Strand Lighting

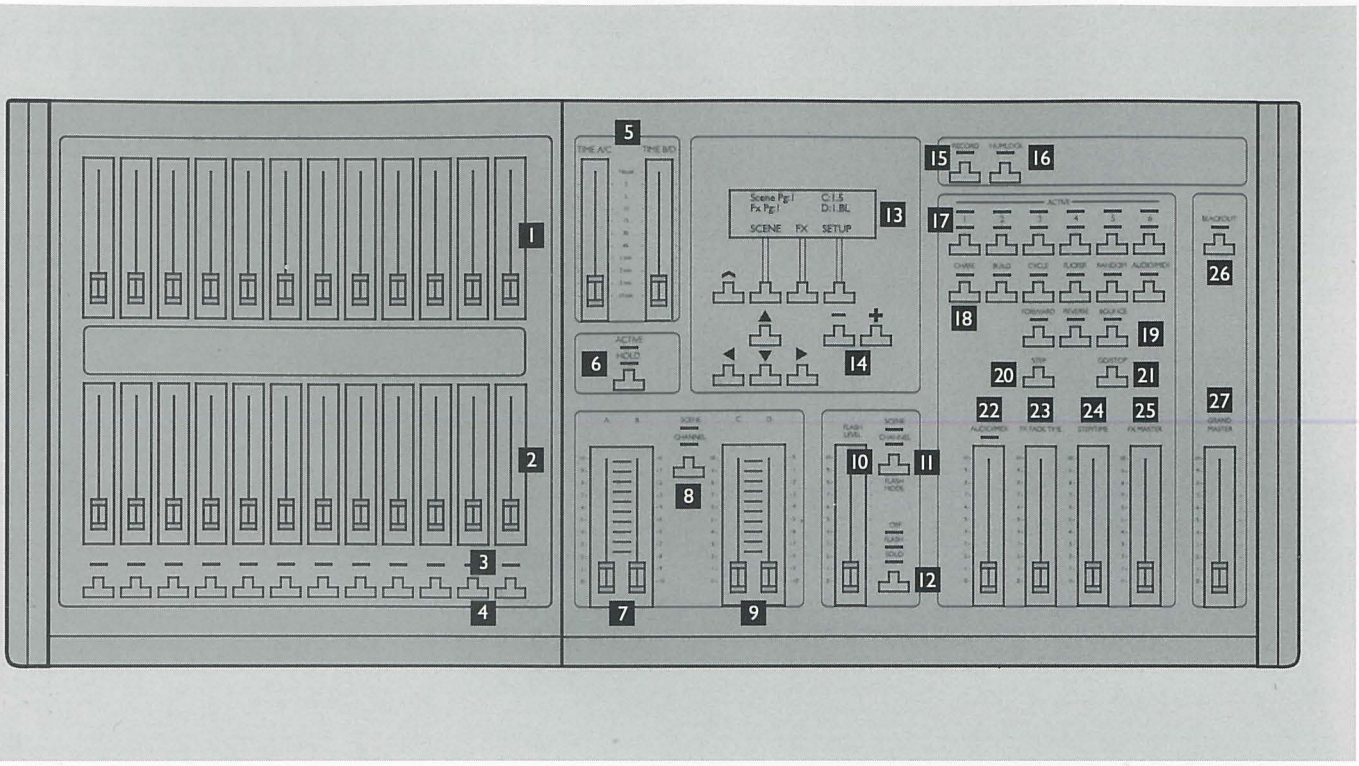
MX
MEMORY LIGHTING CONTROL DESKS

The best features of a two-preset manual control, a sophisticated memory system, and a special effects desk have been combined in Strand's MX system giving a fresh approach to lighting control.

