GoBo Projector Range
DMX and Shutter Option
Instructions

contents

INTRODUCTION

The GS DMX and Shutter is a factory fitted option. The shutter (inside the projector in front of the optical system) enables the light output to be blocked or flash.
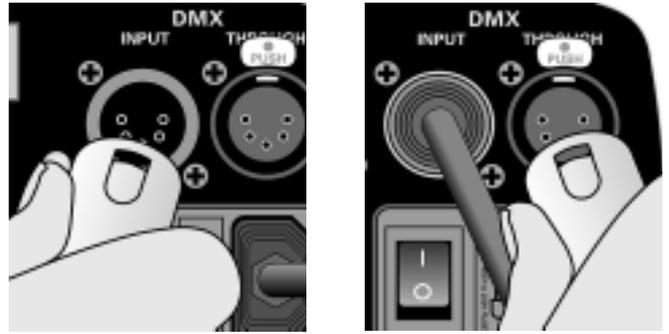
The DMX and Shutter option allows the Shutter, Autochangers and an XY Mirror to be DMX controlled from a DMX lighting desk or, for the shutter to be controlled by an Autochanger or XY Mirror.

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DMX CONNECTION

If DMX Control from a DMX lighting desk is to be used:

1. Connect from the desk using a DMX lead with 5 pin XLR plug into the INPUT socket on back panel of the Projector.

2. If more than one DMX Projector is used connect first Projector with a 5 pin DMX lead from the THROUGH socket to the INPUT socket of next Projector and so on.

> **IMPORTANT**
> If no other projector is being used, or on the last Projector in the chain, fit a DMX termination plug to the THROUGH socket.

POWER SUPPLY

To apply Power to the Projector and Accessories on the rails, plug in the IEC mains lead (at both ends) and switch on Projector. The Accessories and the DMX and Shutter rear panel will then be activated and ready to set.

Power is supplied to the Accessories via the Projector's 12V~ rails.
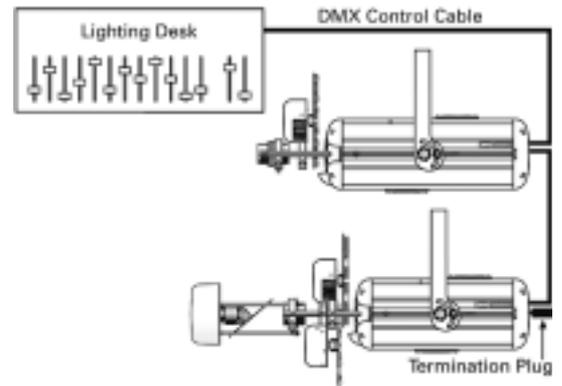
> **IMPORTANT NOTE**
> If DMX & Shutter Option is fitted into the Projector and the LCD on the projector displays CONTROL MODE: DMX refer to DMX section on page 4.

DMX SET UP & CONTROL

DMX MODE can only be selected when the Projector being used is fitted with the DMX and Shutter Option. See page 3, >Initialise DMX under CONTROL MODE: and page 4 points 1 to 3 for how to initailise DMX.

When the Projector is set to CONTROL MODE: DMX it can only be operated from a DMX lighting desk.

An example of a basic DMX set up is illustrated right.

BUTTON FUNCTIONS

Before starting to change control modes, modes of operation or any other function one first needs to understand the functions of the 'control' buttons on the back panel of the projector.

BACK

1. To come out of a menu option.

2. When a parameter has finished being changed the '>' symbol is removed.

> **IMPORTANT NOTE**
> These functions also apply to the X-Y Mirror.

SELECT

1. To go into a menu option.

2. Adds a '>' symbol when a parameter can be changed.

3. To finally confirm storing of settings.

▲

1. To select previous item on the menu tree.

2. To increase numerical settings or change a parameter.

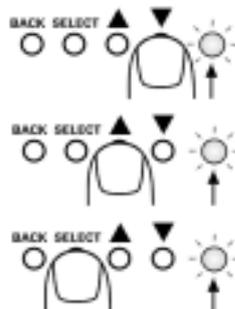3. Combined with the ▼ button, to reset to previously stored settings.

