value to Image 7 "STR8"---- Store current image adjustment value to Image 8 "STR9"---- Store current image adjustment value to Image 9 "STR10"---- Store current image adjustment value to Image 10
Details	Reset or Store Image adjustment value. (Available only in the normal Power ON status) "STR1"-"STR10" corresponds to "Image1"-"Image10" displayed when selecting "Store" for Image adjustment on OSD menu. The setting value set in "Image1" to "Image10" is stored and can be retrieved when turning on the projector again after the power is turned to ALL OFF.
Response	Acceptable	"000" [CR]
	Unacceptable	"Error Code" [CR]

8.4.13 CF_APCTRL Command

Command	"CF_APCTRL_%1" [CR]
%1	"L1" ------------------ Set Auto Picture Control to Level 1 operation "L2" ------------------ Set Auto Picture Control to Level 2 operation "OFF" ---------------- Set Auto Picture Control Off " UP" ------------------ Switch setting forward direction (OFF→L1→L2→OFF) " DN" ------------------ Switch setting backward direction (OFF→L2→L1→OFF)
Details	Set Auto Picture Control (Available only in the normal Power ON status)
Response	Acceptable	"000" [CR]
	Unacceptable	"Error Code" [CR]

8.4.14 CF_COLMNSAV Command

Command	"CF_COLMNSAV_%1" [CR]
%1	"000 – 009" ---------------- Specify the area to store
Details	Store current setting status of Color Management to the area specified in %1. (Available only in the normal Power ON status)
Response	Acceptable	"000" [CR]
	Unacceptable	"Error Code" [CR]

8.4.15 CF_COLMNLD Command

Command	"CF_COLMNLD_%1" [CR]
%1	"000 – 009" ---------------- Specify the area to store
Details	Retrieve Color Management setting status from the area specified in %1.

	(Available only in the normal Power ON status)	
Response	Acceptable	"000" [CR]
	Unacceptable	"Error Code" [CR]

8.5 PC Adjust Control Command

8.5.1 CF_FSYNC Command

Command	"CF_FSYNC_%1" [CR]
%1	"0000-0031" ----------------- Directly specify setting value of Fine Sync "UP" --------------------------- Increment setting value of Fine Sync by 1 "DN" --------------------------- Decrement setting value of Fine Sync by 1
Details	Set value of Fine Sync in PC signal (Available only in the normal Power ON status) The value set by this command will not be stored in the projector. Therefore, when the power is turned to ALL OFF, the value returns to the original setting. (It is stored in Standby mode.)
Response	Acceptable	"000" [CR]
	Unacceptable	"101" [CR] --- When input is Video signal

8.5.2 CF_TDOTS Command

Command	"CF_TDOTS_%1" [CR]

%1	"mmmm - nnnn" --------------- Directly specify setting value of Total Dots
	    "mmmm" indicates minimum value, which is current (Display area H + Position H) value
	    "nnnn" indicates maximum value, whichi is *less than 140 MHz in Dot Clocks*
	"UP" ------------------------ Increment setting value of Total Dots by 1
	"DN" ------------------------ Decrement setting value of Total Dots by 1

Details	Set value of Total Dots in PC signal (Available only in the normal Power ON status) The value set by this command will not be stored in the projector. Therefore, when the power is turned to ALL OFF, the value returns to the original setting. (It is stored in Standby mode.)
Response	Acceptable	"000" [CR]
	Unacceptable	"101" [CR] --- When input is Video signal

8.5.3 CF_CLPPHASE Command

Command	"CF_CLPPHASE_%1" [CR]
%1	"0001-0225" ----------- Directly specify setting value of Clamp Phase "UP" -------------------- Increment setting value of Clamp Phase by 1 "DN" -------------------- Decrement setting value of Clamp Phase by 1
Details	Set value of Clamp Phase (Available only in the normal Power ON status) The value set by this command will not be stored in the projector. Therefore, when the power is turned to ALL OFF, the value returns to the original setting. (It is stored in Standby mode.)
Response	Acceptable	"000" [CR]
	Unacceptable	"Error Code" [CR]

8.5.4 CF_H-POS Command

Command	"CF_H-POS_%1" [CR]
%1	"0000-nnnn" -------- Directly specify setting value of Horizontal Position "nnnn" indicates maximum value, which is current (Total dots - Display area H) value "UP" ------------------ Increment setting value of Horizontal Position by 1 "DN" ----------------- Decrement setting value of Horizontal Position by 1

Details	Set value of Horizontal Position in PC signal (Available only in the normal Power ON status) The value set by this command will not be stored in the projector. Therefore, when the power is turned to ALL OFF, the value returns to the original setting. (It is stored in Standby mode.)	
Response	Acceptable	"000" [CR]
	Unacceptable	"101" [CR] --- When input is Video signal

8.5.5 CF_V-POS Command

Command	"CF_V-POS_%1" [CR]	
%1	"0000-nnnn" ------------ Directly specify setting value of Vertical Position "nnnn" indicates maximum value, which is current (Total Line – Display Area V) value "UP" --------------------- Increment setting value of Vertical Position by 1 "DN" --------------------- Decrement setting value of Vertical Position by 1	
Details	Set Vertical Position value (Available only in the normal Power ON status) The value set by this command will not be stored in the projector. Therefore, when the power is turned to ALL OFF, the value returns to the original setting. (It is stored in Standby mode.)	
Response	Acceptable	"000" [CR]
	Unacceptable	"101" [CR] ---- When input is Video signal

8.5.6 CF_DDOTS Command

Command	"CF_DDOTS_%1" [CR]	
%1	"0100-nnnn" -------------- Directly specify setting value of Display Dots "nnnn" indicates maximum value, which is current (Total Dots - Position H) value In this projector, the value should be "even number" and if "odd number" is specified, it adds 1 to make the value even number. "UP" ----------------------- Increment setting value of Display Dots by 2 "DN" ----------------------- Decrement setting value of Display Dots by 2	
Details	Set setting value of Display Dots in PC signal (Available only in the normal Power ON status) The value set by this command will not be stored in the projector. Therefore, when the power is turned to ALL OFF, the value returns to the original setting. (It is stored in Standby mode.)	
Response	Acceptable	"000" [CR]
	Unacceptable	"101" [CR] --- When input is Video signal

8.5.7 CF_DLINE Command

Command	"CF_DLINE_%1" [CR]	
%1	"0100-nnnn" ----------- Directly specify setting value of Display Line "nnnn" indicates maximum value, which is current (Total Line - Position V) value "UP" ------------------- Increment setting value of Display Line by 1 "DN" ------------------- Decrement setting value of Display line by 1	
Details	Set setting value of Display Line in PC signal (Available only in the normal Power ON status) The value set by this command will not be stored in the projector. Therefore, when the power is turned to ALL OFF, the value returns to the original setting. (It is stored in Standby mode.)	
Response	Acceptable	"000" [CR]
	Unacceptable	"101" [CR] --- When input is Video signal

8.5.8 **CF_SETPCADJ Command**

Command	"CF_SETPCADJ_%1" [CR]
%1	None "EXT11-60"

Details	1. Apply value set in PC Adjust Menu to projected image.
	Specifing setting value directly in the following PC Adjust related commands immediately reflects them on projected image, while issuing this command after these commands also triggers the reflection. (Avable only in the normal Power ON status)
	        -------------- CF_FSYNC
	        ------------- CF_TDOTS
	        ------------- CF_CLAMP
	        ------------- CF_H-POS
	        ------------- CF_V-POS
	        ------------- CF_DLINE
	        ------------- CF_DDOTS
	        ------------- CF_FLSCREN
	2. When "EXT11-60" is specified in %1, "Ex Mode" (not like XGA1) is desplayed in "SYSTEM" menu.

Response	Acceptable "000" [CR] Unacceptable "101" [CR] --- When input is Video signal

8.5.9 **CF_ORGMODE Command**

Command	"CF_ORGMODE_%1" [CR]

%1	When input signal is PC Analog;
	"VGA1" ------------------------ Specify VGA1
	"VGA2" ------------------------ Specify VGA2
	      :
	      :
	"XGA1" ------------------------ Specify XGA1
	      :
	      :
	"WXGA3" --------------------- Specify WXGA3
	"1080I60" --------------------- Specify 1080i60
	"1080I50" --------------------- Specify 1080i50
	"1035I" ------------------------ Specify 10350i
	"720p60" --------------------- Specify 720p60
	"720p50" --------------------- Specify 720p50
	"575p" ------------------------ Specify 575p
	"480p" ------------------------ Specify 480p
	"575I" ------------------------ Specify 575i
	"480I" ------------------------ Specify 480i
	"1080psf/24" ----------------- Spesify 1080psf/24
	"1080psf/25" ----------------- Specify 1080psf/25
	"1080psf/30" ----------------- Specify 1080psf/30
	* When input signal is not PC Analog, error code "101" is returned.

Details	After "EXT n" is set by PC control command such as CF_FSYNC/CF_TDOTS and CF_SETPCADJ command, specify the signal originated with by issuing this command. This command is used to specify projector internal settings such as whether or not to get PC signal through IP (Available only in the normal Power ON status) Note; To differentiate between *60Hz* and *50Hz* in 1080i and 720p, "60" or "50" is necessary to add to the parameter in this command.
Response	Acceptable "000" [CR] Unacceptable "101" [CR] --- When input is Video signal

8.5.10 **CF_PCSTORE Command**

Command	"CF_PCSTORE_%1" [CR]
%1	"1" ------------------------- Store current PC Adjust status to Mode1 "2" ------------------------- Store current PC Adjust status to Mode2 "3" ------------------------- Store current PC Adjust status to Mode3 "4" ------------------------- Store current PC Adjust status to Mode4 "5" ------------------------- Store current PC Adjust status to Mode5 "6" ------------------------- Store current PC Adjust status to Mode6 "7" ------------------------- Store current PC Adjust status to Mode7 "8" ------------------------- Store current PC Adjust status to Mode8 "9" ------------------------- Store current PC Adjust status to Mode9 "10" ----------------------- Store current PC Adjust status to Mode10
Details	Store current PC Adjust status (each parameter status such as Total dots) to Mode1-50. This command operates the same way as storing to Mode1-50 in PC Adjust Menu. (Available only in the normal Power ON status)
Response	Acceptable	"000" [CR]
	Unacceptable	"101" [CR] --- When input is Video signal

8.5.11 **CF_PCMODEFREE Command**

Command	"CF_PCMODEFREE_%1" [CR]
%1	"1" ------------------------- Free current PC Adjust data in Mode1 "2" ------------------------- Free current PC Adjust data in Mode2 "3" ------------------------- Free current PC Adjust data in Mode3 "4" ------------------------- Free current PC Adjust data in Mode4 "5" ------------------------- Free current PC Adjust data in Mode5 "6" ------------------------- Free current PC Adjust data in Mode6 "7" ------------------------- Free current PC Adjust data in Mode7 "8" ------------------------- Free current PC Adjust data in Mode8 "9" ------------------------- Free current PC Adjust data in Mode9 "10" ----------------------- Free current PC Adjust data in Mode10
Details	Delete the registered data in Custom Mode1–50 and returns it to Free. This command operates the same way as storing to Mode1-50 in PC Adjust Menu. (Available only in the normal Power ON status)
Response	Acceptable	"000" [CR]
	Unacceptable	"101" [CR] --- When input is Video signal