- 12, 24 or 48 channels of 2-preset faders and scene masters
- Flash button per channel
- Pile-on, solo, inhibit, and variable level flash options
- LED indicator per channel
- Split manual master faders with LED column display
- Twin time faders for dipless or lead/lag fades
- Blackout control and grand master fader
- Up to 192 memories in 4 pages
- Scene master faders for manual memory control
- 4 x 20 character LCD display with brightness and contrast control
- English, French or German display
- Menu-driven memory facilities
- Memory playback using split master faders
- Recorded time crossfades
- Auto-sequencing cross fades
- "Hold" facility to temporarily freeze scenes between fades
- Live and blind memory modification
- 24 real-time programmable effects
- Programmed effect type with manual override and speed faders
- Effects master fader
- Twin software-controlled proportional patches for up to 512 dimmers
- MIDI interface for remote control from musical instruments, sequencers or other MX desks.
- Software selectable multiplexed output standards
- Memory card library storage
- RS 232 printer output

MX

MX Memory Lighting Control Desk



A Guide to the Control Desk

1 Preset A faders
2 Preset B faders (in channel mode)
Scene masters (in scene mode)
3 Channel / scene LED displays
4 Channel / scene flash buttons
5 Twin fader time controls
6 Hold control for A faders
7 A/B crossfaders with LED bar graph
8 Channel/scene mode control
9 C/D crossfaders with LED bar graph
10 Master flash level fader
11 Channel/scene flash mode selector
12 Flash to level or solo flash option switch
13 LCD display window
14 Display cursor and menu controls
15 Record mode selector
16 Number lock for keyboard
17 Effect controls and LEDs
18 Effect type selectors with LEDs
19 Effect direction controls with LEDs
20 Manual step control for effects
21 Effect go/stop control
22 Audio sensitivity or MIDI tempo control fader
23 Effect fade in/out time fader
24 Effect step time fader
25 Effects master control
26 Blackout switch with LED
27 Grand master fader

Specifications

General Description

● **Control Surface** Custom-designed injection moulded case in dark grey, with matching fader knobs and push buttons, and an extruded aluminium chassis.

● **Controls** Smooth tracking faders and precise action push buttons are used throughout.

● **Dimmers** The MX desk is capable of controlling up to 512 dimmers over multiplexed control lines. The multiplex protocols AMX192, DMX512, D54 and SMX are all included as standard, and are software selectable.

● **Patch Tables** Two software-controlled patch tables are available to link any dimmer or group of dimmers to a single channel. Additionally, every dimmer may be set with a level which is proportional to the controlling channel.

● **Cue Storage** The capacity is related to the channel size: 192 scenes for 48 way MX (48 x 4 pages), 96 scenes for 24 way MX (24 x 4 pages); 48 scenes for the 12 way (12 x 4 pages). The scenes may be used for sequential or random crossfading, timed crossfades, or for overlapping manual control using the scene master faders.

● **Memory Retention** Memory is maintained for at least a month without power by internal rechargeable batteries. MX can distinguish between the system being turned off by the power switch, and temporary power loss. If the console is turned on by its switch, a series of diagnostic tests will be run before the desk is operational. After loss of power by other means, the MX will be restored immediately to the same state it was in before the power failed, including running effects or timed fades.

● **Library Storage** A 64k memory card can copy the entire memory of the MX or selectively record scenes, effects, patch tables and setup data.

● **Display** An integral 4x20 backlit LCD display provides access to setup information, and preview and modification of recorded states and effects.

Specifications continued

● **MIDI** The MIDI interface enables MX to be connected to suitably-equipped musical instruments, time code generation devices, computers with MIDI sequencer software, and other MX consoles for slave operation.

● **Printout** An RS232 port is fitted to transmit data to a serial printer terminal. Either the complete contents of the memory can be printed, or individual data can be printed by selecting the relevant menu item. A print queue system with progress indication is included.

Standard Operating Features

● MX operates either as a two-preset manual control, a submaster-controlled memory system, a sequential memory system with manual or recorded time crossfade, a special effects desk or any combination of all four.

● Flash buttons operate in both the channel and scene mode, and the flash level can be set by the flash master fader, and the flash mode changed from pile-on to 'solo' (ie. this channel or memory only).

● In manual mode, the two presets are controlled by individual master faders, and fade timers. Both dipless crossfades and lead/lag fades are possible, and the fade progress can be over-ridden and altered at any time.

● A grand master and black-out facility have master control of the MX output.

● Record mode enables both the top row of faders to adjust the lighting levels, and the channel flash buttons to allocate the memory to any one of the lower row of faders. Thus the lower faders become 'scene masters', and fade the channels in proportion to their recorded levels.

● The scene masters can also be used to record the total output of the desk as a 'snapshot' of the current lighting, including a combination of other memories.

