LSE RS-232 Serial Protocol

The LSE has an RS-232 serial port that allows for show selection and brightness control.

Electrical

The RS-232 serial port connection on LSE is a DB9M connector, labeled "IOIOI." The pinout of the DB9M connector is:

2	Transmit data
3	Receive data
5	Ground

The other pins are unconnected.

Protocol

The serial protocol is 9600 baud, 8 data bits, no parity, 1 stop bit. There is no flow control.

Each command to LSE consists of 5 characters. The first character is always "X". The next two characters are the ASCII representation of a hexadecimal command byte. The last two characters are a hexadecimal data byte. The hex characters are upper case ("0" – "9", "A" – "F").

Replies from LSE are also in this format, but begin with "Y" instead of "X".

Characters are not echoed by LSE when they are received.

Illegal characters or badly formatted packets are ignored with no error indication.

LSE Commands

Note: *dd* is used to represent a hexadecimal byte.

X00*dd*	Set Mode Sets the current operating mode to *dd*. Not currently used.
X0100	Lights Off Turns all lights off.
X02*dd*	Set Absolute Intensity Sets the global brightness level to *dd* (00 = off, FF = full on).
X03*dd*	Set Relative Intensity Raises or lowers the global brightness level by *dd* (*dd* is 2's complement, so "02" increases by 2, "FE" decreases by 2). Brightness is pegged between 0 and 255.
X04*dd*	Set Show Starts show with trigger number *dd* playing from the beginning. The trigger number must be in the range 1 through 225 (E1).

Replies from LSE

Y00*dd*	Returns current mode
Y02*dd*	Returns current intensity level
Y03*dd*	Not sent
Y04*dd*	Returns current show
Y0F*dd*	Error occurred, show number in data byte This is most often returned when the selected show is not available (so the keypad knows to blink the LED).