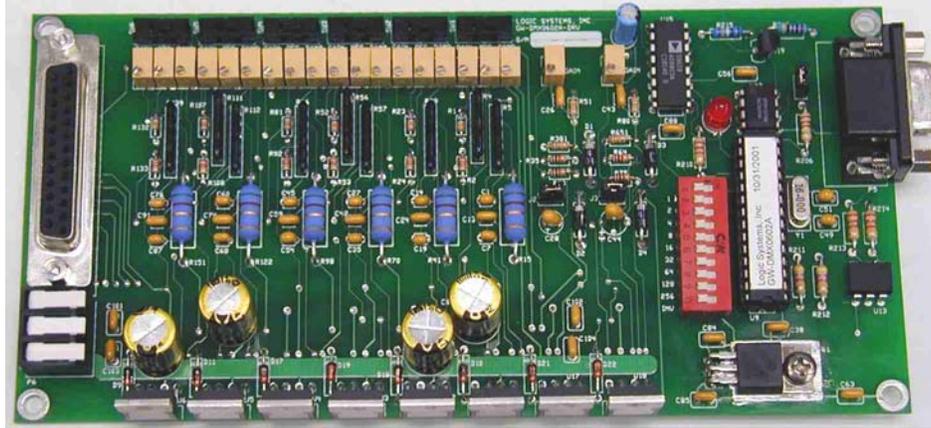


DMX0602A-DRV HIGH CURRENT ANALOG LASER ACCESSORY DRIVER/DECODER from **Logic Systems, Inc.**



The **DMX0602A-DRV** was designed specifically for the professional laser lightshow industry. By using the industry standard DMX-512 control protocol, you have analog control of beam actuators, small motors, shutters or virtually any load up to 0.5 amps per channel.

Using current control for your beam actuators and "fade out" shutters is more accurate, more reliable, and more repeatable. That is why we use this technology for our first six channels. The last two channels give you the choice of either Pulse Width Modulated (PWM) or 0-10vdc controlled outputs. They are designed for controlling Lumia and special effect motors, standard shutters, or any other device requiring this type of analog control.

Specifications:

- Outputs:** Six current controlled analog outputs with individually adjustable gain, offset and damping pots
Two voltage controlled analog outputs individually jumper selectable for either PWM or DC operation with individual gain pots
All outputs are good for up to 500mA each up to a maximum voltage of 2volts below the power supply. (With proper heat sinking and power supply)
For Revision 2 cards, the channel 1 output is jumper selectable for DMX analog control or from an external digital signal
- Addressing:** Selectable to start anywhere within 512 channels. Multiple cards can be used without channel overlap
- Supply:** ± 15 to ± 24 VDC @ 4 amps maximum. Can be used with a single ended supply.
- Interlock:** Outputs can be shut down using an auxiliary digital input signal, open collector driver or hardwire switch allowing for interlock shutdown should your projector require it.

All channels are thermal overload and short circuit protected

DMX0602A-DRV DMX 512 DECODER

The Logic Systems, Inc. DMX0602A-DRV decoder card decodes a standard DMX-512 signal into 8 channels. Channels 1 through 6 are current controlled analog outputs with individually adjustable gain, offset and damping. Channel 1 is jumper selectable for DMX control or digital input. Channels 7 and 8 are voltage controlled analog outputs and are individually jumper selectable for PWM or DC. Channels 7 and 8 have individual gain adjustments only. The card can be used anywhere within the DMX 512 controller channel group. The decoder card starting address is set using dip switches. The DMX start code for the decoder card is zero. Multiple cards can be used with no overlapping of channels. In the event of a DMX512 signal loss the outputs will remain at their last state for not less than one second then drop to zero. Channel one will not drop out on DMX signal loss if selected for digital input. An LED indicates a valid DMX signal. The DMX0602A-DRV card has an auxiliary input, which can be used to shut down all outputs regardless of the DMX channel status or configuration. The maximum current for any channel is 500mA. The maximum voltage for any channel is 1.9 volts below the applied power supply voltage at 500mA.

ADDRESSING

The decoder card uses base-zero addressing. When dip switches 1 through 9 are OFF the first card channel will be DMX controller channel 1.