8.6 **Input Control Command**

8.6.1 **CF_INPUT Command**

Command	"CF_INPUT_%1" [CR]
%1	"1"------------------------ Select Input 1 (not switching Source) "2"------------------------ Select Input 2 (not switching Source) "3"------------------------ Select Input 3 (not switching Source) "UP"--------------------- Increment Input No. by 1 (Input 3 to Input 1) "DN"---------------------- Decrement Input No. by 1 (Input 1 to Input 3)
Details	Select Input (Available only in the normal Power ON status) This command switches only Input No, not Source. For instance, when Input 1 has been selected, receiving the command to select Input 1 does not invoke souce-switching operation. That means it operates differently from "INPUT" button of Projector or Remote Control.
Response	Acceptable	"000" [CR]
	Unacceptable	"%%%" [CR]

8.6.2 **CF_SOURCE Command**

Command	"CF_SOURCE_%1" [CR]	
%1	Input 1	"DIGITAL" -------------- Select RGB(PC Digital) Input "ANALOG" -------------- Select RGB(PC Analog) Input "SCART" ---------------- Select RGB(Scart) input "HDCP" ----------------- Select RGB(AV HDCP) input "UP" -------------------- Selectin　PC Analog → Scart → PC Digital → AV HDCP → PC Analog order "DN" --------------------- Select in PC Analog → AV HDCP → PC Digital → Scart → PC Analog order
	Input 2	"VIDEO" ----------------- Select Video input "YPBPR"----------------- Select Y,Pb/Cb,Pr/Cr input "ANALOG" -------------- Select RGB input "UP" ---------------------- Select in VIDEO → YPBPR → RGB → VIDEO order "DN" ---------------------- Select in VIDEO → RGB → YPBPR → VIDEO order
	Input 3	"VIDEO" ---------------Select Video input "S-VIDEO" -------------- Select S-Video input "YPBPR" --------------- Select Y,Pb/Cb,Pr/Cr input "UP" ----------------- Select in VIDEO → YPBPR → S-VIDEO → VIDEO order "DN" ----------------- Select in VIDEO → S-VIDEO → YPBPR → VIDEO order
Details	Select Source of currently selected Input (Available only in the normal Power ON status) When selected input does not include specified %1, error code "101" is returned and it is not executed.	
Response	Acceptable	"000" [CR]
	Unacceptable	"%%%" [CR]

8.6.3 **CF_INPUT 1 Command**

Command	"CF_INPUT1_%1" [CR]	
%1	"DIGITAL" -------------------------- Select PC Digital Input "ANALOG" ------------------------- Select PC Analog Input "SCART" --------------------------- Select SCART Input "HDCP" --------------------------- Select DVI HDCP Input	
Details	Select Input 1 as well as Source specified in %1 (Available only in the normal Power ON status)	
Response	Acceptable	"000" [CR]
	Unacceptable	"%%%" [CR]

8.6.4 **CF_INPUT 2 Command**

Command	"CF_INPUT2_%1" [CR]	
%1	"VIDEO" ---------------------------- Select Composite Video Input "YPBPR" --------------------------- Select Y/Pb/Pr Input "ANALOG" ------------------------- Select RGB Input	
Details	Select Input 2 as well as Source specified in %1. (Available only in the normal Power ON status)	
Response	Acceptable	"000" [CR]
	Unacceptable	"%%%" [CR]

8.6.5 **CF_INPUT 3 Command**

Command	"CF_INPUT3_%1" [CR]	
%1	"VIDEO" --------------------------- Select Composite Video Input "S-VIDEO" ------------------------- Select S-Video Input "YPBPR" --------------------------- Select Y/Pb/Pr Input	
Details	Select Input 3 as well as Source specified in %1. (Available only in the normal Power ON status)	
Response	Acceptable	"000" [CR]
	Unacceptable	"%%%" [CR]

8.6.6 **CF_SYSTEM Command**

Command		"CF_SYSTEM_%1" [CR]
%1	Input is PC Analog	"VGA1" ---------------------------- Select VGA1 "VGA2" ---------------------------- Select VGA2 　： 　： "XGA1" ---------------------------- Select XGA1 　： 　： "WXGA3" --------------------- Select WXGA3 "1080I" ----------------------- Select 1080i "1035I" ----------------------- Select 1035i "720p" ----------------------- Select 720p "575p" ----------------------- Select 575p "480p" ----------------------- Select 480p "575I" ----------------------- Select 575i "480I" ----------------------- Select 480i "1080psf/24" ---------------- Select 1080psf/24 "1080psf/25" ----------------- Select 1080psf/25 "1080psf/30" ----------------- Select 1080psf/30 　"MODE1 - 10" ------- Select MODE1 – MODE10 "EXT11 - 60" ------------- Select Ex Mode11-60 　　　　　　　　　　* Mode1-10 is not returned.
	Input is PC　　Digital/AV HDCP	"D-XGA1" --------------------- Select D-XGA1 　： 　： "D-WXGA3" ------------------- Select D-WXGA3 "D-1080I" --------------------- Select D-1080i "D-1035I" --------------------- Select D-1035i "D-720p" ---------------------- Select D-720p "D-575p" ---------------------- Select D-575p "D-480p" ---------------------- Select D-480p "D-1080psf/24" -------------- Select D-1080psf/24 "D-1080psf/25" -------------- Select D-1080psf/25 "D-1080psf/30" --------------- Select D-1080psf/30
	Input is Y,Pb/Cb,Pr/Cr	"AUTO" ------------------------ Select System "Auto" "1080I" --------------------------- Select 1080i "1035I" --------------------------- Select 1035i "720P" --------------------------- Select 720p "575P" --------------------------- Select 575p "480P" --------------------------- Select 480p "575I" --------------------------- Select 575i "480I" --------------------------- Select 480i
	Input is Video / S-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
Details		Select Input System of currently selected Input

	(Available only in the normal Power ON status) When selected input does not include specified %1, error code "101" [CR] is returned and it is not executed.	
Response	Acceptable	"000" [CR]
	Unacceptable	"Error Code" [CR]

8.7 Screen Control Command

8.7.1 CF_SCREEN Command

Command	"CF_SCREEN_%1" [CR]	
%1	Input is Computer	"NORMAL" ---------------------- Select Normal mode "FULL" --------------------------- Select Full Screen mode "TRUE" -------------------------- Select True mode "DZOOM_UP" --------------------- Scale up with Digital zoom "DZOOM_DN" -------------------- Scale down with Digital zoom "UP" ------------------------------ Select screen size with forward swiching in possible range "DN" ----------------------------- Select screen size with backward swiching in possible range
	Input is Video	"NORMAL" --------------------- Select Normal mode "FULL" --------------------------- Select Full Screen mode "ZOOM" ------------------------- Select Zoom mode "NATURAL" ---------------------- Select Natural wide mode "UP" ------------------- Select screen size with forward swiching in possible range "DN" --------------------- Select screen size with backward swiching in possible range
Details	Select screen size (Available only in the normal Power ON status) When selected input does not include specified %1, error code "101" [CR] is returned and it is not executed. Receiving "DZOOM_UP" or "DZOOM_DN" command immediately executes the function.	
Response	Acceptable	"000" [CR]
	Unacceptable	"Error Code" [CR]

8.7.2 CF_DZCENT Command

Command	"CF_DZCENT_%1" [CR]	
%1	"CENT" --------------- Cancel Digital Zoom (CENT: "CENTER")	
Details	Cancel Digital Zoom function (Available only in the normal Power ON status and Input for Computer is selected)	
Response	Acceptable	"000" [CR]
	Unacceptable	"101" [CR] ----------------- When iput is Video

8.7.3 CF_KEYSTONE Command

Command	"CF_KEYSTONE _%1" [CR]
%1	"UP" ------------- Correct Keystone distortion to reduce upper part of image "FUP" ----------- Correct Keystone distortion to reduce upper part largely "DN" ------------- Correct Keystone distortion to reduce lower part of image "FDN" ----------- Correct Keystone distortion to reduce lower part largely "LEFT" ---------- Correct Keystone distortion to reduce left part of image "FLFT" ---------- Correct Keystone distortion to reduce left part largely "RIGHT" -------- Correct Keystone distortion to reduce right part of image "FRGT" --------- Correct Keystone distortion to reduce right part largely

		"RST" ------------ Set Keystone OFF
Details		Change level of Keystone distortion correction (Available only in the normal Power ON status). When reached the limit of the correction level, projector accepts the command but does not execute it. Receiving this command immediately invokes the operation. When trying to set the value beyond available range, error code "201" is returned and setting is not executed. Example 1: When the correction level of the right part has reached its upper limit and then the command "RIGHT" is received Example 2: When the upper part correction allows only another step, and then the command "FUP" is received.
Response	Acceptable	"000" [CR]
	Unacceptable	"Error Code" [CR]

8.7.4 CF_KYSTNMODE Command

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 (Available only in the normal Power ON status)
Response	Acceptable	"000" [CR]
	Unacceptable	"Error Code" [CR]

8.8 Lamp Command

8.8.1 CF_LAMPH Command

Command	"CF_LAMPH_%1" [CR]
%1	"RST"
Details	Reset lamp running time (Available only in the normal Power ON status)
Response	Acceptable	"000" [CR]
	Unacceptable	"Error Code" [CR]

8.8.2 CF_LAMPMODE Command

Command	"CF_AUTOLAMPCONTRL_%1" [CR]
%1	"NORMAL" ------------------------ Set Lamp status to Normal mode "ECO" ------------------------------ Set Lamp status to Eco mode "AUTO" ---------------------------- Set Lamp status to Auto mode
Details	Select Lamp mode (Available only in the normal Power ON status) The value set by this command is stored in EEPROM and the setting remains effective after the power is turned to ALL OFF. Note: In PLV-75 which does not provide lamp mode switching, "?" is returned for this command.
Response	Acceptable	"000" [CR]
	Unacceptable	"Error Code" [CR]

8.9 Sound Command

8.9.1 CF_VOLUME Command

Command	"CF_VOLUME_%1" [CR]
%1	"000-063" -------------------------- Directly select Volume setting value

	"UP" ------------------------------ Increment setting value of Volume by 1 "DN" ------------------------------ Decrement setting value of Volume by 1
Details	Control level of Volume (Available only in the normal Power ON status) Set Volume Up/Down the same way as RC and also directly select Volume setting value. When setting Volume value, the Sound Mute ON status is canceled just like RC operation. The value set by this command is stored in Projector.
Response	Acceptable	"000" [CR]
	Unacceptable	"Error Code" [CR]

8.9.2 CF_MUTE Command

Command	"CF_MUTE_%1" [CR]
%1	"ON" ---------------------------- Set Sound Mute ON "OFF" --------------------------- Set Sound Mute OFF
Details	Control On or Off of Sound Mute function (Available only in the normal Power ON status)
Response	Acceptable	"000" [CR]
	Unacceptable	"Error Code" [CR]

8.10 Setting Command

8.10.1 CF_BACKGND Command

Command	"CF_BACKGND_%1" [CR]
%1	"BLUE" -------------------- Select Blue Back "MYLOGO" --------------- Select My Logo "BLACK" ------------------ Select Black Back "UP" ---------- Switch forward (Blue Back→My Logo→Black Back→Blue Back) "DN" --------- Switch backward (Blue Back→Black Back→My Logo→Blue Back)
Details	Set Screen status when there is no signal (Available only in the normal Power ON status) The status set by this command is stored in EEPROM and the setting remains even after the power is turned to ALL OFF.
Response	Acceptable	"000" [CR]
	Unacceptable	"Error Code" [CR]

8.10.2 CF_DISP Command

Command	"CF_DISP_%1" [CR]
%1	"ON" ------------------------------ Select Display "CNTDWNOFF" --------------- Select Count down Off "OFF" --------------------------- Cancel Display "UP" --------------- Switch forward (On → Count down Off → Off → On → ---) "DN" --------------- Switch backward (On → Off → Count down Off → On → ---)
Details	Set/Cancel Display (Available only in the normal Power ON status) The value set by this command is stored in EEPROM and setting remains effective even after the power is turned to ALL OFF.
Response	Acceptable	"000" [CR]
	Unacceptable	"Error Code" [CR]

8.10.3 CF_LOGO Command

Command	"CF_LOGO_%1_%2" [CR]
%1	"0000 – 9999" -------------- Directly set Logo PIN code

%2	"OFF" --------------------------Cancel Logo display
	"DFLT" ------------------------- Select Logo of Factory Default
	"MYLOGO" ------------------- Select My Logo
	"UP" --------------------------- Select functions to choose forward
	                                   (OFF → DFLT → MYLOGO → OFF → --)
	"DN" --------------------------- Select functions to choose backward
	                                   (OFF → MYLOGO → DFLT → OFF → --)

Details	Set Logo status (Available only in the normal Power ON status)
	The status set by this command is stored in EEPROM and setting remains effective even after the power is turned to ALL OFF.
	Set Logo PIN code in %1.
	
