NOTE: This one-page 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:	RGB 1
Selection 4:	RGB 2

2. Hidden Function Mapping (Default Configuration)

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

Selection 1:	AUTO IMAGE
Selection 2:	MUTE
Selection 3:	ADJ LEFT
Selection 4:	ADJ RIGHT
Off:	MENU
Volume Up:	ADJ UP
Volume Down:	ADJ DOWN

3. Other Driver Features

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

II. Wiring Specifications

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

1. RS-232:

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

TX to	2
RX to	3
GND to	5

Connect this female DP9 to the projector port labeled *CONTROL*.

2. Infrared Emitter:

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

IR/SER to	*tip*
GND to	*ring*

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

This document describes the **SmartPanel** Projector Driver for the **ViewSonic PJ862** projector. For more information on configuring and using the Panel see the *SmartPanel Configuration and Installation Guide.*

I. PROJECTOR CONTROL

A. Volume and Power Control

Volume control for the ViewSonic is **relative**.

Absolute volume control for this model is possible with use of SP Controls' optional **Audio Follow Video Pre-Amplifier (SP3-AFVP+)**.

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:	RGB 1
Selection 4:	RGB 2

Input choices available with this Driver are VIDEO, S-VIDEO, COMPOSITE VIDEO, RGB 1, RGB 2, and DIGITIAL (DVI).
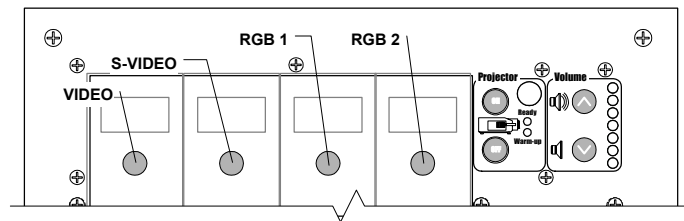
C. Hidden Function Mapping

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 IMAGE
Selection 2:	MUTE
Selection 3:	ADJ LEFT
Selection 4:	ADJ RIGHT
Off:	MENU
Volume Up:	ADJ UP
Volume Down:	ADJ DOWN
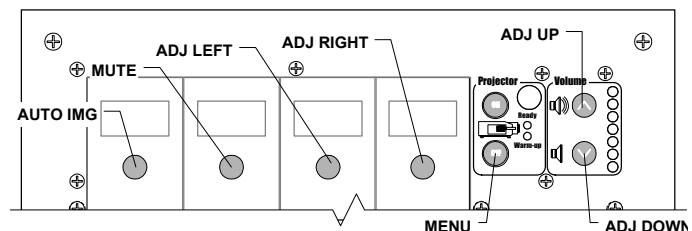
Hidden functions names are based on the ViewSonic remote control and projector-top controls. *Menu* both summons and dismisses on screen menus. *ADJUST* controls navigate through onscreen menus. *BLANK*, *MUTE*, and *FREEZE* are toggles. *AUTO IMAGE* only works when one of the RGB inputs is selected.

Hidden functions are accessed by pressing the indicated key while the holding the **On** key down.

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

ADJ UP	MENU	BLANK
ADJ DOWN	MAGNIFY +	MUTE
ADJ LEFT	MAGNIFY -	FREEZE
ADJ RIGHT	MAGNIFY OFF	AUTO IMAGE

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
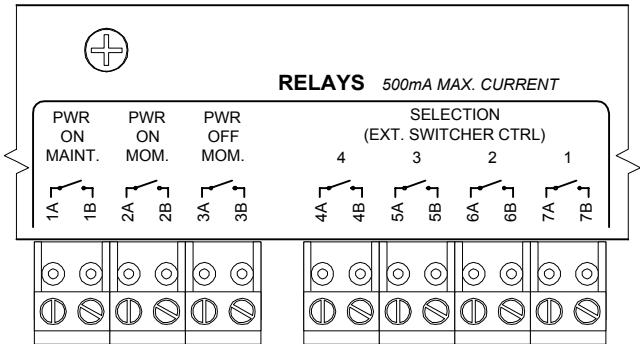
E. Other Presets