● The number of memories available is dictated by the number of faders in the lower row multiplied by 4 'pages' of memories. Thus the 12 way MX has 48 memories in total, and the 48 channel system has a capacity of 192 memories.

● Memories assigned to a scene master or a crossfader can be altered either live or blind.

● Memories may be replayed manually or automatically using the C/D crossfaders. The in/out time of the memories is taken from the time faders when the memory is created, and may be edited via the LCD display and push buttons.

● LED bar graphs show the progress of fades on the A/B and C/D crossfaders.

● Memories can be performed in sequence, with the next memory being called automatically at the end of the previous fade.

● A 4x20 character, back-lit LCD screen provides details of recorded memories; status of the desk; the ability to set up the system configuration; and to digitally adjust the recorded levels. Control of the channel to dimmer patching, the printer and the memory card is also provided by the LCD display and associated controls.

● A sophisticated effects system offers up to 24 recorded effects on each size of desk, organised in four pages of 6 effects. Up to six effects can be run simultaneously.

● Effect types are chase, build, cycle, flicker, random and sound or MIDI control, with the channel flash buttons being used to identify each channel or scene in each step of a particular effect.

● Effects may be started and stopped individually, and panel controls are always live to control effect speed, fade in/out time, audio sensitivity, MIDI tempo rate and master level. Progressive effects can be changed in direction or set to 'bounce' from one end to the other.

● MX is MIDI compatible to enable synthesizers, sequencer PCs, or another MX desk to control the output of the system. With MX working in conjunction with a sequencer PC, it is possible to perform all the lighting cues, fades, and effects functions in real time, and replay the lighting remotely from the sequencer via the MIDI link.

● The MIDI link can be used to connect several MX desks together in a master/slave configuration to expand the channel capacity.

● Any number of dimmers, up to the maximum supported by the protocol, may be patched to a control channel, and a proportional level of between zero (inhibit) and 200% may be set. Two separate patch tables can be held in memory at any time.

● The entire system memory can be cleared, or cue and patch tables may be cleared individually.

Basic Control Elements

Channel Faders

● Two banks of either 12, 24 or 48 faders depending on system size.

● Flash button per channel to flash to a level (or inhibit), or to freeze a channel (or scene) whilst the remainder of the channels are switched off (solo).

● LED indicator to show the status of the channel or scene.

● Write-on label, to identify the lights under control of each fader.

Specifications continued

Basic Control Elements

Master Panel

- Twin time faders to set the fade time of each preset for manual fades and for timed fades. Times can also be entered digitally.
- Hold button and LEDs 'freeze' the settings of the top row of faders so that the faders can be moved for the next fade. Movement of the A/B masters will then progress to the new scene.
- A/B crossfaders control the lighting mix between the top and bottom row of channel faders. In scene mode, the crossfaders are used in conjunction with the top row of faders only, and the 'hold' button may be used to recreate a two-preset desk function.
- Channel/Scene button switches the MX between the channel and scene mode, so that the bottom row of faders, and the flash buttons may be used as memory controllers.
- C/D faders control the mix of two memories selected by the LCD display.
- LCD display presents the channel level information in the memory, the status of fades, patch and effects.
- LCD control buttons provide cursor and data entry facilities for editing and setting up the MX functions and memory levels.
- Flash level fader sets the maximum level the channels or memories will flash to when the flash buttons are pressed. If the flash level is set to zero, the flash buttons will provide an inhibit effect.
- Record button and LED sets the MX into record mode, and enables scenes to be set up quickly on the top row of faders or the combined output, and transferred to a scene master at the press of a flash button. The record mode also enables memories to be set up either live or blind using the LCD display. The LED lights whenever MX is in record mode, and recording can be disabled if required as part of the system setup to prevent unwanted modifications to the lighting.
- Numlock button and LED sets the central block of effects control buttons to operate as numerical keys for direct entry of channel levels, patch data etc.
- Effects active LEDs light when an effect is running. The second line of effects LEDs show which effect is currently selected.
- Effect buttons 1-6 select an effect for recording or playback.
- Effect type buttons select one of the various effect versions available.
- Effects direction buttons control the progression of the selected effect.
- Step button inserts a new step into an effect when recording, and also permits an effect to increment to the next step each time the button is pressed during performance.
- GO/STOP button starts and stops the effects.
- Audio/MIDI fader sets the sensitivity of the bass response of the input sound in audio mode, or the frequency of the MIDI tempo in MIDI mode.
- Step time fader selects the time between steps for the selected effect.
- FX master fader controls the maximum intensity of the channels in the effects.
- Blackout button switches the total output of the desk to zero, and illuminates the red LED as a reminder.
- Grand Master fader controls the total output of the desk.

