









DMXDecoder Manual

Connect DMX512, AMX192 or Strand D54 control systems to analog dimmers



-  Microprocessor-based electronics
-  Rotary address switch selects unit address in one-dimmer increments
-  Selectable status quo memory retention feature maintains output levels at last known values for five minutes upon loss of input control signal
-  Auto recognition of control protocol on 24 channel models
-  User-configurable positive or negative analog outputs on 48 channel models
-  LED indicators for control signal detect and microprocessor status
-  Built in output test function allows dimmers to be turned on from front panel switches
-  19 inch rack mount kit available

MODEL DESCRIPTION

- 8721 - DMX512 input, 24 channel output
- 8723 - AMX and DMX inputs, 24 channel output
- 8725 - D54 and DMX inputs, 24 channel output
- 8741 - DMX512 input, 48 channel output
- 8743 - AMX and DMX inputs, 48 channel output
- 8745 - D54 and DMX inputs, 48 channel output
- 8700 - 19" rack mount bracket kit

SPECIFICATIONS

Dimensions, 24 ch: 203mm x 44mm x 165mm (8" x 1³/₄" x 6¹/₂"
48 ch: 203mm x 44mm x 279mm (8" x 1³/₄" x 11")

Shipping weight, 24 channel: 1.3 kg (2.9 lbs)
48 channel: 1.5 kg (3.3 lbs)

Power supply: 9-12 VDC @ 250mA (adapter incl.)

GRAY

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ABOUT THE INTERFACE

SETUP INSTRUCTIONS

The Gray Interfaces 24 and 48 channel decoders have been designed to permit easy, economical upgrades to older lighting control systems with analog dimmers. Standard input protocols are USITT DMX-512 or AMX-192, or Strand D54.

A few simple steps are required to prepare your interface unit for operation.

First, assemble your mating cables and ensure that they conform to the connector pinouts as shown on page 3. Plug the cable from your lighting control board into the input connector on the rear panel of the decoder unit. Note that AMX or DMX input models include "in" and "thru" connectors, whereas AMX and DMX input models only have "in" connectors. The 25-pin output connector(s) of the decoder unit wire directly to the dimmers' analog inputs.

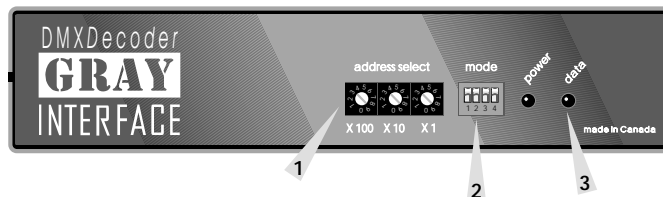
Note - Unless otherwise ordered, all decoder units are shipped with a factory default output configuration of 0 to +10VDC. For other outputs, refer to the configuration instructions on page 4.

Next set the starting address of the first output signal using the three rotary address select switches.

Then, refer to the DIP Switch Settings on page 4. The shaded settings are factory defaults.