▼

1. To select the next item on the menu tree.

2. To decrease numerical settings or change a parameter.

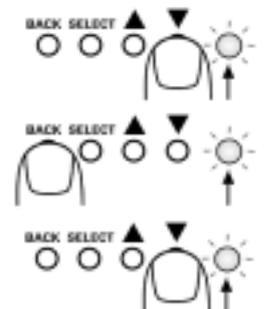3. Combined with the ▲ button, to reset to previously stored settings.

BASIC OPERATION

1. To activate and light up the LCD (display) press any button.

2. To choose a main menu item press the ▲ or ▼ buttons until the menu title you wish to adjust the parameters of appears on top line of LCD.

3. To select the sub menu press SELECT. A '>' appears to the left of the changeable parameter.
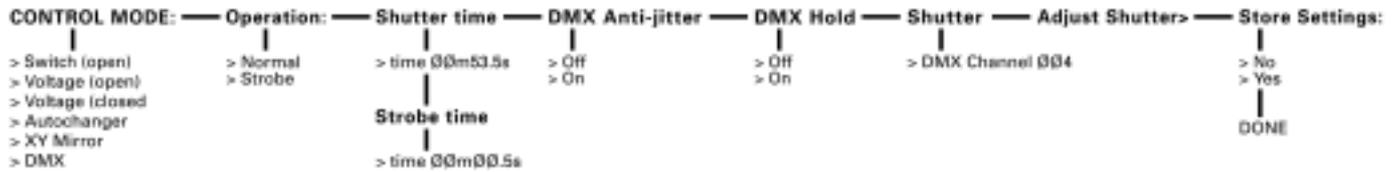
4. Select your desired setting using the ▲ or ▼ buttons.

5. Press BACK. The '>' disappears. You can now move on to the next menu item.

6. To move onto the next menu item press ▲ or ▼ (usually the ▼ button) until the menu title you wish appears.

LCD MENUS

The controls are set via 'menus' on the LCD on the rear panel of the projector. The LCD panel has two lines.

The '**Main**' menu title at the top to select the option or feature that you wish to adjust or set.

The adjustable '**Options**' sub menu, with the parameters to be set, is underneath.

CONTROL MODE:

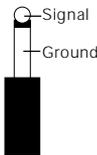Selects the method by which the Shutter will be controlled. The choices, in the 'Options' sub-menu, are:

>Switch (open)
The shutter stays OPEN and only CLOSES when a switch, connected to the '0-10V INPUT' 1/4" jack socket, is thrown.

>Switch (closed)
The shutter stays CLOSED and only OPENS when a switch, connected to the '0-10V INPUT' 1/4" jack socket, is thrown.

>Voltage (open)
The shutter stays OPEN and only CLOSES when an external voltage of 3-12V to the '0-10V INPUT' 1/4" jack socket, is applied.

>Voltage (closed
The shutter stays CLOSED and only OPENS when an external voltage of 3-12V to the '0-10V INPUT' 1/4" jack socket, is applied.

>Autochanger
The shutter stays OPEN and only CLOSES whilst the Autochanger is changing the gobos (to mask the changeover).

>XY Mirror
The shutter operates according to settings on the XY Mirror.

>Initialise DMX*
Changes operation of the shutter & fitted DMX accessories (i.e. Autochangers & XY Mirror) to remote DMX Control. The rear panel LED flashes red & green whilst initialising. When DMX is active the light stops flashing, turns green and the LCD shows 'DMX' in place of '>Initialise DMX' (see page 4).

SHUTTER CONTROL FROM AN ACCESSORY

If Autochanger or XY Mirror is selected as method of control (and Shutter is selected on the effect accessory) the shutter will respond to signals from the Accessory and operate in the mode of operation selected at the interval 'time' selected in the Shutter time menu.

SHUTTER CONTROL UNDER DMX

If DMX is selected the shutter operates from a DMX desk. If the autochanger(s) and/or XY mirror are set to DMX they can also be operated from a DMX desk. The typical slider values and funtions are shown in the table (below).

