

GW-DMX1602DRV/GW-DMX1602DRV-3 HIGH CURRENT ANALOG LASER ACCESSORY DRIVER/DECODER

GW-DMX1602DRV-3 decoder conforms to USITT DMX512/1990 and DMX512/1986 Standards.

Addressing: Can be addressed to start anywhere within 512 channels.
Multiple cards can be used without channel overlap.

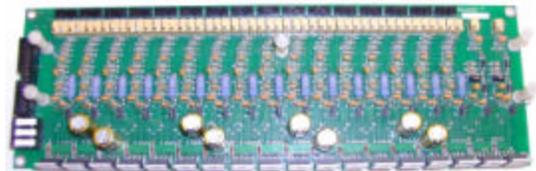
Analog Outputs: 16 current amplifiers, 2 voltage amplifiers.
500mA at 24vdc maximum per channel.
Adjustable gain, offset and dampening on current amplifiers.
Adjustable gain on voltage amplifiers

Power Supply: *+15 to +24VDC @ 9 amps maximum. *Can be used with a single ended supply.

The DMX1602DRV outputs can be shut down using an auxiliary digital input signal, open collector or hardwire switch.

The DMX1602DRV driver card is compatible with our GW-DMX1602 decoder card when purchased with the DMX1602DRV-2 connector card.

All channels are thermal overload and short circuit protected.



Logic Systems, Inc
8360 Rovana Circle, Suite 3
Sacramento, CA 95828
Phone 916-387-5661
Fax 916-386-1730
Email: craig@lsione.com

GW-DMX1602DRV/GW-DMX1602DRV-3 DMX 512 DECODER

The LOGIC SYSTEMS GDMX1602DRV-3 decoder card decodes a standard DMX512 signal into 18 channels and is intended to be used with the DMX1602DRV card. The card channels 1-16 are high current analog outputs with adjustable gain, offset and dampening. The card channels 17 and 18 are selectable PWM. A jumper selects filtered for high current DC output or high current PWM. Channels 17 and 18 have gain adjustment 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 one second then drop to off. A valid DMX signal is indicated by an LED. The GW-1602DRV card has an auxiliary input which can be used to shut down the cards outputs regardless of the DMX channel status.

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	126	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 driver/decoder card combo requires a +-15 VDC to +-24 VDC power supply. Connect to P6. See Figure 1 for pin-out. The card can require 9 amps if all outputs are used at maximum capability. The card can be operated with a single +15 VDC to +24 VDC power supply if desired.

OUTPUTS

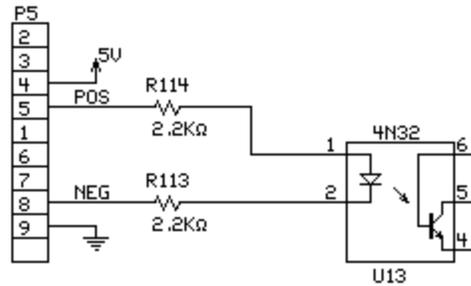
Connector P7 and P8 output the channels 1 through 16 high current drivers. Each driver can provide a maximum of 500 mADC up to the power supply voltage. The output drivers are current controlled. The maximum current, offset, and dampening can be adjusted through the gain, offset, and dampening multi-turn trim pots respectively, located on the DMX1602DRV board. Channels 1 through 16 have a test/signal selector switch located on the DMX1602DRV card. The "TEST" position applies a FULL ON control signal to allow easy adjustment without having the DMX controller connected. The "SIGNAL" position applies the signal from the DMX decoder. See Figure 1 for the channels 1 through 16 pin-out, trimpot and switch information. Connector P31 outputs channels 17 and 18 DC/PWM high current analog drivers and are also capable of a maximum of 500 mADC. The analog output can be used as a high current PWM output by removing a jumper on the DMX1602DRV board. Jumper J2 and J3 for analog 17 and analog 18 respectively. See Figure 1 for channel 17 and 18 pin-out 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

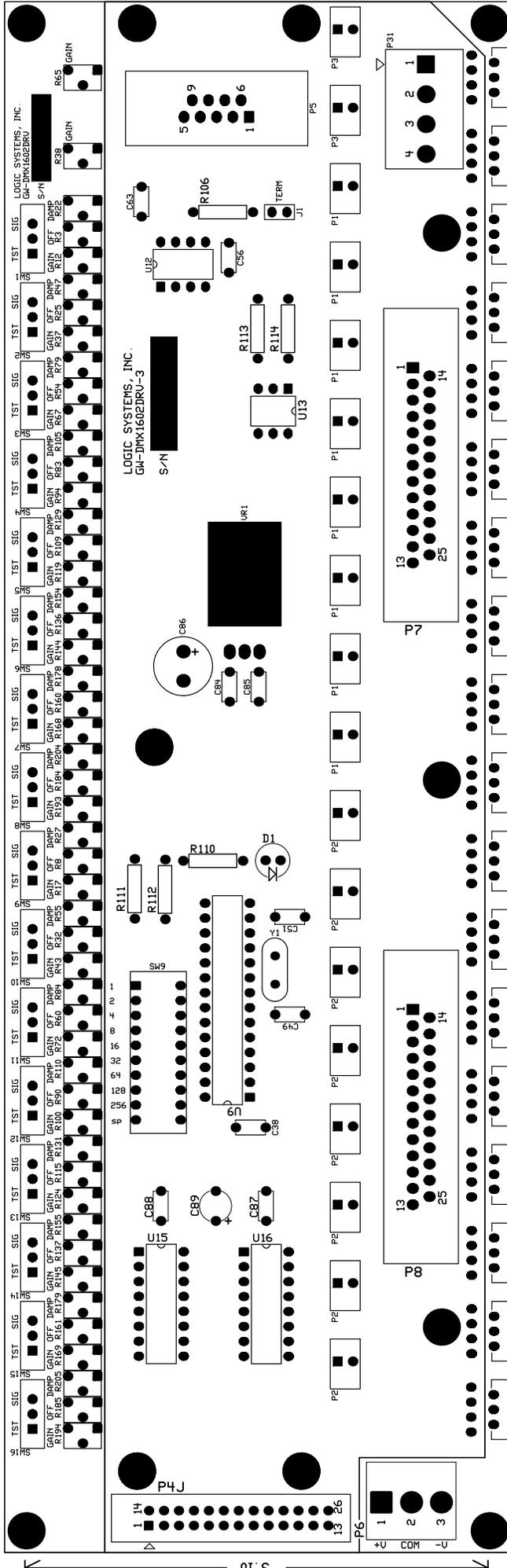
All drivers can be shutdown with a single control signal. This signal can be TTL, open collector transistor, or a relay contact closure. The control voltage is 5VDC. Connector P5 accepts the shutdown signal and is configured for your method of control by the appropriate connections on P5. See the accompanying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



