

**BASIC SERIAL COMMAND**

**FUNCTIONAL SPECIFICATIONS**

PLC - XU83/XU86

Ver. 0.02

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**1. Overview**

- 1.1. These specifications define projector control commands for XU83 / XU86.
- 1.2. The projector control commands are used to control a projector through RS-232C from a computer.

**2. Serial Interface Specification**

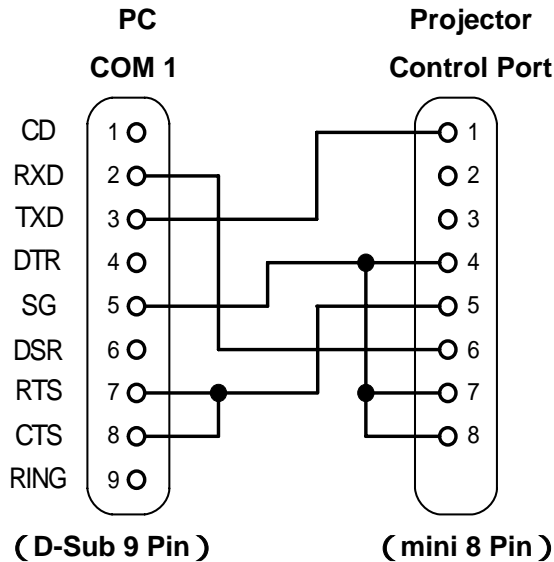
**2.1. Transfer Specification**

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

- 1) Transmission speed: initial setting value is 19200.
- 2) Transmission speed can be changed in Service mode.

**2.2. Connection**

Dedicated serial cable must be used for a connection between a computer and a projector.



### 3. Notes for Communication

3.1. The projector control command is defined as one command / one 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

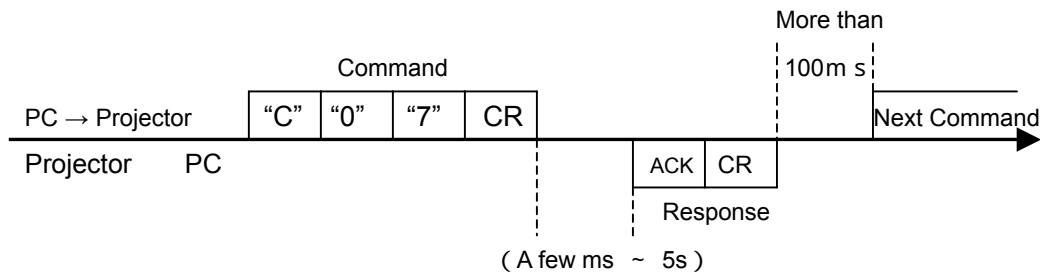
Example of Functional Execution Command: “C05” [CR]

Example of Status Read Command: ”CR0”[CR]

3.3. When it takes more than one second to receive one command, it does not operate.

It clears the information of the buffer when the projector receives the first data “C” and it takes more than one second to receive carriage return(0x0D).

3.4. For Command pipelining, wait for the interval of 100ms after receiving a command. (Response)



3.4.1. When a command is issued before receiving a response, the function is not executed properly.

3.4.2. Except for when there is no Response for more than 5 seconds.

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

3.6. The number of character of response to Status Read Commands depends on commands.

Please see [7. Status Read Commands].