Optional Equipment

- Memory card copies the contents of the internal memory either totally or selectively.
- Printer provides a printed record of cue level information, effects, system setup, and dimmer patching.

Technical Specifications

Inputs	
Supply	15V DC 800mA max. supplied by an external power supply unit
Audio	10mV-10V rms into 47kΩ via 5-pin DIN socket

Multiplexed dimmer outputs	
D54	3-pin XLR female (Strand standard analogue multiplex protocol)
AMX	4-pin XLR male (international analogue standard)
DMX	5-pin XLR female (international digital standard)
SMX	5-pin XLR female (new Strand digital standard)

MIDI	
in	5-pin DIN socket
thru	5-pin DIN socket
out	5-pin DIN socket

Printer	
EIA-RS232	25-pin D-type

Weights and Dimensions

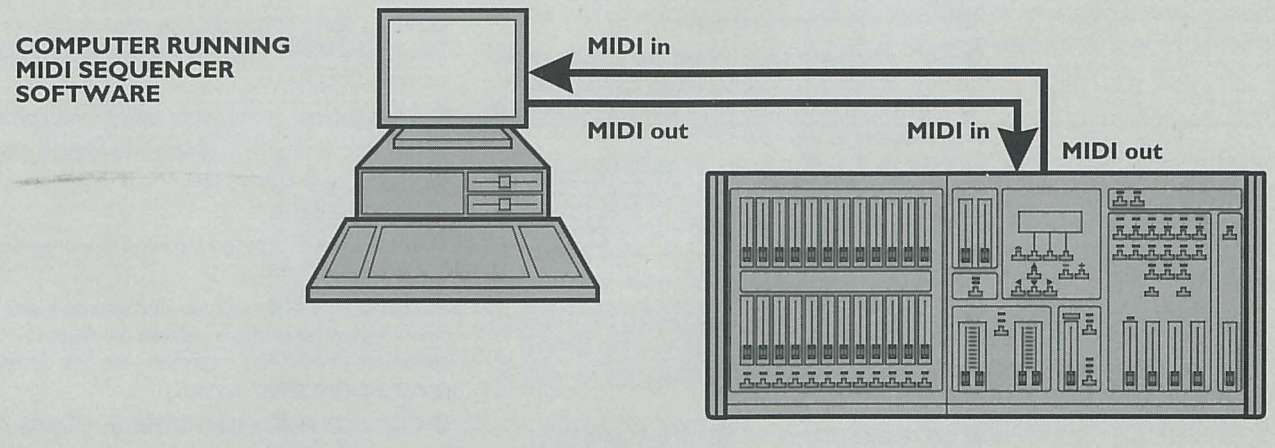
	Weight	Packed Weight	Packed Volume
MX12	4.3kg	4.7kg	0.04m³
MX24	5.7kg	6.3kg	0.054m³
MX48	8.9kg	9.5kg	0.085m³

Note:

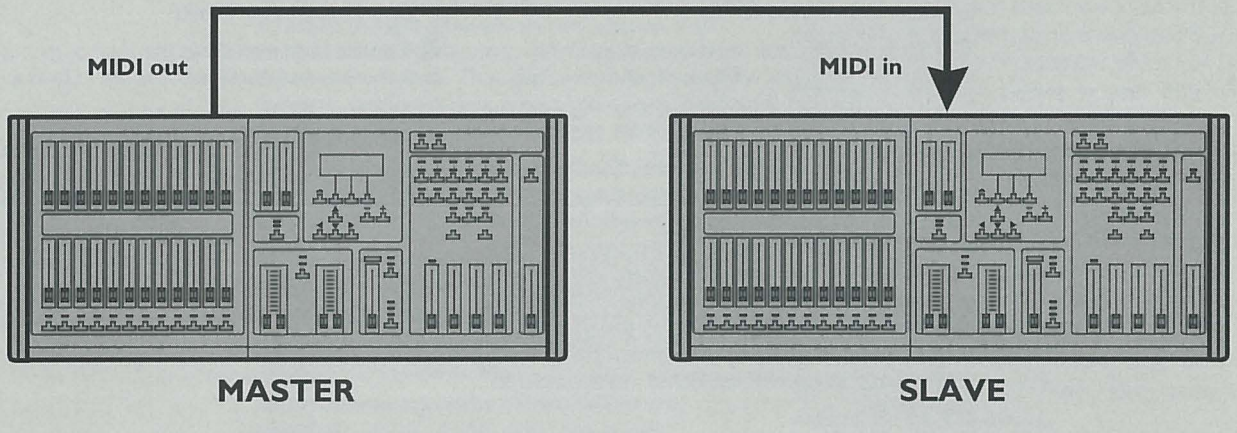
The maximum number of dimmers addressed by each protocol is 192 for AMX, 384 for D54, and 512 for DMX and SMX. Only one protocol can be active at a time.

MX - Midi Configurations

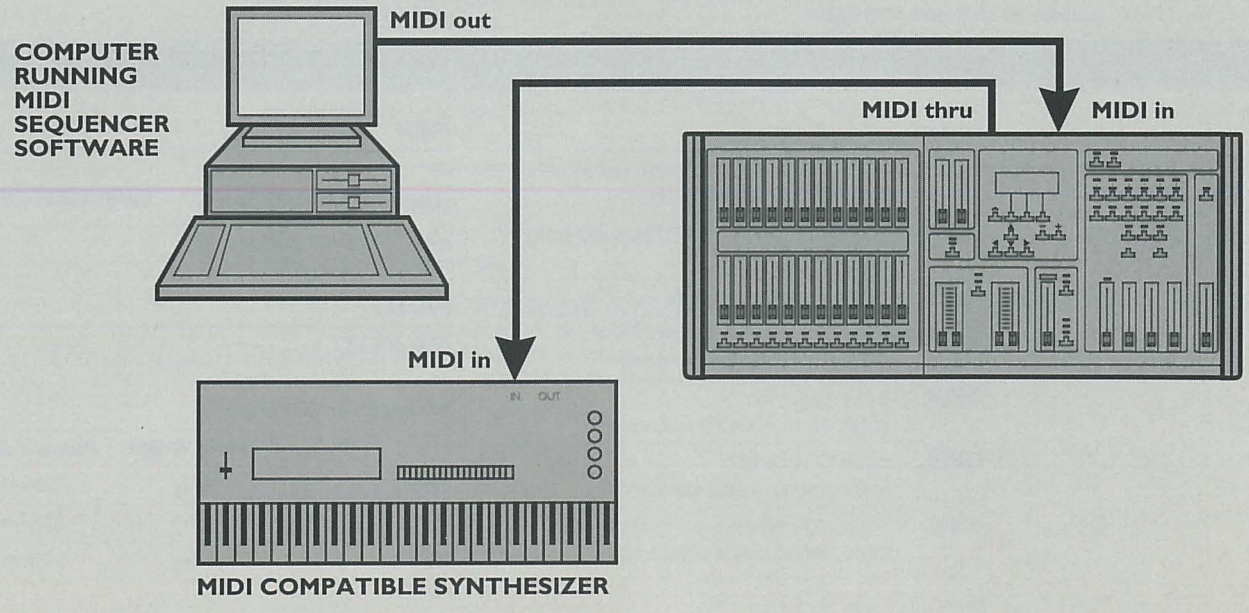
SEQUENCER AND MX - allows real-time recording/playback of lighting



