



Products from LS Electronics Group

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# **i-show LED Message Display**

## **User Manual**

**Issue 2.0      July 2006**



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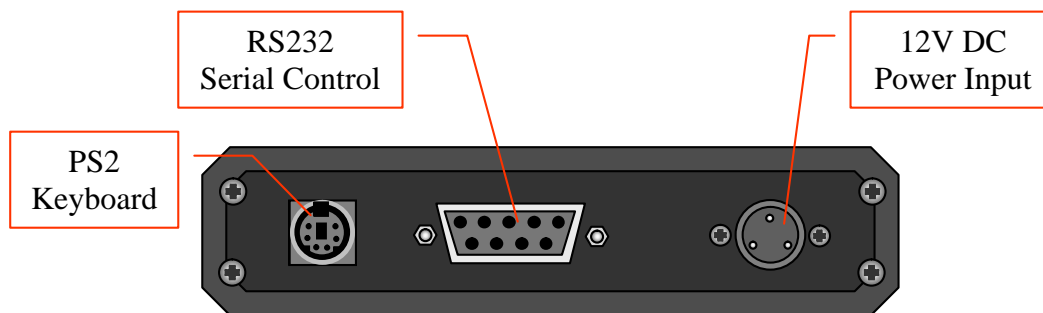
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## ABOUT YOUR I-SHOW:

The i-show LED display is a LED matrix for displaying user defined messages.

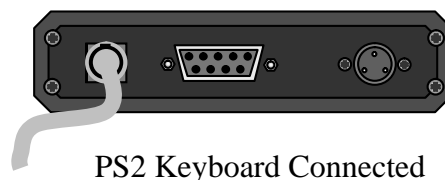
- Control via PS2/computer keyboard or serial port (RS232).
- 99 user programmable messages.
- Cycle through all or some messages.
- Individual message enable/disable setting for inclusion/exclusion in programmable cycle.
- Each message can be up to 240 characters long.
- Various animated and static display effects for messages.
- Setting for number of times that scrolled messages loop.
- Two different fonts available.
- Speed control for all animated message effects.
- Brightness control for all messages.
- Setting for delay between messages.
- Real-time clock onboard with adjustable time & date display.
- All messages and settings are retained even when turned off.

## CONNECTING UP YOUR I-SHOW:



i-show Connections

1. Connect your PS2 keyboard to the PS2 connector on the i-show.



PS2 Keyboard Connected

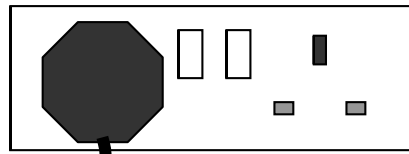
2. Plug the mains unit into the 12V DC power input on the i-show.



Mains Unit Connected

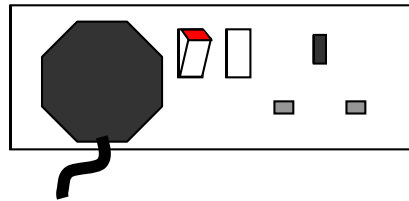


3. Plug the mains plug of the mains unit into your mains supply socket.



Mains Plug Connected

4. Turn on the mains supply socket switch.



Mains Supply Socket Turned On

### **POWER ON DISPLAY:**

Your i-show display is shipped with one scrolling message programmed into message number 01. The message is:  
'LS Designs i-show LED Message Display'

