



**NOTE:** This document is intended **only as a quick reference for installation** – please read the SP Controls Application Note for a complete description of this projector driver prior to installation.

## I. Driver Features

### 1. Input Selection Mapping

Selection 1:	VIDEO
Selection 2:	S-VIDEO
Selection 3:	INPUT A
Selection 4:	INPUT B

### 2. Hidden Function Mapping

Using the ON button as a shift key, press the following buttons to access the specified projector features.

Selection 1:	AUTO ADJUST
Selection 2:	ENTER
Selection 3:	ADJUST LEFT
Selection 4:	ADJUST RIGHT
Off:	MENU
Volume Up:	ADJUST UP
Volume Down:	ADJUST DOWN

### 3. Other Driver Features

Power Status Feedback Method	RS-232 Polling
Control Wiring	RS-232 and IR

## II. Wiring Specifications

**NOTE:** For a wiring diagram, please see the SP Controls Application Note.

### 1. RS-232:

Wire the Panel RS-232 projector port to a male DB9 as follows:

TX to	2
RX to	3
GND to	5

Connect this male DB9 to the projector port labeled *RS-232C*.

### 2. Infrared Emitter:

Wire the Panel IR/Serial port to a female 1/8" Mini as follows:

IR/SER to	<i>tip</i>
GND to	<i>ring</i>

Connect to the included IR Emitter and attach the emitter bud to any projector IR window.

## III. Additional Projector Information

The Sony has configurable modes which **must be configured** at the time of installation:

- **Auto Input Selection** mode must be disabled or the Panel will get out of sync with the projector.
- **Power Saving** should be disabled or the projector will shut off after ten minutes with no input signal.
- **Input Types** must be specified for Inputs A and B.
- **Input C** can be deactivated.
- **IR Widows** can be selectively disabled – verify that the correct IR Window is active.

See *Section III; Special Control Note* of the Application Note for more information.



# Projector Driver Application Note

## Sony VPL-FX50 Series

### Revision A

This document describes the **SmartPanel** Projector Driver for the **Sony VPL-FX50** projector. For general information on configuring and using the Panel, see the *SmartPanel Configuration and Installation Guide*.

**NOTE:** There are several Sony menu settings that will impact control with the SmartPanel. The projector **must be specially configured** during installation. For more information, see the *Special Control Note* in *Section III* below.

## I. PROJECTOR CONTROL

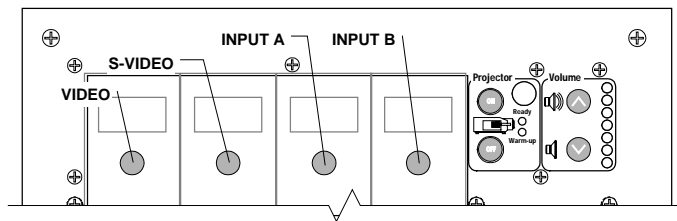
### A. Volume and Power Control

The VPL-FX50 projector does not have speakers, so the Panel cannot control projector volume. Absolute volume control is possible with use of SP Controls' optional **Audio Follow Video Pre-Amplifier**.

### B. Input Selection Mapping

The following table specifies the factory preset input mapping for this Driver. The **Configuration Utility** can be used to customize these settings your installation.

Selection 1:	VIDEO
Selection 2:	S-VIDEO
Selection 3:	INPUT A
Selection 4:	INPUT B



Input choices available for this Driver are VIDEO, S-VIDEO, INPUT A, INPUT B, and INPUT C.

**Input A** can be configured for different input types in the projector menus (COMPONENT VIDEO, COMPUTER, or VIDEO GBR). Be sure the input is configured appropriately! See the *Section III; Special Control Note* for more information.

**Input B** can be configured to **PC ANALOG** (VGA) or **PC DIGITAL** (DVI) in the projector menus. Be sure the input is configured appropriately! See the *Special Control Note* for more information.

