LC-X70

LC-X60

BASIC SERIAL FUNCTIONAL SPECIFICATION

History of Modification

Rev.	Date	Page	Contents
	2004. 11.8		New released
A	2004.12.27	3	LC-X60 added

1. Overview

1.1. This Specification defines Projector control commands for LC-X70.

1.2. The Projector control commands are for controlling Projector through RS232C from a computer.

2. Serial Interface Specification

2.1. Communication Specification

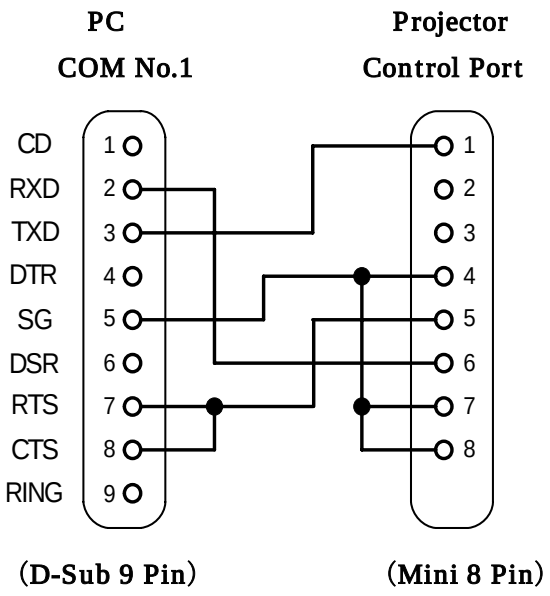
Item	Specification
Synchro System	Asynchronous
Transmission Speed	9600 / 19200
Date Length	8 bit
Parity	None
Stop Bit	1
Flow Control	None

(1) Transfer rate: initial setting value is 19200

(2) Transfer rate can be changed by service mode

2.2. Connection

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



3. Notes for Communications

3.1. The projector command is defined one command/one line that starts “C” and ends carriage return (0x0D).

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

3.3. There are two type commands, functional execution commands and state read commands. Functional execution commands works as a remote control and key on the projector, and State read command works to know the projector status.

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

Example of State Read Command : “CR0” [CR]

3.4. When it takes more than one second to receive on command, it clears information of buffer. (Until the projector receives the carriage return since the projector has received the first data)

3.5. When control command pipelining, after the response, wait interval of time as below.

3.5.1. [VOLUME + / -] [ZOOM UP / DOWN] [FOCUS UP / DOWN] [LENS-SHIF UP / DOWN / LEFT / RIGHT] Commands → 100ms

3.5.2. Other Commands → 500ms

3.6. Wait at least 500ms after the response, when status read command pipelining.

3.7. Do not issue command before the Response in the situation as below, except no response after 5 seconds.

3.8. It takes about 7 seconds for internal initialization after plugging in AC. During this time, it cannot process command. Do not issue any commands.

3.9. 7 seconds after Stand By or Power ON, Even when a projector receives a command, a computer receives acceptable response, but it does not execute for internal initialization and lamp lighting process. However, Status Read Commands are executed after 500ms when they receive acceptable response.

3.10. About performance during processing count down or cooling down.

When a projector receives After Stand By or Power ON, Even when a projector receives a command, a computer receives response to accept the command, but it does not execute for internal initialization and lamp lighting process. However, Status Read Commands are executed after 500ms when a computer receives acceptable response.

When a projector receives a command while processing count down after Power ON or cooling down after Power Off, a computer receives response to accept the command but the command is not executed. However, Status Read Commands are executed.

3.11. About performance when changing INPUT

After receiving INPUT-switching command, when receiving commands between 5 seconds from starting the switching to completing the switching, a computer receives acceptable command, but it is not executed.

However, status read commands are executed after a computer receives response to accept the command, after 500ms.

3.12. Response command characters for status read success are different.

See “7, State Read Command” for the details.

3.13. Command are shown in a capital letter (A ～ Z). Lower case letters are not available.

4. Functional Execution Command Table

Command	Item	Command	Item
C00	POWER ON	C33	INPUT 3 VIDEO
C01	POWER OFF (Quick Power OFF)	C34	INPUT 3 S-VIDEO
C02	POWER OFF	C35	INPUT 3 Y,Pb/Cb,Pr/Cr
C05	INPUT 1	C3A	POINTER RIGHT
C06	INPUT 2	C3B	POINTER LEFT
C07	INPUT 3	C3C	POINITER UP
C08	NETWORK	C3D	POINITER DOWN
C09	VOLUME +	C3E	MOUSE RIGHT CLICK
C0A	VOLUME –	C3F	ENTER
C0B	AUDIO MUTE ON	C43	FREEZE ON
C0C	AUDIO MUTE OFF	C44	FREEZE OFF
C0D	VIDEO MUTE ON	C46	ZOOM –
C0E	VIDEO MUTE OFF	C47	ZOOM +
C0F	SCREEN NORMAL SIZE (4:3)	C4A	FOCUS –
C10	SCREEN WIDE SIZE (16:9)	C4B	FOCUS +
C1C	MENU ON	C4E	COLOR MANAGEMENT
C1D	MENU OFF	C50	INPUT 1 Analog RGB
C1E	DISPLAY CLEAR	C51	INPUT 1 SCART
C20	BRIGHTNESS +	C52	INPUT 1 DVI (PC Digital)
C21	BRIGHTNESS –	C53	INPUT 1 DVI (AV HDCP)
C23	INPUT 2 VIDEO	C54	INPUT 1 Monitor OUT
C24	INPUT 2 Y,Pb/Cb,Pr/Cr	C5D	LENS SHIFT +
C25	INPUT 2 RGB	C5E	LENS SHIFT –
C27	IMAGE	C89	AUTO PC ADJ.
C28	ON START Enable	C8A	PRESENTATION TIMER
C29	ON START Disable	C8E	KEYSTONE TOP
C2A	POWER MANAGEMENT Enable	C8F	KEYSTONE BOTTOM
C2B	POWER MANAGEMENT Disable	C90	KEYSTONE RIGHT
C30	D.ZOOM +	C91	KEYSTONE LEFT
C31	D.ZOOM –		

5. State Read Command Table

Command	FUNCTION	RENARKS
CR0	Status Read	
CR1	Input Mode Read	
CR3	Lamp Time Read	
CR4	Setting Read	
CR6	Temp Read	