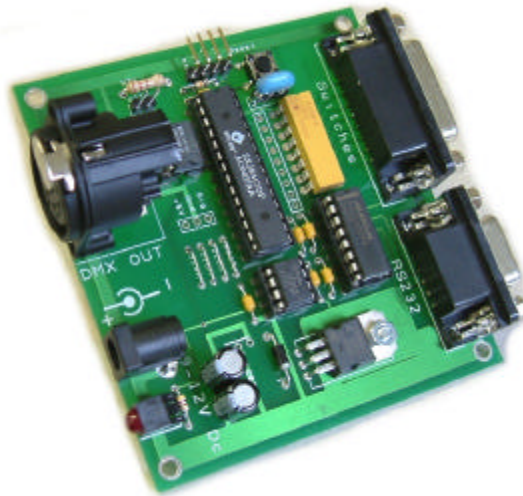


MILFORD INSTRUMENTS Limited

512 Channel Serial to DMX Transmitter (Part # 1-553)



The TX512 transmitter is a full speed serial to DMX transmitter. The module will generate up to 512 DMX channels and accepts serial commands and data via a standard 9600/19200 baud 8-N-1 RS232 serial connection- eg PC.

The TX512 will also store up to 60 scenes (at 128 channels per scene) and scenes may be switched in by a single serial command or for scenes 1 through 8 by simple manual switches.

Connections

DMX Out	5-pin XLR Female connector
Power In	2.1mm connector, centre positive. Requires 9V Dc at 0.5A
Serial In	D-9 connector-
Manual Scene select-	D-15 connector, ground pin 1 through 8 for switching
JP1	Comms baud rate select: 9.6kb jumper out, 19.2kb jumper in.

Serial Commands

Load data command (\$01)

Sets the value of the specified channel on the currently active scene.

Requires 4 bytes,
Load command (\$01),
High byte address (\$HH)
Low Byte address (\$LL)
Data Byte (\$XX)

Eg string \$01,\$00,\$02,\$0F will write the value of 15 to channel number 2 on the currently active page. Address values greater than the current page size will be wrapped round.

The transmitter will return the byte \$00 plus the last byte received (in the above case, the return string would be \$00,\$0F.

To load data to sequential data locations continue to send the data bytes within 5msecs of one another. If no data is received within 5 msecs of the last data byte, the serial link will time out and respond with the \$00,\$last_data_ byte string.

Eg to send \$32,\$45,\$31,\$56 to successive locations starting at channel \$00,\$76:
\$01,\$00,\$76,\$32,\$45,\$31,\$56

with a maximum of 5msecs between successive data bytes.

After 5msecs, the transmitter will return \$00,\$56.

Set Number of Channels per Scene (\$02)

Sets the number of transmitted DMX channels per scene.

Requires 2 bytes:

Command Byte \$02

Data Byte \$XX

Where \$XX can have one of 3 values:

Data Byte	Number of Channels	Maximum stored Scenes
\$00	512	15
\$01	256	30
\$02	128	60

Other data byte values are ignored and the comms link will timeout.

Once changed, the current number of channels per scene is stored in non-volatile memory and is read at power up.

Transmitter returns with \$55 after command executed or \$00,\$XX if the command has timed out between successive command bytes.

Set the Current Scene Number (\$03)

Sets the currently active scene

Requires 2 bytes

Command byte \$03

Data Byte \$XX

Where \$XX is the required scene number and is limited to the maximum allowable value based on the Set Number of Frames.

Once changed, the current active scene number is stored in non-volatile memory and is read at power up.

Transmitter returns with \$55 after command executed or \$00,\$XX if the command has timed out between successive command bytes.

Read Current Scene Data (\$04)

Transmits the data bytes from the currently active scene to the PC.

Single byte command.

Data begins at Channel 1 and continues until the last channel number data is sent.

The DMX transmission is suspended during this command so it is advisable to insert a short time delay between successive 'Reads' to allow the DMX transmission to re-start and maintain the equipment on the network. (Equipment should be capable of withstanding an extended break of up to 1second according the DMX512 specification)

To read the whole stored data, set the active scene to 1, read the data, increment the scene number and re-read the data. Repeat until all scenes have been read.

Read current scene number (\$05)

Returns the currently set scene number as a single byte.

Read the number of channels (\$06)

Read the current number of channels being transmitted as a 2-byte string (low byte followed by high byte)

Manual Scene selection

Shorting contacts 1 through 8 to ground (pins 9-15) will initiate a scene change. This value is stored.

Mechanical

PCB size: 80x86mm