



Projector Driver Application Note

Sharp PG-C20XU

Revision A

This document describes the **Smart Panel** Projector Driver for the **Sharp PG-C20XU** projector. For more information on configuring and using the Panel see the *Smart Panel Configuration and Installation Guide*.

I. PROJECTOR CONTROL

A. Volume and Power Control

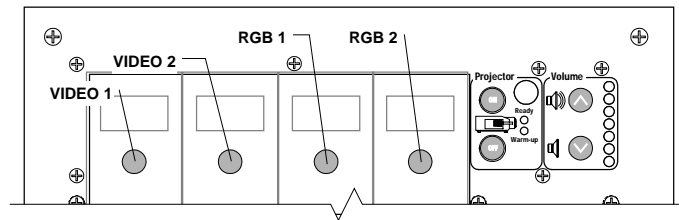
Volume control on the Sharp is **absolute**.

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.

<i>Selection 1:</i>	VIDEO 1
<i>Selection 2:</i>	VIDEO 2
<i>Selection 3:</i>	RGB 1
<i>Selection 4:</i>	RGB 2

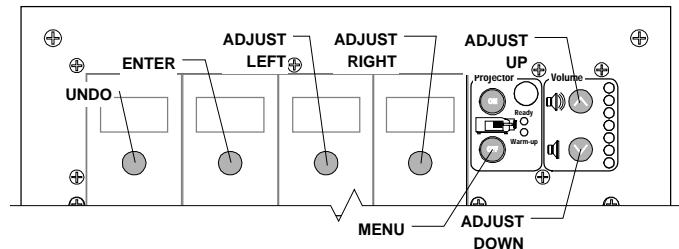
Input choices available with this Driver are VIDEO 1, VIDEO 2, RGB 1 and RGB 2.



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.

<i>Selection 1:</i>	<i>None Mapped</i>
<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



Hidden functions names are based on the Sharp remote and controls on top of the projector.

Hidden functions names are based on the Sharp remote, manual and controls on top of the projector. *Adjust* controls, and *Enter* navigate through onscreen menus.

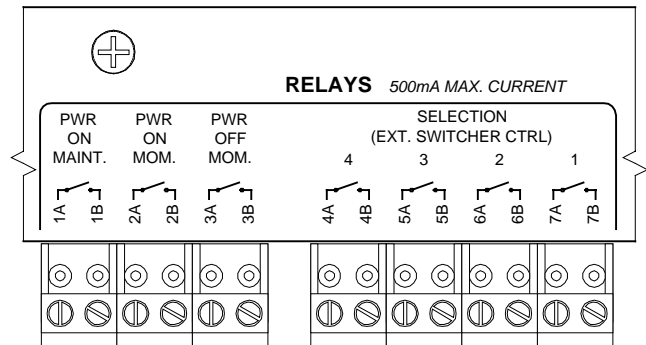
Hidden functions are accessed by pressing the indicated key while the holding the **On** key down. The hidden functions available for the Sharp with this Driver are as follows:

- MENU
- ADJUST LEFT
- ADJUST RIGHT
- ADJUST UP
- ADJUST DOWN
- ENTER
- BLACK SCREEN ON
- BLACK SCREEN OFF

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 its control of the Projector.

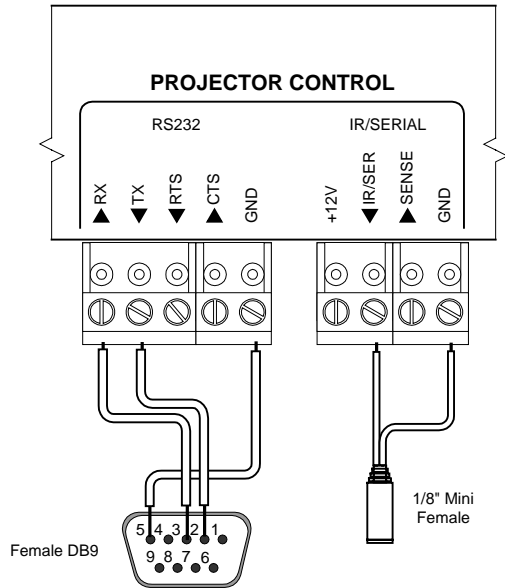
<i>Power Status Feedback Method</i>	RS-232 Polling (see note 1)
<i>Control Wiring Option</i>	Wired Remote (see note 2)

Control for the Sharp with this Driver is via both RS-232 and IR/Wired Remote. We recommend wiring for the Wired Remote but the included IR emitter may also be used.

