

0.7" Wide Video

**BASIC SERIAL COMMAND SPECIFICATIONS**

PLV-Z3

Ver. 1.00

2004/10/29

---

- Contents -

1. Overview .....	5
2. Serial Interface Specification .....	5
3. Connection.....	5
4. Notes for Communication.....	6
5. Functional Execution Command Table .....	7
6. Status Read Command.....	9
7. Functional Execution Commands .....	10
7.1. Format.....	10
7.2. Command Pipelining.....	10
7.3. Transfer Example .....	10
7.4. Operation Requirements.....	11
7.5. POWER ON Command.....	12
7.6. POWER OFF Command (Quick Power OFF).....	12
7.7. POWER OFF Command.....	12
7.8. VIDEO MUTE ON Command .....	12
7.9. VIDEO MUTE OFF Command.....	12
7.10. Screen Normal size Command.....	13
7.11. Screen Full size Command.....	13
7.12. Image Video Command .....	13
7.13. Image Creative Cinema Command.....	13
7.14. Image Pure Cinema Command.....	13
7.15. Image 1 Command.....	13
7.16. Image 2 Command.....	13
7.17. Image 3 Command.....	14
7.18. Image 4 Command.....	14
7.19. Image Graphics Command.....	14
7.20. Image Dynamic Command .....	14
7.21. Image Powerful Command.....	14
7.22. Image Natural Command.....	14
7.23. MENU ON Command .....	15
7.24. MENU OFF Command.....	15
7.25. DISPLAY CLEAR Command .....	15
7.26. Video Source VIDEO Command.....	15
7.27. Video Source S-VIDEO Command .....	15
7.28. Video Source COMPONENT 1 Command .....	16
7.29. Video Source COMPONENT 2 Command .....	16
7.30. Power Management ON Command.....	16
7.31. Power Management OFF Command .....	16

7.32. Video Screen Zoom size Command .....	16
7.33. Video Screen Natural wide size 1 Cmmand.....	16
7.34. Video Screen Natural wide size 2 Command.....	16
7.35. PC Screen True size Commad.....	17
7.36. Screen Digital zoom Command.....	17
7.37. Point Right Command .....	17
7.38. Point Left Command.....	17
7.39. Point Up Command.....	17
7.40. Point Down Command.....	17
7.41. ENTER Command .....	18
7.42. CANCEL Command.....	18
7.43. Factory Default Command.....	18
7.44. Computer Source Analog RGB Command.....	18
7.45. Computer Source Scart Command.....	18
7.46. HDMI Command .....	18
7.47. Video Screen Caption in 1 Command.....	19
7.48. Video Screen Caption in 2 Command.....	19
7.49. Video Screen Full through size Command.....	19
7.50. Video Screen Normal through size Command .....	19
7.51. Lamp mode AUTO 1 Command.....	19
7.52. Lamp mode AUTO 2 Command.....	19
7.53. Lamp mode NORMAL Command .....	19
7.54. Lamp mode ECO Command .....	20
7.55. Ceiling ON Command.....	20
7.56. Ceiling OFF Command .....	20
7.57. Rear ON Command.....	20
7.58. Rear OFF Command .....	20
7.59. Logo OFF Command .....	20
7.60. Logo Default Command.....	21
7.61. Logo User Command.....	21
7.62. Logo Capture Command .....	21
7.63. My Picture ON Command .....	21
7.64. My Picture OFF Command .....	21
7.65. AUTO PC Adjust Command.....	21
7.66. KEYSTONE Command.....	22
7.67. KEYSTONE Command.....	22
8. Status Read Commands.....	23
8.1. Format.....	23
8.2. Transfer Example .....	23

---

8.3. Status Read Command .....	24
8.4. Input Mode Read Command .....	26
8.5. Lamp Time Read Command .....	26
8.6. Setting Read Command.....	26
8.7. Temp Read Command.....	27

## 1. Overview

- 1.1. This specification defines projector control commands for PLV-Z3 (0.7 " Wide Video Model ).
- 1.2. The projector control commands are used to control a projector through RS-232C from a computer.