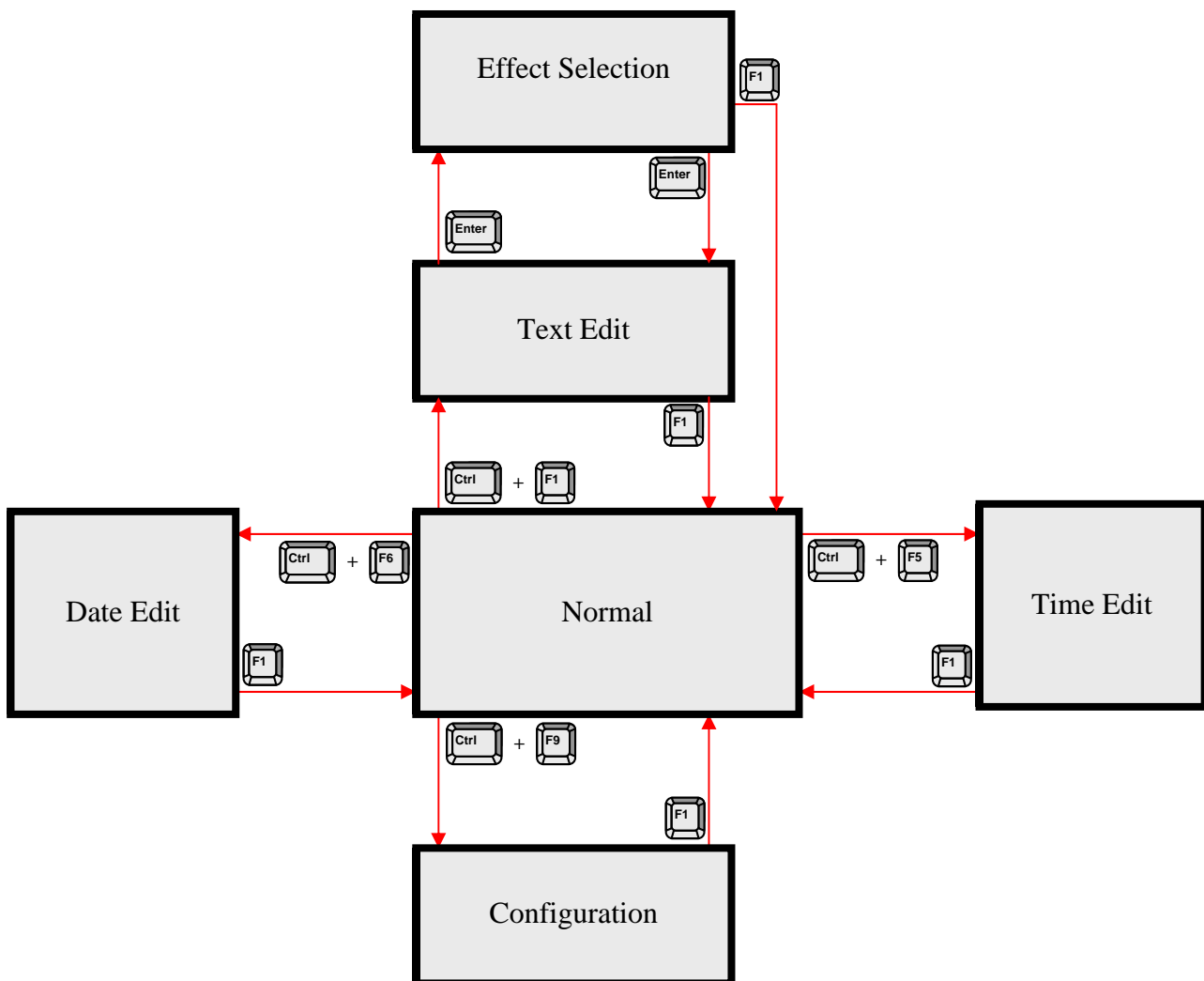


Default Power-on Display

## PS2/COMPUTER KEYBOARD CONTROL:

There are six principal modes of operation to the i-show under PS2/keyboard control:













- Normal - where your messages are displayed.
- Text Edit - where you edit the text of your messages.
- Effect Selection - where you edit the animated/static effects for your messages.
- Configuration - where you change brightness, speed, message delay and scroll loops.
- Time Edit - where you edit the current time stored.
- Date Edit - where you edit the current date stored.



## “NORMAL” MODE:



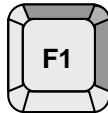
Typical Display in “NORMAL” Mode

- |   |   |   |               |
|---|---|---|---------------|
|    | + |    | Text Edit     |
|    | + |    | Time Edit     |
|    | + |    | Date Edit     |
|  | + |  | Configuration |
|  | + |  | Stop Display  |
|  | + |  | Start Display |

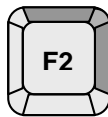
## “TEXT EDIT” MODE:



Typical Display in “TEXT EDIT” Mode



Save current message and exit “TEXT EDIT” mode



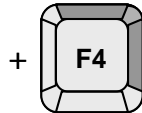
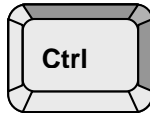
Save current message and don't exit “TEXT EDIT” mode



Clear current text



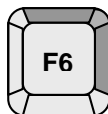
Clear current user programmable message



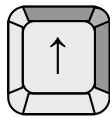
Clear all user programmable messages



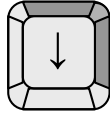
Insert message before current message



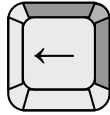
Delete Current Message



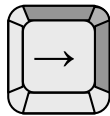
Move up through user programmable messages



Move down through user programmable messages



Move left through text



Move right through text



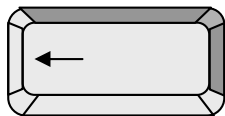
Move to the start of the text



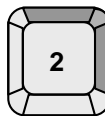
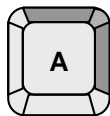
Move to the end of the text



Delete the character at the cursor



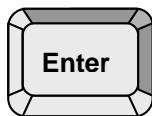
Delete the character preceding the cursor.