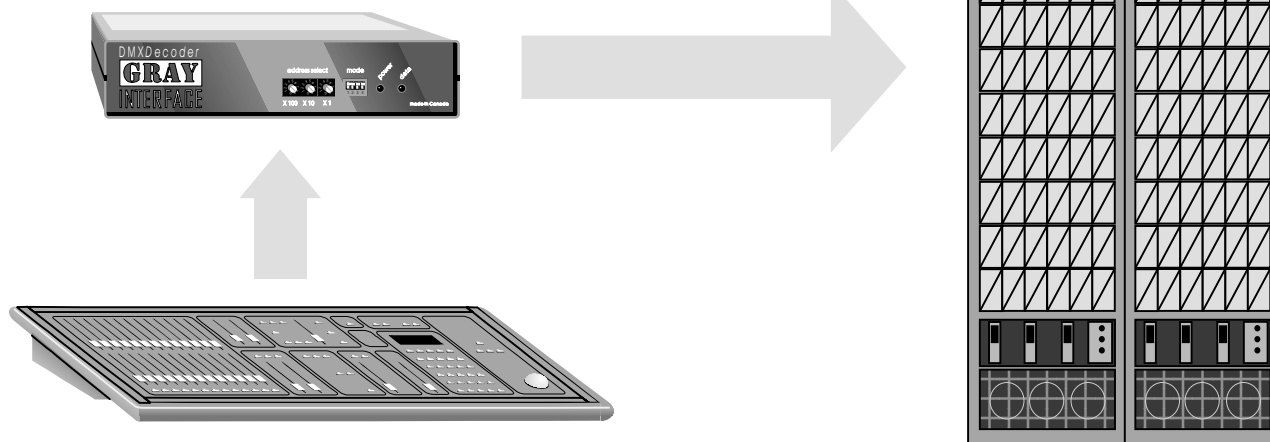
Now apply power to the decoder unit by plugging the cord from the power supply into the power jack on the rear of the box, and plug the power cube into a 120V outlet (the decoder can be left powered up all the time, current draw is minimal). If the microprocessor is operating properly, the "POWER" LED on the front panel should illuminate. Turn your control board on - the "DATA" LED will illuminate if the decoder unit is receiving a valid data signal. Now run some dimmers up to verify that the decoder is working.

Note that in test mode (DS2 on) dimmers may be turned on individually without the use of a control board. Simply dial up the desired dimmer number on the rotary address switches.



- ➊ Address select switches
- ➋ Mode select DIP switches
- ➌ LED indicators (power and data)

SYSTEM LAYOUT



FEATURES AND CONNECTOR PIN OUTS

LED INDICATORS

Two LEDs are used to indicate, from left to right, power supply and processor run status and data receive detection.

L1 : Glowing solidly indicates power supply and processor OK; off indicates no power, and flashing indicates defective processor hardware.

L2 : Glowing solidly indicates data signal received; off indicates no signal present. Note that an address selection out of the range of the data signal will extinguish the LED.

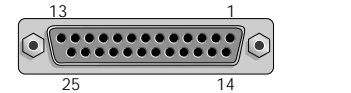
ADDRESS SELECTION

Three rotary switches select the offset start address for the unit in most configurations. In test mode, the switches set dimmers to full one at a time. From left to right the switches are set as hundreds, tens, and ones.

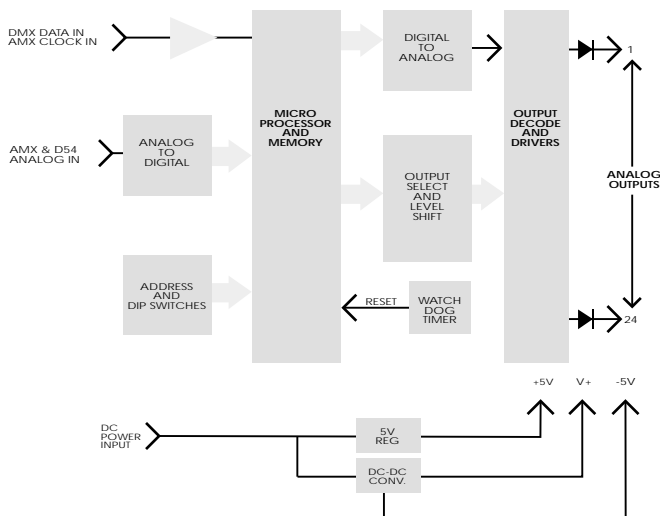
ANALOG

ANALOG PIN ASSIGNMENT

1 - CHANNEL 1, 25	6 - CHANNEL 6, 30	11 - CHANNEL 11, 35	16 - CHANNEL 15, 39	21 - CHANNEL 20, 44
2 - CHANNEL 2, 26	7 - CHANNEL 7, 31	12 - CHANNEL 12, 36	17 - CHANNEL 16, 40	22 - CHANNEL 21, 45
3 - CHANNEL 3, 27	8 - CHANNEL 8, 32	13 - COMMON	18 - CHANNEL 17, 41	23 - CHANNEL 22, 46
4 - CHANNEL 4, 28	9 - CHANNEL 9, 33	14 - CHANNEL 13, 37	19 - CHANNEL 18, 42	24 - CHANNEL 23, 47
5 - CHANNEL 5, 29	10 - CHANNEL 10, 34	15 - CHANNEL 14, 38	20 - CHANNEL 19, 43	25 - CHANNEL 24, 48