DMX SLIDER VALUE (%)		FUNCTION	
192 - 255	(75 - 100%)	Shutter Open	
176 - 191	(69 - 75%)		0.1s
160 - 175	(63 - 69%)		0.2s
144 - 159	(56 - 63%)		0.3s
128 - 143	(50 - 56%)		0.4s
112 - 127	(44 - 50%)	Shutter Strobing	0.5s
96 - 111	(38 - 44%)	(movement time)	0.6s
80 - 95	(31 - 38%)		0.8s
64 - 79	(25 - 31%)		1.0s
0 - 63	(0 - 25%)	Shutter Closed	

Operation

Sets the mode of operation of the shutter.

>Normal
Sets the Shutter to normal OPEN or CLOSED operation via the method of control selected in CONTROL MODE.

>Strobe
Sets the Shutter to strobe when set to OPEN via the method of control selected in CONTROL MODE.

Shutter time:

time>00m:00.0s
Sets the shutter closed time (Max. 10 minutes in Operation Normal) or strobe speed (Max. 10 per second in Operation Strobe). To change, by increments of 0.1 seconds, press ▲ or ▼ buttons to desired time or speed.

DMX Anti-jitter

>On / Off
Some desks are prone to "jitter". An annoying shake on effects position or mirror movement. For smoother operation, set Anti-jitter to On using the ▲ or ▼ buttons.

DMX Level Hold

>Off
If the DMX signal is lost the LED turns red. The settings will remain but, the shutter will close until a DMX signal is re-established.

>On
If the DMX signal is lost the the LED light turns orange and current DMX settings will continue to operate until DMX signal is re-established.

Shutter

>DMX Channel 001 [to 512]
Selects a DMX channel for shutter operation. Adjust and set new DMX Channels using the ▲ or ▼ buttons.

Adjust Shutter>
Finely adjusts the shutters home position (factory set and should not require adjustment). If light spill occurs when the shutter is closed use the ▲ or ▼ buttons to adjust.

Store settings

Stores program settings and changes.

1. Select **Store settings** using the ▼ button.

2. Press SELECT to activate '>' and change **No** to **Yes** using the ▼ button.

3. Press SELECT again. **DONE** will momentarily appear. Your settings are stored.

4. Press BACK. The LCD returns to CONTROL MODE: and after 60 seconds the display light turns off.

Your settings will now be stored and the shutter will operate according to those settings.

> ***NOTE**
> If DMX is selected as CONTROL MODE settings are automatically stored.

DMX DEFAULT SETTINGS

All equipment is supplied with the following 'default' DMX channel (address) settings:

Autochangers:	Channel	1	Effects Selection	XY Mirror	Channel	5	Rotation - Coarse & Fine
		2	Effect rotation speed			6	Tilt - Coarse & Fine
		3	Effect rotation direction			7	Speed
Shutter	Channel	4	Open, Strobing or Closed				

To use default settings, enable DMX on the projector rear panel. When the LED stops flashing and turns green the unit is ready.

Factory defaults will remain stored until new settings are programmed in. The latest settings stored (in **Store settings**: page 3) are retained for future use following unit shutdown.

CHANGING DMX CHANNEL ADDRESS SETTINGS

Autochangers

If two Autochangers are being used on the same projector they will both, by default, have the same DMX channels assigned and will operate identically from the same sliders on the lighting desk.
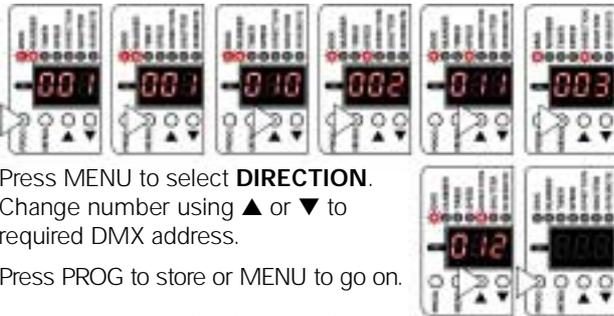
For independent control, from different sliders, the DMX channels need to be changed on one of the Autochangers. Also, if using one Autochanger but wish to operate on different DMX channels the addresses will also need to be changed.

