



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

<i>Selection 1:</i>	VIDEO
<i>Selection 2:</i>	S-VIDEO
<i>Selection 3:</i>	INPUT A
<i>Selection 4:</i>	INPUT B

2. Hidden Function Mapping

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

<i>Selection 1:</i>	None
<i>Selection 2:</i>	ENTER
<i>Selection 3:</i>	ADJUST LEFT
<i>Selection 4:</i>	ADJUST RIGHT
<i>Off:</i>	MENU
<i>Volume Up:</i>	ADJUST UP
<i>Volume Down:</i>	ADJUST DOWN

3. Other Driver Features

<i>Power Status Feedback Method</i>	RS-232 Polling
<i>Control Wiring</i>	RS-232 Only

II. Wiring Specifications

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

RS-232:

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

RX to	2
TX to	3
GND to	5

Connect this male DB9 to the projector port labeled *REMOTE*.



Projector Driver Application Note

Sony VPL-CX85 Series

Revision A

This document describes the **SmartPanel** Projector Driver for the **Sony VPL-CX85** projector. For general information on configuring and using the Panel, see the *SmartPanel Configuration and Installation Guide*.

I. PROJECTOR CONTROL

A. Volume and Power Control

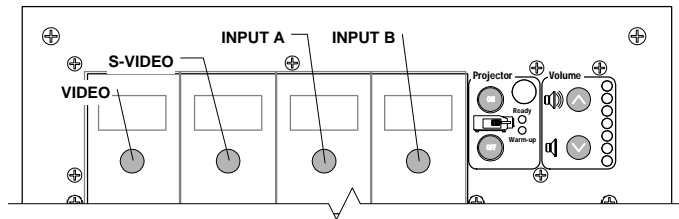
Volume control on the Sony is **relative**; however, on-screen display indicates the current volume level. Absolute volume control is possible with use of SP Controls' optional **Audio Follow Video Pre-Amplifier**.

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

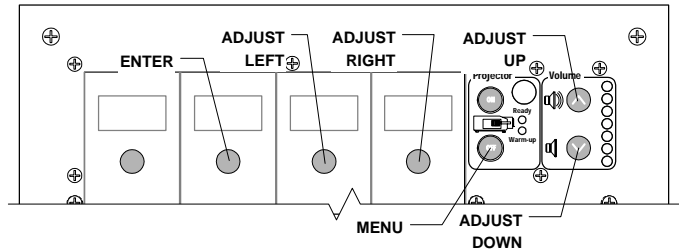
Input choices available for this Driver are VIDEO, S-VIDEO, INPUT A, INPUT B, INPUT C.



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:	None
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.

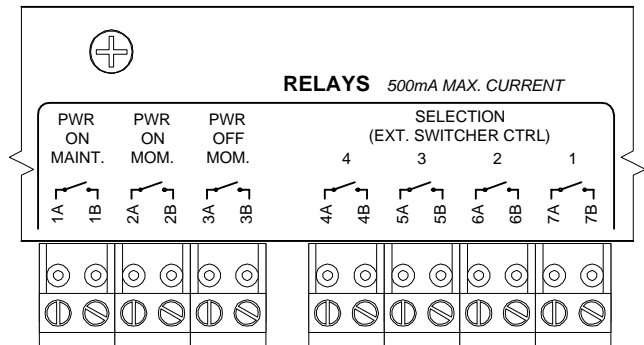
The hidden functions available for the Sony with this Driver are as follows:

- | | | |
|-------------|--------------|------------|
| MENU | ADJUST LEFT | AUDIO MUTE |
| ENTER | ADJUST RIGHT | PIC MUTE |
| ADJUST DOWN | ADJUST UP | RESET |

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.

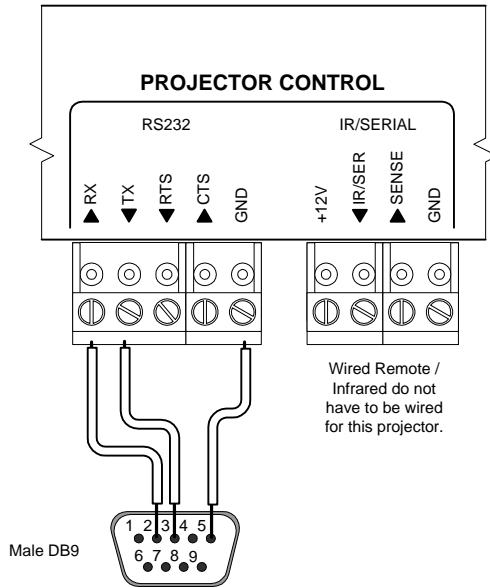
<i>Power Status Feedback Method</i>	RS-232 Polling (see note 1)
<i>Control Wiring</i>	None (see note 2)

Control for the Sony with this Driver is entirely via RS-232. However, we recommend wiring for Infrared in case the projector is ever upgraded or a later revision Driver adds functionality accessible only through IR.

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	70 seconds (see note 3)
Inactivity Shutdown	Disabled

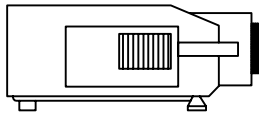
II. CONTROL WIRING



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

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:
RX to 2
TX 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.



RS-232 to
RS-232C

III. 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.* If this option is *ON*, change it to *OFF*.

The projector is automatically shutting itself off.

The projector may be configured to automatically power itself off; if the Panel is verifying projector power through polling or via a power current sensor, it will shut itself off when the projector goes down. This setting may be checked and if necessary disabled through the onscreen menu option *Set Settings: Power Saving.* Also, the Panel may be configured for Inactivity Shutdown Timer (as described in the *Configuration and Installation Guide*).

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.

The Panel keeps turning itself off even though the projector is on.

The Panel turns itself off when power polling (or a current sensor) indicates that the projector is off. Check to make sure the RS-232 or current sensor connection is correctly wired, paying particular attention to the RS-232 *RX* line which is used only for power verification.

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.

IV. 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. With this Driver, the Sony is controlled via RS-232 only. However, we recommend **always** wiring for Wired Remote/IR in case the projector is upgraded or a later revision of the Driver provides additional features. A discussion of the advantages of Wired Remote, IR and RS-232 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.**

V. REVISION HISTORY

1. Revision A (May,2004), TK