MEGA 4Bank DMX

MEGA 4Bank DMX System consists of:

1 Fixture
1 Mounting Plate
1 Extension Cable
1 Mega 4Bank DMX Ballast

<table>
<thead>
<tr>
<th>Component</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>CFX-9604</td>
<td>8ft 4Bank Fixture</td>
</tr>
<tr>
<td>CFX-7204</td>
<td>6ft 4Bank Fixture</td>
</tr>
<tr>
<td>MTP-K81</td>
<td>Mega “Twist-On” Mount w/ Junior Pin</td>
</tr>
<tr>
<td>X19-25M</td>
<td>Mega 4Bank Extension, 25ft</td>
</tr>
<tr>
<td>BAL-450-M120</td>
<td>Mega 4Bank DMX Ballast, 120VAC</td>
</tr>
<tr>
<td>BAL-450-M230</td>
<td>Mega 4Bank DMX Ballast, 230VAC</td>
</tr>
</tbody>
</table>
The 4Bank fixture is comprised of a removable Louver, Reflector, and Lamp Harness. The Louver and Reflector are held in place with Velcro fasteners. The Lamp Harness is secured by means of a ¼ turn fastener and two clips.

To Release the Lamp Harness

Remove the harness from 2 clips located under the reflector. Rotate the ¼ turn fastener clockwise to release harness.

The lamps can operate independent of the fixture allowing them to be built into sets or custom soft boxes or hand held as a single tube for an eye-light.

**WARNING**: Always use safety coated lamps to avoid injury if lamp breaks.
Locking Lamp Connector:
Depress both tabs on lamp connector and apply to lamp pins. Match the Harness color-codes at each end of the lamp. Push lamps into the fixture’s Lamp Holder Clips.

The Harness wiring is color-coded. The same color-code must match at each end of the lamp for proper operation.

Inserting Lamps
Restricting the airflow around the lamps can cause the lamp to operate hotter. This increased heat will raise the lamp’s color temperature and green spike. Therefore, it is recommended to clip gels to the Doors of the Fixture.

Do Not clip gels to louver.
Do Not block the fixture ends in a manner that restricts airflow.

Mounting the Fixture

Mega 4Bank Mounting
Align the center pin of the Mounting Plate (MTP-K81) to the center hole on the mating plate. Rotate plate clockwise until the four shoulder rivets drop into the receptacle. A locking pin will snap into place when the plate is properly seated.

The Silver Loops provide attachment points for a safety chain.
The grommet holes along the edge of the fixture are designed to allow the fixture to be screwed onto set walls.

To remove the plate, pull up on the locking pin and reverse the mounting procedure.

To loosen or tighten the Lollipop turn the Lock Lever. The Lever can be adjusted so a $180^\circ$ turn provides the necessary clamping strength. Reorienting the Lever allows for further tightening or loosening of the clamp.

To reorient the Lock Lever, pull Lever away from mount. This disengages the Lever from the screw mechanism and allows it to be reoriented.

Note: You can also use a screwdriver to adjust the travel. Pull back on Lever and adjust the screw in the center of the Lever.
Extension Cable

To insert the cable, align the key ways on the extension cable with the circular receptacle on the ballast. Rotate the locking ring until it clicks into the lock position.

Lamps can operate as far as 75 feet from the ballast. (3 x 25ft extensions)

A Splitter can be used at the Ballast or on the end of an Extension Cable to split a 4Bank run into either 4 Singles or 2 Doubles. This allows for greater rigging flexibility.

A Combiner can connect a number of smaller ballasts to a larger fixture. For example, 4 Single Ballasts or two Double Ballasts can be combined to a 4Bank Extension or Fixture.

Ballast Operation

**WARNING!**

1) **ALWAYS TURN OFF THE BALLAST BEFORE** connecting or disconnecting Lamps, Harnesses or Extension Cables.
2) **Use only with Sine wave inverters. Do not operate on SCR dimmers.**
3) **If powering the ballasts through a Dimmer Pack set the Dimmer to Non-Dim Mode.**

The 120 VAC Ballast requires 110 to 130 Volts AC 50/60 Hertz on an earth grounded circuit; the 230 VAC Ballast requires 220 to 240 Volts AC on an earth grounded circuit. The electronic Ballast operates at a high frequency of 25 KHz. It is dead–quiet, instant–on and lightweight.
Ballast Operation Continued….

Load Considerations:
Kino Flo ballasts are not power factor corrected. They will draw double the current on the neutral from what is being drawn on the two hot legs. On large installations it may be necessary to double your neutral run so as not to exceed your cable capacity.

