

LC-SD15

<b>BASIC SERIAL COMMAND SPECIFICATIONS</b>
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# 1.Overview

- 1.1. This specification defines projector control commands for LC-SD15.
- 1.2. The projector control commands are used to control a projector through RS-232C from a computer.

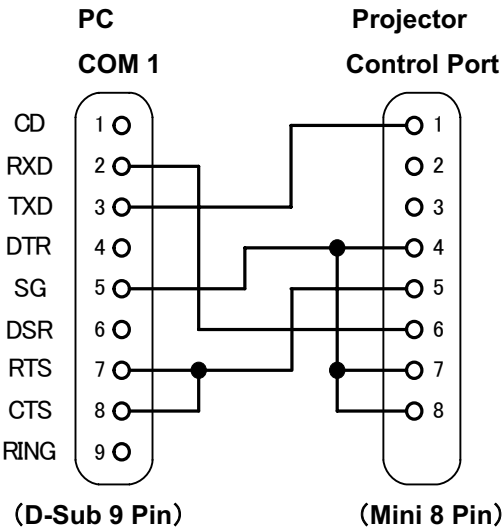
# 2.Serial Interface Specification

Item	Specification
Synchronous System	Asynchronous
Transmission Speed	9600 / 19200
Data Length	8 bit
Parity	None
Stop Bit	1
Flow Control	None

- 2.1. Transmission speed: initial setting value is 19200.
- 2.2. Transmission speed can be changed by service mode.

# 3.Connection

Dedicated serial cable that comes with the projector must be used for connecting a computer and a projector.



## 4. Notes for Communication

- 4.1. The projector command is defined as one command / one line that starts with "C" and ends with carriage return (0x0D).
- 4.2. When the projector receives carriage return (0x0D), it starts decoding.
- 4.3. There are two types of commands, Functional Execution Commands and Status Read Commands;
- Example of Functional Execution Command: "C05" [CR]
- Example of Status Read Command: "CR0" [CR]
- 4.4. It clears the information of buffer for reasons stated below;
- 4.4.1. When the projector receives LF (0x0A) or EOF (0x1A)
- 4.4.2. When it takes more than one second to receive one command  
(From receiving the first data till carriage return)
- 4.5. For Control Command pipelining, wait for the interval stated below after the response.
- 4.5.1. Command such as 「VOLUME +/-」 → 100ms
- 4.5.2. Other Commands → 500ms
- 4.6. For Status Read Command pipelining, wait for the interval of at least 500ms.
- 4.7. Send the next Command after receiving a Response.
- If no Response is returned after 5 seconds, send the next Command.
- 4.8. It takes about 7 seconds from AC power ON till the status that a projector moves to Standby for internal initialization. No Command can be executed during this time.
- 4.9. For 7 seconds after Standby status till Power ON execution, Response OK is returned when Command regarding internal initialization and processing Lamp lighting are received, but the Command is terminated.
- Yet, for Status Read Command, the Command is executed if 500ms is passed after receiving Power ON Command OK Response.
- 4.10. About processing Countdown and Cooling Down
- When receiving a Command while processing Power ON execution Countdown and Cooling down after Power OFF execution, Response OK is returned.
- The Command is terminated, but Status Read Command can be executed.
- 4.11. About operation of INPUT switching
- It takes 5 seconds to switch Input after receiving the Command. When receiving the Command during this time, it is not executed. However, Status Read Commands are carried out after 500ms since it receives the response to switching Input Command.
- 4.12. The number of characters of response for Status Read Commands depends on commands.
- Please refer to [10-3 Status Read Command] or [Status Read Command Table] for details.
- 4.13. Characters for commands must be Capital (A - Z).

## 5.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	-----
C05	Computer	C25	-----
C06	-----	C26	-----
C07	Video	C27	IMAGE (Toggle)
C08	-----	C28	ON START Enable
C09	VOLUME +	C29	ON START Disable
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	Screen Normal size (4:3)	C2F	-----
C10	Screen Wide size (16:9)	C30	D.ZOOM +
C11	Image Standard	C31	D.ZOOM -
C12	Image Real	C32	-----
C13	Image Cinema	C33	Video Source Video
C14	Image 1	C34	Video Source S-Video
C15	Image 2	C35	-----
C16	Image 3	C36	-----
C17	Image 4	C37	-----
C18	Image Blackboard (Green)	C38	-----
C19	Image 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	-----
C42	-----	C82	-----
C43	FREEZE ON	C83	-----
C44	FREEZE OFF	C84	-----
C45	-----	C85	-----
C46	-----	C86	-----
C47	-----	C87	-----
C48	-----	C88	-----
C49	-----	C89	AUTO IMAGE
C4A	-----	C8A	PRESENTATION TIMER
C4B	-----	C8B	-----
C4C	-----	C8C	-----
C4D	-----	C8D	-----
C4E	-----	C8E	KEYSTONE ↑
C4F	-----	C8F	KEYSTONE ↓
C50	Computer Analog RGB	C90	-----
C51	Computer Scart	C91	-----
C52	-----	C92	-----
C53	-----	C93	-----
C54	Computer Component	C94	-----
C55	-----	C95	-----
C56	DIM MODE ON	C96	-----
C57	DIM MODE OFF	C97	-----
C58	-----	C98	-----
C59	-----	C99	-----
C5A	-----	C9A	-----
C5B	-----	C9B	-----
C5C	-----	C9C	-----
C5D	-----	C9D	-----
C5E	-----	C9E	-----
C5F	-----	C9F	-----