Example:

To set the starting address to 342 set dip switches as follows.

Set DIPSWITCH SW1 switches to the following:

SW9	SW8	SW7	SW6	SW5	SW4	SW3	SW2	SW1
256	128	64	32	16	8	4	2	1
on	-	on	-	on	-	on	-	on
-	off	-	off	-	off	-	off	-

To get the starting address add up the values of the switches that are on. We have base-zero addressing so add one more. Our starting address is $256+64+16+4+1+1=342$. The card will use DMX-512 channels 342 through 359

POWER SUPPLY

The DMX0602A-DRV requires a ± 15 VDC to ± 24 VDC power supply. Connect power to P6. See Figure 1 for the connector pin-out. The card can require 4 amps if all outputs are used at maximum capability. The card can be operated with a single +15 to +24 VDC power supply if desired by connecting P6 (COM) & (V-) together.

OUTPUTS

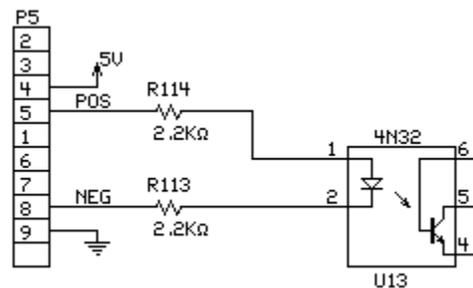
Connector P1 outputs channels 1 through 8. Channels 1 through 6 are current controlled analog outputs and can provide a maximum output of 500 mADC up to (V+)-1.9 voltage. The maximum current, offset, and damping for channels 1 through 6 can be adjusted through individual gain, offset and dampening multi-turn trim pots respectively. Channels 1 through 6 have a test/signal selector switch. The "TST" position applies a FULL ON control signal to allow easy setup without having the DMX controller connected. The "SIG" position applies the signal from the DMX decoder Channels 7 and 8 voltage controlled analog outputs and is also capable of supplying a maximum of 500 mADC up to (V+)-1.9. Channels 7 and 8 are individually jumper selectable for PWM or DC output. Installing J2 and J3 will give outputs of 0-10VDC on channels 7 and 8 respectively. Figure 1 shows the output connection pin-outs, adjustments, dipswitch and jumper information.

DMX512 SIGNAL INPUT

Connector P5 accepts a USITT/1986 or USITT/1990 standard DMX512 signal input. See Figure 1 for connector pin-out. Any other signal will give unknown results. Jumper J1 connects the terminating resistor and is used when the card is the last one on the cable run. The LED indicates a valid DMX signal.