Cold Temperature Operation
The Select Ballast series is designed to operate at temperatures from 14°F to 122°F (-10°C to +50°C). In cold temperatures, the Ballast may not strike the lamp(s) instantly. Switch the Ballast to OFF, wait seven seconds and try again. If the Ballast does not strike after two or three attempts, turn off the Ballast, check that the Extension and Harness connections are secure and re-strike. Once operating for a few minutes, the Lamps should re-strike instantly.

Manual Operation

The Ballast operates remote from the fixture. Connect the Extension cable to the Ballast and the Lamp Harness. After the lamps are properly installed the Ballast can be turned on. Each switch controls one lamp. The color bands on the lamp harness correspond to the switches as illustrated.

Color Band

- Blue
- Black
- Yellow
- Red

Lamp Select Feature
The Select Ballasts have a HO / STD switch. Set the Selector Switch to HO for High Output and STD for Standard Light Output.
Lamp Select feature continued...
When operating 8 or 6ft lamps in high ambient temperature or where the units are rigged into place with restricted airflow, the STD setting can be used to lower the color temperature and remove any green spike. The light drops about a half an f-stop in exposure when dropping from HO to STD.

Mega 4Bank DMX Control Panel

A) Circular Output Connector: Provides electrical power to the lamp head with the use of a 4Bank extension cable.
B) DMX-In & DMX-Out: DMX-IN receives DMX signals from Dimmer Board. DMX-OUT relays DMX signal through to other Fixtures or Instruments.
C) Fuse: Provides circuit protection. Note: If Fuse is "blown" or "open" replace with same type of fuse rating as marked.
D) DMX TERMINATE Switch: Terminates DMX signal at the end of Fixture series.
E) DMX Address: Sets DMX Address of Fixture.
F) Individual Lamp / Fixture Switch: Converts between INDIVIDUAL LAMP and FIXTURE methods of DMX control.
G) Lamp Select: Set to HO for burning lamps at high output and STD for burning lamps at Standard Light Output.
DMX Addressing
Push the tabs above or below the number window to set the address. (Valid addresses range from 001 to 512.) The yellow light above the address block will illuminate if a DMX signal is present.

Each Mega 4Bank DMX ballast operates on 5 addresses.
After the DMX address is entered, the ballast automatically assigns the next 4 addresses to lamps 2,3,4 and a 5th address controls the STD setting. Programming the 5th address at full dimmer setting activates the STD setting.

Note: When DMX cables are applied the manual HO/STD select feature will be disabled. To get manual control of the HO/STD feature 1)Unplug the DMX cable or 2) leave cables plugged in and set address to "000". There is a 5 second delay when switching between DMX and Manual control.

Manual lamp switching is not affected by DMX control.

The DMX Terminate Switch must be set to open (O) on Ballasts within the DMX chain.

Set to closed (I) when the Ballast is the last DMX control device in the chain.

Note: When the last Ballast’s DMX Terminate Switch is set to “I,” it will absorb all energy in the DMX line, ensuring DMX signals are transmitted correctly. If a signal is not terminated, it is called a “Reflected Wave,” and may create transmission errors by causing valid DMX signals to be canceled.
Any theatrical lighting board with DMX 512 protocol can be used to individually turn on/off lamps in a Fixture.

Mega DMX 4Bank Ballasts can be jumpered using the IN and OUT ports. As many as 100 Ballasts can be jumpered on one chain as long as the DMX cable run remains under 1000 feet or 40 x 25ft DMX cables.

**Note:** When operating Ballasts at great distances from the dimmer board, it is recommended to use Opto-Isolators to provide DMX signal amplification.

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**DMX Cables**

The Fixture uses five-pin XLR male and female connectors to receive DMX signals from the Dimmer Board and jumper the Fixtures in a series. DMX pin-out wiring follows the USITT DMX512 standard:

- Pin 1: Shield
- Pin 2: Data -
- Pin 3: Data +
- Pin 4: Spare -
- Pin 5: Spare +

**Note:** Pin four and five in the Fixture are connected internally as Pin four to four and Pin five to five. Connecting Pin four and five as the pass-thru allows secondary data to be passed through for other equipment.

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**Do Not use Microphone Cables** and other general purpose, two-core Cables designed for audio or signaling use. They are not suitable for DMX 512. Problems due to incorrect cabling may not be immediately apparent. Microphone Cables may appear to work fine, but systems built with such Cables may fail or be prone to random errors. Cable must comply with EIA-485 (RS485).

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**NOTE:** If a Fixture or Ballast loses its DMX signal it will hold its last DMX command. For this reason it is important to turn a Fixture or Ballast off using the DMX commands. For example, if you try to turn off the lights by turning off the dimmer board the lights will remember their last DMX command and stay on. The Fixtures or Ballasts require a DMX “Off” or “Black-out” command in order to turn off.
One of the best applications for the "Fixture Mode" is when lighting Blue and Green Screens or large Cycloramas.

