This document describes the **Smart Panel** Projector Driver for the **Digital Projection 6sx** projectors. For more information on configuring and using the Panel see the *Smart Panel Configuration and Installation Guide.*

Please read the **SPECIAL CONTROL NOTE** below before attempting to control the projector.

I. PROJECTOR CONTROL

A. Volume and Power Control

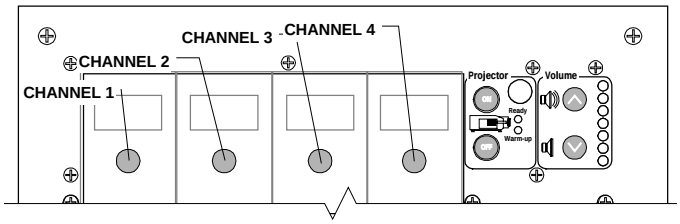
Digital Projection projectors have no internal speakers or audio capabilities; an independent audio solution must be used.

Volume control (absolute) is possible only with the use of an independent audio solution (such as self power speakers) and the SP Controls **Audio Follow Video Pre-Amp.**

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:	Channel 1
Selection 2:	Channel 2
Selection 3:	Channel 3
Selection 4:	Channel 4



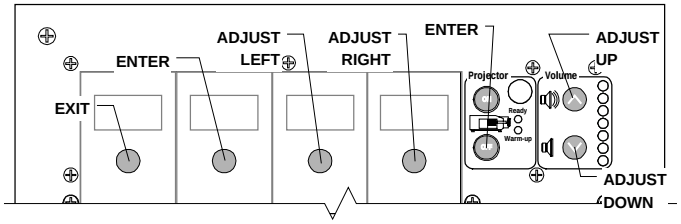
Input choices available for the Digital Projection models with this Driver are Channels 1 through 16. Note that these models typically have only three physical inputs.

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.

Note: We do not recommend using hidden functions with Digital Projection projectors at this time. There are problems related to the "on screen display" setting as follows: SD must be *on* to use on screen menus; however, switching to a channel with no valid input when OSD results in an onscreen warning message appearing which will not disappear until *Enter* is pressed. We consider it unacceptable to make the user use hidden functions or the remote; therefore, we recommend leaving OSD *off* and doing without hidden functions.

Selection 1:	EXIT
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 Digital Projection remote control and documentation. *ADJUST* controls navigate through onscreen menus. Hidden functions are accessed by pressing the indicated key while the holding the **On** key down.

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

MENU
ENTER
EXIT

ADJUST UP
ADJUST DOWN
ADJUST LEFT
ADJUST RIGHT

MUTE ON
MUTE OFF

OSD ON
OSD OFF

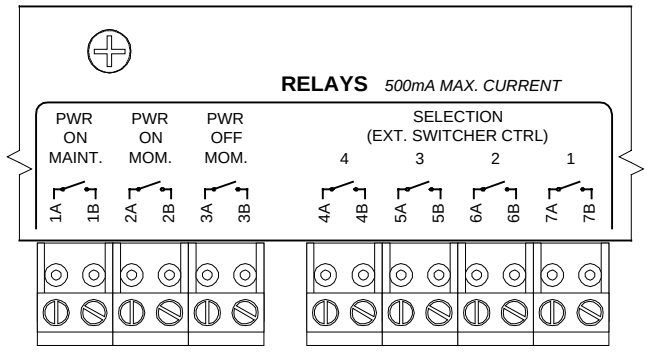
ZOOM +
ZOOM –

FOCUS +
FOCUS -

D. Relays

The following table specifies the factory preset settings for the low-current relays found on the rear of the **Smart Panel.** 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. Note that control for the Digital Projection with this Driver is via RS-232 only.