Any normal, number or symbol key will insert that character into the text



Exit “TEXT EDIT” mode without saving the current message



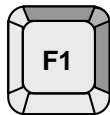
Switch to “EFFECT SELECTION” mode



## “EFFECT SELECTION” MODE:



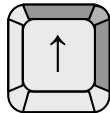
Typical Display in “EFFECT SELECTION” Mode



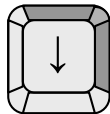
Save current message and exit “TEXT EDIT” /  
“EFFECT SELECTION” mode



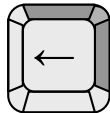
Save current message and return to “TEXT EDIT”  
mode



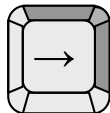
Cycle up through options for highlighted item



Cycle down through options for highlighted item



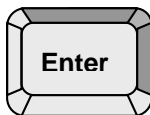
Move left through items (effect, font, message on/off)



Move right through items (effect, font, message on/off)



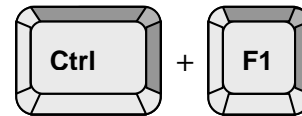
Exit “TEXT EDIT” / “EFFECT SELECTION” mode  
without saving the current message



Switch to “TEXT EDIT” mode

## CHANGING MESSAGES:

Press and hold the “CTRL” + “F1” keys.



Message Edit Display

Press the “F3” key to clear the default power-on text.



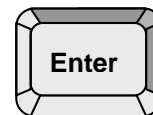
Message Edit Display

Type in your message e.g. “My Message”



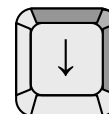
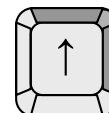
Message Edit Display

Press the “Enter” key to confirm your message entry.

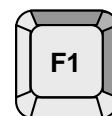


Effect Selection Display

Use the “↑” and “↓” keys to select your desired effect for your message.



Press the “F1” key to save and exit.



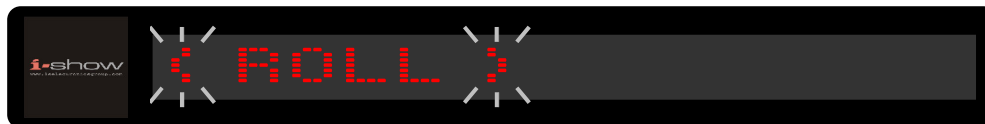
The options for message effects are as follows:



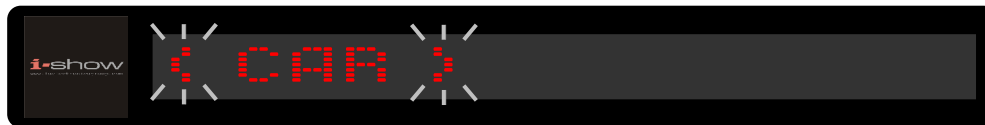
**SCROLL:** Your message will scroll from right to left, starting with a blank display. The left most character of your message will scroll in first, a column of pixels at a time. Once the whole message has scrolled in and out, the next message will start to be displayed.



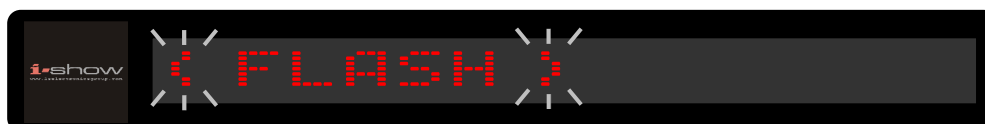
**STATIC:** Your message will be shown on the display with no effect. If your message is longer than can fit on the display, you will only see the part that can fit on the display.