	When Logo Lock is enabled:
	  PIN code is matched ------------------------ Command is valid (Acceptable)
	  PIN code is mismatched-------------------- Command is invalid (Error code "102")
	  PIN code is beyond %1 available range ------------ Command is invalid (Error code"?")
	When Logo Lock is disabled:
	  PIN code is within %1 available range ----------- Command is valid (Acceptable)
	  PIN code is out of %1 available range ---------- Command is invalid (Error code "?")
	
	Note: When Logo Lock is enabled, matching Logo PIN code switches Logo but Logo Lock is not cancelled (Lock status is kept).

Response	**Acceptable** "000" [CR]
	Unacceptable "Error Code" [CR]

8.10.4 CF_CEIL Command

Command	"CF_CEIL_%1" [CR]
%1	"ON" -------------------------- Set Ceiling function "OFF" ------------------------- Cancel Ceiling function
Details	Set/Cancel Ceiling function (Available only in the normal Power ON status) The status set by this command is stored in EEPROM and setting remains effective even after the power is turned to ALL OFF.
Response	**Acceptable** "000" [CR]
	Unacceptable "Error Code" [CR]

8.10.5 CF_REAR Command

Command	"CF_REAR_%1" [CR]
%1	"ON" -------------------------- Set Rear function "OFF" ------------------------- Cancel Rear function
Details	Set/Cancel Rear function (Available only in the normal Power ON status) When Rear is ON, projected image is left/right reversed. The status set by this command is stored in EEPROM and setting remains effective even after the power is turned to ALL OFF.
Response	**Acceptable** "000" [CR]
	Unacceptable "Error Code" [CR]

8.10.6 CF_RCODE Command

Command	"CF_RCODE_%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 Code of Remote Control (Available only in the normal Power ON status) The status set by this command is stored in EEPROM and setting remains effective even after the power is turned to ALL OFF.	
Response	Acceptable	"000" [CR]
	Unacceptable	"Error Code" [CR]
Command	"CF_RFID_%1" [CR]	

8.10.7 CF_LANG Command

Command	"CF_LANG_%1" [CR]
%1	"ENG" -------------------------- Select ENGLISH "DEU" -------------------------- Select German "FRA" -------------------------- Select French "ITA" --------------------------- Select Italian "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 language for OSD (Available only in the normal Power ON status) The language set by this command is stored in EEPROM and setting remains effective even after the power is turned to ALL OFF.
Response	Acceptable
	"000" [CR]
	Unacceptable	"Error Code" [CR]

8.10.8 CF_ON-STA Command

Command	"CF_ON-STA_%1" [CR]	
%1	"ON" --------------------------- Set Power On Start "OFF" -------------------------- Cancel Power On Start	
Details	Set/Cancel Power ON Start (Available only in the normal Power ON status) The status set by this command is stored in EEPROM and setting value remains effective even after the power is turned to ALL OFF.	
Response	Acceptable	"000" [CR]
	Unacceptable	"Error Code" [CR]

8.10.9 CF_P-MANE Command

Command	"CF_P-MANE_%1" [CR]	
%1	"OFF" ---------------------------------- Set Power Management Off "READY" ------------------------------ Set Power Management Ready "SHUTDOWN" --------------------- Set Power Management to Shut Down mode "UP" ----------------------- Switch forward (Off→Ready→Shut down→Off) "DN" ---------------------- Switch backward (Off→Shut down→Ready→Off)	
Details	Set/Cancel Power Management (Available only in the normal Power ON status) The status set by this command is stored in EEPROM and setting remains effective even after the power is turned to ALL OFF.	
Response	Acceptable	"000" [CR]
	Unacceptable	"Error Code" [CR]

8.10.10 CF_P-MANETIME Command

Command	"CF_P-MANETIME_%1" [CR]

%1	"01" - "30" ---------------------- Directly specify setting time by the minute
	"UP" ------------------------------- Increment value by 1
	                  (Switched in 01→02→ --- → 30 → 01 order)
	"DN" ----------------------------- Decrement value by 1
	                  (Switched in 30→29→ --- → 01 → 30 order)

Details	Set Power Management time (Available only in the normal Power ON status) The status set by this command is stored in EEPROM and setting remains effective even after the power is turned to ALL OFF.
Response	Acceptable	"000" [CR]
	Unacceptable	"Error Code" [CR]

8.10.11 CF_FANSPEED Command

Command	"CF_FANSPEED_%1" [CR]
%1	"MAX" ----------------------------- Select maximum fan speed "NOR" ----------------------------- Select normal fan speed
Details	Switch Fan Control Speed (Available only in the normal Power ON status) The status set by this command is stored in EEPROM and setting remains effective even after the power is turned to ALL OFF.
Response	Acceptable	"000" [CR]
	Unacceptable	"Error Code" [CR]

8.10.12 CF_KEYDIS Command

Command	"CF_KEYDIS_%1" [CR]
%1	"NONE" ----------------------- RC and KEY are valid "RC" ---------------------------- RC is invalid "KEY" ------------------------- KEY is invalid
Details	Disable RC and/or KEY functions (Available only in the normal Power ON status)
Response	Acceptable	"000" [CR]
	Unacceptable	"Error Code" [CR]

8.10.13 CF_FDEFAULT Command

Command	"CF_FDEFAULT_%1" [CR]
%1	"RST"
Details	Reset to Factory Default setting (Available only in the normal Power ON status)
Response	Acceptable	"000" [CR]
	Unacceptable	"Error Code" [CR]

8.10.14 CF_PJPINCODE Command

Command	"CF_PJPINCODE_%1" [CR]
%1	"0000 – 9999" ------------- Directly set PJ PIN code
Details	Enter PIN code to cancel PJ lock (Available only in the normal Power ON status) The status set by this command is stored in EEPROM and its setting is effective after ALL is OFF. Set PJ PIN code at %1

	When PJ Lock is enabled:
	PIN code is matched ------------------------- Command is valid (Acceptable)
	PIN code is mismatched -------------------- Command is invalid (Error code "102")
	PIN code is beyond %1 available range ------------ Command is invalid (Error code "?")
	When PJ Lock is canceled:
	PIN code is within %1 range ----------- Command is valid (Acceptable)
	PIN code is out of %1 range ----------- Command is invalid (Error code is 102)
	This command is only valid when "PJ PIN code" dialog is displayed to enter PIN code after Power is ON and Countdown is completed.
	When PJ Lock is set to "On1", it needs to send this command every time the projector is turned on.

Response	Acceptable	"000" [CR]
	Unacceptable	"Error Code" [CR]

8.11 **Other Commands**

8.11.1 **CF_KEYEMU Command**

Command	"CF_KEYEMU_%1" [CR]
%1	"RIGHT" ----------------- Move Pointer rightward in On-Screen Display Menu "LEFT" ------------------ Move Pointer leftward in On-Screen Display Menu "UP" ---------------------- Move Pointer to upward On-Screen Display Menu "DN" ---------------------- Move Pointer to downward in On-Screen Display Menu "SELECT" -------------- The same operation as "SELECT" button of RC "AUTOPC" ------------- Execute Auto PC Adj. operation 　　　　　　　　The same operation as "AUTO PC" button of RC 　　　　　　　　When this is sent during Auto PC Adj. operation, the operation is stopped. This is same way as pressing "AUTO PC" button of RC.
Details	The same operation as RC/Control Key.
Response	Acceptable	"000" [CR]
	Unacceptable	"Error Code" [CR]

8.11.2 **CF_MENU Command**

Command	"CF_MENU_%1" [CR]
%1	"ON" --------------------- Display On-Screen Display Menu "OFF" -------------------- Hide On-Screen Display Menu
Details	Display/Hide On-Screen Display Menu (Available only in the normal Power ON status)
Response	Acceptable	"000" [CR]
	Unacceptable	"Error Code" [CR]

8.11.3 **CF_POWER Command**

Command	"CF_POWER_%1" [CR]
%1	"ON" ----------------------------- Power ON "OFF" -------------------------- Power OFF * Issuing another command during countdown process forced countdown operation to be terminated. * Error Code is returned in some projector statuse, which indicates the command is impossible to be executed. (See [8.3] for details) * Returning the response "000" [CR] (acceptable) does not always mean that the status has already changed to Power ON. 　　Example: When the temperature approaches abnormal status after returning "000" [CR] to the command CF POWER ON.

	Therefore, to get the projector status requires using Status Read command.	
Details	Set Power ON/OFF	
Response	Acceptable	"000" [CR]
	Unacceptable	"Error Code" [CR]

8.11.4 CF_FREEZE Command

Command	"CF_FREEZE_%1" [CR]
%1	"ON" --------------------------- Set Freeze "OFF" ------------------------- Cancel Freeze "UP" --------------------------- Switch forward (On→Off→On→---) "DN" --------------------------- Switch backward (On→Off→On→---) * The same operation for "UP" and "DN" as this model has only "ON" / "OFF".
Details	Set / Cancel Freeze function. (Available only in the normal Power ON status) Receiving FREEZE_ON command when the projector is Freeze enabled, Freeze status is kept.
Response	Acceptable	"000" [CR]
	Unacceptable	"Error Code" [CR]

9. Status Read Command

9.1 Format

1) PC issues commands in format as below:

"CR_ COMMAND " [CR]

Command: String

2) When projector receives the appropriate command, it returns the required data as a string.

"000_" %1 [CR]

%1: Required Data (String)

3) When the received data cannot be decoded, the projector returns **"?" [CR]**

9.2 Transfer Example

Get total dots of projector by Expand Serial Commands

PC → PJ: "CR_TDOTS" [CR]

PC ← PJ: "000_1344" [CR]

9.3 Operation Condition

Basically it should be always operated.