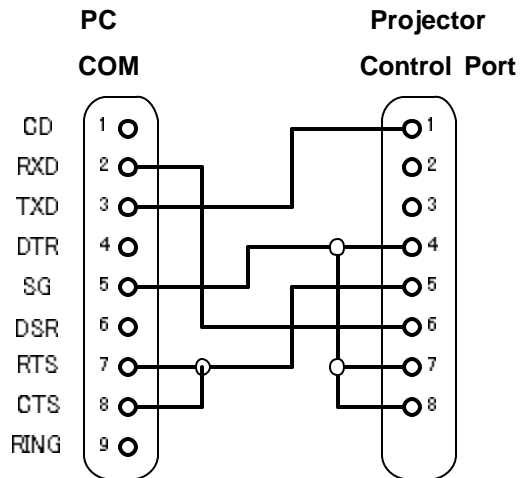
## 2. Serial Interface Specification

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 a connection to a computer and a projector.



---

#### 4. Notes for Communication

- (a) The projector command is defined as one command / one line that starts with "C" and ends with carriage return (0x0D).
- (b) When a projector receives carriage return ( 0x0D) , it starts to decode.
- (c) 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]

- (d) It clears the information of buffer for the reasons stated below;
  - 1. When receiving LF ( 0x0A ) or EOF ( 0x1A )
  - 2. When it takes more than one second to receive one command  
(From receiving the first data till carriage return)
- (e) For Control Command pipelining, wait the interval stated below after the response.
  - 3. Command such as " VOLUME +/- " 100 ms
  - 4. Other Commands 500 ms
- (f) For Status Read Command pipelining, wait at least interval of 500 ms.
- (g) Send the next Command after receiving Response. If no Response is returned after 5 seconds, send the next Command.
- (h) It takes about 7 seconds from AC power ON till the status that a projector moves to Standby for internal initialization. Any Commands cannot be executed during this time.
- (i) During the 7 seconds from 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.
- (j) 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, but the Command is terminated.  
Yet, Status Read Command can be executed.
- (k) About operation of INPUT switching  
After receiving INPUT-switching Command, during the 5 seconds of starting switching operation to finishing it, Response OK is returned if a Command is received. Yet the Command is terminated. The Status Read Command is executed if 500ms is passed after receiving INPUT-switching reception OK Response.
- (l) The number of characters of a response for Status Read Commands depends on a command.  
Please refer to [8: Status Read Command] for details.
- (m) Characters for commands must be Capital (A - Z).

## 5. Functional Execution Command Table

Command	Item	Command	Item
C00	POWER ON	C28	
C01	POWER OFF (Quick Power OFF)	C29	
C02	POWER OFF	C2A	Power Management ON
C03		C2B	Power Management OFF
C04		C2C	Video Screen Zoom size
C05		C2D	Video Screen Natural wide 1
C06		C2E	Video Screen Natural wide 2
C07		C2F	Screen True size
C08		C30	Screen Digital zoom
C09		C31	
C0A		C32	
C0B		C33	
C0C		C34	
C0D	VIDEO MUTE ON	C35	
C0E	VIDEO MUTE OFF	C36	
C0F	Screen Normal size	C37	
C10	Screen Full size	C38	
C11	Image Video	C39	
C12	Image Creative Cinema	C3A	Point Right
C13	Image Pure Cinema	C3B	Point Left
C14	Image 1	C3C	Point Up
C15	Image 2	C3D	Point Down
C16	Image 3	C3E	
C17	Image 4	C3F	ENTER
C18	Image Graphic	C40	Cancel
C19	Image Dynamic	C41	
C1A	Image Powerful	C42	
C1B	Image Natural	C43	
C1C	MENU ON	C44	
C1D	MENU OFF	C45	
C1E	DISPLAY CLEAR	C46	
C1F		C47	
C20		C48	
C21		C49	
C22		C4A	
C23	Video Source Video	C4B	
C24	Video Source S-Video	C4C	Factory default
C25	Video Source Component 1	C4D	
C26	Video Source Component 2	C4E	
C27		C4F	

“ ” means “no function”.