“-----” means no function.

6. Status Read Command Table

Command	Functions	Remark
CR0	Status Read	
CR1	Input Mode Read	
CR2	-----	
CR3	Lamp Time Read	
CR4	Setting Read	
CR5	-----	
CR6	Temp Read	
CR7	-----	
CR8	-----	
CR9	-----	
CRA	-----	
CRB	-----	
CRC	-----	

“-----” means no function.

7.Functional Execution Command

7.1. Format

7.1.1. PC issues commands in format as below.

“C” Command [CR]

Command : 2 characters (See Functional Execution Command Table)

7.1.2. 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

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

7.2. When the command pipelining is needed

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

7.2.1 Transmitting side issues any command every 100 ms after receiving a response.

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

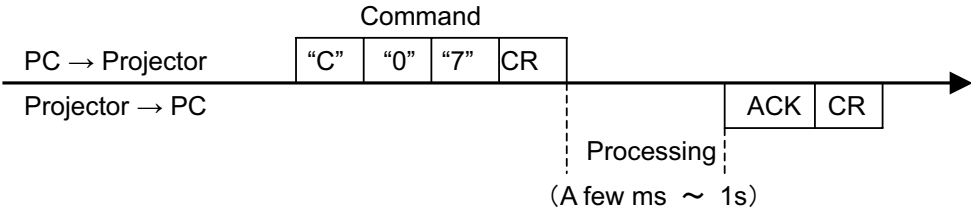
7.2.3. When receiving the same command continuously within 120 ms, the function is executed for another 120 ms from the moment.

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

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

7.3. Transfer Example

It switches to video mode with Basic Command.



#### 7.4. Operation Requirements

When the projector is in status stated as below, Functional Execution Commands are limited.

Status Read Commands are available under the status stated below.

Status	Available 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 (No execution)
Cooling Down Due to Abnormal Temperature	None (No execution)
Abnormal Temperature Status	None (No execution)
Processing Power Save · Cooling Down	None (No execution)
Power Save Status	C00 : POWER ON C01 : POWER OFF

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

### 7.5. POWER ON Command

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

### 7.6. 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 the 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]

### 7.7. POWER OFF Command

Command	"C02" [CR]	
Details	Power OFF (Standby). This command works the same as when Power is OFF with ON-OFF button of the projector and the remote control. (Once command is sent, "Power OFF ?" is displayed. If this command is sent again while sending the first command, Power OFF is executed.)	
Response	Acceptable	[ACK] [CR]
	Unacceptable	"?" [CR]

### 7.8. Computer Command

Command	"C05" [CR]	
Details	Select Computer Input. This command works the same as "Computer" button of the remote control.	
Response	Acceptable	[ACK] [CR]
	Unacceptable	"?" [CR]

### 7.9. Video Command

Command	"C07" [CR]	
Details	Select Video Input. This command works the same as "Video" button of the remote control.	
Response	Acceptable	[ACK] [CR]
	Unacceptable	"?" [CR]

#### 7.10. VOLUME + Command

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

#### 7.11. VOLUME – Command

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

#### 7.12. 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]

#### 7.13. 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]

#### 7.14. 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]

### 7.15.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. <b>Logo setting=When "User" is selected for Logo, Capture image confirmation is displayed at the first time of Command transmission. Then No Show status is canceled at the second time of Command transmission.</b>	
Response	Acceptable	[ACK] [CR]
	Unacceptable	"?" [CR]

### 7.16.Screen Normal size Command

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

### 7.17.Screen Wide size Command

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

### 7.18.Image Standard Command

Command	"C11" [CR]	
Details	Set screen size to Standard.	
Response	Acceptable	[ACK] [CR]
	Unacceptable	"?" CR]