9.4 Image Status Read Command

9.4.1 CR_BRIGHT Command

Command	"CR_BRIGHT" [CR]	
Details	Get user controlled value of Brightness	
Response	Acceptable	"000_%1" [CR]
	%1	"000 – 063"
	Unacceptable	"?" [CR]

9.4.2 CR_CONT Command

Command	"CR_CONT" [CR]	
Details	Get user controlled value of Contrast	
Response	Acceptable	"000_%1" [CR]
	%1	"000 – 063"
	Unacceptable	"?" [CR]

9.4.3 CR_COLOR Command

Command	"CR_COLOR" [CR]	
Details	Get user controlled value of Color	
Response	Acceptable	"000_%1" [CR]
	%1	"000 – 063"
	Unacceptable	"?" [CR]

9.4.4 CR_TINT Command

Command	"CR_TINT" CR]	
Details	Get user controlled value of Tint	
Response	Acceptable	"000_%1" [CR]
	%1	"000 – 063"
	Unacceptable	"Error Code" [CR] --- When command is not available in the given condition (such as being selected input). "?" [CR] --- When unknown command is received

9.4.5 CR_SHARP Command

Command	"CR_SHARP" [CR]	
Details	Get user controlled value of Sharpness	
Response	Acceptable	"000_%1" [CR]
	%1	"000 – 031"
	Unacceptable	"?" [CR]

9.4.6 CR_GAMMA Command

Command	"CR_GAMMA" [CR]	
Details	Get user controlled value of Gamma	
Response	Acceptable	"000_%1" [CR]
	%1	"000 – 015"
	Unacceptable	"?" [CR]

9.4.7 CR_WBAL-R Command

Command	"CR_WBAL-R" [CR]	
Details	Get user controlled Red value of White Balance	
Response	Acceptable	"000_%1" [CR]
	%1	"000 – 063"
	Unacceptable	"?" [CR]

9.4.8 CR_WBAL-G Command

Command	"CR_WBAL-G" [CR]	
Details	Get user controlled Green value of White Balance	
Response	Acceptable	"000_%1" [CR]
	%1	"000 – 063"
	Unacceptable	"?" [CR]

9.4.9 CR_WBAL-B Command

Command	"CR_WBAL-B" [CR]	
Details	Get user controlled Blue value of White Balance	
Response	Acceptable	"000_%1" [CR]
	%1	"000 – 063"
	Unacceptable	"?" [CR]

9.4.10 **CR_COLTEMP Command**

Command	"CR_COLTEMP" [CR]	
Details	Get Color Temperature setting status	
Response	Acceptable	"000_%1" [CR]
	%1	"000" -------------------------------- Xlow "001" -------------------------------- Low "002" -------------------------------- Mid "003" -------------------------------- High "BLANK" ---- OSD Menu is blank (Neither of Xlow / Low / Mid / High)
	Unacceptable	"?" [CR]

9.4.11 **CR_NZRED Command**

Command	"CR_NZRED" [CR]	
Details	Get Noise Reduction setting status	
Response	Acceptable	"000_%1" [CR]
	%1	"OFF" --------------------------- Cancel Noise Reduction "L1" ------------------------------ Noise Reduction L1 "L2" ------------------------------ Noise Reduction L2
	Unacceptable	"?" [CR]

9.4.12 **CR_PROGV Command**

Command	"CR_PROGV" [CR]	
Details	Get Progressive scan setting status	
Response	Acceptable	"000_%1" [CR]
	%1	"ON" ----------------------------- Set Progressive scan On "FILM" ---------------------------- Select FILM mode "OFF" ------------------------------ Set Progressive scan Off
	Unacceptable	"?" [CR]

9.4.13 **CR_IMAGE Command**

Command	"CR_IMAGE" [CR]	
Details	Get image setting status	
Response	Acceptable	"000_%1" [CR]
	%1	"STANDPC" ------------------------------ Standard (PC) "STANDAV" ------------------------------ Standard (AV) "REAL"　------------------------------- Real "CINEMA" ------------------------------ Cinema "CUSTOM1" ----------------------------- "Image1" "CUSTOM2" ----------------------------- "Image2" "CUSTOM3" ----------------------------- "Image3" "CUSTOM4" ----------------------------- "Image4" "CUSTOM5" ----------------------------- "Image5" "CUSTOM6" ----------------------------- "Image6" "CUSTOM7" ----------------------------- "Image7" "CUSTOM8" ----------------------------- "Image8" "CUSTOM9" ----------------------------- "Image9" "CUSTOM10" ---------------------------- "Image10"
	Unacceptable	"Error Code" [CR] ----------------------- When command is not available in the given condition (such as being selected input "?" [CR] -------------------------- When unkown command is received

9.4.14 CR_IMGGMD Command

Command	"CR_IMGGMD" [CR]	
Details	Get setting status of Standard/Real/Cinema in Image Gamma	
Response	Acceptable	"000_%1" [CR]
	%1	"STDPC" ------------------------------- Standard (PC) "STDAV" ------------------------------- Standard (AV) "REL" ----------------------------------- Real "CNM" --------------------------------- Cinema
	Unacceptable	"?" [CR]

9.4.15 CR_APCTRL Command

Command	"CR_APCTRL" [CR]	
Details	Get setting status of Auto Picture Control	
Response	Acceptable	"000_%1" [CR]
	%1	"L1" ------------------ Operate Auto Picture Control with Level1 "L2" ------------------ Operate Auto Picture Control with Level2 "OFF" -------------- Set Auto Picture Control OFF
	Unacceptable	"?" [CR]

9.5 PC Adjust Status Read Command

9.5.1 CR_FSYNC Command

Command	"CR_FSYNC" [CR]	
Details	Get value of Fine Sync	
Response	Acceptable	"000_%1" [CR]
	%1	"0000 – 0031"
	Unacceptable	"Error Code" [CR] --- When command is not available in the given condition (such as being selected input) "?" [CR] --- When unknown command is received

9.5.2 CR_TDOTS Command

Command	"CR_TDOTS" [CR]	
Details	Get value of Total Dots	
Response	Acceptable	"000_%1" [CR]

	%1	"mmmm" – "nnnn"
		  (mmmm = Display area H + Position H)
		  (nnnn = Maximum value less than 140 MHz of Dot Clock)

	Unacceptable	"Error Code" [CR] ----------------------- When command is not available in the given condition (such as being selected input "?" [CR] ------------------ When unknown command is received

9.5.3 CR_CLPPHASE Command

Command	"CR_CLPPHASE" [CR]	
Details	Get value of Clamp Phase value	
Response	Acceptable	"000_%1" [CR]
	%1	"0001 – 0255"
	Unacceptable	"Error Code" [CR]

9.5.4 **CR_H-POS Command**

Command	"CR_H-POS" [CR]	
Details	Get value of Horizontal Position	
Response	Acceptable	"000_%1" [CR]
	%1	"0000 – nnnn" (nnnn = Total Dots – Display area H)
	Unacceptable	"Error Code" [CR] ------ When command is not available in the given condition (such as being selected input "?" [CR] ------------------ When unknown command is received

9.5.5 **CR_V-POS Command**

Command	"CR_V-POS" [CR]	
Details	Get value of Vertical Position	
Response	Acceptable	"000_%1" [CR]
	%1	"0000 – nnnn" (nnnn = Total Line – Display area V)
	Unacceptable	"Error Code" [CR] ------ When command is not available in the given condition (such as being selected input "?" [CR] -------------------- When unknown command is received

9.5.6 **CR_DDOTS Command**

Command	"CR_DDOTS" [CR]	
Details	Get value of Display Dots	
Response	Acceptable	"000_%1" [CR]
	%1	"0100 – nnnn" (nnnn = Total Dots – Position H)
	Unacceptable	"Error Code" [CR] ---- When command is not available in the given condition (such as being selected input "?" [CR] ------------------- When unknown command is received

9.5.7 **CR_DLINE Command**

Command	"CR_DLINE" [CR]	
Details	Get value of Display Line	
Response	Acceptable	"000_%1" [CR]
	%1	"0100 – nnnn" (nnnn = Total Line – Position V)
	Unacceptable	"Error Code" [CR] ---- When command is not available in the given condition (such as being selected input) "?" [CR] ------------------- When unknown command is received

9.5.8 **CR_ORGMODE Command**

Command	"CR_ORGMODE" [CR]
Details	Get the original signal of current selected Mode that is set in PC Adj. When MODE1- 10 or EXT11-50 is not selected, get the current signal.
Response	Acceptable	"000_%1" [CR]

%1		When input signal is PC Analog; "VGA1" ----------------------- Indicates signal Is VGA1 "VGA2" ----------------------- Indicates signal is VGA2 ⋮ "XGA1" ----------------------- Indicates signal is XGA1 ⋮ "WXGA3" --------------------- Indicates signal is WXGA3 "1080i60" --------------------- Indicates signal is 1080i60 "1080i50" --------------------- Indicates signal is 1080i50 "1035i" ----------------------- Indicates signal is 10350i "720p60" --------------------- Indicates signal is 720p60 "720p50" --------------------- Indicates signal is 720p50 "575p" ----------------------- Indicates signal is 575p "480p" ----------------------- Indicates signal is 480p "575i" ----------------------- Indicates signal is 575i "480i" ----------------------- Indicates signal is 480i "1080psf/24" ---------------- Indicates signal is 1080psf/24 "1080psf/25" ---------------- Indicates signal is 1080psf/25 "1080psf/30" ---------------- Indicates signal is 1080psf/30 Note; To differentiate between *60Hz* and *50Hz* in 1080i and 720p, "60" or "50" is necessary to add to the parameter in this command * When input signal is not PC Analog, error code "101" is returned.
	Unacceptable	"?" [CR]

9.5.9 CR_PCSTORE Command

Command	"CR_PCSTORE" [CR]	
Details	Get Free or Stored status of MODE1 - 5 in PC Adjust. Data consists of 10 bytes and each byte represents MODE1-10. (F:Free, S:Stored)	
Response	Acceptable	"000_%1" [CR]
	%1	"FFFFFFFFFF" ---------------- ALL Free "SFFFFFFFFF" --------------- Mode1 is Stored, others are Free : "FFFFFFFFFS" --------------- Mode10 is Stored, others are Free "SSSSSSSSSS" ------------ ALL Stored
	Unacceptable	"?" [CR]

9.5.10 CR_SETPCADJ Command

Command	"CR_SETPCADJ" [CR]	
Details	Get PC signal for current system	
Response	Acceptable	"000_%1" [CR]
	%1	When input signal is PC Analog; "VGA1" ----------------------- Indicates VGA1 is selected "VGA2" ----------------------- Indicates VGA2 is selected ⋮ "XGA1" ----------------------- Indicates XGA1 is selected ⋮ "WXGA3" --------------------- Indicates WXGA3 is selected "1080I" ----------------------- Indicates 1080i is selected "1035I" ----------------------- Indicates 10350i is selected "720p" ----------------------- Indicates 720p is selected "575p" ----------------------- Indicates 575p is selected "480p" ----------------------- Indicates 480p is selected "575I" ----------------------- Indicates 575i is selected "480I" ----------------------- Indicates 480i is selected

		"1080psf/24" ----------------- Indicates 1080psf/24 is selected
		"1080psf/25" ----------------- Indicates 1080psf/25 is selected
		"1080psf/30" ----------------- Indicates 1080psf/30 is selected
		  :
		"MODE10" ------------------ Indicates Mode10 is selected
		"EXT11" --------------------- EXT11 is selected
		  :
		"EXT60" --------------------- EXT60 is selected
		
		* Error Code "101" [CR] is returned for no signal.
		* When input signal is not PC Analog, error code "101" is returned.