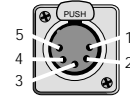
BLOCK DIAGRAM 24 CHANNEL



DMX - 512

DMX PIN ASSIGNMENT

- 1 - COMMON
- 2 - DATA-
- 3 - DATA+
- 4 - NC
- 5 - NC



OUT (F)

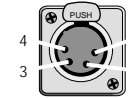


IN (M)

AMX - 192

AMX PIN ASSIGNMENT

- 1 - COMMON
- 2 - CLOCK+
- 3 - ANALOG
- 4 - CLOCK-



IN (F)

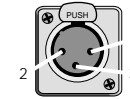


OUT (M)

STRAND D54 (384)

D54 PIN ASSIGNMENT

- 1 - COMMON
- 2 - NC
- 3 - ANALOG

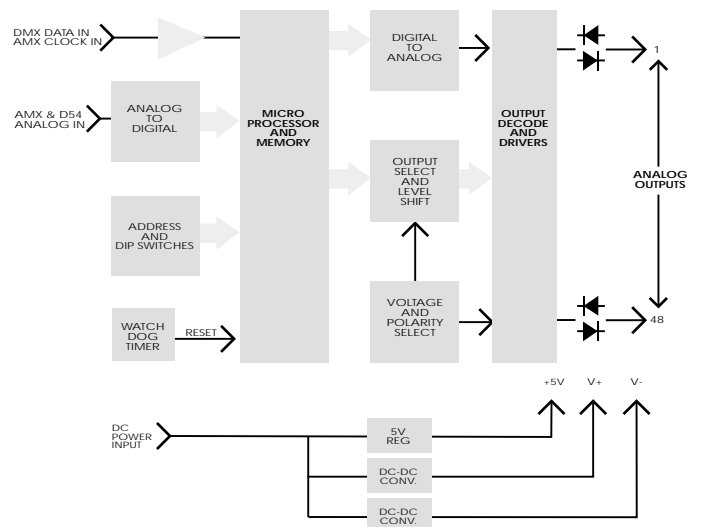


OUT (F)

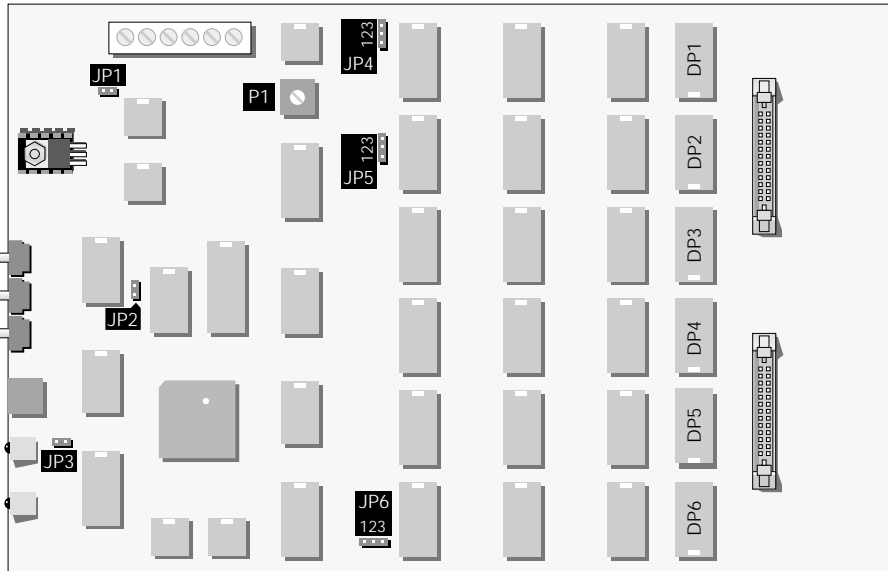


IN (M)