Command	Item	Command	Item
C50	Computer (Analog RGB)	C78	Rear ON
C51	Computer (Scart)	C79	Rear OFF
C52		C7A	Logo OFF
C53	HDMI	C7B	Logo Default
C54		C7C	Logo User
C55		C7D	Logo Capture
C56		C7E	My Picture ON
C57		C7F	My Picture OFF
C58		C80	
C59		C81	
C5A		C82	
C5B		C83	
C5C		C84	
C5D		C85	
C5E		C86	
C5F		C87	
C60		C88	
C61		C89	Auto PC Adj.
C62		C8A	
C63	Caption in 1	C8B	
C64	Caption in 2	C8C	
C65	Video Full through size	C8D	
C66	Video Normal through size	C8E	Keystone
C67	D4 control ON	C8F	Keystone
C68	D4 control OFF	C90	
C69		C91	
C6A		C92	
C6B		C93	
C6C		C94	
C6D		C95	
C6E		C96	
C6F		C97	
C70		C98	
C71		C99	
C72	Lamp mode Auto 1	C9A	
C73	Lamp mode Auto 2	C9B	
C74	Lamp mode Normal	C9C	
C75	Lamp mode Eco	C9D	
C76	Ceiling ON	C9E	
C77	Ceiling OFF	C9F	

“ ” means “no function”.

---

**6. Status Read Command Table**

Command	Functions	Remarks
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”.

---

## 7. Functional Execution Command

### 7.1. Format

7.1.1. PC issues a command in format as below.

“C” **Command** [CR]

Command : 2 characters (See Basic 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 Command

“?” [CR] : When received a data which is not decodable.

### 7.2. When the command pipelining is needed

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

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

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

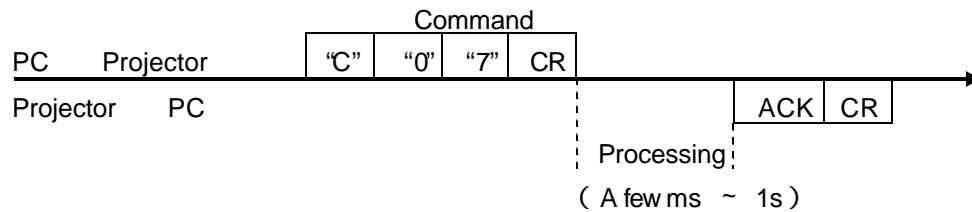
7.2.3. When receiving the same command continuously within 120 ms, the function is executed for another 120 ms from the moment.

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 120ms, the execution of pipelining is stopped.

### 7.3. Transfer Example

Change to video mode with Basic Command.



---

#### 7.4. Operation Requirements

When the projector's status is stated as below, functional execution commands are limited.

Status Read Commands are valid under the status stated below.

Status	Available Functional Execution Commands
Standby Mode	C00 : POWER ON
Processing Countdown	C00 : POWER ON ( Countdown is terminated )
Processing Cooling Down	None
Cooling Down Due to Abnormal Temperature	None
Abnormal Temperature Status	None
Processing Mode Switching	None
Processing Power Save · Cooling Down	None
Processing Logo Capture · Displaying Captured Logo	None
Power Save Status	C00 ;POWER ON C01 ;POWER OFF

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

### 7.5. POWER ON Command

Command	"C00" [CR]	
Details	Power ON When Power is already 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 ON )

Command	"C01" [CR]	
Details	Power OFF (Standby) When Power is OFF with ON-OFF button of the projector or 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 as same as when Power is turned OFF with ON-OFF button of the projector or a remote control. ( When this command is sent once, "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. VIDEO MUTE ON Command

Command	"C0D" [CR]	
Details	Screen 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]

### 7.9. VIDEO MUTE OFF Command

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

### 7.10. Screen Normal size Command

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

### 7.11. Screen Full size Command

Command	"C10" [CR]	
Details	Set screen size to Full.	
Response	Acceptable	[ACK] [CR]
	Unacceptable	"?" [CR]

### 7.12. Image Video Command

Command	"C11" [CR]	
Details	Set screen mode to Video	
Response	Acceptable	[ACK] [CR]
	Unacceptable	"?" [CR]

### 7.13. Image Creative Cinema Command

Command	"C12" [CR]	
Details	Set screen mode to Creative Cinema	
Response	Acceptable	[ACK] [CR]
	Unacceptable	"?" [CR]

### 7.14. Image Pure Cinema Command

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

### 7.15. Image 1 Command

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

### 7.16. Image 2 Command

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

---

### 7.17. Image 3 Command

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

### 7.18. Image 4 Command

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

### 7.19. Image Graphic Command

Command	"C18" [CR]	
Details	Set image to Graphic	
Response	Acceptable	[ACK] [CR]
	Unacceptable	"?" [CR]