	Unacceptable	"?" [CR]

9.6 Video Status Read Command

9.6.1 CR_SERSYS Command

Command		"CR_SERSYS" [CR]
Details		Get presently selected signal Auto detected signal returned in Auto mode Only available when Input is Y,Pb/Cb,Pr/Cr, S-Video and Video. (This is not the case for PC-Analog/PC-Digital/AV HDCP signals)
Response	Acceptable	"000_%1" [CR]
	%1	"1080I60" -------------- 1080i 60Hz "1080I50" -------------- 1080i 50Hz "1035I". ---------------- 1035i "720P60" ------------------ 720p 60Hz "720P50" ------------------ 720p 50Hz "575P" ------------------ 575p "480P" ------------------ 480p "575I" ------------- 575i (includes Composite signal such as PAL) "480I" ----------- 480i (includes Composite signal such as NTSC) "NO_SIGNAL" -------------- No signal
	Unacceptable	"101" [CR] --- When input signal is PC-Analog, PC-Digital or PC signals in AV HDCP "?" [CR]

9.7 Input Read Command

9.7.1 CR_INPUT Command

Command		"CR_INPUT" [CR]
Details		Get selected INPUT No.
Response	Acceptable	"000_%1" [CR]
	%1	"1 – 3"
	Unacceptable	"?" [CR]

9.7.2 CR_SOURCE Command

Command		"CR_SOURCE" [CR]
Details		Get selected source
Response	Acceptable	"000_%1" [CR]

%1		"DIGITAL" ----------- RGB (PC Digital) is selected "ANALOG" ---------- RGB (PC Analog) is selected "SCART" ----------------- RGB (Scart) is selected "HDCP" ----------------- RGB (AV HDCP) is selected "VIDEO" ---------------- Video is selected "S-VIDEO" ------------- S-Video is selected "YPBPR" ---------------- Y,Pb/Cb,Pr/Cr is selected
	Unacceptable	"Error Code" [CR] --- When command is not available in the given condition (such as being selected input) "?" [CR] --------------- When unknown command is received

9.7.3 CR_SRCINP1 Command

Command		"CR_SRCINP1" [CR]
Details		Get Source of INPUT1
Response	Acceptable	"000_%1" [CR]
	%1	"DIGITAL" --------------------- in PC Digital mode "ANALOG" --------------------- in PC Analog mode "SCART" ----------------------- in Scart mode "HDCP" ------------------------ in AV HDCP mode
	Unacceptable	"?" [CR]

9.7.4 CR_SRCINP2 Command

Command		"CR_SRCINP2" [CR]
Details		Get Source of INPUT2
Response	Acceptable	"000_%1" [CR]
	%1	"VIDEO" --------------------- in Video mode "YPBPR" -------------------- in Y,Pb/Cb,Pr/Cr mode "ANALOG" ------------------ in RGB mode
	Unacceptable	"?" [CR]

9.7.5 CR_SRCINP3 Command

Command		"CR_SRCINP3" [CR]
Details		Get Source of INPUT3
Response	Acceptable	"000_%1" [CR]
	%1	"VIDEO" ---------------------- in Video mode "S-VIDEO" -------------------- in S-video mode "YPBPR" ---------------------- in Y,Pb/Cb,Pr/Cr mode
	Unacceptable	"?" [CR]

9.7.6 CR_SYSTEM Command

Command			"CR_SYSTEM" [CR]
Details			Get selected System
Response	Acceptable		"000_%1" [CR]
	%1	Input is PC Analog	"VGA1" ------------------------ indicates VGA1 is selected "VGA2" ------------------------ indicates VGA2 is selected : : "XGA1" ------------------------ indicates XGA1 is selected : "WXGA3" ---------------------- indicates WXGA3 is selected "1080I" ------------------------ indicates 1080i is selected

			"1030I" ------------------------ indicates 1035i is selected "720p" ------------------------- indicates 720p is selected "575p" ------------------------- indicates 575p is selected "480p" ------------------------- indicates 480p is selected "575I" -------------------------- indicates 575i is selected "480I" -------------------------- indicates 480i is selected "1080PSF/24" --------------- indicates 1080psf/24 is selected "1080PSF/25" --------------- indicates 1080psf/25 is selected "1080PSF/30" --------------- indicates 1080psf/30 is selected "MODE1" --------------------- indicates Mode1 is selected 　　　　　: 　　　　　: "MODE10" ------------------- indicates Mode10 is selected " EXT11" ---------------------- indicates EXT11 is selected 　　　　　: 　　　　　: "EXT60" ----------------------- indicates EXT60 is selected * Error Code "101" [CR] is returned for no signal
		Input is PC-Digital/ AV-HDCP	"D-XGA1" ------------------- indicates D-XGA1 is selected 　　　　　: "D-WXGA3" ----------------- indicates D-WXGA3 is selected "D-1080I" -------------------- indicates D-1080i is selected "D-1035I" -------------------- indicates D-1035i is selected "D-720P" --------------------- indicates D-720p is selected "D-575P" --------------------- indicates D-575p is selected "D-480P" --------------------- indicates D-480p is selected "D-575I" ---------------------- indicates D-575i is selected "D-480I" ---------------------- indicates D-480i is selected "D-1080PSF/24" -------- indicates D-1080psf/24 is selected "D-1080PSF/25" -------- indicates D-1080psf/25 is selected "D-1080PSF/30" -------- indicates D-1080psf/30 is selected * Error Code "101" [CR] is returned for no signal
		Input is Y,Pb/Cb,Pr/Cr	"AUTO" ------------------ indicates Auto is selected "1080I" ------------------- indicates 1080i is selected "1035I" ------------------- indicates 1035i is selected "720P" -------------------- indicates 720p is selected "575P" -------------------- indicates 575p is selected "480P" -------------------- indicates 480p is selected "575I" --------------------- indicates 575i is selected "480I" --------------------- indicates 480i is selected * Selected System is returned, whether or not signal is coming.
		Input is Video or S-video	"AUTO" ------------------- indicates Auto is selected "NTSC" ------------------- indicates NTSC is selected "NTSC443" -------------- indicates NTSC4.43 is selected "PAL" ---------------------- indicates PAL is selected "SECAM" ----------------- indicates SECAM is selected "PAL-M" ------------------- indicates PAL-M is selected "PAL-N" ------------------- indicates PAL-N is selected * Selected System is returned, whether or not signal is coming.
	Unacceptable		"Error Code" [CR]

9.7.7 CR_SYSLIST Command

Command	"CR_SYSLIST" [CR]	
Details	Get possible systems for System list	
Response	Acceptable	"000_%1_%2_---_%x" [CR]
	%1	Error Code "101" is returned for no signal. Otherwise following values are returned accoding to Source. When input is PC-Analog; "XGA1" -------------------------------- XGA1 is in the list

		"AUTO" ----------------------------- Auto is in the list
		"1080I" --------------------------------- 1080i is in the list
		"1080PSF/24" ------------------------ 1080psf/24 is in the list
		"1080PSF/25" ------------------------ 1080psf/25 is in the list
		"1080PSF/30" ------------------------ 1080psf/30 is in the list
		
		* Mode1-10 shall not be returned.
		
		When input is PC-digital or AV-HDCP;
		
		"D-XGA" ------------------------------ D-XGA is in the list
		"D-720p" ------------------------------ D720p is in the list
		"D-1080PSF/24" --------------------- D1080psf/24 is in the list
		"D-1080PSF/25" --------------------- D1080psf/25 is in the list
		"D-1080PSF/30" --------------------- D1080psf/30 is in the list
		
		When input is Y,Pb/Cb,Pr/Cr;
		All possible systems in Menu, including Auto, are returned;
		"AUTO" ----------------------------- Auto is in the list
		"1080I" --------------------------------- 1080i is in the list
		"1035I" --------------------------------- 1035i is in the list
		   ⋮
		   ⋮
		"575I" ----------------------------------- 575i is in the list
		"480I" ----------------------------------- 480i is in the list
		
		When input is Video or S-video;
		All possible systems in Menu, including Auto, are returned;
		"AUTO" ----------------------------- Auto is in the list
		"PAL" ----------------------------------- PAL is in the list
		"SECAM" -------------------------------- SECAM is in the list
		   ⋮
		   ⋮
		"PAL-N" ----------------------------------- PAL-N is in the list

	Unacceptable	"Error Code" [CR]

9.7.8 CR_MODELIST Command

Command	"CR_MODELIST" [CR]	
Details	Get possible modes for Mode list	
Response	Acceptable	"000_%1_%2_---_%x" [CR]

	%1	Error Code "101" is returned except for PC-Analog and for no signal with PC-Analog
		Possible modes in Mode1-10 are returned when PC-Analog signal is coming.
		
		"MODE1"
		"MODE2"
		"MODE3"
		  ⋮
		  ⋮
		"MODE8"
		"MODE9"
		"MODE10"

	Unacceptable	"Error Code" [CR]

9.8 Screen Status Read Command

9.8.1 CR_SCREEN Command

Command	"CR_SCREEN" [CR]	
Details	Get selected screen image size	
Response	Acceptable	"000_%1" [CR]
	%1	"NORMAL" ---------------------- Normal mode "FULLL" ------------------------- Full mode "ZOOM" ------------------------- Zoom mode "TRUE" ------------------------- True mode "NATURAL" ---------------------- Natural wide mode
	Unacceptable	"Error Code" [CR] --- When command is not available in the given condition (such as being selected input). "?" [CR] --- When unknown command is received

9.8.2 CR_ KYSTNMODE Command

Command	"CR_KYSTNMODE" [CR]	
Details	Get setting status of Keystone Store Mode	
Response	Acceptable	"000_%1" [CR]
	%1	"STR" --------------------- Store mode is "Store" "RST" --------------------- Store mode is "Reset"
	Unacceptable	"?" [CR] -------------------- When unknown command is received

9.9 Lamp Status Read Command

9.9.1 CR_LAMPREPL Command

Command	"CR_LAMPREPL" [CR]	
Details	Get information of Lamp Replacement time	
Response	Acceptable	"000_%1" [CR]
	%1	"1Y" ---------------- indicates over lamp replacement time "1N" ---------------- indicates under lamp replacement time
	Unacceptable	"?" [CR]

9.9.2 CR_LAMPH Command

Command	"CR_LAMPH" [CR]	
Details	Get Lamp running time (in hours) * return actual lamp running time	
Response	Acceptable	"000_%1" [CR]
	%1	"00000 - 99999"
	Unacceptable	"Error Code" [CR]

9.9.3 CR_LAMPCORRESPH Command

Command	"CR_LAMPCORRESPH" [CR]	
Details	Get Lamp running time (in hours) *return lamp running time multiplied by a coefficient (not actual running time) Note; In PLV-75, same value as CR_LAMPH is returned since the coefficient is 1.	
Response	Acceptable	"000_%1" [CR]
	%1	"00000 – 99999"

	Unacceptable	"Error Code" [CR]

9.9.4 CR_LAMPMODE Command

Command	"CR_LAMPMODE" [CR]	
Details	Get setting status of Lamp mode Note; In PLV-75, "?" is returned for this command since lamp mode switching function is not implimented.	
Response	Acceptable	"000_%1" [CR]
	%1	"NORMAL" -------------- Lamp mode is Normal status "ECO" --------------------- Lamp mode is Eco status "AUTO" ------------------- Lamp mode is Auto status
	Unacceptable	"?" [CR]

9.9.5 CR_LAMPSTS Command

Command	"CR_LAMPSTS" [CR]	
Details	Get Lamp status	
Response	Acceptable	"000_%1" [CR]
	%1	"1I" ----------------------- Lamp is ON "1O" ---------------------- Lamp is OFF "1X" ---------------------- Lamp Failure
	Unacceptable	"Error Code" [CR]

9.9.6 CR_PROJH Command

Command	"CR_PROJH" [CR]	
Details	Get total running time of Projector (in hours)	
Response	Acceptable	"000_%1" [CR]
	%1	"0000000 – 9999999"
	Unacceptable	"?" [CR]

9.9.7 CR_HMLAMP Command

Command	"CR_HMLAMP" [CR]	
Details	Get total lamp number	
Response	Acceptable	"000_%1" [CR]
	%1	"001"
	Unacceptable	"Error Code" [CR]

9.10 Sound Status Read Command

9.10.1 CR_VOLUME Command

Command	"CR_VOLUME "[CR]	
Details	Get volume value by user control	
Response	Acceptable	"000_%1" [CR]
	%1	"000 – 063"
	Unacceptable	"?" [CR]

9.10.2 **CR_MUTE Command**

Command	"CR_MUTE" [CR]	
Details	Get setting status of sound mute function	
Response	Acceptable	"000_%1" [CR]
	%1	"ON" ------------------------ Set Sound Mute ON "OFF" ----------------------- Cancel Sound Mute
	Unacceptable	"?" [CR]

