

SIM2 Multimedia

Crystal 35/45 RS-232 Control

Rev. 1.0 (23 May 2011)



1 Introduction

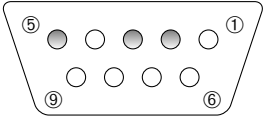
This document describes how to interface the SIM2 Crystal projector with a Home Theater control system (or a PC) over a direct serial connection.

1.1 Setting up the RS-232C Serial connection

Follow these steps to configure the control system (or the PC) serial port.

- Switch off the control system (or the PC) and the projector.
- Use the serial adapter that ships with the projector (9 pin female to the control system (or the PC) and 9 pin female to the Projector):

RS-232C Control Port

	Pin No	Signal	Definition
 D-SUB 9-pin (male)	1	-	Not used
	2	TD	Transmit data
	3	RD	Receive data
	4	-	Not used
	5	GND	Ground
	6	-	Not used
	7	-	Not used
	8	-	Not used
	9	-	Not used

- Make sure the distances between equipment do not exceed the specifications of the interface (15 m or 50 feet).
- Switch on the control system (or the PC) and, after start up, switch on the projector.
- Set the Serial Port Parameters as shown below:

Communication Parameters

Parameter	Value
Transfer Rate	19200 bps
Data Bits	8
Parity Bit	None
Stop Bit	1
Flow Control	None

- Set the the control system (or the PC program) Communication Mode to Binary (or Hex). ASCII mode is not supported.
- Set the the control system interface (or the PC communication program) Display Mode to Hex.

2 Commands

In this section, serial commands (and respective responses) are listed. Serial commands to the SIM2 Crystal have the following features:

- Hex format.
- Case-insensitive.
- No termination character. Do not add <LF>, <CR>, <EOT> or the like at the end of the given series of characters.

In the following, commands are shown in monospace (fixed-width) type. If the command is invalid, the SIM2 Crystal response is 15. If the command is valid:

- The command is executed.
- A confirmation message is sent. This message is either 06 or 20 xx xx (where xx xx is not relevant).

When sending several commands one after the other, sufficient time between commands should be allowed. Please note that:

- If the projector is busy when a command is sent, the unit may not accept the command.
- Command execution time may vary from 0.1 to 3.5 seconds, depending on the operation that have been requested.

When the unit is switched on from Standby, wait 20 seconds before sending commands. The following tables list commands with their respective responses.

Basic commands

Function	Command	Response
RS232 Communication Test	BE EF 02 06 00 A7 E6 5E 01 00 00 00 00	06
Power On	BE EF 02 06 00 6B E6 52 01 00 00 00 00	-/15
Power Off	BE EF 02 06 00 51 E4 48 01 00 00 00 00	06
Menu	BE EF 02 06 00 23 E7 5A 01 00 00 00 00	06
Enter	BE EF 02 06 00 10 E7 59 01 00 00 00 00	06
Exit	BE EF 02 06 00 0D E6 54 01 00 00 00 00	06
Up (arrow key)	BE EF 02 06 00 DC E7 55 01 00 00 00 00	06
Down (arrow key)	BE EF 02 06 00 C1 E6 58 01 00 00 00 00	06
Left (arrow key)	BE EF 02 06 00 EF E7 56 01 00 00 00 00	06
Right (arrow key)	BE EF 02 06 00 3E E6 57 01 00 00 00 00	06

If the SIM2 Crystal is in Standby mode, the Power On command is executed but no response is sent. If the SIM2 Crystal is On, The Power On command has no effect, and the Error message (15) is returned.