### 7.20. Image Dynamic Command

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

### 7.21. Image Powerful Command

Command	"C1A" [CR]	
Details	Set image to Powerful	
Response	Acceptable	[ACK] [CR]
	Unacceptable	"?" [CR]

### 7.22. Image Natural Command

Command	"C1B" [CR]	
Details	Set image to Natural	
Response	Acceptable	[ACK] [CR]
	Unacceptable	"?" [CR]

### 7.23. MENU ON Command

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

### 7.24. MENU OFF Command

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

### 7.25. DISPLAY CLEAR Command

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

### 7.26. Video Source VIDEO Command

Command	"C23" [CR]	
Details	Set Source to Video	
Response	Acceptable	[ACK] [CR]
	Unacceptable	"?" [CR]

### 7.27. Video Source S-VIDEO Command

Command	"C24" [CR]	
Details	Set Source to S-video	
Response	Acceptable	[ACK] [CR]
	Unacceptable	"?" [CR]

### 7.28. Video Source COMPONENT 1 Command

Command	"C25" [CR]	
Details	Set Source to Component 1	
Response	Acceptable	[ACK] [CR]
	Unacceptable	"?" [CR]

### 7.29. Video Source COMPONENT 2 Command

Command	"C26" [CR]	
Details	Set Source to Component 2	
Response	Acceptable	[ACK] [CR]
	Unacceptable	"?" [CR]

### 7.30. Power Management ON Command

Command	"C2A" [CR]	
Details	Set Power management to ON This status is stored on EEPROM and retained regardless of Power OFF/ON	
Response	Acceptable	[ACK] [CR]
	Unacceptable	"?" [CR]

### 7.31. Power Management OFF Command

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

### 7.32. Video Screen Zoom size Command

Command	"C2C" [CR]	
Details	Set Video screen size to Zoom	
Response	Acceptable	[ACK] [CR]
	Unacceptable	"?" [CR]

### 7.33. Video Screen Natural wide size 1 Command

Command	"CSD" [CR]	
Details	Set Video screen size to Natural wide 1	
Response	Acceptable	[ACK] [CR]
	Unacceptable	"?" [CR]

### 7.34. Video Screen Natural wide size 2 Command

Command	"C2E" [CR]	
Details	Set Video screen size to Natural wide 2	
Response	Acceptable	[ACK] [CR]
	Unacceptable	"?" [CR]

### 7.35. PC Screen True size Command

Command	"C2F" [CR]	
Details	Set Computer screen size to True	
Response	Acceptable	[ACK] [CR]
	Unacceptable	"?" [CR]

### 7.36. Screen Digital 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]

### 7.37. Pointer Right Command

Command	"C3A" [CR]	
Details	Move the Pointer of On Screen Display Menu to the right. This command works the same as Pointer button ">" on the projector.	
Response	Acceptable	[ACK] [CR]
	Unacceptable	"?" [CR]

### 7.38. Pointer Left Command

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

### 7.39. Pointer Up Command

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

### 7.40. Pointer Down Command

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

#### 7.41. 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]

#### 7.42. CANCEL Command

Command	"C40" [CR]	
Details	This command works the same as "CANCEL" button of the remote control.	
Response	Acceptable	[ACK] [CR]
	Unacceptable	"?" [CR]

#### 7.43. Factory default Command

Command	"C4C" [CR]	
Details	Factory default に設定する状態を解除する。	
Response	受信 OK の時	[ACK] [CR]
	受信 NG の時	"?" [CR]

#### 7.44. Computer Source Analog RGB Command

Command	"C50" [CR]	
Details	Set Source to Computer (Analog RGB)	
Response	Acceptable	[ACK] [CR]
	Unacceptable	"?" [CR]

#### 7.45. Computer Source Scart Command

Command	"C51" [CR]	
Details	Set Source to Computer ( Scart )	
Response	Acceptable	[ACK] [CR]
	Unacceptable	"?" [CR]

#### 7.46. HDMI Command

Command	"C53" [CR]	
Details	Set Source to HDMI	
Response	Acceptable	[ACK] [CR]
	Unacceptable	"?" [CR]

#### 7.47. Video Screen Caption in 1 Command

Command	"C63" [CR]	
Details	Set Video screen size to Caption in 1	
Response	Acceptable	[ACK] [CR]
	Unacceptable	"?" [CR]

