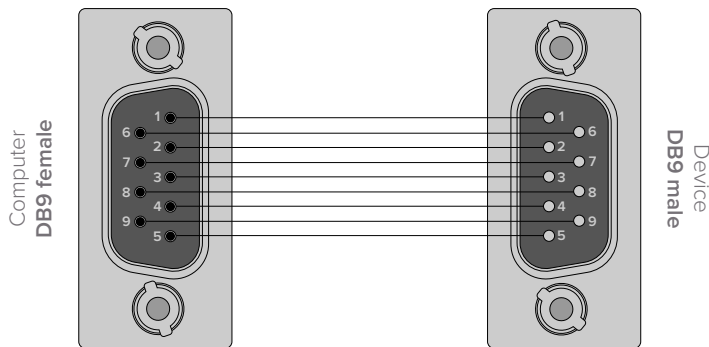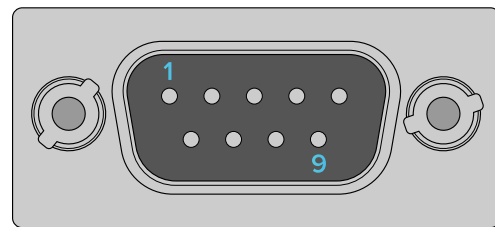![ClearTouch INTERACTIVE logo]

6000U SERIES RS232

PROTOCOL SPECIFICATION

This document describes the hardware interface specification and software protocols of RS232 interface communication between LED, LCD, and PC, or other control unit with RS232 protocol.

Computer
DB9 female

Device
DB9 male

(Fig. 1)

(Fig. 2)

Protocol

SERIAL PORT SETTINGS	
Baud Rate	9600bps (fixed)
Data Bits	8 (fixed)
Stop Bits	1 (fixed)
Parity	None (fixed)
Flow Control	None (fixed)

Communication Requirements

PIN DEFINITION
• Pin2 is TXD. Pin 3 is RXD. Pin to Pin connection as above (Fig. 1)
• TV main board DB9 terminal (Fig. 2)

COMMAND FORMAT			
Number	**Content**	**Description**	**Remark**
1	0xAA	Head	Fixed Value
2	0xBB	Head	Fixed Value
3	0xCC	Head	Fixed Value
4		Main	
5		Subcommand	
6	0x00	Length	Valid Data
7	checksum	Checksum	Sum from No. 4 to No. 6
8	0xDD	End	Fixed Value
9	0xEE	End	Fixed Value
10	0xFF	End	Fixed Value

CODE LIST

Function	Mode	Code	Remark
Power	ON	AA BB CC 01 00 00 01 DD EE FF	Fixed Value
	OFF	AA BB CC 01 01 00 02 DD EE FF	Fixed Value
Source	VGA1	AA BB CC 02 03 00 05 DD EE FF	Fixed Value
	HDMI 1	AA BB CC 02 06 00 08 DD EE FF	Fixed Value
	HDMI 2	AA BB CC 02 07 00 09 DD EE FF	Fixed Value
	HDMI 3	AA BB CC 02 05 00 07 DD EE FF	Fixed Value
	PC	AA BB CC 02 08 00 0A DD EE FF	Fixed Value
	Android	AA BB CC 02 0A 00 0C DD EE FF	Fixed Value
	Android+	AA BB CC 02 0E 00 10 DD EE FF	Fixed Value
Volume	000 - 100	AA BB CC 03 00 xx ** DD EE FF	Fixed Value
	MUTE	AA BB CC 03 01 00 04 DD EE FF	Fixed Value
	UNMUTE	AA BB CC 03 01 01 05 DD EE FF	Fixed Value
Aspect Ratio	16:9	AA BB CC 08 00 00 08 DD EE FF	Fixed Value
	4:3	AA BB CC 08 01 00 09 DD EE FF	Fixed Value
	PTP	AA BB CC 08 07 00 0F DD EE FF	Fixed Value
TV Channel	ATV 00-99	AA BB CC 05 00 XX ** DD EE FF	Fixed Value
PC Power	ON	AA BB CC 09 01 00 0A DD EE FF	Fixed Value
	OFF	AA BB CC 09 00 00 09 DD EE FF	Fixed Value
Remote Control	WIN	AA BB CC 07 0B 00 12 DD EE FF	Fixed Value
	Space	AA BB CC 07 46 00 4D DD EE FF	Fixed Value
	Alt+Tab	AA BB CC 07 1D 00 24 DD EE FF	Fixed Value
	Alt+F4	AA BB CC 07 1F 00 26 DD EE FF	Fixed Value
	NUM_1	AA BB CC 07 00 00 07 DD EE FF	Fixed Value
	NUM_2	AA BB CC 07 10 00 17 DD EE FF	Fixed Value
	NUM_3	AA BB CC 07 11 00 18 DD EE FF	Fixed Value
	NUM_4	AA BB CC 07 13 00 1A DD EE FF	Fixed Value
	NUM_5	AA BB CC 07 14 00 1B DD EE FF	Fixed Value
	NUM_6	AA BB CC 07 15 00 1C DD EE FF	Fixed Value
	NUM_7	AA BB CC 07 17 00 1E DD EE FF	Fixed Value
	NUM_8	AA BB CC 07 18 00 1F DD EE FF	Fixed Value
	NUM_9	AA BB CC 07 19 00 20 DD EE FF	Fixed Value
	NUM_0	AA BB CC 07 1B 00 22 DD EE FF	Fixed Value
	Display	AA BB CC 07 1C 00 23 DD EE FF	Fixed Value
	Refresh	AA BB CC 07 4C 00 53 DD EE FF	Fixed Value
	Input	AA BB CC 07 07 00 0E DD EE FF	Fixed Value
	Home	AA BB CC 07 48 00 4F DD EE FF	Fixed Value
	Menu	AA BB CC 07 0D 00 14 DD EE FF	Fixed Value
	Delete	AA BB CC 07 40 00 47 DD EE FF	Fixed Value
	Energy	AA BB CC 07 4E 00 55 DD EE FF	Fixed Value
	UP	AA BB CC 07 47 00 4E DD EE FF	Fixed Value
	DOWN	AA BB CC 07 4D 00 54 DD EE FF	Fixed Value
	LEFT	AA BB CC 07 49 00 50 DD EE FF	Fixed Value
	RIGHT	AA BB CC 07 4B 00 52 DD EE FF	Fixed Value
	ENTER	AA BB CC 07 4A 00 51 DD EE FF	Fixed Value
	Point	AA BB CC 07 06 00 0D DD EE FF	Fixed Value