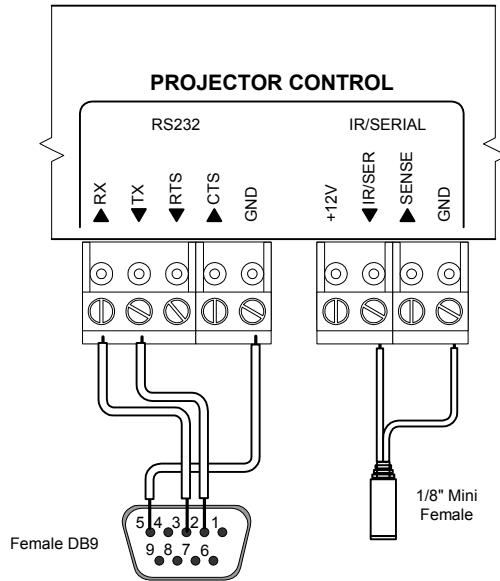The following table specifies other default factory settings for this Driver that affect is control of the Projector.

Power Status Feedback Method	RS-232 Polling (see note 1)
Control Wiring Option	Infrared Emitter (see note 2)

Control for the ViewSonic with this Driver is via both RS-232 and Infrared.

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	81 seconds (see note 3)
Inactivity Shutdown	Disabled

II. CONTROL WIRING

PROJECTOR CONTROL

RS232   IR/SERIAL

RX ▲   TX ▼   RTS ▼   CTS ▲   GND   +12V   IR/SER ▼   SENSE ▲   GND

1/8" Mini Female

5 4 3 2 1
9 8 7 6

Female DB9

IR Emitter
(included with Panel)

RS-232 to CONTROL   *IR Emitter to* any IR window

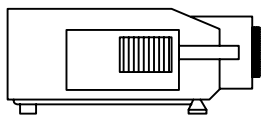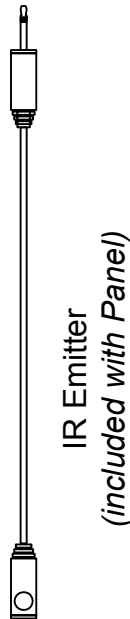This section specifies how RS-232 and Infrared should be wired to the ViewSonic projector.

A. RS-232 should be connected to the female DB9 terminal labeled CONTROL. Connection should be as follows:

1. Wire the Panel to a female DB9 as follows:
   TX to 2
   RX to 3
   GND to 5

2. Connect this female connector to the projector port labeled CONTROL.

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

1. Wire the Panel to a female 1/8" Mini as show; 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.

Note that the emitter glows red when IR is emitted so wiring can be verified.

III. TROUBLESHOOTING

Additional tips can be found in the *SmartPanel 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 verification indicates that the projector is off. Check to make sure the RS-232 connection is correctly wired. If a third party power current sensor is being used, make sure correctly wired and calibrated. The most common cause for power polling failure when other control works, is that the RX line is incorrectly wired or soldered.

The projector keeps turning itself off, though the Panel is on (then the Panel then shuts itself off).
   The ViewSonic may be configured through the OPTIONS (OPT.) menu to shut itself off in the absence of a valid input signal. Refer to the ViewSonic manual for more information. Also, ensure that Panel is not configured with an unexpected value for Inactivity Shutdown.

When I try to turn the projector on, the warming indicator (red LED) blink.
   The projector is in *lockout mode*, and the Panel is waiting for its internal lockout timer to expire; this feature protects the projector's bulb. Be sure to let your client know 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 ViewSonic power off, the Panel will usually detect this condition and power off within thirty seconds. Should the ViewSonic power on, the Panel will usually detecting this condition and power on within fifteen seconds.

2. This ViewSonic is currently controlled via a combination of Infrared and RS-232 only. Wired Remote is not an option as the ViewSonic does not have a Wired Remote port.

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 ViewSonic 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 (April, 2005) Initial Revision