3.7. Characters for commands must be Capital (A - Z).

#### 4. Functional Execution Command Table

Command	Item	Command	Item
C00	POWER ON	C20	BRIGHTNESS +
C01	POWER OFF (Quick Power OFF )	C21	BRIGHTNESS -
C02	POWER OFF	C22	
C03		C23	
C04		C24	Computer 2 Component
C05		C25	Computer 2 RGB
C06	Computer 2	C26	Computer 2 Scart
C07	Video	C27	IMAGE (Toggle)
C08		C28	ON START SETTING
C09	VOLUME +	C29	ON START CANCEL
C0A	VOLUME -	C2A	Power Management Ready
C0B	AUDIO MUTE ON	C2B	Power Management OFF
C0C	AUDIO MUTE OFF	C2C	
C0D	VIDEO MUTE ON	C2D	
C0E	VIDEO MUTE OFF	C2E	Power Management Shut down
C0F	REGULAR IMAGE (4:3)	C2F	
C10	WIDE IMAGE (16:9)	C30	D.ZOOM +
C11	Image Standard	C31	D.ZOOM -
C12	Image Real	C32	Video Auto
C13	Image Cinema	C33	Video Video
C14	Image 1	C34	Video S-Video
C15	Image 2	C35	
C16	Image 3	C36	
C17	Image 4	C37	
C18	Black Board	C38	
C19	Dynamic	C39	
C1A		C3A	POINTER RIGHT
C1B		C3B	POINTER LEFT
C1C	MENU ON	C3C	POINTER UP
C1D	MENU OFF	C3D	POINTER DOWN
C1E	DISPLAY CLEAR	C3E	
C1F		C3F	ENTER

means no function.

Command	Item	Command	Item
C40		C80	
C41		C81	Input WIRED
C42		C82	Input WIRELESS
C43	FREEZE ON	C83	Input VIEWER
C44	FREEZE OFF	C84	
C45		C85	
C46		C86	
C47		C87	
C48		C88	
C49		C89	Auto PC ADJ.
C4A		C8A	PRESENTATION TIMER
C4B		C8B	
C4C		C8C	
C4D		C8D	
C4E		C8E	KEystone
C4F		C8F	KEystone
C50	Computer 1 Analog RGB	C92	
C51		C93	
C52	Computer 1 DVI (PC digital)	C94	
C53	Computer 1 DVI (AV HDCP)	C95	
C54		C96	
C55		C97	
C56		C98	
C57		C99	
C58		C9A	
C59	Page UP	C9B	
C5A	Page DOWN	C9C	
C5B		C9D	
C5C		C9E	
C5D		C9F	
C5E			
C5F			

means no function.



**5. Status Read Command Table**

Command	Item	Memo
CR0	Status Read	
CR1	Input Mode Read	
CR3	Lamp Time Read	
CR4	Setting Read	
CR6	Temp Read	
CR7		
CR8		
CR9		
CRA		
CRB		

means no function.

## 6. Functional Execution Command

### 6.1. Format

6.1.1. PC issues a command in format as below.

“C”**COMMAND**[CR]

Command : two characters ( See Basic Functional Execution Command Table )

6.1.2. A projector changes received data to decode and returns a result after being ready to receive next command.

**[ACK][CR]** : (0x06, 0x0D)When received Functional Execution Commands.

6.1.3. “?”**[CR]**:When the received data cannot be decoded.

### 6.2. Command Pipelining

When some functions need the command pipelining, the performance is the same as that of the remote control;

6.2.1. System: issue any command every 100 ms.

6.2.2. When receiving the appropriate command, the function is executed for 120 ms from the moment.

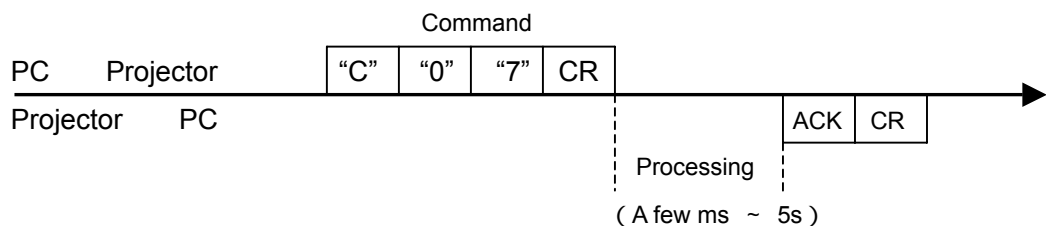
6.2.3. When receiving the same command continuously within 120 ms, the function is executed for another 120 ms from the moment.