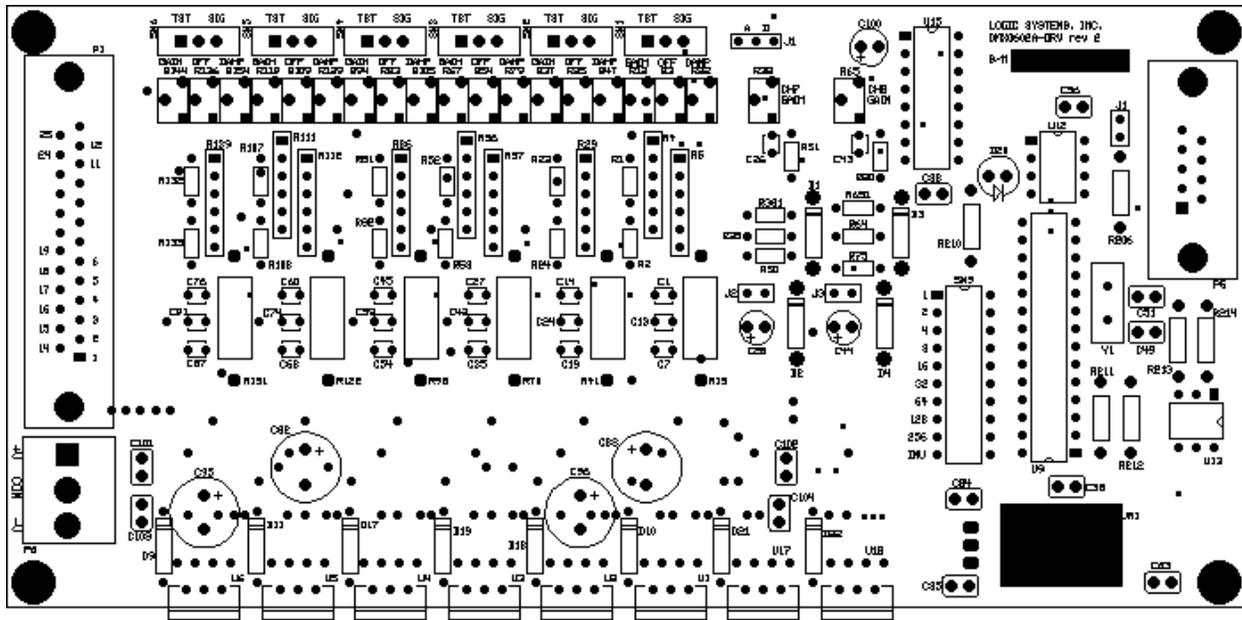
SHUTDOWN

All drivers can be shutdown with a single control signal. This signal can be TTL, open collector transistor, or a relay contact closure. The control voltage is 5VDC. Connector P5 accepts the shutdown signal and is configured for your method of control by the appropriate connections on P5. See the accompanying diagram of shutdown circuit input. The shutdown is effective in all signal source modes. Shutdown occurs on an active signal. Outputs are enabled in the default configuration when the card is shipped.



CAUTION

1. The tabs on the op amps are at the (V-) potential. **YOU MUST ISOLATE THEM**** when mounting to the heatsink. You can individually isolate them on the heatsink or mount them direct to the heatsink and isolate the heatsink from the enclosure. ** When using a single supply with V- connected to Com, the op amp taps will be at common and may not need isolation if your supply is isolated.
2. The channel outputs will output maximum voltage when there is no load connected. The op amp will heat up and will be hot to the touch. Use caution when handling.
3. The cards are shipped with offset at zero and current set below 200mADC using a dual power supply.
4. If single supply operation is used, the outputs will not operate with the factory calibrations. Offset must be adjusted fully counter-clockwise to allow proper operation.



P1 - DRIVER OUTPUTS
CHANNELS 1 THROUGH 8

PIN 1: CHANNEL 1 OUT -
PIN 14: CHANNEL 1 OUT +
PIN 2: CHANNEL 2 OUT -
PIN 15: CHANNEL 2 OUT +
PIN 3: CHANNEL 3 OUT -
PIN 16: CHANNEL 3 OUT +
PIN 4: CHANNEL 4 OUT -
PIN 17: CHANNEL 4 OUT +
PIN 5: CHANNEL 5 OUT -
PIN 18: CHANNEL 5 OUT +
PIN 6: CHANNEL 6 OUT -
PIN 19: CHANNEL 6 OUT +
PIN 11: CHANNEL 7 OUT +
PIN 24: CHANNEL 7 OUT COMMON
PIN 12: CHANNEL 8 OUT +
PIN 25: CHANNEL 8 OUT COMMON

P5 - DMX SIGNAL, DRIVER SHUTDOWN
(PINOUT IS SHOWN USING SUPPLIED GENDER CHANGER)

PIN 1: DMX SIGNAL NON-INVERTING
PIN 2: DMX SIGNAL INVERTING
PIN 3: CHANNEL 1 DIRECT DIGITAL INPUT
PIN 6: DMX SIGNAL COMMON
PIN 4: 5 VDC OUT
PIN 5: SHUTDOWN POSITIVE INPUT
PIN 8: SHUTDOWN NEGATIVE INPUT
PIN 9: COMMON

P6 - POWER SUPPLY

U+ : +15 TO +24 VDC
COM: COMMON
U- : -15 TO -24 VDC
(MAY BE CONNECTED TO COM FOR SINGLE SUPPLY OPERATION)

J1 - CHANNEL1 CONTROL METHOD

A - DMX CONTROL
D - DIGITAL CONTROL (P5, PIN 3)

FIGURE 1