9.11 **Setting Status Read Command**

9.11.1 **CR_BACKGND Command**

Command	"CR_BACKGND" [CR]	
Details	Get setting status of Screen for no signal	
Response	Acceptable	"000_%1" [CR]
	%1	"BLUE" ------------------------------ Set Blue Back "MY LOGO" ------------------------- Set My Logo "BLACK" ----------------------------- Set Black Back
	Unacceptable	"Error Code" [CR]

9.11.2 **CR_DISP Command**

Command	"CR_DISP" [CR]	
Details	Get setting status of Display	
Response	Acceptable	"000_%1" [CR]
	%1	"ON" --------------------------- Display is ON "CNTDWNOFF" ------------ Count down is OFF "OFF" ------------------------- Display is OFF
	Unacceptable	"?" [CR]

9.11.3 **CR_LOGO Command**

Command	"CR_LOGO" [CR]	
Details	Get setting status of Logo	
Response	Acceptable	"000_%1" [CR]
	%1	"DFLT" ----------------------------- Default Logo is enabled "MY LOGO" ---------------------- My Logo is enabled "OFF" ------------------------------ Logo is disabled
	Unacceptable	"?" [CR]

9.11.4 **CR_LOGOLOCK Command**

Command	"CR_LOGOLOCK" [CR]	
Details	Get setting status of Logo Lock function	
Response	Acceptable	"000_%1" [CR]
	%1	"ON" --------------------------- Logo Lock is ON "OFF" ------------------------- Logo Lock is OFF
	Unacceptable	"Error Code" [CR]

9.11.5 **CR_CEIL Command**

Command	"CR_CEIL" [CR]	
Details	Get setting status of Ceiling function	
Response	Acceptable	"000_%1" [CR]
	%1	"ON" -------------------------- Ceiling projection is enabled "OFF" ------------------------ Ceiling projection is disabled
	Unacceptable	"Error Code" [CR]

9.11.6 **CF_REAR Command**

Command	"CF_REAR" [CR]	
Details	Get setting status of Rear function	
Response	Acceptable	"000_%1" [CR]
	%1	"ON" -------------------------- Rear projection is enabled "OFF" ------------------------ Rear projection is disabled
	Unacceptable	"Error Code" [CR]

9.11.7 **CF_RCODE Command**

Command	"CF_RCODE" [CR]	
Details	Get selected Remote Control Code	
Response	Acceptable	"000_%1" [CR]
	%1	"001" -------------------------- Code 1 is selected "002" -------------------------- Code 2 is selected "003" -------------------------- Code 3 is seleccted "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]

9.11.8 **CR_LANG Command**

Command	"CR_LANG" [CR]	
Details	Get selected language	
Response	Acceptable	"000_%1" [CR]
	%1	"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" ------------------------- Chinese is selected "KOR" ------------------------- Korean is selected "RUS" ------------------------- Russian is selected
	Unacceptable	"?" [CR]

9.11.9 CR_ON-STA Command

Command	"CR_ON-STA" [CR]	
Details	Get settin status of Power ON Start	
Response	Acceptable	"000_%1" [CR]
	%1	"ON" ------------------------ Power ON Start is ON "OFF" ----------------------- Power ON Start is OFF
	Unacceptable	"?" [CR]

9.11.10 CR_P-MANE Command

Command	"CR_P-MANE" [CR]	
Details	Get setting status of Power management	
Response	Acceptable	"000_%1" [CR]
	%1	"OFF" ------------------------- Power Management is disabled "READY" --------------------- Power Management is set to Ready "SHUTDOWN" ------------- Power Management is set to Shut Down mode
	Unacceptable	"?" [CR]

9.11.11 CR_P-MANETIME Command

Command	"CR_P-MAETIME" [CR]	
Details	Get setting time for starting Power Management function	
Response	Acceptable	"000_%1" [CR]
	%1	"001 – 030" ---------------------- 1 to 30 minutes
	Unacceptable	"?" [CR]

9.11.12 CR_FANSPEED Command

Command	"CR_FANSPEED" [CR]	
Details	Get Speed selected in Fan Contorol functon	
Response	Acceptable	"000_%1" [CR]
	%1	"MAX" ----------------------- Max speed is seleted "NOR" ----------------------- Normal speed is selected
	Unacceptable	"?" [CR]

9.11.13 CR_KEYDIS Command

Command	"CR_KEYDIS" [CR]	
Details	Get status of RC/KEY (valid or invalid)	
Response	Acceptable	"000_%1" [CR]
	%1	"NONE" ------------------------- RC and KEY, both are valid "RC" ------------------------------ RC is invalid "KEY" ---------------------------- KEY is invalid
	Unacceptable	"?" [CR]

9.11.14 CR_SECURITY Command

Command	"CR_ SECURITY" [CR]
Details	Get Security ON/OFF setting status on the menu.

Response	Acceptable	"000_%1" [CR]
	%1	"ON" ------------ PJ/USB is locked "OFF" ----------- PJ/USB is freed
	Unacceptable	"Error Code" [CR]

9.11.15 CR_PJLOCKNOW Command

Command	"CR_PJLOCKNOW" [CR]	
Details	Get actual status of PJ lock	
Response	Acceptable	"000_%1" [CR]
	%1	"LOCK" ------ PJ is locked 　　　　　　　PJ lock is set ON1/ON2 on the menu and PJ PIN 　　　　　　　code is not entered, therefore PJ is actually locked. "FREE" ------- PJ is unlocked (either A or B) 　　　　　A. PJ lock is set OFF on the menu 　　　　　B. PJ lock is set ON1/ON2 on the menu, but PJ 　　　　　　　　Lock is canceled because PJ PIN code is entered.
	Unacceptable	"Error Code" [CR]

9.11.16 CR_PJLOCKMENU Command

Command	"CR_PJLOCKMENU" [CR]	
Details	Get PJ Lock ON/OFF setting status on the menu	
Response	Acceptable	"000_%1" [CR]
	%1	"ON1" ---------------------- PJ Lock ON 1 is set on the menu "ON2" ---------------------- PJ Lock ON 2 is set on the menu "OFF" ---------------------- PJ Lock OFF is set on the menu
	Unacceptable	"Error Code" [CR]

9.12 Other Status Read Commands

9.12.1 CR_STATUS Command

COMMAND	"CR_STATUS" [CR]	
Detail	Get operating status of Projector Same as "CR0" in basic command except error code follows it.	
Response	Acceptable	"000_%1" [CR]
	%1	"00" = Power ON "80" = Standby "40" = Countdown in process "20" = Cooling Down in process "10" = Power Failure "28" = Cooling Down in process due to abnormal temperature "88" = Standby after Cooling Down due to abnormal temperature "02" = Invalid RS-232C Command "24" = Power Save/Cooling Down in process "04" = Power Save "21" = Cooling Down in process after turened to Off due to lamp failure "81"＝ Standby after Cooling Down due to lamp failure
	Unacceptable	"Error Code" [CR]

9.12.2 **CR_PRESSURE Command**

Command	"CR_PRESSURE" [CR]	
Details	Fllowing is the formula to work out Air Pressure from the given value ("Vn" represents the value): **Air Pressure (hPa) = （5*Vn / 1024 – 0.204）/ 0.00459 + 150** Obtains accuracy of +/- 2%	
Response	Acceptable	"000_%1" [CR]
	%1	"0000" – "1023"
	Unacceptable	"Error Code" [CR]

9.12.3 **CR_SIGNAL Command**

Command	"CR_SIGNAL" [CR]	
Details	Get status if there is signal or not	
Response	Acceptable	"000_%1" [CR]
	%1	"ON" ------------------------- There is signal "OFF" ------------------------ There is no signal
	Unacceptable	"?" [CR]

9.12.4 **CR_VMUTE Command**

Command	"CR_VMUTE" [CR]	
Details	Get setting status of No Show function	
Response	Acceptable	"000_%1" [CR]
	%1	"ON" ------------------------- Shutter function is enabled "OFF" ----------------------- Shutter function is disabled
	Unacceptable	"?" [CR]

9.12.5 **CR_FREEZE Command**

Command	"CR_FREEZE" [CR]	
Details	Get setting status of Freeze function	
Response	Acceptable	"000_%1" [CR]
	%1	"ON" --------------------------- Freeze function is enabled "OFF" ------------------------- Freeze function is disabled
	Unacceptable	"?" [CR]

9.12.6 **CR_ALLPFAIL Command**

Command	"CR_ALLPFAIL" [CR]	
Details	Get all the information on Power Failure Return all the responses of "CR_PFAIL01" – "PFAIL50" at once Therefore it consists of 1200 (24 bytes x 50) bytes totally	
Response	Acceptable	"000_%1_%2" [CR] "000_%3_%4" [CR] "000_%5_%6" [CR] ⋮ ⋮ "000_%97_%98" [CR] "000_%99_%100" [CR] (Send all 50 blocks above at one time)

%1 - %100		%1, %3, •••%99 (Odd number)
		     ------ Item name of Power Failure (16-byte fixed length)
		%2, %4, •••%100 (Even number)
		     ------ Power status (2-byte fixed length)
		        Power is failed: "NG"
		        Power status is normal: "OK"

	Unacceptable	"Error Code" [CR]

9.12.7 CR_HMPFAIL Command

Command		"CR_ HMPFAIL" [CR]
Details		Get total number of detectable Power Failure
Response	Acceptable	"000_%1" [CR]
	%1	"000 – 050"
	Unacceptable	"Error Code" [CR]

9.12.8 CR_PFAIL01 Command

Command		"CR_PFAIL01" [CR]
Details		Get item name and status of Power Failure No.1
Response	Acceptable	"000_%1_%2" [CR]

	%1	%1 ------ Item name of Power Failure (16-byte fixed length)
		%2 ------ Power status (2-byte fixed length)
		       Power is failed: "NG"
		       Power status is normal: "OK"

	Unacceptable	"Error Code" [CR]

9.12.9 CR_PFAIL02 Command

Command		"CR_PFAIL02" [CR]
Details		Get the item name and status of Power Failure No.2
Response	Acceptable	"000_%1_%2" [CR]

	%1	%1 ------ Item name of Power Failure (16-byte fixed length)
		%2 ------ Power status (2-byte fixed length)
		       Power is failed: "NG"
		       Power status is normal: "OK"

	Unacceptable	"Error Code" [CR]

9.12.10 CR_PFAIL03 Command

Command		"CR_PFAIL03" [CR]
Details		Get the item name and status of Power Failure No.3
Response	Acceptable	"000_%1_%2" [CR]

	%1	%1 ------ Item name of Power Failure (16-byte fixed length)
		%2 ------ Power status (2-byte fixed length)
		       Power is failed: "NG"
		       Power status is normal: "OK"

	Unacceptable	"Error Code" [CR]

9.12.11 CR_PFAIL04 Command

Command	"CR_PFAIL04" [CR]

Details	Get the item name and status of Power Failure No.4
Response	Acceptable	"000_%1_%2" [CR]

	%1	%1 ------ Item name of Power Failure (16-byte fixed length)
		%2 ------ Power status (2-byte fixed length)
		     Power is failed: "NG"
		     Power status is normal: "OK"

	Unacceptable	"Error Code" [CR]

9.12.12 CR_PFAIL05 Command

Command	"CR_PFAIL05" [CR]
Details	Get the item name and status of Power Failure No.5
Response	Acceptable	"000_%1_%2" [CR]

	%1	%1 ------ Item name of Power Failure (16-byte fixed length)
		%2 ------ Power status (2-byte fixed length)
		     Power is failed: "NG"
		     Power status is normal: "OK"

	Unacceptable	"Error Code" [CR]

9.12.13 CR_PFAIL06 Command

Command	"CR_PFAIL06" [CR]
Details	Get the item name and status of Power Failure No.6
Response	Acceptable	"000_%1_%2" [CR]