6.2.4. When there is no incoming command after 120 ms, the execution of pipelining is stopped.

6.2.5. When the projector receives other incoming commands within 120ms, the execution of pipelining is stopped.

### 6.3. Transfer Example

Switch the projector to video mode with Basic Command.



#### 6.4. Operation Requirements

When the projector's status is in this below, Functional Execution Commands are limited.

Projector's status	Acceptable Functional Execution Commands
Standby Mode	C00 : POWER ON
Processing Countdown	C00 : POWER ON      Countdown is terminated C01 : POWER OFF C02 : POWER OFF      Countdown is terminated
Processing Cooling Down	NONE
Cooling Down due to Abnormal Temperature	NONE
Abnormal Temperature Status	NONE
Power Save / Cooling Down	NONE
Power Save Status	C00 : POWER ON C01 : POWER OFF

Note) When the status is above, even if the projector receives other commands,  
it returns **[ACK] [CR]**.

**6.5. POWER ON Command**

Command	"C00"[CR]	
Details	Power ON When already Power is ON, no need to do. When sending this command during processing Countdown, Countdown is terminated.	
Response	Acceptable	[ACK] [CR]
	Unacceptable	"?"[CR]

**6.6. POWER OFF Command ( Quick Power OFF )**

Command	"C01"[CR]	
Details	Power OFF (Standby) When Power is OFF with ON-OFF button of the projector and remote control, "Power OFF" is displayed. However, as soon as this command is sent, Quick Power OFF is executed.	
Response	Acceptable	[ACK] [CR]
	Unacceptable	"?"[CR]

**6.7. POWER OFF Command**

Command	"C02"[CR]	
Details	Power OFF (Standby) The same operation as Power OFF with ON-OFF button of the projector and remote control. When sending this command, "Power OFF?" is displayed. When this command is sent again during this time, Power OFF is executed. When this command is sent during Countdown, Countdown is terminated.	
Response	Acceptable	[ACK] [CR]
	Unacceptable	"?"[CR]

**6.8. Computer 2 Command**

Command	"C06"[CR]	
Details	Select Computer2 Input Yet, when Computer 2 is set for Monitor Out in Terminal setting, Response OK is returned but not executed.	
Response	Acceptable	[ACK] [CR]
	Unacceptable	"?"[CR]

**6.9. Video Command**

Command	"C07"[CR]	
Details	Select Video Input	
Response	Acceptable	[ACK] [CR]
	Unacceptable	"?"[CR]

**6.10.VOLUME + Command**

Command	"C09"[CR]	
Details	Volume Up This command operates the same as "VOLUME +" button of the projector and remote control for Volume Up.	
Response	Acceptable	[ACK] [CR]
	Unacceptable	"?"[CR]

**6.11.VOLUME - Command**

Command	"C0A"[CR]	
Details	Volume Down This command operates the same as "VOLUME -" button of the projector and remote control for Volume Down.	
Response	Acceptable	[ACK] [CR]
	Unacceptable	"?"[CR]

**6.12.AUDIO MUTE ON Command**

Command	"C0B"[CR]	
Details	Sound Mute ON This command works the same as "MUTE" button of the remote control for Mute ON, but does not work for Mute OFF.	
Response	Acceptable	[ACK] [CR]
	Unacceptable	"?"[CR]

**6.13.AUDIO MUTE OFF Command**

Command	"C0C"[CR]	
Details	Sound Mute OFF This command works the same as "MUTE" button of the remote control for Mute OFF, but does not work for Mute ON.	
Response	Acceptable	[ACK] [CR]
	Unacceptable	"?"[CR]

**6.14.VIDEO MUTE ON Command**

Command	"C0D"[CR]	
Details	Video Mute ON. This command works the same as "NO SHOW" button of the remote control for No Show ON, but does not work for No Show OFF.	
Response	Acceptable	[ACK] [CR]
	Unacceptable	"?"[CR]