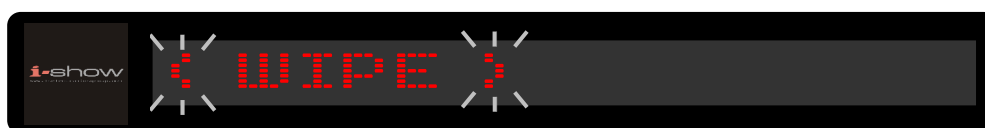
**ROLL:** Your message will roll upwards a row of pixels at a time, starting with a blank display.



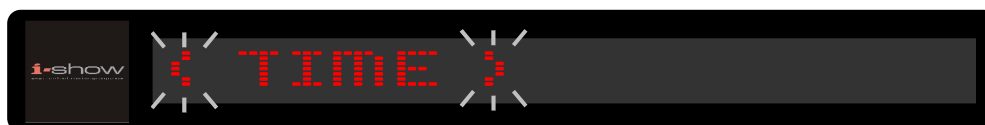
**CAR:** Your message will gradually appear from the left behind an animated racing car travelling from left to right.



**FLASH:** Your message will flash on and off.



**WIPE:** Your message will wipe in from left to right. Your message will gradually appear more and more visible one column of pixels at a time.

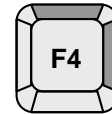


**TIME:** Your message will not actually be displayed but the current time stored will be displayed as a static message.

## ERASING MESSAGES

The F4 key can be used to erase a single message, or to erase all the messages.

To erase a single message, Press the 'F4' key

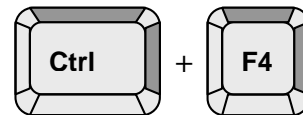


Press the 'N' key, and the display will return back to text edit mode

Press the 'Y' key and the display will erase the current message



To erase all the messages in the display,  
press and hold the 'CTRL' and 'F4' Keys.



Press the 'N' key, and the display will return back to text edit mode

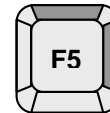
Press the 'Y' key and the display will erase the all 99 messages



## INSERTING A MESSAGE



To **INSERT** a message before the current message,  
Press the 'F5' key



Press the 'N' key, and the display will return back to text edit mode

Press the 'Y' key and the display will insert a blank message. This inserting  
can take up to 7 seconds.



When the inserting process is complete the display will return back to text edit  
mode showing the inserted empty message



The message that was in number 02 is now in message number 03.

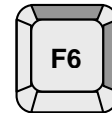
### **IMPORTANT NOTE:**

Message number 99 will be lost when inserting a new message

## DELETING A MESSAGE



To **DELETE** the current message, Press the '**F6**' key



Press the '**N**' key, and the display will return back to text edit mode

Press the '**Y**' key and the display will delete the current message. This deleting can take up to 7 seconds.




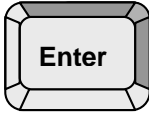

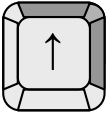
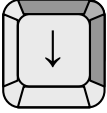
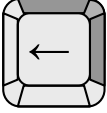
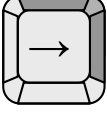

When the deleting process is complete the display will return back to text edit mode showing the message that now occupies this number



## “TIME EDIT” MODE:

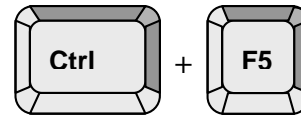


Typical Display in “TIME EDIT” Mode

- |   |    |   |   |
|---|----|---|---|
|    | or |  | Save current settings and exit “TIME EDIT” mode           |
|    |    |   | Save current message and don't exit “TIME EDIT” mode      |
|    |    |   | Increment highlighted time component                      |
|  |    |   | Decrement highlighted time component                      |
|  |    |   | Move left between hours and minutes                       |
|  |    |   | Move right between hours and minutes                      |
|  |    |   | Exit “TIME EDIT” mode without saving the current settings |

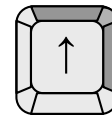
## SETTING THE TIME:

Press and hold the “**CTRL**” + “**F5**” keys.

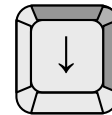


Time Edit Display (Hours: Minutes: Seconds)

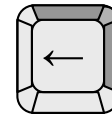
Press the “**↑**” key to increment the time at the flashing cursor.



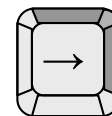
Press the “**↓**” key to decrement the time at the flashing cursor.



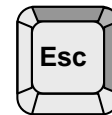
Press the “**←**” key to move the flashing cursor.