	%1	%1 ------ Item name of Power Failure (16-byte fixed length)
		%2 ------ Power status (2-byte fixed length)
		     Power is failed: "NG"
		     Power status is normal: "OK"

	Unacceptable	"Error Code" [CR]

9.12.14 CR_PFAIL07 Command

Command	"CR_PFAIL07" [CR]
Details	Get the item name and status of Power Failure No.7
Response	Acceptable	"000_%1_%2" [CR]

	%1	%1 ------ Item name of Power Failure (16-byte fixed length)
		%2 ------ Power status (2-byte fixed length)
		     Power is failed: "NG"
		     Power status is normal: "OK"

	Unacceptable	"Error Code" [CR]

9.12.15 CR_PFAIL08 Command

Command	"CR_PFAIL08" [CR]
Details	Get the item name and status of Power Failure No.8
Response	Acceptable	"000_%1_%2" [CR]

	%1	%1 ------ Item name of Power Failure (16-byte fixed length)
		%2 ------ Power status (2-byte fixed length)
		     Power is failed: "NG"
		     Power status is normal: "OK"

	Unacceptable	"Error Code" [CR]

9.12.16 **CR_PFAIL09 Command**

Command	"CR_PFAIL09" [CR]	
Details	Get the item name and status of Power Failure No.9	
Response	Acceptable	"000_%1_%2" [CR]
	%1	%1 ------ Item name of Power Failure (16-byte fixed length) %2 ------ Power status (2-byte fixed length) 　　　　Power is failed: "NG" 　　　　Power status is normal: "OK"
	Unacceptable	"Error Code" [CR]

9.12.17 **CR_PFAIL10 Command**

Command	"CR_PFAIL10" [CR]	
Details	Get the item name and status of Power Failure No.10	
Response	Acceptable	"000_%1_%2" [CR]
	%1	%1 ------ Item name of Power Failure (16-byte fixed length) %2 ------ Power status (2-byte fixed length) 　　　　Power is failed: "NG" 　　　　Power status is normal: "OK"
	Unacceptable	"Error Code" [CR]

9.12.18 **CR_PFAIL11 Command**

Command	"CR_PFAIL11" [CR]	
Details	Get the item name and status of Power Failure No.11	
Response	Acceptable	"000_%1_%2" [CR]
	%1	%1 ------ Item name of Power Failure (16-byte fixed length) %2 ------ Power status (2-byte fixed length) 　　　　Power is failed: "NG" 　　　　Power status is normal: "OK"
	Unacceptable	"Error Code" [CR]

9.12.19 **CR_PFAIL12 Command**

Command	"CR_PFAIL12" [CR]	
Details	Get the item name and status of Power Failure No.12	
Response	Acceptable	"000_%1_%2" [CR]
	%1	%1 ------ Item name of Power Failure (16-byte fixed length) %2 ------ Power status (2-byte fixed length) 　　　　Power is failed: "NG" 　　　　Power status is normal: "OK"
	Unacceptable	"Error Code" [CR]

9.12.20 **CR_PFAIL13 Command**

Command	"CR_PFAIL13" [CR]	
Details	Get the item name and status of Power Failure No.13	
Response	Acceptable	"000_%1_%2" [CR]
	%1	%1 ------ Item name of Power Failure (16-byte fixed length) %2 ------ Power status (2-byte fixed length) 　　　　Power is failed: "NG" 　　　　Power status is normal: "OK"

	Unacceptable	"Error Code" [CR]

9.12.21 **CR_PFAIL14 Command**

Command	"CR_PFAIL14" [CR]	
Details	Get the item name and status of Power Failure No.14	
Response	Acceptable	"000_%1_%2" [CR]
	%1	%1 ------ Item name of Power Failure (16-byte fixed length) %2 ------ Power status (2-byte fixed length) 　　　Power is failed: "NG" 　　　Power status is normal: "OK"
	Unacceptable	"Error Code" [CR]

9.12.22 **CR_PFAIL15Command**

Command	"CR_PFAIL15" [CR]	
Details	Get the item name and status of Power Failure No.15	
Response	Acceptable	"000_%1_%2" [CR]
	%1	%1 ------ Item name of Power Failure (16-byte fixed length) %2 ------ Power status (2-byte fixed length) 　　　Power is failed: "NG" 　　　Power status is normal: "OK"
	Unacceptable	"Error Code" [CR]

9.12.23 **CR_PFAIL16 Command**

Command	"CR_PFAIL16" [CR]	
Details	Get the item name and status of Power Failure No.16	
Response	Acceptable	"000_%1_%2" [CR]
	%1	%1 ------ Item name of Power Failure (16-byte fixed length) %2 ------ Power status (2-byte fixed length) 　　　Power is failed: "NG" 　　　Power status is normal: "OK"
	Unacceptable	"Error Code" [CR]

9.12.24 **CR_PFAIL17 Command**

Command	"CR_PFAIL17" [CR]	
Details	Get the item name and status of Power Failure No.17	
Response	Acceptable	"000_%1_%2" [CR]
	%1	%1 ------ Item name of Power Failure (16-byte fixed length) %2 ------ Power status (2-byte fixed length) 　　　Power is failed: "NG" 　　　Power status is normal: "OK"
	Unacceptable	"Error Code" [CR]

9.12.25 **CR_PFAIL18 Command**

Command	"CR_PFAIL18" [CR]	
Details	Get the item name and status of Power Failure No.18	
Response	Acceptable	"000_%1_%2" [CR]
	%1	%1 ------ Item name of Power Failure (16-byte fixed length)

		%2 ------ Power status (2-byte fixed length) Power is failed: "NG" Power status is normal: "OK"
	Unacceptable	"Error Code" [CR]

9.12.26 **CR_PFAIL19 Command**

Command	"CR_PFAIL19" [CR]	
Details	Get the item name and status of Power Failure No.19	
Response	Acceptable	"000_%1_%2" [CR]
	%1	%1 ------ Item name of Power Failure (16-byte fixed length) %2 ------ Power status (2-byte fixed length) Power is failed: "NG" Power status is normal: "OK"
	Unacceptable	"Error Code" [CR]

9.12.27 **CR_PFAIL20 Command**

Command	"CR_PFAIL20" [CR]	
Details	Get the item name and status of Power Failure No.20	
Response	Acceptable	"000_%1_%2" [CR]
	%1	%1 ------ Item name of Power Failure (16-byte fixed length) %2 ------ Power status (2-byte fixed length) Power is failed: "NG" Power status is normal: "OK"
	Unacceptable	"Error Code" [CR]

9.12.28 **CR_PFAIL21 Command**

Command	"CR_PFAIL21" [CR]	
Details	Get the item name and status of Power Failure No.21	
Response	Acceptable	"000_%1_%2" [CR]
	%1	%1 ------ Item name of Power Failure (16-byte fixed length) %2 ------ Power status (2-byte fixed length) Power is failed: "NG" Power status is normal: "OK"
	Unacceptable	"Error Code" [CR]

9.12.29 **CR_PFAIL22 Command**

Command	"CR_PFAIL22" [CR]	
Details	Get the item name and status of Power Failure No.22	
Response	Acceptable	"000_%1_%2" [CR]
	%1	%1 ------ Item name of Power Failure (16-byte fixed length) %2 ------ Power status (2-byte fixed length) Power is failed: "NG" Power status is normal: "OK"
	Unacceptable	"Error Code" [CR]

9.12.30 **CR_PFAIL23 Command**

Command	"CR_PFAIL23" [CR]

Details	Get the item name and status of Power Failure No.23	
Response	Acceptable	"000_%1_%2" [CR]
	%1	%1 ------ Item name of Power Failure (16-byte fixed length) %2 ------ Power status (2-byte fixed length) 　　　　Power is failed: "NG" 　　　　Power status is normal: "OK"
	Unacceptable	"Error Code" [CR]

9.12.31 CR_PFAIL24 Command

Command	"CR_PFAIL24" [CR]	
Details	Get the item name and status of Power Failure No.24	
Response	Acceptable	"000_%1_%2" [CR]
	%1	%1 ------ Item name of Power Failure (16-byte fixed length) %2 ------ Power status (2-byte fixed length) 　　　　Power is failed: "NG" 　　　　Power status is normal: "OK"
	Unacceptable	"Error Code" [CR]

9.12.32 CR_PFAIL25 Command

Command	"CR_PFAIL25" [CR]	
Details	Get the item name and status of Power Failure No.25	
Response	Acceptable	"000_%1_%2" [CR]
	%1	%1 ------ Item name of Power Failure (16-byte fixed length) %2 ------ Power status (2-byte fixed length) 　　　　Power is failed: "NG" 　　　　Power status is normal: "OK"
	Unacceptable	"Error Code" [CR]

9.12.33 CR_PFAIL26 Command

Command	"CR_PFAIL26" [CR]	
Details	Get the item name and status of Power Failure No.26	
Response	Acceptable	"000_%1_%2" [CR]
	%1	%1 ------ Item name of Power Failure (16-byte fixed length) %2 ------ Power status (2-byte fixed length) 　　　　Power is failed: "NG" 　　　　Power status is normal: "OK"
	Unacceptable	"Error Code" [CR]

9.12.34 CR_PFAIL27 Command

Command	"CR_PFAIL27" [CR]	
Details	Get the item name and status of Power Failure No.27	
Response	Acceptable	"000_%1_%2" [CR]
	%1	%1 ------ Item name of Power Failure (16-byte fixed length) %2 ------ Power status (2-byte fixed length) 　　　　Power is failed: "NG" 　　　　Power status is normal: "OK"
	Unacceptable	"Error Code" [CR]

9.12.35 **CR_PFAIL28 Command**

Command	"CR_PFAIL28" [CR]	
Details	Get the item name and status of Power Failure No.28	
Response	Acceptable	"000_%1_%2" [CR]

	%1	%1 ------ Item name of Power Failure (16-byte fixed length)
		%2 ------ Power status (2-byte fixed length)
		  Power is failed: "NG"
		  Power status is normal: "OK"

	Unacceptable	"Error Code" [CR]

9.12.36 **CR_PFAIL29 Command**

Command	"CR_PFAIL29" [CR]	
Details	Get the item name and status of Power Failure No.29	
Response	Acceptable	"000_%1_%2" [CR]

	%1	%1 ------ Item name of Power Failure (16-byte fixed length)
		%2 ------ Power status (2-byte fixed length)
		  Power is failed: "NG"
		  Power status is normal: "OK"

	Unacceptable	"Error Code" [CR]

9.12.37 **CR_PFAIL30 Command**

Command	"CR_PFAIL30" [CR]	
Details	Get the item name and status of Power Failure No.30	
Response	Acceptable	"000_%1_%2" [CR]

	%1	%1 ------ Item name of Power Failure (16-byte fixed length)
		%2 ------ Power status (2-byte fixed length)
		  Power is failed: "NG"
		  Power status is normal: "OK"

	Unacceptable	"Error Code" [CR]

9.12.38 **CR_PFAIL31 Command**

Command	"CR_PFAIL31" [CR]	
Details	Get the item name and status of Power Failure No.31	
Response	Acceptable	"000_%1_%2" [CR]

	%1	%1 ------ Item name of Power Failure (16-byte fixed length)
		%2 ------ Power status (2-byte fixed length)
		  Power is failed: "NG"
		  Power status is normal: "OK"

	Unacceptable	"Error Code" [CR]

9.12.39 **CR_PFAIL32 Command**

Command	"CR_PFAIL32" [CR]	
Details	Get the item name and status of Power Failure No.32	
Response	Acceptable	"000_%1_%2" [CR]

	%1	%1 ------ Item name of Power Failure (16-byte fixed length)
		%2 ------ Power status (2-byte fixed length)
		  Power is failed: "NG"
		  Power status is normal: "OK"