**6.15. VIDEO MUTE OFF Command**

Command	"C0E"[CR]	
Details	Video Mute OFF. This command works the same as "NO SHOW" button of remote control for No Show OFF, but does not work for No Show ON.	
Response	Acceptable	[ACK] [CR]
	Unacceptable	"?"[CR]

**6.16. Screen Normal size Command**

Command	"C0F"[CR]	
Details	Set screen size to Normal (4 : 3) Cancel D-Zoom.	
Response	Acceptable	[ACK] [CR]
	Unacceptable	"?"[CR]

**6.17. Screen Wide size Command**

Command	"C10"[CR]	
Details	Set screen size to Wide (16 : 9) Cancel D-Zoom.	
Response	Acceptable	[ACK] [CR]
	Unacceptable	"?"[CR]

**6.18. Image Standard Command**

Command	"C11"[CR]	
Details	Set Image to Standard mode	
Response	Acceptable	[ACK] [CR]
	Unacceptable	"?"[CR]

**6.19. Image Real Command**

Command	"C12"[CR]	
Details	Set Image to Real mode	
Response	Acceptable	[ACK] [CR]
	Unacceptable	"?"[CR]

**6.20. Image Cinema Command**

Command	"C13"[CR]	
Details	Set Image to Cinema mode	
Response	Acceptable	[ACK] [CR]
	Unacceptable	"?"[CR]

**6.21. Image 1 Command**

Command	"C14"[CR]	
Details	Set Image to Image 1 mode	
Response	Acceptable	[ACK] [CR]
	Unacceptable	"?"[CR]

**6.22. Image 2 Command**

Command	"C15"[CR]	
Details	Set Image to Image 2 mode	
Response	Acceptable	[ACK] [CR]
	Unacceptable	"?"[CR]

**6.23. Image 3 Command**

Command	"C16"[CR]	
Details	Set Image to Image 3 mode	
Response	Acceptable	[ACK] [CR]
	Unacceptable	"?"[CR]

**6.24. Image 4 Command**

Command	"C17"[CR]	
Details	Set Image to Image 4 mode	
Response	Acceptable	[ACK] [CR]
	Unacceptable	"?"[CR]

**6.25. Image Blackboard (Green) Command**

Command	"C18"[CR]	
Details	Set Image to BlackBoard(Green) mode	
Response	Acceptable	[ACK] [CR]
	Unacceptable	"?"[CR]

**6.26. Image Dynamic Command**

Command	"C19"[CR]	
Details	Set Image to Dynamic mode	
Response	Acceptable	[ACK] [CR]
	Unacceptable	"?"[CR]

**6.27. MENU ON Command**

Command	"C1C"[CR]	
Details	Display Menu of On Screen Display	
Response	Acceptable	[ACK] [CR]
	Unacceptable	"?"[CR]

**6.28.MENU OFF Command**

Command	"C1D"[CR]	
Details	Clear Menu of On Screen Display	
Response	Acceptable	[ACK] [CR]
	Unacceptable	"?"[CR]

**6.29.DISPLAY CLEAR Command**

Command	"C1E"[CR]	
Details	Clear On Screen Display. Clear On Screen Display unconditionally.	
Response	Acceptable	[ACK] [CR]
	Unacceptable	"?"[CR]

**6.30.BRIGHTNESS + Command**

Command	"C20"[CR]	
Details	Brightness of User Control +1.	
Response	Acceptable	[ACK] [CR]
	Unacceptable	"?"[CR]

**6.31.BRIGHTNESS - Command**

Command	"C21"[CR]	
Details	Brightness of User Control -1.	
Response	Acceptable	[ACK] [CR]
	Unacceptable	"?"[CR]

**6.32.Computer 2 Component Command**

Command	"C24"[CR]	
Details	Select Component input of Computer 2. Yet, when Computer 2 is set for Monitor Out in Terminal setting, Response OK is returned but not executed.	
Response	Acceptable	[ACK] [CR]
	Unacceptable	"?"[CR]