#### 7.48. Video Screen Caption in 2 Command

Command	"C64" [CR]	
Details	Set Video screen size to Caption in 2	
Response	Acceptable	[ACK] [CR]
	Unacceptable	"?" [CR]

#### 7.49. Video Screen Full through size Command

Command	"C65" [CR]	
Details	Set Video screen size to Full through.	
Response	Acceptable	[ACK] [CR]
	Unacceptable	"?" [CR]

#### 7.50. Video Screen Normal through size Command

Command	"C66" [CR]	
Details	Set Video screen size to Normal through.	
Response	Acceptable	[ACK] [CR]
	Unacceptable	"?" [CR]

#### 7.51. Lamp mode AUTO 1 Command

Command	"C72" [CR]	
Details	Set Lamp mode to Auto 1.	
Response	Acceptable	[ACK] [CR]
	Unacceptable	"?" [CR]

#### 7.52. Lamp mode AUTO 2 Command

Command	"C73" [CR]	
Details	Set Lamp mode to Auto 2.	
Response	Acceptable	[ACK] [CR]
	Unacceptable	"?" [CR]

#### 7.53. Lamp mode NORMAL Command

Command	"C74" [CR]	
Details	Set Lamp mode to Normal.	
Response	Acceptable	[ACK] [CR]
	Unacceptable	"?" [CR]

---

#### 7.54. Lamp mode ECO Command

Command	"C75" [CR]	
Details	Set Lamp mode to Eco	
Response	Acceptable	[ACK] [CR]
	Unacceptable	"?" [CR]

#### 7.55. Ceiling ON Command

Command	"C76" [CR]	
Details	Set Ceiling ON	
Response	Acceptable	[ACK] [CR]
	Unacceptable	"?" [CR]

#### 7.56. Ceiling OFF Command

Command	"C77" [CR]	
Details	Set Ceiling OFF	
Response	Acceptable	[ACK] [CR]
	Unacceptable	"?" [CR]

#### 7.57. Rear ON Command

Command	"C78" [CR]	
Details	Set Rear ON	
Response	Acceptable	[ACK] [CR]
	Unacceptable	"?" [CR]

#### 7.58. Rear OFF Command

Command	"C79" [CR]	
Details	Set Rear OFF	
Response	Acceptable	[ACK] [CR]
	Unacceptable	"?" [CR]

#### 7.59. Logo OFF Command

Command	"C7A" [CR]	
Details	Set Logo OFF	
Response	Acceptable	[ACK] [CR]
	Unacceptable	"?" [CR]

### 7.60. Logo Default Command

Command	"C7B" [CR]	
Details	Set Logo to Default	
Response	Acceptable	[ACK] [CR]
	Unacceptable	"?" [CR]

### 7.61. Logo User Command

Command	"C7C" [CR]	
Details	Set Logo to User	
Response	Acceptable	[ACK] [CR]
	Unacceptable	"?" [CR]

### 7.62. Logo Capture Command

Command	"C7D" [CR]	
Details	Capture the currently displaying screen image for Logo	
Response	Acceptable	[ACK] [CR]
	Unacceptable	"?" [CR]

### 7.63. My Picture ON Command

Command	"C7E" [CR]	
Details	Display the captured image for Logo	
Response	Acceptable	[ACK] [CR]
	Unacceptable	"?" [CR]

### 7.64. My Picture OFF Command

Command	"C7F" [CR]	
Details	CE7 : Delete the captured image for Logo which is displayed when My Picture Command is ON. It is not to cancel displaying Logo at the time of Countdown.	
Response	Acceptable	[ACK] [CR]
	Unacceptable	"?" [CR]

### 7.65. AUTO PC Adjust Command

Command	"C89" [CR]	
Details	Execute AUTO PC ADJ. Function This command works the same as "AUTO PC ADJ." 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 PC" button of the remote control.	
Response	Acceptable	[ACK] [CR]
	Unacceptable	"?" [CR]

---

**7.66. KEYSTONE Command**

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

**7.67. 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

1. PC issues a command in format as below.

"CR" **Command** [CR]

Command: one character (See Status Read Command Table)