Operation commands

Function	Value	Command	Response
Input Source	Video	BE EF 02 06 00 80 E5 49 01 00 00 00 00	06
	S-Video	BE EF 02 06 00 B3 E5 4A 01 00 00 00 00	06
	RGBHD	BE EF 02 06 00 D5 E5 4C 01 00 00 00 00	06
	Component 1	BE EF 02 06 00 62 E4 4B 01 00 00 00 00	06
	HDMI 1	BE EF 02 06 00 04 E4 4D 01 00 00 00 00	06
	Component 2	BE EF 02 06 00 E6 E5 4F 01 00 00 00 00	06
	HDMI 2	BE EF 02 06 00 37 E4 4E 01 00 00 00 00	06
Picture Mode	Cinema	BE EF 02 06 00 A8 F2 A1 01 00 00 00 00	06
	Dynamic	BE EF 02 06 00 9B F2 A2 01 00 00 00 00	06
	Standard	BE EF 02 06 00 4A F3 A3 01 00 00 00 00	06
	User 1	BE EF 02 06 00 FD F2 A4 01 00 00 00 00	06
	User 2	BE EF 02 06 00 2C F3 A5 01 00 00 00 00	06
	User 3	BE EF 02 06 00 1F F3 A6 01 00 00 00 00	06
Black Level	0 IRE	BE EF 02 06 00 F2 E6 5B 01 00 00 00 00	20 xx xx
	7.5 IRE	BE EF 02 06 00 45 E7 5C 01 00 00 00 00	20 xx xx
Color Temperature	Lamp Native	BE EF 1A 0C 00 DD 1E 39 00 00 00 03 00 00 00 00 00 00 00 00	20 xx xx
	Warm	BE EF 1A 0C 00 7B 1F 39 00 00 00 0B 00 00 00 00 00 00 00 00	20 xx xx
	Normal	BE EF 1A 0C 00 04 9F 39 00 00 00 01 00 00 00 00 00 00 00 00	20 xx xx
	Cool	BE EF 1A 0C 00 C8 5E 39 00 00 00 00 00 00 00 00 00 00 00 00 00	20 xx xx
	User 1	BE EF 1A 0C 00 3B 5F 39 00 00 00 04 00 00 00 00 00 00 00 00	20 xx xx
	User 2	BE EF 1A 0C 00 11 DF 39 00 00 00 02 00 00 00 00 00 00 00 00	20 xx xx
	User 3	BE EF 1A 0C 00 B7 DE 39 00 00 00 0A 00 00 00 00 00 00 00 00	20 xx xx
Gamma	1.6	BE EF 1A 0C 00 05 CB 36 00 00 00 02 00 00 00 00 00 00 00 00	20 xx xx
	1.8	BE EF 1A 0C 00 F6 CA 36 00 00 00 06 00 00 00 00 00 00 00 00	20 xx xx
	2.0	BE EF 1A 0C 00 7A 4B 36 00 00 00 08 00 00 00 00 00 00 00 00	20 xx xx
	2.2	BE EF 1A 0C 00 B6 8A 36 00 00 00 09 00 00 00 00 00 00 00 00	20 xx xx
	2.4	BE EF 1A 0C 00 A3 CA 36 00 00 00 0A 00 00 00 00 00 00 00 00	20 xx xx
	2.5	BE EF 1A 0C 00 DC 4A 36 00 00 00 00 00 00 00 00 00 00 00 00	20 xx xx
	2.6	BE EF 1A 0C 00 10 8B 36 00 00 00 01 00 00 00 00 00 00 00 00	20 xx xx
	2.8	BE EF 1A 0C 00 2F 4B 36 00 00 00 04 00 00 00 00 00 00 00 00	20 xx xx
Aspect Ratio	Anamorphic	BE EF 02 06 00 9D F5 84 01 00 00 00 00	06
	4:3	BE EF 02 06 00 2A F4 83 01 00 00 00 00	06
	Letter Box	BE EF 02 06 00 4C F4 85 01 00 00 00 00	06
	Wide	BE EF 02 06 00 7F F4 86 01 00 00 00 00	06
	Real	BE EF 02 06 00 AE F5 87 01 00 00 00 00	06
Lamp Power	Economic	BE EF 02 06 00 94 E6 5D 01 00 00 00 00	06
	Normal	BE EF 02 06 00 76 E7 5F 01 00 00 00 00	06

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