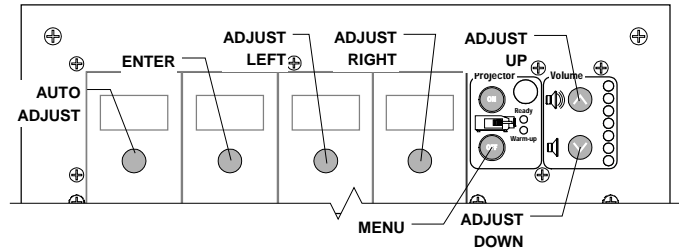
**Input C** can be disabled in the projector menus. Be sure the input is configured appropriately! See the *Section III; Special Control Note* for more information.

The Sony has an **Auto Source Detection** mode that should not be used; there is a high probability that the projector will become out of sync with the Panel. See *Section III; Special Control Note* below for instructions on how to disable this feature.

### C. Hidden Function Mapping

The following table specifies the factory preset hidden function mapping for this Driver. The **Configuration Utility** can be used to customize these settings your installation.

Selection 1:	AUTO ADJUST
Selection 2:	ENTER
Selection 3:	ADJUST LEFT
Selection 4:	ADJUST RIGHT
Off:	MENU
Volume Up:	ADJUST UP
Volume Down:	ADJUST DOWN



Hidden functions names are based on the Sony remote and the controls on top of the projector. Hidden functions are accessed by pressing the indicated key while the holding the **On** key down.

*Menu* summons onscreen menus. *Adjust* keys move through menus. *Enter* accepts changes.

*Auto Adjust* only works with Computer inputs.

Press *Zoom* and *Focus* to enter the lens adjust features. Change settings with *Adjust Left* and *Adjust Right*.

*Lens Shift* can be adjusted with the *Adjust* commands.

*Digital Zoom* command allows zooming into RGB images only. While zoomed, the *Adjust* keys may be used to pan the zoom window up, down, left and right. Note that *Pic Mute* is a toggling Video Mute.

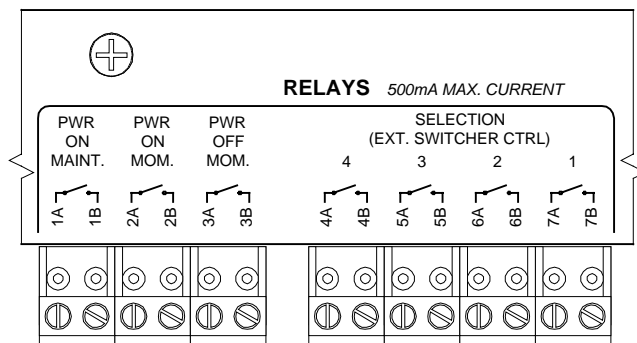
The hidden functions available for the Sony with this Driver are as follows:

- |              |             |                |
|--------------|-------------|----------------|
| MENU         | AUTO ADJUST | DIGITAL ZOOM + |
| ENTER        | FOCUS       | DIGITAL ZOOM - |
| ADJUST LEFT  | ZOOM        |                |
| ADJUST RIGHT | SHIFT       |                |
| ADJUST UP    | FREEZE      |                |
| ADJUST DOWN  | PIC MUTE    |                |

### D. Relays

The following table specifies the factory preset settings for the low-current relays found on the rear of the **SmartPanel**. The **Configuration Utility** can be used to customize these settings your installation.

Relay 1	ON Maintained
Relay 2	ON Momentary
Relay 3	OFF Momentary
Selection	Momentary; not Binary



## E. Other Presets

The following table specifies other default factory settings for this Driver that affect its control of the Projector.