**6.33.Computer 2 RGB Command**

Command	"C25"[CR]	
Details	Select RGB input of Computer 2. Yet, when Computer 2 is set for Monitor Out in Terminal setting, Response OK is returned but not executed.	
Response	Acceptable	[ACK] [CR]
	Unacceptable	"?"[CR]



**6.34. Computer 2 Scart Command**

Command	"C26"[CR]	
Details	Select RGB(Scart) input of Computer 2. Yet, when Computer 2 is set for Monitor Out in Terminal setting, Response OK is returned but not executed.	
Response	Acceptable	[ACK] [CR]
	Unacceptable	"?"[CR]

**6.35. IMAGE (Toggle) Command**

Command	"C27"[CR]	
Details	Switch Image Setting status. This command works the same as "IMAGE" button on the projector or remote control as "IMAGE" function.	
Response	Acceptable	[ACK] [CR]
	Unacceptable	"?"[CR]

**6.36. ON START SETTING Command**

Command	"C28"[CR]	
Details	Set Power ON Start setting status. This status is stored in EEPROM and retained regardless of Power OFF/ON.	
Response	Acceptable	[ACK] [CR]
	Unacceptable	"?"[CR]

**6.37. ON START CANCEL Command**

Command	"C29"[CR]	
Details	Cancel Power ON Start. This status is stored in EEPROM and retained regardless of Power OFF/ON.	
Response	Acceptable	[ACK] [CR]
	Unacceptable	"?"[CR]

**6.38. Power Management Ready Command**

Command	"C2A"[CR]	
Details	Set Power Management to Ready mode. This status is stored in EEPROM and retained regardless of Power OFF/ON.	
Response	Acceptable	[ACK] [CR]
	Unacceptable	"?"[CR]

D3

**6.39. Power Management OFF Command**

Command	"C2B"[CR]	
Details	Set Power Management OFF. This status is stored in EEPROM and retained regardless of Power OFF/ON.	
Response	Acceptable	[ACK] [CR]
	Unacceptable	"?"[CR]

D3

**6.40. Power Management Shut down Command**

Command	"C2E"[CR]	
Details	Set Power Management to Shut down mode. This status is stored in EEPROM and retained regardless of Power OFF/ON.	
Response	Acceptable	[ACK] [CR]
	Unacceptable	"?"[CR]

D3

**6.41. D.ZOOM + Command**

Command	"C30"[CR]	
Details	Make screen image larger. This command works the same as "ZOOM +" button of the remote control.	
Response	Acceptable	[ACK] [CR]
	Unacceptable	"?"[CR]

**6.42. D.ZOOM – Command**

Command	"C31"[CR]	
Details	Make screen image smaller. This command works the same as "ZOOM –" button of the remote control.	
Response	Acceptable	[ACK] [CR]
	Unacceptable	"?"[CR]

**6.43. Video Auto Command**

Command	"C32"[CR]	
Details	Select Auto input of Video	
Response	Acceptable	[ACK] [CR]
	Unacceptable	"?"[CR]

**6.44. Video Video Command**

Command	"C33"[CR]	
Details	Select Video input of Video Source.	
Response	Acceptable	[ACK] [CR]
	Unacceptable	"?"[CR]

**6.45. Video S-Video Command**

Command	"C34"[CR]	
Details	Select S-video of Video Source.	
Response	Acceptable	[ACK] [CR]
	Unacceptable	"?"[CR]

**6.46.POINTER RIGHT Command**

Command	"C3A"[CR]	
Details	Move the Pointer of On Screen Display Menu to the right. This Command differs from the operation of pointer ">" and has no function of Volume +.	
Response	Acceptable	[ACK] [CR]
	Unacceptable	"?"[CR]

