

Technical information for operation of 5090-01

## Description

The 5090-01 is a video controller board that accepts composite video, S-video or Computer RGB and displays it to a Flat Panel Display. It has specific output connectors and mounting hole pattern for the NEC NL10276Cxx variety of analog FPD. The controller also has digital outputs for 18, 24 or 48 bit panels.

The controller may be powered from regulated 12VDC, or 15-32VDC, selectable with a jumper.

## Features

- Number of video Inputs – either 3 composite video or 2 composite video and 1 S-Video.
- NTSC, PAL, RS-170 video inputs supported.
- Accepts RGB video up to XGA (60Hz) and displays to selected FPD.
- Menu Backlight control (or Hotkey) allows selection of full brightness or half brightness.
- Connection for Potentiometer for analog dimming.
- User menu allows control over brightness, contrast, color, tint, sharpness, position, and other advanced features.
- Monitor auto-detects RGB format.
- 5 button input (on board or external connection).

## Absolute Maximum Ratings

Parameter	Ratings	Unit	Remarks
Supply Voltage	+14 or +32	VDC	Depends upon Jumper Setting
Video input Voltage	+2	V	
RGB input Voltage	+1.5	V	
Digital input Voltage	+5	V	TTL signals
Operating Temp	0 to 70	°C	
Humidity	≤ 85% relative humidity	-	No condensation

## Recommended operating Conditions

Parameter	Ratings	Unit	Remarks
Supply Voltage	+12 or +15 to 32	VDC	Depends upon Jumper Setting
Video Input Voltage	1	Vpp	
RGB input Voltage	1	Vpp	
Digital input	+5	V	TTL

Voltage			
Operating Temp	0 to 70	°C	

## Power Consumption

Power consumption of the controller card itself is no more than 12W. Does not include consumption of FPD or backlight.

## Interface and Pin Connection

### 1. Power Supply

J1 – 2.5mm jack. Center hot.

J14 – 0.1” inline Header.

Pin 1 marked with square pad and triangle on silkscreen.

Pin 1 – V+

Pin 2 – GND

Pin 3 – GND

Pin 4 – NC

### 2. Video Input.

J4 – Hirose DF11-20DP-2V20. 20 position.

Pin 1 marked with triangle on silkscreen

Pin	Signal	Pin	Signal
1	Composite 1	2	Comp 1 GND
3	Composite 2	4	Comp 2 GND
5	YIN/Composite 3	6	YIN GND
7	CIN	8	CIN GND
9	BLUE in	10	Blue GND
11	GREEN in	12	Green GND
13	RED in	14	Red GND
15	VSYNC in	16	VSYNC GND
17	HSYNC in	18	HSYNC GND
19	nc	20	GND

### 3. User Control

J13 – Hirose DF11-10DP-2V20. 10 position

Pin 1 marked with triangle on silkscreen

Pin	Signal	Pin	Signal
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1	GND	2	Power On/Off
3	GND	4	MENU
5	GND	6	Scroll
7	GND	8	Increment
9	GND	10	Decrement

## Input Power Selection

A jumper is used to select between regulated 12VDC input or 15-32VDC input. It is the only jumper on the controller, located at J2, near the power jack. Pin 1 is denoted by a triangle on the silkscreen.

When a regulated 12VDC supply is to be used, place the shunt over pins 2 and 3.

When a supply of 15VDC to 32 VDC is to be used, place the shunt over pins 1 and 2.

## Variable Backlight Dimming

A potentiometer may be used to vary the brightness of the backlight (in addition to the menu control that allows selecting full bright or half bright).

Connect a 10K potentiometer across the pins of J5 to control the brightness.

## Menu Operation

The menu is displayed by momentarily depressing the MENU button.

The SCROLL button moves the highlight down the menu to the desired function.

Pressing either INCREMENT or DECREMENT will bring up a graphical display of the value of the selected parameter. Pressing (or holding down) either the INCREMENT or DECREMENT button will alter the value.

The menu will automatically turn off after a preset timeout (changeable in the menu). Or, when the menu is displayed, pressing MENU again will turn it off.

The SCROLL button is multi-function. When no menu is displayed, pressing the SCROLL button causes the controller to switch inputs, in the following order: Composite 1, Composite 2, S-Video (or Composite 3), RGB.... If no video is present at the selected input, a message will be displayed.

The INCREMENT and DECREMENT buttons are also multi-function. When no menu is displayed, pressing INCREMENT or DECREMENT will alter the backlight brightness.