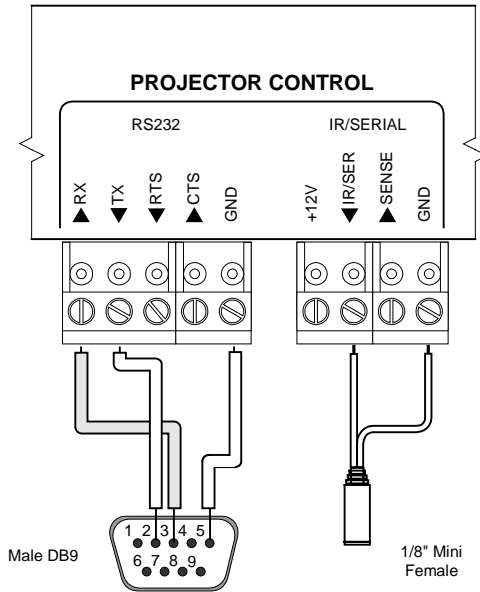
<i>Power Status Feedback Method</i>	RS-232 Polling (see note 1)
<i>Control Wiring</i>	RS-232 and IR (see note 2)

Control for the Sony with this Driver is via RS-232 and IR Emitter. Both types of control wiring must be wired to control the projector.

The following table specifies settings for the Panel's configurable timers. For more information on the inactivity shutdown feature and the lockout timer see the *SmartPanel Configuration and Installation Guide*.

Lockout Timer	47 seconds (see note 3)
Inactivity Shutdown	Disabled

## II. CONTROL WIRING



This section specifies how RS-232 should be wired to the projector.

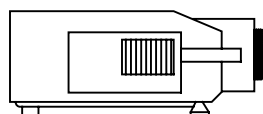
**A.** RS-232 should be connected to the control port labeled **RS-232C**. Connection should be as follows:

1. Wire the Panel to a male DB9 as follows:  
TX to 2  
RX to 3  
GND to 5
2. Connect the cable to the projector port labeled *RS-232C*.
3. Optionally, an intermediate cable (male DB9 to female DB9) may be used to facilitate service to the projector or Panel.

**B.** The IR Emitter should be connected to the one of the SonyIR windows as follows:

1. Wire the Panel to a female 1/8" Mini as shown; wire *IR/SER* to *tip* and *GND* to *ring*. Splicing and direct wiring to the IR Emitter is not recommended as it makes removal of the Panel for service more difficult.
2. Connect the included IR Emitter to the female mini.
3. Affix the IR Emitter to one of the IR windows on the projector.

Emitter glows red when IR is emitted so wiring can be verified.



RS-232 to the port labeled **RS-232C**

IR Emitter to any projector IR Window

### III. SPECIAL CONTROL NOTE:

The Sony has configurable modes which **must be set** at the time of installation:

Several settings must be made in the **SET SETTINGS** submenu. Summon onscreen menus using the remote control or Panel Hidden Functions and navigate to the *Set Settings* submenu.

Within this menu, the following settings should be made:

**Auto Input Selection Mode** The Sony by default will scan automatically for an active input if it does not see a valid input signal on a particular input. AUTO INPUT SELECTION MODE MUST BE DISABLED or the Panel will get out of sync with the projector. In *Set Settings* menu, verify that *AUTO INPUT SEL* is set to *OFF*. If it is not, navigate to *AUTO INPUT SEL* and set it to *OFF*.

**Power Saving** By default, the Sony will automatically shut off after ten minutes if it does not receive a valid input signal. You should disable this option. In *Set Settings* menu, verify that *POWER SAVING* is set to *OFF*. If not, navigate to *POWER SAVING* and set it to *OFF*.

**Input A** The Sony has three modes for *Input A*. They are *Computer*, *Component* and *Video GBR*, this should be set prior to use. In *Set Settings* menu, set Input A Term to the appropriate setting.

**Input B** The Sony has two modes for *Input B*. They are *PC Analog* and *PC Digital*, this should be set prior to use. In *Set Settings* menu, set Input B Term to the appropriate setting.