**6.47.POINTER LEFT Command**

Command	"C3B"[CR]	
Details	Move the Pointer of On Screen Display Menu to the left. This Command differs from the operation of pointer "<" and has no function of Volume -.	
Response	Acceptable	[ACK] [CR]
	Unacceptable	"?"[CR]

**6.48.POINTER UP Command**

Command	"C3C"[CR]	
Details	Move up the Pointer of On Screen Display Menu. This command works the same as " " button of the projector.	
Response	Acceptable	[ACK] [CR]
	Unacceptable	"?"[CR]

**6.49.POINTER DOWN Command**

Command	"C3D"[CR]	
Details	Move down the Pointer of On Screen Display Menu. This command works the same as " " button of the projector.	
Response	Acceptable	[ACK] [CR]
	Unacceptable	"?"[CR]

**6.50.ENTER Command**

Command	"C3F"[CR]	
Details	This command works the same as "SELECT" button of the projector and remote control.	
Response	Acceptable	[ACK] [CR]
	Unacceptable	"?"[CR]

**6.51.FREEZE ON Command**

Command	"C43"[CR]	
Details	Make the screen "Freeze". This command works the same as "FREEZE" button of the remote control for Freeze ON, but does not work for Freeze OFF.	
Response	Acceptable	[ACK] [CR]
	Unacceptable	"?"[CR]

**6.52.FREEZE OFF Command**

Command	"C44"[CR]	
Details	Cancel Freeze function. This command works the same as "FREEZE" button of the remote control for Freeze Off, but does not work for Freeze ON.	
Response	Acceptable	[ACK] [CR]
	Unacceptable	"?"[CR]

**6.53.INPUT 1 Analog RGB Command**

Command	"C50"[CR]	
Details	Select Analog RGB input of Input 1.	
Response	Acceptable	[ACK] [CR]
	Unacceptable	"?"[CR]

**6.54.INPUT 1 DVI (PC digital) Command**

Command	"C52"[CR]	
Details	Select DVI (PC digital) input of Input 1.	
Response	Acceptable	[ACK] [CR]
	Unacceptable	"?"[CR]

**6.55.INPUT 1 DVI (AV HDCP) Command**

Command	"C53"[CR]	
Details	Select DVI (AV HDCP) input of Input 1.	
Response	Acceptable	[ACK] [CR]
	Unacceptable	"?"[CR]

**6.56.PAGE UP Command**

Command	"C59"[CR]	
Details	When the projector is connected to the computer by USB cable, send the signal of Page Up to the computer	
Response	Acceptable	[ACK] [CR]
	Unacceptable	"?"[CR]

**6.57.PAGE DOWN Command**

Command	"C5 A"[CR]	
Details	When the projector is connected to the computer by USB cable, send the signal of Page Down to the computer	
Response	Acceptable	[ACK] [CR]
	Unacceptable	"?"[CR]

**6.58.INPUT WIRED Command**

Command	"C81"[CR]	
Details	Select WIRED (Wired LAN) input.	
Response	Acceptable	[ACK] [CR]
	Unacceptable	"?"[CR]

**6.59.INPUT WIRELESS Command**

Command	"C82"[CR]	
Details	Select WIRELESS (Wireless LAN) input.	
Response	Acceptable	[ACK] [CR]
	Unacceptable	"?"[CR]

**6.60.INPUT VIEWER Command**

Command	"C83"[CR]	
Details	Select VIEWER (Memory viewer) input.	
Response	Acceptable	[ACK] [CR]
	Unacceptable	"?"[CR]

**6.61.AUTO PC ADJ. Command**

Command	"C89"[CR]	
Details	Execute Auto PC Adj. This command works the same as AUTO PC ADJ. button of a remote control. Sending the command during operation, Auto PC Adj. is disconnected, and this is the same operation as AUTO PC button of a remote control.	
Response	Acceptable	[ACK] [CR]
	Unacceptable	"?"[CR]

**6.62.PRESENTATION TIMER Command**

Command	"C8A"[CR]	
Details	Execute PRESENTATION TIMER. This command works the same as "P-TIMER" button of the remote control.	
Response	Acceptable	[ACK] [CR]
	Unacceptable	"?"[CR]