Back	AA BB CC 07 0A 00 11 DD EE FF
CH+	AA BB CC 07 02 00 09 DD EE FF
CH-	AA BB CC 07 09 00 10 DD EE FF
VOL+	AA BB CC 07 03 00 0A DD EE FF
VOL-	AA BB CC 07 41 00 48 DD EE FF
PageUp	AA BB CC 07 42 00 49 DD EE FF
PageDown	AA BB CC 07 0F 00 16 DD EE FF
F1	AA BB CC 07 45 00 4C DD EE FF
F2	AA BB CC 07 12 00 19 DD EE FF
F3	AA BB CC 07 51 00 58 DD EE FF
F4	AA BB CC 07 5B 00 62 DD EE FF
F5	AA BB CC 07 44 00 4B DD EE FF
F6	AA BB CC 07 50 00 57 DDEE FF
F7	AA BB CC 07 43 00 4A DD EE FF
F8	AA BB CC 07 1A 00 21 DD EE FF
F9	AA BB CC 07 04 00 0B DD EE FF
F10	AA BB CC 07 59 00 60 DD EE FF
F11	AA BB CC 07 57 00 5E DD EE FF
F12	AA BB CC 07 08 00 0F DD EE FF
RED	AA BB CC 07 5C 00 63 DDEE FF
GREEN	AA BB CC 07 5D 00 64 DD EE FF
YELLOW	AA BB CC 07 5E 00 65 DD EE FF
BLUE	AA BB CC 07 5F 00 66 DD EE FF

xx = from 0 to 100, for Volume.
Example: Volume = 30(Decimal) = 1E (Hex), xx=1E and ** = 03(Hex) +00(Hex) +1E(Hex) = 21(Hex).

XX = from 0 to 99, for TV Channel.
** = XX + 05

POLLING CODE LIST

Mode	Code	Response	Status
Power Status	AA BB CC 01 02 00 03 DD EE FF	AA BB CC 80 00 00 80 DD EE FF	ON
		AA BB CC 80 01 00 81 DD EE FF	OFF
Volume Status	AA BB CC 03 02 00 05 DD EE FF	AA BB CC 82 00 xx ** DD EE FF	Volume = xx
Mute Status	AA BB CC 03 03 00 06 DD EE FF	AA BB CC 82 01 00 83 DD EE FF	MUTE
		AA BB CC 82 01 01 84 DD EE FF	UNMUTE
Source Status	AA BB CC 02 00 00 02 DD EE FF	AA BB CC 81 03 00 84 DD EE FF	VGA1
		AA BB CC 81 0E 00 8F DD EE FF	Android+
		AA BB CC 81 05 00 86 DD EE FF	HDMI3
		AA BB CC 81 06 00 87 DD EE FF	HDMI1
		AA BB CC 81 07 00 88 DD EE FF	HDMI2
		AA BB CC 81 08 00 89 DD EE FF	PC
		AA BB CC 81 0A 00 8B DD EE FF	ANDROID
PC Status	AA BB CC 09 02 00 0B DD EE FF	AA BB CC 83 00 00 83 DD EE FF	ON
		AA BB CC 83 01 00 84 DD EE FF	OFF
		AA BB CC 83 02 00 85 DD EE FF	SLEEP
		AA BB CC 83 03 00 86 DD EE FF	Hibernate