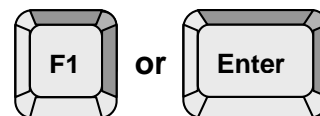
Press the “**→**” key to move the flashing cursor.



Press the “**Esc**” key to exit without saving.



Press the “**F1**” or “**Enter**” key to save and exit.


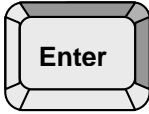

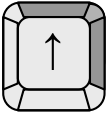
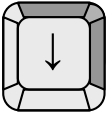
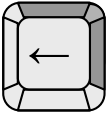
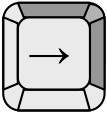





## “DATE EDIT” MODE:

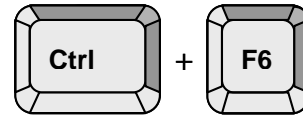


Typical Display in “DATE EDIT” Mode

- |   |    |   |   |
|---|----|---|---|
|    | or |  | Save current settings and exit “DATE EDIT” mode           |
|    |    |   | Save current message and don't exit “DATE EDIT” mode      |
|    |    |   | Increment highlighted date component                      |
|  |    |   | Decrement highlighted date component                      |
|  |    |   | Move left between date, month and years                   |
|  |    |   | Move right between date, month and years                  |
|  |    |   | Exit “DATE EDIT” mode without saving the current settings |

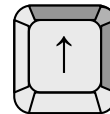
## SETTING THE DATE:

Press and hold the “**CTRL**” + “**F6**” keys.

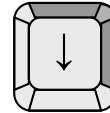


Date Edit Display (Date: Month: Year)

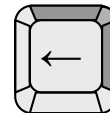
Press the “**↑**” key to increment the date at the flashing cursor.



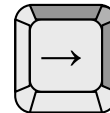
Press the “**↓**” key to decrement the date at the flashing cursor



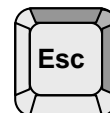
Press the “**←**” key to move the flashing cursor.



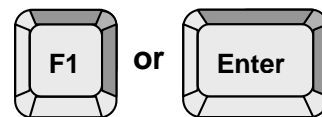
Press the “**→**” key to move the flashing cursor.



Press the “**Esc**” key to exit without saving.




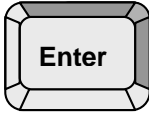

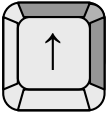
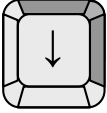
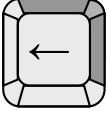
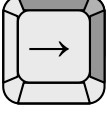

Press the “**F1**” or “**Enter**” or key to save and exit.



## “CONFIGURATION” MODE:



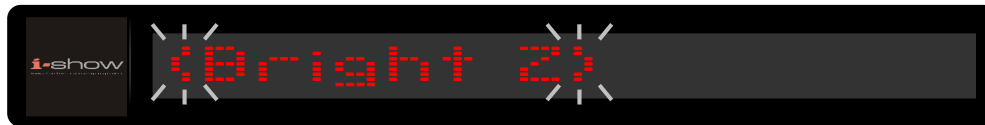
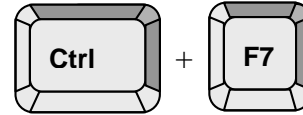
Typical Display in “CONFIGURATION” Mode

- |   |    |   |  |
|---|----|---|--|
|    | or |  | Save current settings and exit “CONFIGURATION” mode                          |
|    |    |   | Save current message and don't exit “CONFIGURATION” mode                     |
|    |    |   | Cycle up through options for highlighted item                                |
|  |    |   | Cycle down through options for highlighted item                              |
|  |    |   | Move left through items<br>(brightness, speed, message delay, scroll loops)  |
|  |    |   | Move right through items<br>(brightness, speed, message delay, scroll loops) |
|  |    |   | Exit “CONFIGURATION” mode without saving the current settings                |

## CHANGING CONFIGURATION:

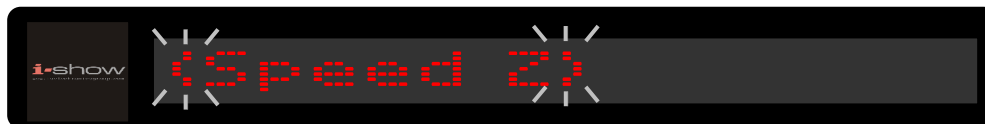
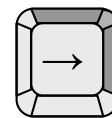
Example of how to change the message delay:

Press and hold the “CTRL” + “F7” keys.