**6.63.KEYSTONE Command**

Command	"C8E"[CR]	
Details	Correct keystone distortion by reducing upper part of image.	
Response	Acceptable	[ACK] [CR]
	Unacceptable	"?"[CR]

**6.64. KEYSTONE Command**

Command	"C8F"[CR]	
Details	Correct keystone distortion by reducing down part of image.	
Response	Acceptable	[ACK] [CR]
	Unacceptable	"?"[CR]

## 7. Status Read Command

### 7.1. Format

7.1.1. PC issues command in format as below.

“CR”**Command** [CR]

Command : 1 character ( See Basic Status Read Command Table )

7.1.2. When a projector receives the appropriate command, it returns a character line as the requested data

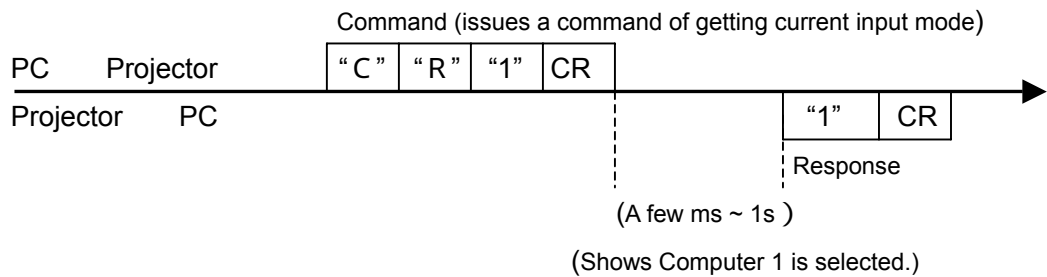
**Requested Data** [CR]

Requested Data: A character line (See Basic Status Read Command Table)

7.1.3. When the received data cannot be decoded, the projector returns “?”[CR].

### 7.2. Transfer Example

Get input mode for the projector with basic commands



### 7.3. Status Read Command

Command	"CR0"[CR]	
Details	Get the projector status.	
Response	Acceptable	"%1"[CR]
	%1	"00" = Power ON "80" = Standby "40" = Processing Countdown "20" = Processing Cooling Down "10" = Power Failure "28" = Processing Cooling Down due to Temperature Anomaly "08" = Temperature Anomaly "88" = Coming back after Temperature Anomaly "24" = Processing Power Save/Cooling Down "04" = Power Save
	Unacceptable	"?"[CR]

#### 【 Details of Response 】

##### 7.3.1. "00"[CR]

Status: Power ON

Normal image is on the screen.

##### 7.3.2. "80"[CR]

Status: Standby

When the status is Standby, Status Read Commands are always acceptable, but Functional Execution Commands are not acceptable except POWER ON Command.

##### 7.3.3. "40"[CR]

Status: Processing Countdown

When "Display" in Setting Menu is ON and POWER ON is executed, it starts processing Countdown.

When "Display" in Setting Menu is OFF, processing Countdown is canceled and the status quickly moves to Power ON.

##### 7.3.4. "20"[CR]

Status: Processing Cooling Down

When the status is Power ON, and POWER OFF Command ("C01"[CR]) is executed, it moves to Cooling Down status.

This status automatically moves to Standby when lamp turns off and the fan spin finishes after about 90 seconds. The fan spin time depends on a model.

This function is used to cool down the lamps and other optical parts and is quite important for projector's liability.

During this time, Functional Execution Commands are invalid.

##### 7.3.5. "10"[CR]

Status: Power Failure

When the power supply voltage inside the projector reaches abnormal status, the projector is automatically turned off. The projector returns "10"[CR], which shows it



moves to Power OFF status due to power failure. Fan also stops unlike Cooling Down status.