**IR Receiver Mode** The Sony by default is set to use the Front and Rear IR windows however it is configurable if necessary. In *Set Settings* menu, set IR Receive to the appropriate setting.

Additionally, **Input C** must be configured in the **INSTALL SETTINGS** submenu.

**Input C** The Sony can make use of Input C for a network input. For use this must be set correctly.

To set *Input C mode*:

Summon onscreen menus using the remote control or Panel hidden functions.

Navigate to the *Install Settings* submenu.

Set Input-C Func to *ON* if necessary.

### IV. Display Note

During testing of this projector, we observed that the Sony exhibited problems when displaying the RGBHV signal from a laptop. The problem was characterized by a blacking out of the bottom 20% of the projected image. The projector onscreen menus were also blacked out, which showed it was not a problem with the laptop or the cable.

This problem is a projector issue and is not associated with the SmartPanel in any way.

We were able to correct this problem by increasing the refresh rate of the laptop display from 60Hz to 70Hz. If you encounter this problem, you may wish contact Sony Technical Support.

## V. TROUBLESHOOTING

Additional troubleshooting tips can be found in the *SmartPanel Configuration and Installation Guide*.

*The projector and Panel keep getting out of sync -- the projector is ignoring my input selections!*

The projector may be configured to automatically switch inputs when a valid source signal is detected. This setting may be checked and if necessary disabled through the onscreen menu option *Set Settings: Auto Input Sel* as described in *Section III. Special Control Note* above.

*The projector is automatically shutting itself off.*

The projector has a Power Saving mode in which it will turn itself off in the absence of an active input. This setting may be disabled through the onscreen menu option *Set Settings: Power Saving* as described in the *Special Control Note* above.

*The projector is not displaying one or more input.*

Several of the projector input types need to be specified in the projectors On-Screen menus (e.g., Input A can be set to RGBHV or Composite Video). If they are not configured properly, the projector will not display that input. See *Section III; Special Control Note* above for more information.

*The Panel only partially controls the projector.*

To control the Sony projector, both RS-232 and IR must be properly wired. If the Panel is only controlling a subset of the projector controls, verify that both types of wiring are correctly connected. Also, the projector can be configured to use only one of its IR windows; verify that the IR Emitter is affixed to the correct IR window of the projector is so configured. See *Section III; Special Control Note* above for more information.

*The Panel does not do anything at all.*

When power is applied to the Panel it should run through a brief power on self-test, during which all of the Panel lights will turn on and off in sequence. If you do not see this self test, make sure power is connected correctly and that polarity is correct.

*When I try to turn the projector on, the warming indicator (red LED) blink.*

The projector is in the default configured *lockout state*; the Panel is waiting for its internal lockout timer to expire. This feature protects the projector's bulb. Be sure to inform your client about this behavior.

## VI. TECHNICAL NOTES

1. By default, projector power is verified by polling every few seconds via the RS-232 port. Power polling can be suspended by depressing and holding the **On** key; polling will be restored when the key is released. Should the projector power off, the Panel will usually detect this condition and power off within thirty seconds. Should the projector power on, the Panel will usually detecting this condition and power on within ten seconds.
2. The Sony is controlled via RS-232 and Infrared with this Driver. Wired remote can not be wired as the Sony does not have a wired remote port. A discussion of the advantages of Wired Remote versus IR can be found in the *SmartPanel Configuration and Installation Guide*.
3. The lockout timer specifies the amount of time allowed between sending *POWER OFF* and *POWER ON* to the projector (the delay allows the projector bulb to cool before re-powering). This delay can be configured using the **Configuration Utility**; however, adjusting the lockout timer delay is **strongly discouraged** as rapid re-powering causes undue wear on the projector's bulb. Also, the projector will **not** allow power to be restored before a minimum delay has expired. Therefore, **disabling the lockout delay will cause potentially confusing Panel behavior**.

## VII. REVISION HISTORY

1. Revision A (July, 2002) *Original release.*