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 *Smart Panel Configuration and Installation Guide*.

Lockout Timer	65 seconds (see note 3)
Inactivity Shutdown	Disabled

II. CONTROL WIRING



This section specifies how RS-232 and Wired Remote should be wired to the Sharp projector.

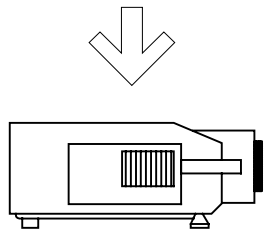
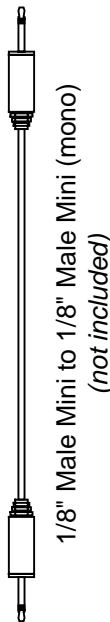
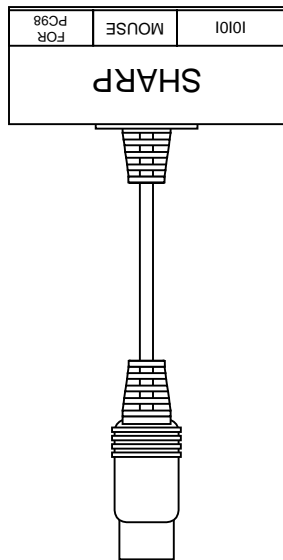
A. RS-232 should be connected to the Sharp control port labeled **PC CONTROL 1**. Connection should be as follows:

1. Wire the Panel to a female DB9 as shown.
2. Connect this female DB9 to the Sharp's custom DB9 to mini-DIN adapter cable. This cable is included with the Sharp and is labeled *Custom Control Cable* on the rear. Connect to the port on the cable break out box labeled **IOIOI**.
3. Connect the Sharp custom cable to the projector port labeled **PC CONTROL 1**.

B. The Wired Remote should be connected to the Sharp port labeled **Wired Remote**. Connection should be as follows:

1. Wire the Panel to a female 1/8" Mini as shown; wire *IR/SER* to *tip* and *GND* to *ring*. Direct wiring to male 1/8" is not recommended as it makes removal of the Panel for service more difficult.
 2. Attach to the projector port labeled **Wired Remote** using a male 1/8" mini to male 1/8" mini (not included).
1. Alternately, replace the male to male cable with the included the IR Emitter and attach it to one of the IR windows on the projector. The emitter glows red when IR is emitted so wiring can be verified.

Sharp cable labeled **COMPUTER CONTROL CABLE**



RS-232 to
PC CONTROL 1

1/8" Male Mini to
Wired Remote

III. TROUBLESHOOTING

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

The Panel controls the projector, but cannot turn it on or off; or, the Panel turns the projector on and off, but does not control it.

The Sharp is controlled using both Wired Remote/Infrared and RS-232. Most hidden functions are controlled via Wired Remote/IR, while power, power polling, input selection and volume are controlled via RS-232. If only a subset of functionality appears to be working, verify that both types of control wiring are correctly wired.

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 indicates that the projector is off. Check to make sure the RS-232 connection is correctly wired (it is extremely unlikely other control would work, and power polling not).

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 Sharp power off, the Panel will usually detect this condition and power off within twenty seconds. Should the Sharp power on, the Panel will usually detecting this condition and power on within ten seconds.
2. The Sharp is controlled via both Wired Remote/IR and RS-232. A discussion of the advantages of Wired Remote, IR and RS232 can be found in the *Smart Panel 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 Sharp 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 (December, 2003) *Original release*.