BLOCK DIAGRAM 48 CHANNEL



CONFIGURATION & DIP SWITCH SETTINGS

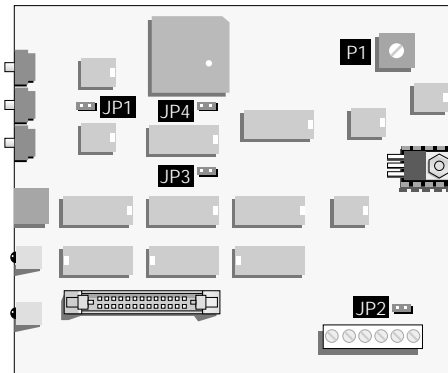


48 CHANNEL DECODER CARD ▲

24 CHANNEL DECODER CARD ►

OUTPUT CONFIGURATION (24 channel models)

For 10V systems, JP2 is installed and JP3, JP4 are removed. For 15V systems, JP2 is removed and JP3, JP4 are installed.



OUTPUT CONFIGURATION (48 channel models)

CAUTION - Disconnect power from the unit before making any changes!
For 10V systems, JP1 and JP2 are installed; remove them for 15V systems. For positive outputs, jumper pins 2 and 3 of JP4, 5 and 6, and install diode packs DP1-6 with the notch facing down. For negative outputs, jumper pins 1 and 2 of JP4, 5 and 6, and install the diode packs with the notch facing up. Before powering up, check to make sure that all jumpers are installed correctly. Damage will result if the unit is powered up with any jumpers in the wrong position.

OUTPUT VOLTAGE ADJUSTMENT (all models)

Remove the six screws from the top cover of the decoder unit, place the unit in test mode (S1-2 on) and set the address switches to 000 or 001. Ensure that the decoder is connected to dimmer no. 1 and connect a DC voltmeter between COM and output terminal no. 1 on the circuit board. Adjust P1 to achieve the desired control voltage.

OUTPUT CONNECTOR ASSIGNMENT (all models)

If your decoder uses 25-pin D-type output connectors, you must install JP1 on 24 channel units or JP3 on 48 channel units. This will reassign the output control signals to conform to the analog pin assignment detail on page 3.

STATUS QUO HOLD TIME 1

DISABLED (2 SEC TIMEOUT)	OFF
ENABLED (5 MIN TIMEOUT)	ON

Maintains last dimmer levels for set time on loss of input data signal.

TEST AND CALIBRATE MODE 2

DISABLED (NORMAL OPERATION)	OFF
ENABLED	ON

When enabled allows analog dimmer outputs to be brought to full one at a time as selected by the rotary address switches.

PROTOCOL SELECT 3

AMX-192 or D54	OFF
DMX-512	ON

This switch is active only on 48 channel models.

DMX TERMINATION 4

DMX LINE UNTERMINATED	OFF
DMX LINE TERMINATED	ON

A 100-ohm resistor is connected across the DMX data pair. Unit should be terminated if it is the last receiving device on the DMX line.

WARRANTY

WARRANTY: Gray Interfaces products are carefully tested and inspected at the factory and are warranted to be free of material and workmanship defects for a period of six months from date of shipment. Seller's warranty shall be restricted to the repair or replacement of any part that proves to be defective and for which a claim is submitted to Seller before the expiration of the applicable warranty period, providing that this warranty shall not apply to any defect arising from accident, misuse or improper installation or unauthorized adjustment or repair. Seller will not assume any responsibility for any labour expended or materials used to replace and/or repair any equipment without Seller's prior written authorization. Freight terms on warranty repairs are F.O.B. Seller's warehouse or factory. Collect shipments or freight allowances will not be accepted without Seller's written authorization.