For example: One row of fixtures can be set to Fixture mode on a common address. When the fader on the dimmer board is brought up or down all the Fixtures on that address will have the same lamps turned on.

**Dimmer level - Lamp response**
Each ballast has 5 addresses. Addresses 001-004 control the lamps. Sliding the fader on the dimmer board from 0 ~ 100 controls the number of lamps that are on within a fixture. Address 005 controls the STD setting.

**Note:** The lamps may respond ± 4 channel levels, depending on the dimmer board. To control the STD select feature, program the 5th address (005) at full. Setting the dimmer value under 49% or not programming address 5 will restore the HO setting.

**4Bank Lamp Sequence**

```
4 ( Red )
2 ( Yellow )
1 ( Black )
3 ( Blue )
```

**DMX Lamp Sequence**

<table>
<thead>
<tr>
<th>Lamp #</th>
<th>Dimmer Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lamp 1</td>
<td>12</td>
</tr>
<tr>
<td>Lamp 1~2</td>
<td>37</td>
</tr>
<tr>
<td>Lamp 1~3</td>
<td>64</td>
</tr>
<tr>
<td>Lamp 1~4</td>
<td>83</td>
</tr>
</tbody>
</table>

**To Control Light Levels from Multiple Fixtures:**

1) Set ballast to **Fixture** mode.
2) Set all ballast addresses to a common address (eg. 001).
3) Set address 005 if the STD setting is required.
4) Set end of line switch to “I” on the last unit in the DMX chain.
Setting the unit to “Individual Lamp” mode allows each lamp within the fixture to have its own address. Although this option will use up a lot of addresses, it may be preferable for certain situations. The “Individual Lamp” mode is useful in achieving light effects like flickering, chasing or creating light patterns. Individual lamps or fixtures can be rigged into a set by using a 4Bank to Single or Double splitter. A Single splitter can provide 4 individual cable feeds to lamps or fixtures in a set. (For parts see page 16)

After the DMX address is entered, the Mega 4Bank DMX ballast automatically assigns the next 4 addresses to lamps 2, 3, 4 and the 5th address controls the STD setting. On address 5, to activate the STD lamp setting, set dimmer slider to full. Setting the dimmer value under 49% or not programming address 5 will restore the HO setting.

Note: The HO/STD select setting controls all 4 lamps equally. Individual settings per lamp are not possible.

For example, if the 4Bank DMX base address is set at 001, the configuration below will provide 4 lamps individually addressable through DMX 512.

### 4Bank Lamp Sequence

<table>
<thead>
<tr>
<th>4 ( Red )</th>
<th>2 ( Yellow )</th>
<th>1 ( Black )</th>
<th>3 ( Blue )</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>DMX Address Sequence</th>
<th>DMX address 001</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lamp#</td>
<td>DMX Address</td>
</tr>
<tr>
<td>Lamp 1</td>
<td>1</td>
</tr>
<tr>
<td>Lamp 2</td>
<td>2</td>
</tr>
<tr>
<td>Lamp 3</td>
<td>3</td>
</tr>
<tr>
<td>Lamp 4</td>
<td>4</td>
</tr>
<tr>
<td>STD Setting</td>
<td>5</td>
</tr>
</tbody>
</table>
To Chase one lamp through multiple fixtures:

1) Set ballast to Individual Lamp mode.
2) Set each ballast with its own address: 001, 006, 011, 016 and so on.
3) Program lamp sequence to chase from 001 through 004, 006-009, 011-014 and so on. (note: skipping the HO/STD function)
4) Set end of line switch to “I” on the last unit in the DMX chain.

To Chase same lamp position simultaneously through multiple fixtures:

1) Set ballast to Individual Lamp mode.
2) Set each ballast address to 001 (or a common address).
3) Program lamps to chase from address 001-004.
4) Set end of line switch to “I” on the last unit in the DMX chain.