On projector's back LCD panel

1. Press SELECT twice (LCD lights up & selects CONTROL MODE:).

2. Select >Initialise DMX using▼. The LED flashes Red & Green.

3. When the LED stops flashing and turns green (the LCD displays DMX). DMX sets automatically.
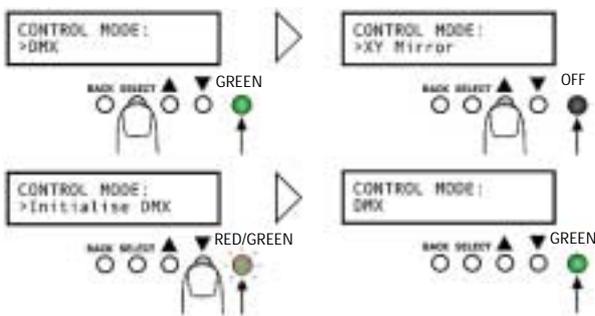
On autochanger

4. Press PROG to activate board then MENU (if necessary) to select **NUMBER**. Change number using ▲ or ▼ to required DMX address.

5. Press MENU to select **SPEED**. Change number using ▲ or ▼ to required DMX address.

6. Press MENU to select **DIRECTION**. Change number using ▲ or ▼ to required DMX address.

7. Press PROG to store or MENU to go on.

On projector's back LCD panel

8. Select >DMX in the CONTROL MODE:.

9. Deselect DMX using the ▲ button. The LED will go out.

10. Re-initialise DMX using the ▼ button to select >Initialise DMX. The LED will flash then turn green when new configuration has been stored.

The lighting desk will now recognise the new addresses.
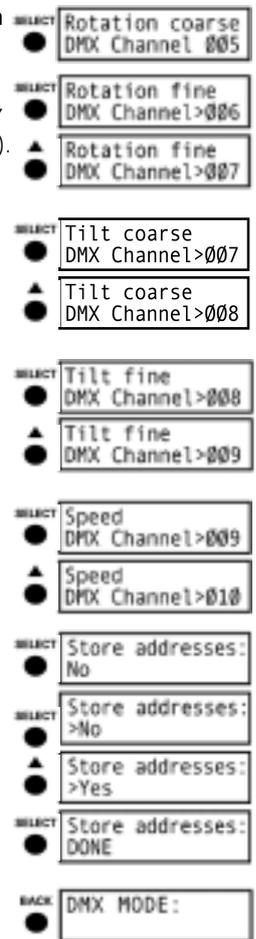
XY Mirror

In 'default' Rotation and Tilt have one channel assigned to each which provide full range control. These settings can be split, into Coarse and Fine, from different sliders on a lighting desk.

On projector's back LCD panel

Follow points 1 to 3 in the Autochangers section (left).

On XY mirror

4. Press SELECT to select **Rotation coarse**. Leave number the same.

5. Press SELECT to select **Rotation fine**. Change number using ▲ or ▼ to another DMX address (e.g. ØØ7).

6. Press SELECT to select **Tilt coarse**. Change number using ▲ or ▼ to another DMX address (e.g. ØØ8).

7. Press SELECT to select **Tilt fine**. Change number using ▲ or ▼ to another DMX address (e.g. ØØ9).

8. Press SELECT to select **Speed**. Change number using ▲ or ▼ to another DMX address (e.g. Ø1Ø).

9. Press SELECT to select **Store addresses**. Change No to Yes (or vice versa if you do not wish to store) using ▲ or ▼.

10. Press SELECT again to store. DONE will momentarily appear and then disappear. The new DMX addresses are now stored.

11. Press BACK to return to main **DMX MODE** menu display.

On projector's back LCD panel

Follow points 8 to 10 in the Autochangers section (left). The lighting desk will now recognise the new addresses.

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