MX to MX - for system expansion

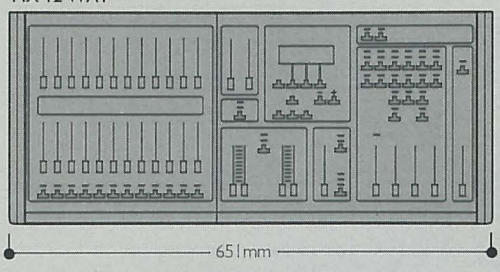


SEQUENCER AND MX AND SYNTHESIZER - allows sequenced music and lights



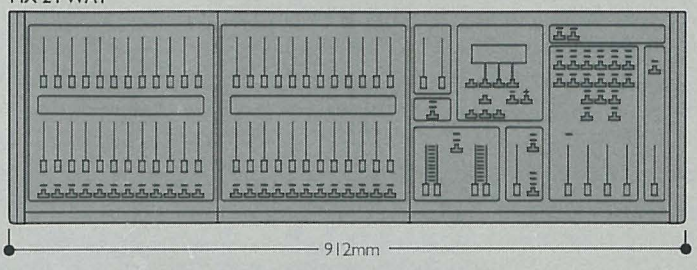
Dimensional Drawings

MX 12 WAY

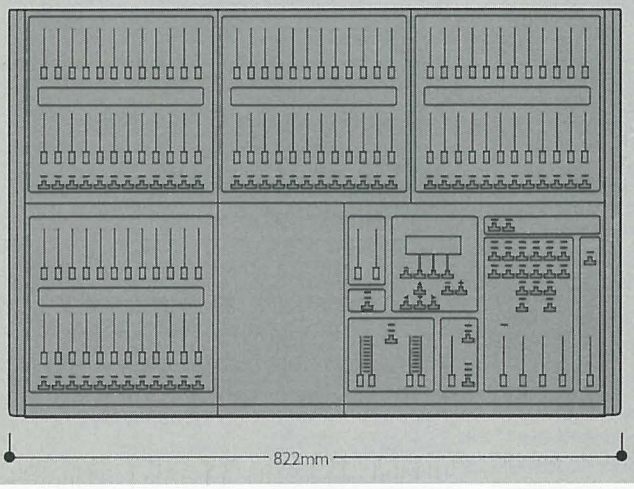


MX 24 WAY

Scale 1:10

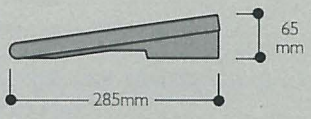


MX 48 WAY

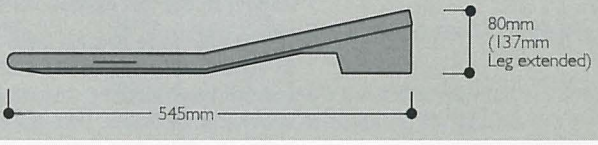


Note:
For packed Weights and Dimensions see Technical Specifications

Side Elevation MX12 & 24



Side Elevation MX 48



Ordering Information

MX Desks are supplied with power supply and handbook. Multiplexed dimmer cable and MIDI cables are required in addition.

Product		Item Number
MX12	12 channel, 48 memories, complete with UK power supply and handbook	**04 900 12 /UK**
	12 channel, 48 memories, complete with European power supply and handbook	**04 900 12 /EC**
	12 channel, 48 memories, complete with Australian power supply and handbook	**04 900 12 /AS**
MX24	24 channel, 96 memories, complete with UK power supply and handbook	**04 900 24 /UK**
	24 channel, 96 memories, complete with European power supply and handbook	**04 900 24 /EC**
	24 channel, 96 memories, complete with Australian power supply and handbook	**04 900 24 /AS**
MX48	48 channel, 192 memories, complete with UK power supply and handbook	**04 900 48 /UK**
	48 channel, 192 memories, complete with Australian power supply and handbook	**04 900 48/ EC**
	48 channel, 192 memories, complete with European power supply and handbook	**04 900 48 /AS**

Note:
The only difference between MX desks of the same channel size is the type of mains plug moulded into the low-voltage power supply, as indicated by the item number suffix.

Accessories	Item Number
64k Memory card	**04 900 00**
Protective cover for MX12	**04 900 05**
Protective cover for MX24	**04 900 06**
Protective cover for MX48	**04 900 07**
Printer and cable	**04 900 10**

Accessories	Item Number
0.5m D54 MUX Cable	**07 255 67**
1m D54 MUX Cable	**07 255 60**
5m D54 MUX Cable	**07 255 59**
25m D54 MUX Cable	**07 255 70**

Strand Lighting ®
Strand Lighting Limited, Grant Way,
Isleworth, Middlesex TW7 5QD, United Kingdom.
Telephone: 081-560 3171
Telex: 27976 Fax: 081-568 2103