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

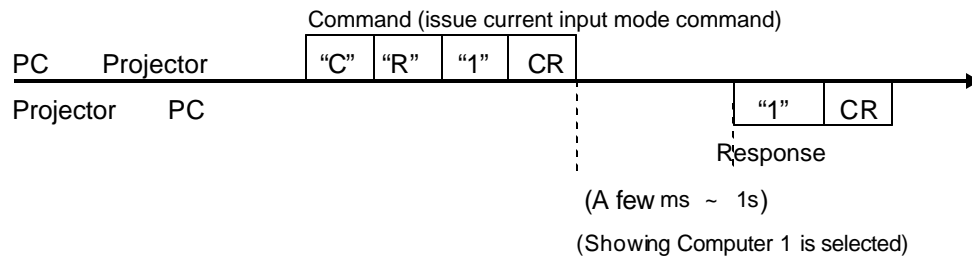
**Required Data** [CR]

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

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

### 8.2. Transfer Example

Get input mode for projector by Basic Commands.



### 8.3. Status Read Commands

Command	"CR0" [CR]	
Details	Get the projector status	
	Acceptable	"%1" [CR]
Response	%1	"00" = Power ON "40" = Processing Count Down "20" = Processing Cooling Down "10" = Power Failure "28" = Processing Cooling Down due to Abnormal Temperature "88" = Coming Back After Abnormal Temperature "24" = Processing Power -Save Cooling Down "04" = Power Save
	Unacceptable	"?" [CR]

#### [Details for Response]

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

Status: Power ON

Normal image is on the screen.

##### 8.3.2. "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.

##### 8.3.3. "20" [CR]

Status: Processing Cooling Down

When the status is Power ON, and POWER OFF Command ("C01"[CR], "C02"[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 60 seconds. (The fan spin time depends on a model.)

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

During this time, Functional Execution Commands are invalid.

##### 8.3.4. "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.

---

### 8.3.5. "28"[CR]

Status: Processing Cooling Down due to Abnormal 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.

### 8.3.6. "88"[CR]

Status: Coming Back after Abnormal Temperature

When temperature goes up to the abnormal status, it starts Cooling Down and moves to Standby mode, response for this status is "88" [CR] which shows it moves to Standby status due to Abnormal Temperature.

This status will be kept till the next operation takes place.

When Power On is executed, it cancels the information on Abnormal Temperature and normal operation takes place.

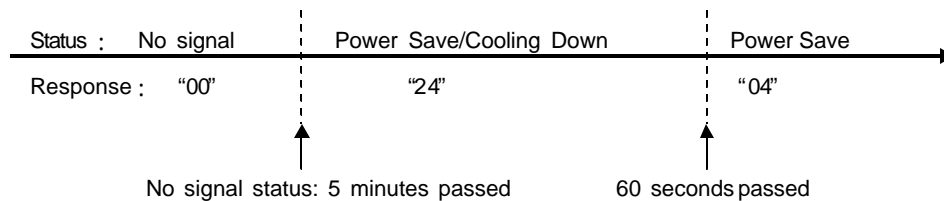
### 8.3.7. "24"[CR]

Status: Processing Power Save / Cooling Down

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

During this time, any Functional Execution Commands are invalid.

The status moves to Power Save at set hours after the operation of Power Save/Cooling Down function.



### 8.3.8. "04"[CR]

Status: Power Save

This shows it moves to Power-Save status by Power Management function in the Setting Menu.

#### 8.4. Input Mode Read Command

Command	"CR1" [CR]	
Details	Get selected Input. Source parameter is returned as a response since there is no Input for Z3.	
	Acceptable	"%1" [CR]
Response	%1	"0" = Video is selected "1" = S-Video is selected "2" = Component 1 is selected "3" = Component 2 (D4-Video) is selected "4" = HDMI is selected "5" = Computer (Analog) is selected "6" = Computer (Scart) 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.	
	Acceptable	"%1" [CR]
Response	%1	"11" [CR] = Normal screen setting "10" [CR] = Picture is up/down reversed (Status: Mounting 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	Get the temperature inside a projector. With some built-in temperature sensors, it is possible to know all temperatures at once.	
Response	Acceptable	"%1_%2_%3" [CR]
	%1 %2 %3	<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]. Depending on a projector, temperature may go up and be abnormal due to residual heat of Lamp ballast during Standby or Power ON status for several dozens seconds. No processing during Standby and Power ON. When some built-in temp. sensors are equipped, a projector sends commands continuously. "_31.5_ _35.2_32.8" [CR] There is the first sensor's data, one space, and the second and the third sensor 's data follow.</p>
	Unacceptable	"?" [CR]