### 7.19.Image Real Command

Command	"C12" [CR]	
Details	Set screen size to Real.	
Response	Acceptable	[ACK] [CR]
	Unacceptable	"?" [CR]

### 7.20.Image Cinema Command

Command	"C13" [CR]	
Details	Set screen size to Cinema.	
Response	Acceptable	[ACK] [CR]
	Unacceptable	"?" [CR]

### 7.21. Image 1 Command

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

### 7.22. Image 2 Command

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

### 7.23. Image 3 Command

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

### 7.24. Image 4 Command

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

### 7.25. Image Blackboard (Green) Command

Command	"C18" [CR]	
Details	Set image to Blackboard (Green) mode.	
Response	Acceptable	[ACK] [CR]
	Unacceptable	"?" [CR]

### 7.26. Image Dynamic Command

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

### 7.27. MENU ON Command

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

### 7.28.MENU OFF Command

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

### 7.29.DISPLAY CLEAR Command

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

### 7.30.BRIGHTNESS + Command

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

### 7.31.BRIGHTNESS – Command

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

### 7.32.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]

### 7.33.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]

### 7.34. 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]

### 7.35. 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 ON/OFF.	
Response	Acceptable	[ACK] [CR]
	Unacceptable	"?" [CR]

### 7.36. Power Management OFF Command

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

### 7.37. 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]

### 7.38. 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]

### 7.39. 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]

### 7.40. Video Source Video Command

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

### 7.41. Video Source S-video Command

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

### 7.42. POINTER RIGHT Command

Command	"3CA" [CR]	
Details	Move the Pointer of On Screen Display Menu to the right. This command works the same as Point button ">" on the projector.	
Response	Acceptable	[ACK] [CR]
	Unacceptable	"?" [CR]

### 7.43. POINTER LEFT Command

Command	"C3B" [CR]	
Details	Move the Pointer of On Screen Display Menu to the left. This command works the same as Point button "<" on the projector.	
Response	Acceptable	[ACK] [CR]
	Unacceptable	"?" [CR]

### 7.44.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]

#### 7.45.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]

#### 7.46.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]

#### 7.47.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]

#### 7.48.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]

#### 7.49. Computer Analog RGB Command

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

#### 7.50. Computer Scart Command

Command	"C51" [CR]	
Details	Select Analog Scart input.	
Response	Acceptable	[ACK] [CR]
	Unacceptable	"?" [CR]

### 7.51. Computer Component Command

Command	"C54" [CR]	
Details	Select Component input.	
Response	Acceptable	[ACK] [CR]
	Unacceptable	"?" [CR]

### 7.52. Dim Mode ON Command

Command	"C56" [CR]	
Details	Execute Dim mode function, which makes the projection screen dim, ON. This command works the same as setting Dim mode ON with "DIM" button of the remote control, but does not work for Dim mode OFF.	
Response	Acceptable	[ACK] [CR]
	Unacceptable	"?" [CR]

### 7.53. Dim Mode OFF Command

Command	"C57" [CR]	
Details	Cancel Dim mode state, which makes the projection screen dim. This command works the same as canceling Dim mode OFF with "DIM" button of the remote control, but does not work for Dim mode ON.	
Response	Acceptable	[ACK] [CR]
	Unacceptable	"?" [CR]

### 7.54. Auto Image Command

Command	"C89" [CR]	
Details	Execute AUTO PC ADJ. Function. This command works the same as "AUTO IMAGE" button of the remote control. When sending this command during processing Auto PC Adj., Auto PC Adj. is terminated. This works the same as "AUTO IMAGE" button of the remote control.	
Response	Acceptable	[ACK] [CR]
	Unacceptable	"?" [CR]

### 7.55. 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]

### 7.56. KEYSTONE ↑ Command

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

### 7.57. KEYSTONE ↓ Command

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

8. Status Read Commands

8.1. Format

8.1.1. PC issues commands in format as below;

“CR” **Command** [CR]

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

8.1.2. When a projector receives the appropriate command, it returns a character line as the required data.

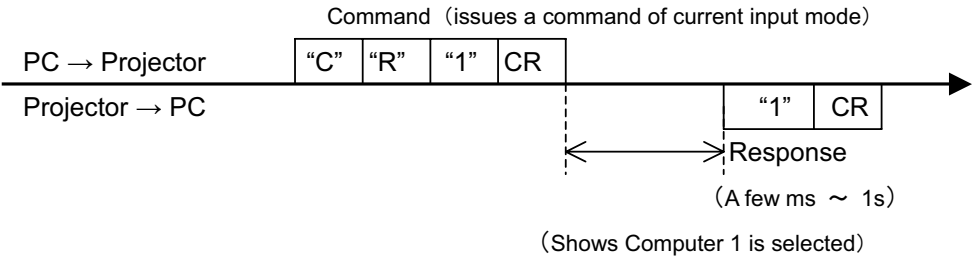
**Required Data** [CR]

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

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

8.2. Transfer Example

Get input mode for projector with basic commands.