**7.3.6. “28”[CR]**

Status: Processing Cooling Down due to Temperature Anomaly

When the inside temperature is out of the operating temperature, it automatically starts Cooling Down. Response for this status is “28”[CR].

Even if the temperature decreases during this process, Cooling Down is executed.

**7.3.7. “08”[CR]**

Status: Temperature Anomaly

When the temperature doesn't drop even after cooling down due to temperature anomaly, response for this status is “08”[CR].

Projector maintains Standby mode.

**7.3.8. “88”[CR]**

Status: Coming back after temperature anomaly

When the status moves to Standby after Cooling Down due to temperature anomaly, it returns “88” [CR].

This shows that the status turns to Standby because of abnormal temperature.

This status maintains until next operation is done. When Power On is executed, the information of temperature anomaly is canceled and normal operation is executed.

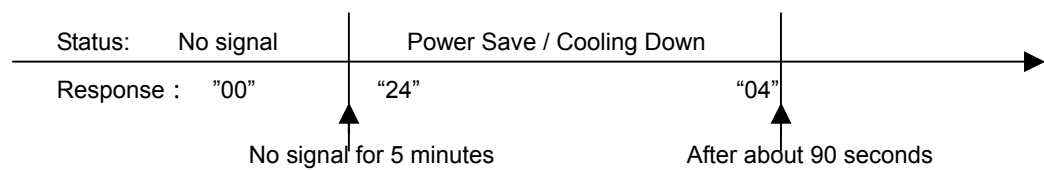
**7.3.9. “24”[CR]**

Status: Processing Power Save / Cooling Down

Power management function in the Setting menu works and the status goes to Power Save / Cooling Down.

During this time, Functional Execution Commands are invalid.(not executed)

This status moves to Power Save at set hours after the operation of Cooling Down.



**7.3.10. “04”[CR]**

Status: Power Save

This shows that it moves to Power Save status by Power management function in the Setting menu.

**7.4. Input Mode Read Command**

Command	"CR1"[CR]	
Details	Get the selected Input No.	
Response	Acceptable	"%1"[CR]
	%1	"1" = Computer1 is selected "2" = Computer2 is selected "3" = Video is selected "4" = Wired is selected "5" = Wireless/Viewer is selected
	Unacceptable	"?"[CR]

**7.5. Lamp Time Read Command**

Command	"CR3"[CR]	
Details	Get the total lamp running hours (Corresponding value in Eco mode, not the real running hours)	
Response	Acceptable	"%1"[CR]
	%1	Shown the time period with 5-digit numbers. Example: "00410"[CR] --- shows 410 hours
	Unacceptable	"?"[CR]

**7.6. Setting Read Command**

Command	"CR4"[CR]	
Details	Get the setting status such as Ceiling/Rear.	
Response	Acceptable	"%1"[CR]
	%1	"11"[CR] = Normal screen setting "10"[CR] = Picture is top/bottom reversed (Rear & Ceiling ON) "01"[CR] = Picture is left/right reversed (Status: Rear ON) "00"[CR] = Picture is top/bottom and left/right reversed (Status: Ceiling ON)
	Unacceptable	"?"[CR]

### 7.7. Temp Read Command

Command	"CR6"[CR]	
Details	Get the temperature data inside A projector With some temperature sensors installed in the projector, it is possible to get all the temperature at once.	
Response	Acceptable	"%1_%2_%3"[CR]
	%1 %2 %3	<p>%1 = Temperature of sensor 1 %2 = Temperature of sensor 2 %3 = Temperature of sensor 3 Temperature data is shown as "00.0". When the temperature goes down to -, the first character becomes "-" instead of a space, like "-05.5" [CR]. When no temperature data can be returned due to hardware problems, the first character becomes "E" like"E00.0" [CR]. When several temperature sensors are equipped, Responses are returned continuously. "_ 31.5_ 35.2 _ 33.4"[CR] The first data is sensor 1, then one space, and the data of sensor 2 follows.</p>
	Unacceptable	"?"[CR]