CAUTION

1. The tabs on the opamps 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.
2. The channel outputs will output maximum voltage when there is no load connected. The opamp 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 with dual supplies.
4. If single supply operation is used, the outputs will not operate with the factory settings. Offset must be adjusted counter-clockwise to allow operation.

10.10"



3.10" 0.15" DIAMETER MOUNTING HOLE x4

- P4J - CONTROL SIGNAL INTERCONNECT
 - PIN 1 - CHANNEL 1
 - PIN 14 - CHANNEL 2
 - PIN 2 - CHANNEL 3
 - PIN 15 - CHANNEL 4
 - PIN 3 - CHANNEL 5
 - PIN 16 - CHANNEL 6
 - PIN 4 - CHANNEL 7
 - PIN 17 - CHANNEL 8
 - PIN 5 - CHANNEL 9
 - PIN 18 - CHANNEL 10
 - PIN 6 - CHANNEL 11
 - PIN 19 - CHANNEL 12
 - PIN 7 - CHANNEL 13
 - PIN 20 - CHANNEL 14
 - PIN 8 - CHANNEL 15
 - PIN 21 - CHANNEL 16
 - PIN 9 - DC/PWM CHANNEL 17
 - PIN 22 - DC/PWM CHANNEL 18
 - PIN 10 - DRIVER SHUTDOWN
 - PIN 11 - 5V REFERENCE
 - PIN 12 - U+
 - PIN 13 - U-
 - PINS 23,24,25,26 - COMMON
- P8 - DRIVER OUTPUTS
 - CHANNELS 9 THROUGH 16
 - PIN 1 - CHANNEL 9 OUT -
 - PIN 14 - CHANNEL 9 OUT +
 - PIN 2 - CHANNEL 10 OUT -
 - PIN 15 - CHANNEL 10 OUT +
 - PIN 3 - CHANNEL 11 OUT -
 - PIN 16 - CHANNEL 11 OUT +
 - PIN 4 - CHANNEL 12 OUT -
 - PIN 17 - CHANNEL 12 OUT +
 - PIN 5 - CHANNEL 13 OUT -
 - PIN 18 - CHANNEL 13 OUT +
 - PIN 6 - CHANNEL 14 OUT -
 - PIN 19 - CHANNEL 14 OUT +
 - PIN 7 - CHANNEL 15 OUT -
 - PIN 20 - CHANNEL 15 OUT +
 - PIN 8 - CHANNEL 16 OUT -
 - PIN 21 - CHANNEL 16 OUT +
- P7 - 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 7 - CHANNEL 7 OUT -
 - PIN 20 - CHANNEL 7 OUT +
 - PIN 8 - CHANNEL 8 OUT -
 - PIN 21 - CHANNEL 8 OUT +
- P31 - HIGH CURRENT ANALOG OUTPUTS
 - CHANNELS 17 AND 18
 - PIN 1 - DC/PWM 17 OUT -
 - PIN 2 - DC/PWM 17 OUT +
 - PIN 3 - DC/PWM 18 OUT -
 - PIN 4 - DC/PWM 18 OUT +
- P1,P2 - DRIVER OUTPUTS INTERCONNECTS
 - NO USER CONNECTION
- P5 - DMX SIGNAL, DRIVER SHUTDOWN
 - PIN 1 - DMX SIGNAL NON-INVERTING
 - PIN 2 - DMX SIGNAL INVERTING
 - PIN 6 - DMX SIGNAL COMMON
 - PIN 4 - 5VDC OUT
 - PIN 5 - SHUTDOWN POSITIVE INPUT
 - PIN 8 - SHUTDOWN NEGATIVE INPUT
 - PIN 9 - COMMON
- P6 - POWER SUPPLY
 - PIN 1 - U+ (+15 TO +24VDC)
 - PIN 2 - COMMON
 - PIN 3 - U- (-15 TO -24Vdc)
 - FOR SINGLE SUPPLY OPERATION CONNECT TO COMMON
- P42 - COMPATIBLE WITH GW-DMX1602 CARD
 - DIGITAL SIGNALS
 - SEE GW-DMX1602 DOCUMENTATION
- P10 - COMPATIBLE WITH GW-DMX1602 CARD
 - ANALOG SIGNALS
 - SEE GW-DMX1602 DOCUMENTATION

FIGURE 1