	Unacceptable	"Error Code" [CR]

9.12.40 **CR_PFAIL33 Command**

Command	"CR_PFAIL33" [CR]	
Details	Get the item name and status of Power Failure No.33	
Response	Acceptable	"000_%1_%2" [CR]

	%1	%1 ------ Item name of Power Failure (16-byte fixed length)
		%2 ------ Power status (2-byte fixed length)
		     Power is failed: "NG"
		     Power status is normal: "OK"

	Unacceptable	"Error Code" [CR]

9.12.41 **CR_PFAIL34 Command**

Command	"CR_PFAIL34" [CR]	
Details	Get the item name and status of Power Failure No.34	
Response	Acceptable	"000_%1_%2" [CR]

	%1	%1 ------ Item name of Power Failure (16-byte fixed length)
		%2 ------ Power status (2-byte fixed length)
		     Power is failed: "NG"
		     Power status is normal: "OK"

	Unacceptable	"Error Code" [CR]

9.12.42 **CR_PFAIL35 Command**

Command	"CR_PFAIL35" [CR]	
Details	Get the item name and status of Power Failure No.35	
Response	Acceptable	"000_%1_%2" [CR]

	%1	%1 ------ Item name of Power Failure (16-byte fixed length)
		%2 ------ Power status (2-byte fixed length)
		     Power is failed: "NG"
		     Power status is normal: "OK"

	Unacceptable	"Error Code" [CR]

9.12.43 **CR_PFAIL36 Command**

Command	"CR_PFAIL36" [CR]	
Details	Get the item name and status of Power Failure No.36	
Response	Acceptable	"000_%1_%2" [CR]

	%1	%1 ------ Item name of Power Failure (16-byte fixed length)
		%2 ------ Power status (2-byte fixed length)
		     Power is failed: "NG"
		     Power status is normal: "OK"

	Unacceptable	"Error Code" [CR]

9.12.44 **CR_PFAIL37 Command**

Command	"CR_PFAIL37" [CR]	
Details	Get the item name and status of Power Failure No.37	
Response	Acceptable	"000_%1_%2" [CR]
	%1	%1 ------ Item name of Power Failure (16-byte fixed length)

		%2 ------ Power status (2-byte fixed length) Power is failed: "NG" Power status is normal: "OK"
	Unacceptable	"Error Code" [CR]

9.12.45 CR_PFAIL38 Command

Command	"CR_PFAIL38" [CR]	
Details	Get the item name and status of Power Failure No.38	
Response	Acceptable	"000_%1_%2" [CR]
	%1	%1 ------ Item name of Power Failure (16-byte fixed length) %2 ------ Power status (2-byte fixed length) Power is failed: "NG" Power status is normal: "OK"
	Unacceptable	"Error Code" [CR]

9.12.46 CR_PFAIL39 Command

Command	"CR_PFAIL39" [CR]	
Details	Get the item name and status of Power Failure No.39	
Response	Acceptable	"000_%1_%2" [CR]
	%1	%1 ------ Item name of Power Failure (16-byte fixed length) %2 ------ Power status (2-byte fixed length) Power is failed: "NG" Power status is normal: "OK"
	Unacceptable	"Error Code" [CR]

9.12.47 CR_PFAIL40 Command

Command	"CR_PFAIL40" [CR]	
Details	Get the item name and status of Power Failure No.40	
Response	Acceptable	"000_%1_%2" [CR]
	%1	%1 ------ Item name of Power Failure (16-byte fixed length) %2 ------ Power status (2-byte fixed length) Power is failed: "NG" Power status is normal: "OK"
	Unacceptable	"Error Code" [CR]

9.12.48 CR_PFAIL41 Command

Command	"CR_PFAIL41" [CR]	
Details	Get the item name and status of Power Failure No.41	
Response	Acceptable	"000_%1_%2" [CR]
	%1	%1 ------ Item name of Power Failure (16-byte fixed length) %2 ------ Power status (2-byte fixed length) Power is failed: "NG" Power status is normal: "OK"
	Unacceptable	"Error Code" [CR]

9.12.49 CR_PFAIL42 Command

Command	"CR_PFAIL42" [CR]

Details	Get the item name and status of Power Failure No.42	
Response	Acceptable	"000_%1_%2" [CR]

	%1	%1 ------ Item name of Power Failure (16-byte fixed length)
		%2 ------ Power status (2-byte fixed length)
		    Power is failed: "NG"
		    Power status is normal: "OK"

	Unacceptable	"Error Code" [CR]

9.12.50 CR_PFAIL43 Command

Command	"CR_PFAIL43" [CR]	
Details	Get the item name and status of Power Failure No.43	
Response	Acceptable	"000_%1_%2" [CR]

	%1	%1 ------ Item name of Power Failure (16-byte fixed length)
		%2 ------ Power status (2-byte fixed length)
		    Power is failed: "NG"
		    Power status is normal: "OK"

	Unacceptable	"Error Code" [CR]

9.12.51 CR_PFAIL44 Command

Command	"CR_PFAIL44" [CR]	
Details	Get the item name and status of Power Failure No.44	
Response	Acceptable	"000_%1_%2" [CR]

	%1	%1 ------ Item name of Power Failure (16-byte fixed length)
		%2 ------ Power status (2-byte fixed length)
		    Power is failed: "NG"
		    Power status is normal: "OK"

	Unacceptable	"Error Code" [CR]

9.12.52 CR_PFAIL45 Command

Command	"CR_PFAIL45" [CR]	
Details	Get the item name and status of Power Failure No.45	
Response	Acceptable	"000_%1_%2" [CR]

	%1	%1 ------ Item name of Power Failure (16-byte fixed length)
		%2 ------ Power status (2-byte fixed length)
		    Power is failed: "NG"
		    Power status is normal: "OK"

	Unacceptable	"Error Code" [CR]

9.12.53 CR_PFAIL46 Command

Command	"CR_PFAIL46" [CR]	
Details	Get the item name and status of Power Failure No.46	
Response	Acceptable	"000_%1_%2" [CR]

	%1	%1 ------ Item name of Power Failure (16-byte fixed length)
		%2 ------ Power status (2-byte fixed length)
		    Power is failed: "NG"
		    Power status is normal: "OK"

	Unacceptable	"Error Code" [CR]

9.12.54 CR_PFAIL47 Command

Command	"CR_PFAIL47" [CR]	
Details	Get the item name and status of Power Failure No.47	
Response	Acceptable	"000_%1_%2" [CR]

	%1	%1 ------ Item name of Power Failure (16-byte fixed length)
		%2 ------ Power status (2-byte fixed length)
		      Power is failed: "NG"
		      Power status is normal: "OK"

	Unacceptable	"Error Code" [CR]

9.12.55 CR_PFAIL48 Command

Command	"CR_PFAIL48" [CR]	
Details	Get the item name and status of Power Failure No.48	
Response	Acceptable	"000_%1_%2" [CR]

	%1	%1 ------ Item name of Power Failure (16-byte fixed length)
		%2 ------ Power status (2-byte fixed length)
		      Power is failed: "NG"
		      Power status is normal: "OK"

	Unacceptable	"Error Code" [CR]

9.12.56 CR_PFAIL49 Command

Command	"CR_PFAIL49" [CR]	
Details	Get the item name and status of Power Failure No.49	
Response	Acceptable	"000_%1_%2" [CR]

	%1	%1 ------ Item name of Power Failure (16-byte fixed length)
		%2 ------ Power status (2-byte fixed length)
		      Power is failed: "NG"
		      Power status is normal: "OK"

	Unacceptable	"Error Code" [CR]

9.12.57 CR_PFAIL50 Command

Command	"CR_PFAIL50" [CR]	
Details	Get the item name and status of Power Failure No.50	
Response	Acceptable	"000_%1_%2" [CR]

	%1	%1 ------ Item name of Power Failure (16-byte fixed length)
		%2 ------ Power status (2-byte fixed length)
		      Power is failed: "NG"
		      Power status is normal: "OK"

	Unacceptable	"Error Code" [CR]

9.12.58 CR_TEMPFAIL Command

Command	"CR_TEMPFAIL" [CR]	
Details	Get the temperature inside a projector when abnormal temperature occurs. It is possible to get the temperatures all at once with several sensors installed.	
Response	Acceptable	"000_%1_%2_%3_%4" [CR]
	%1, %2, %3	%1 ----------------- Sensor 1 temp. (External temp.) %2 ----------------- Sensor 2 temp. (Internal temp.1) %3 ----------------- Sensor 3 temp. (Internal temp.2)

| | | %1, %2 are fixed six characters
There is one space between %1 and %2
There is one space between %2 and %3
There is one space between %3 and %4

(Ex.) "_31.5F"]
"_" indicates a space. When the temperature goes under 0, the first character is "-", not a space, as in "-05.5F".

With more than one temperature sensors installed, projector returns responses in a row.

(Ex.1) "_31.5F _ _35.2S _ _38.0W " [CR]
The first data indicates sensor 1 data, then one space, and sensor 2 data.
Last character in each data indicates the sensor's status.
    "F" ----------- Exceeding critical temp. (abnormal temp.)
    "W" ---------- Approaching critical temp. (Warning temp.)
    "S" ----------- Sensor temp. is safe (Safe temp.)
    "N" ----------- Sensor detects no critical temp.
    "E" ----------- Unable to return the temp. data

The example 1 shows that sensor 1 indicates 31.5 degrees and the temperature is abnormal, sensor 2 indicates 35.2 degrees and the temperature is safe, sensor 3 indicates 38.0 degrees and the temperature is approaching critical state.

When the temperature is safe, all data is represented as "_00.0S".
When the projector is reset, " 00.0S" is set, and every time abnormal temperature occurs, it renews the data and returns it.
In short, it only returns the renewed data of the latest abnormal temperature and the previous data is deleted. |
| | Unacceptable | "?" [CR] |

9.12.59 CR_TEMP Command

Command	"CR_TEMP" [CR]	
Details	Get the current temperature information inside a projector. It is possible to get the temperatures all at once with several sensors installed.	
Response	Acceptable	"000_%1_%2_%3" [CR]
	%1, %2, %3	%1 ------------------ Sensor 1 temp. (External temp.) %2 ------------------ Sensor 2 temp. (Internal temp.1) %3 ------------------ Sensor 3 temp. (Internal temp.2) %1, %2 are fixed 6 characters There is one space between %1 and %2 There is one space between %2 and %3 (Ex.) "_31.5F"] "_" indicates a space. When the temperature goes under 0, the first character is "-", not a space, as in "-05.5F". Last character in each data indicates the sensor's status. "F" ----------- Exceeding critical temp. (abnormal temp.) "W" ---------- Approaching critical temp. (Warning temp.) "S" ----------- Sensor temp. is safe (Safe temp.) "N" ----------- Sensor detects no critical temp. "E" ----------- Unable to return the temp. data With more than one temperature sensors installed, projector returns responses in a row. (Ex.1) "_31.5F _ _35.2S _ _38.0W " [CR]

		The first data indicates sensor 1 data, then one space, and sensor 2 data. The example 1 shows that sensor 1 indicates 31.5 degrees and the temperature is abnormal, sensor 2 indicates 35.2 degrees and the temperature is safe, sensor 3 indicates 38.0 degrees and the temperature is approaching critical state. When it cannot return the temperature data due to hardware error, the last character is "E" as in "_00.0E" . It mitght happen for some projectors that the temperature continues to go up to abnormal status as ling as lamp ballasts are hot. Therefore when in StandBy mode or for several tens of seconds after Power is ON, any treatment of Power Failure is not processed. In that case, the temperature data is represented as "_ - - - - N".
	Unacceptable	"Error Code" [CR]