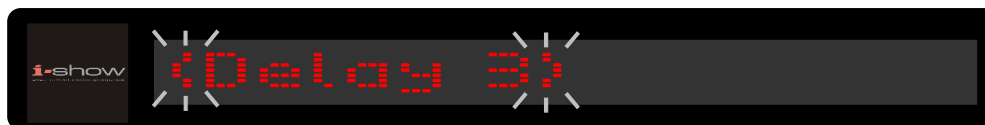
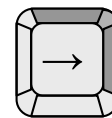
Configuration Edit Display

Press the “→” to move through the configuration options.



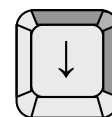
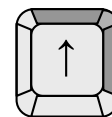
Configuration Edit Display

Press the “→” again to select the message delay option.

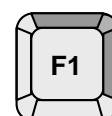


Configuration Edit Display

Use the “↑” and “↓” keys to adjust the delay time.



Press the “F1” key to save and exit.





## **TECHNICAL DETAILS**

### **ELECTRICAL RATINGS**

Input Voltage:	12V DC Nominal
Maximum Input Voltage:	16V DC
Minimum Input Voltage:	10V DC

Current Consumption @ 12V DC

Display with 8's in every character position, full brightness. Message is static

i-show 300:	2.0A
i-show 500:	2.6A
i-show 700:	3.5A

### **ENVIRONMENTAL RATINGS**

Operating Temperature:	0 – 55 Degrees Centigrade (Ambient)
Storage Temperature:	-10 – 70 Degrees Centigrade

It is recommended that the display is operated below 85% Relative Humidity (non-condensing)

IP Rating (not confirmed by testing) IP33

### **MECHANICAL DETAILS**

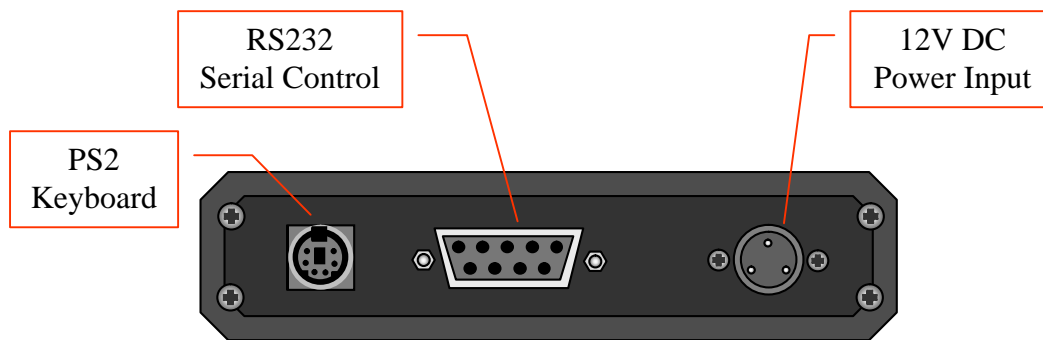
Space envelope dimensions (includes protruding connectors, but not mating halves)

i-show 300	810mm x 120mm x 35mm
i-show 500	1240mm x 120mm x 35mm
i-show 700	1670mm x 120mm x 35mm

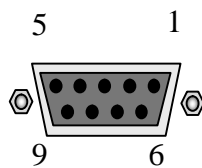
### **COMMUNICATIONS**

Keyboard Input:	Standard PS/2 Keyboard connection (6 pin mini din connector)
Serial Input:	RS232 (9 way D connector)

## CONNECTOR PINOUTS

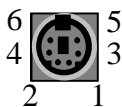


### SERIAL CONNECTOR



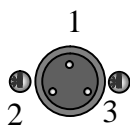
- Pin 1 = No connect
- Pin 2 = Transmit to PC
- Pin 3 = Receive from PC
- Pin 4 = No Connect
- Pin 5 = Ground
- Pin 6 = No Connect
- Pin 7 = No Connect
- Pin 8 = No Connect
- Pin 9 = No Connect

### PS/2 KEYBOARD CONNECTOR



- Pin 1 = Data
- Pin 2 = No Connect
- Pin 3 = Ground
- Pin 4 = +5V Supply to Keyboard
- Pin 5 = Clock
- Pin 6 = No Connect

### POWER INPUT CONNECTOR



- Pin 1 = Ground (0V)
- Pin 2 = +12V DC
- Pin 3 = RS232 RX (Note this is not to be connected at the same time as the serial connector)



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