### 8.3. 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 High Temperature "88" = Coming back after Temperature Anomaly "02" = RS232C Commands cannot be accepted "24" = Processing Power Save/Cooling Down "04" = Power Save
	Unacceptable	"?" [CR]

#### [Details of Response]

##### 8.3.1. "00" [CR]

Status: Power ON

Normal image is on the screen.

##### 8.3.2. "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.

##### 8.3.3. "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 moves to Power ON.

##### 8.3.4. "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.

### 8.3.5. “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.

### 8.3.6. “28” [CR]

Status: Processing Cooling Down due to High Temperature

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.

### 8.3.7. “88” [CR]

Status: Coming back after Temperature Anomaly

When Temperature Anomaly occurs, it starts Cooling Down and moves to Standby status, response for this status is “88”[CR] which shows it moves to Standby status due to Temperature Anomaly.

This status will be kept till the next operation takes place. When Power On is executed, it cancels the Temperature Failure information and operates normal operation.

### 8.3.8. “02” [CR]

Status: RS232C Commands cannot be accepted.

When this Command is received, execute Status Read Command again.

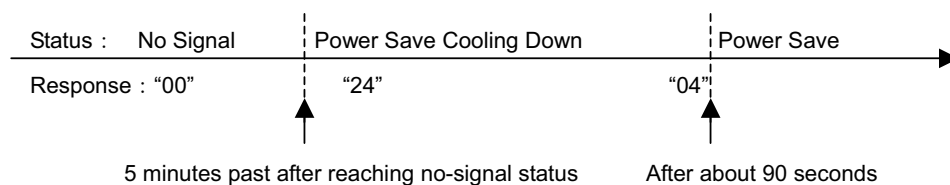
### 8.3.9 “24” [CR]

Status: Processing Power Save / Cooling Down

When Power Management function in the Setting Menu is set ON, the status goes to Power Save / Cooling Down if no signal state status lasts for 5 minutes. (During this time, green LED of a projector is turned off.)

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

The status moves to Power Save status after 90 seconds of Power Save/Cooling Down. (Green LED of a projector becomes flashing)



### 8.3.10.“04” [CR]

Status: Power Save

When Power Management function in the Setting Menu is set ON, the status goes to Power Save status via Cooling Down if no signal state status last for 5 minutes. During this time, Control Commands stated below become valid;

Power ON Command : “C00” [CR] · · · · Moves to Power ON status

Power OFF Command : “C01” [CR] · · · · Moves to Standby status

Transition to Power ON status is the same as that from normal Standby to Power ON status.

#### 8.4. Input Mode Read Command

Command	"CR1" [CR]	
Details	Get selected Input	
Response	Acceptable	"%1" [CR]
	%1	" 1 " = Computer is selected " 3 " = Video is selected
	Unacceptable	"?" [CR]

#### 8.5. Lamp Time Read Command

Command	"CR3" [CR]	
Details	Get total lamp running hours	
Response	Acceptable	"%1" [CR]
	%1	Displays Lamp running hour with 4 digit numbers. Example : "0410" [CR] ····410 hours
	Unacceptable	"?" [CR]

#### 8.6. Setting Read Command

Command	"CR4" [CR]	
Details	Get screen setting status such as Ceiling / Rear	
Response	Acceptable	"%1" [CR]
	%1	"11" [CR] = Normal Screen Setting "10" [CR] = Picture is top/bottom reversed. (Status: 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]

## 8.7.Temp Read Command

Command	"CR6" [CR]	
Details	<p>Get the temperature status inside a projector.</p> <p>With some built-in temperature sensors, it is possible to get all the temperature At once.</p>	
Response	Acceptable	"%1_%2_%3" [CR]
	%1、%2	<p>%1=Temp. of sensor 1            %2=Temp. of sensor 2            %3=Temp. of sensor 3            Temp. data form shows as 00.0.            When the temp. sinks to -, the first character is "-" like "-05.5"[CR].            When no temp. data returns due to hardware problems, the first character is "E" like "E00.0"[CR].            With some built-in temp. sensors, the projector sends commands continuously.            "_31.5_35.2"[CR]            There is the first sensor's data, one space, and the second sensor's data follows.</p>
	Unacceptable	"?" [CR]