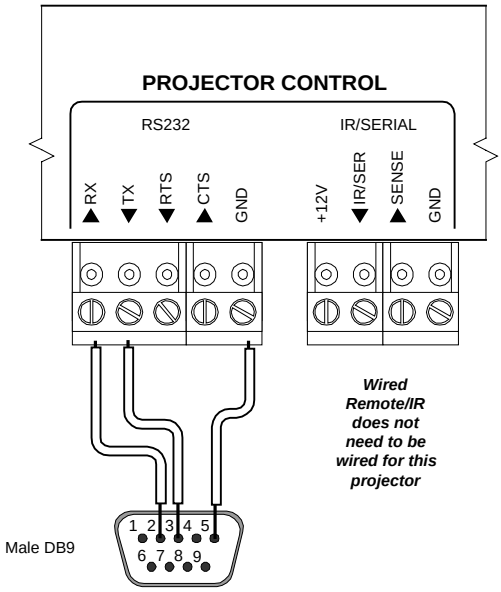
Power Status Feedback Method	Power Current Sensor (see note 1)
Control Wiring Option	None (see note 2)

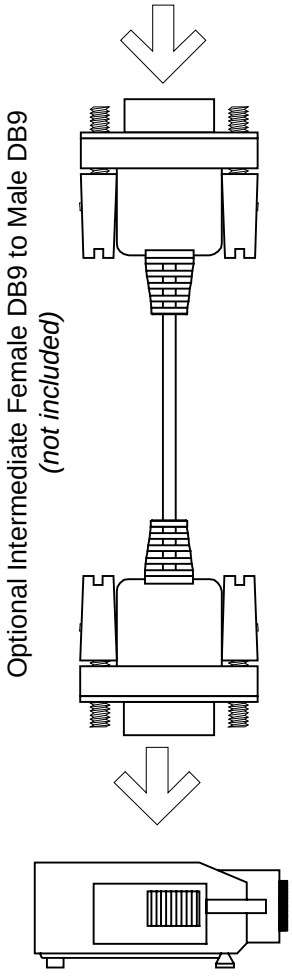
Note: We recommend use of a Power Current Sensor with this model. RS-232 polling has been tested as is known to work only with the Digital Projection 6sx (see technical note 1 below).

The following table specifies settings for the Panel's configurable timers.

Lockout Timer	5 seconds (see note 3)
Inactivity Shutdown	Disabled

II. CONTROL WIRING





RS-232 to
Computer In

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

A. RS-232 should be connected to the Digital Projection *Computer In* port. Connection should be as follows:

1. Wire the Panel to a male DB9 as shown.
2. Connect this male DB9 to the Digital Projection port labeled “Computer In”.
3. Optionally, an intermediate cable (female DB9 to male DB9) may be used to facilitate service to the projector or Panel.

SPECIAL CONTROL NOTE

Read before attempting to control the projector

The Digital Projection is configurable in a number of ways that impact the possibility of Smart Panel control:

- **Projector Address**: Digital Projection projectors are configured with a unique ID, for installations with multiple projectors. The codes used in this driver assume that the projector will respond to a general call address that all projectors are supposed to listen to (**00**).
- **Baudrate**: Digital Projection projectors may have their RS-232 ports configured to communicate at a variety of speeds. The codes used in this driver assume that the projector is set to communicate at **9600** bps. It is believed that port speed must be verified or set by qualified Digital Projection technicians; however, some models may allow this setting to be changed via on screen menus. Contact Digital Projection or refer to your product literature for more information.

Questions regarding control of the Digital Projection series should be directed to SP Controls technical support at **help@spcontrols.com**.

III. TROUBLESHOOTING

Additional tips can be found in the *Smart Panel Configuration and Installation Guide.*

The Panel does not control the Projector, but wiring has been verified as correct.
This Driver is believed not to work with models Power 3gv and 5gv*C*. See the **SPECIAL CONTROL NOTE** and ensure that the projector Baud Rate is correctly set. Make sure you are plugged into the *Computer In* port, not external remote, audio switcher, or computer *Out* ports.

The Hidden Functions for On Screen Menus don't work (correctly).
The Digital Projection On Screen Display setting must be *On* in order to use on screen menus; see the special note under Hidden Functions above. We recommend using **no** hidden functions with the Digital Projection models at this time.

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*, 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, this Driver select *Power Current Sensor* for power verification. This is because **RS-232 power polling has been verified to work with the model 6sx only**.

   If power polling is used, it 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 one or two minutes. Should the projector power on, the Panel will usually detecting this condition and power on within fifteen or twenty seconds

2. Neither IR or Wired Remote are currently needed to control this model of Digital Projection. All of the projector's remote control functions are available as Hidden Functions, and can be sent with RS-232.

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 discouraged as rapid re-powering can cause undue wear on the projector's bulb or circuitry.

V. REVISION HISTORY

1. Revision A (March, 2003).

 help@spcontrols.com