System Components

- CFX-9604 8ft Mega 4Bank Fixture
- CFX-7204 6ft Mega 4Bank Fixture
- MTP-K81 Mega “Twist-On” Mount w/Junior Pin
X19-25M  Mega 4Bank Ext. Cable, 25ft

BAL-450-M120  Mega 4Bank DMX Ballast, 120VAC
BAL-450-M230  Mega 4Bank DMX Ballast, 230VAC

**Accessories and Parts**

FIX-9604  8ft Mega 4Bank Fixture Shell
FIX-7204  6ft Mega 4Bank Fixture Shell

HAR-9604  8ft Mega 4Bank Harness
HAR-7204  6ft Mega 4Bank Harness

8ft Fixtures require two 4ft Louvers
LVR-4804-B  4ft 4Bank Louver, Black

6ft Fixtures require two 3ft Louvers
LVR-3604-B  3ft 4Bank Louver, Black
MTP-BAL  Select Ballast Mount

MTP-LM  Mega Lollipop w/Junior Pin

MTP-LMT  Mega Lollipop Straight w/ Junior Pin

REF-9604  8ft Mega 4Bank Reflector
REF-7204  6ft Mega 4Bank Reflector

X19-A7M  Mega 4Bank to Mega Single Splitter
X19-A9M  Mega 4Bank to Mega Double Splitter
Expendables

EXP-LHC-T12  Lamp Holder Clips T12, 24pk

EXP-M&T     Adhesive Mounts and Releasable Ties, 25pk

PRT-HLC     Kino Locking Lamp Connector, 1 pk

See web site: www.kinoflo.com for more repair parts
### Kino Flo Mega 4Bank Fixture Dimensions

<table>
<thead>
<tr>
<th>Fixture Style</th>
<th>Length</th>
<th>Width</th>
<th>Depth</th>
<th>Weight w/Lamps</th>
</tr>
</thead>
<tbody>
<tr>
<td>8ft Mega 4Bank</td>
<td>97”</td>
<td>13”</td>
<td>3.5”</td>
<td>21.8 lbs</td>
</tr>
<tr>
<td>6ft Mega 4Bank</td>
<td>73.5”</td>
<td>13”</td>
<td>3.5”</td>
<td>18.5 lbs</td>
</tr>
</tbody>
</table>

### Cases

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Description</th>
<th>Dimensions</th>
<th>Weight (Empty)</th>
<th>Holds</th>
</tr>
</thead>
<tbody>
<tr>
<td>INS-L4</td>
<td>4-Lamp Foam Pad</td>
<td>24 x 9 x 1” (61 x 23 x 2.5cm)</td>
<td>N/A</td>
<td>Fits KAS-48, 72, 96</td>
</tr>
<tr>
<td>INS-L6</td>
<td>6-Lamp Foam Pad</td>
<td>24 x 13 x 1” (61 x 33 x 2.5cm)</td>
<td>N/A</td>
<td>Fits KAS-54S, 54L, 96L</td>
</tr>
<tr>
<td>KAS-72</td>
<td>6ft Lamp Ship Case</td>
<td>71 x 10.5 x 11” (180.5 x 26.5 x 28cm)</td>
<td>20lb / 9kg</td>
<td>6ft Lamps (20)</td>
</tr>
<tr>
<td>KAS-96</td>
<td>8ft Lamp Ship Case</td>
<td>100.5 x 11 x 12.5” (255.5 x 28 x 32cm)</td>
<td>28lb / 12.6kg</td>
<td>8ft Lamps (24)</td>
</tr>
<tr>
<td>KAS-96L</td>
<td>8ft Fixture Ship Case</td>
<td>100.5 x 14.5 x 16” (255.5 x 37 x 40.5cm)</td>
<td>38lb / 17.1kg</td>
<td>8ft Mega 4Bank Fixture (5)</td>
</tr>
<tr>
<td>KAS-KFC</td>
<td>Ballast &amp; Cable Crate w/ Lid</td>
<td>21.5 x 15 x 12” (54.5 x 38 x 30.5cm)</td>
<td>6lb / 2.7kg</td>
<td>Ballasts, Cables, Mounting Plates</td>
</tr>
</tbody>
</table>

### Fixture Specifications
**Lamp w/Harness Specifications**

**Kino Flo Lamp w/ Harness Dimensions**

<table>
<thead>
<tr>
<th>Lamp Type</th>
<th>Length (in)</th>
<th>Width (in)</th>
</tr>
</thead>
<tbody>
<tr>
<td>8ft Med. Bi-Pin</td>
<td>94.5</td>
<td>1.5</td>
</tr>
<tr>
<td>6ft Med. Bi-Pin</td>
<td>70.5</td>
<td>1.5</td>
</tr>
</tbody>
</table>

**Ballast Specifications**

**BAL-450-M120**
Mega 4Bank Dmx Ballast, 120VAC

- **Input Voltage:** 120VAC 50/60Hz
- **Output Frequency:** 25 kHz
- **Amperage:** F120 / 7.1A, F100 / 5.8A
- **Lamp switching:** 4-1/off
- **Output Switching:** HO / STD
- **Ballast size:** 13 x 12.5 x 2.5” (33 x 32 x 6.5cm)
- **Weight:** 6.5lb / 2.9kg

**BAL-450-M230**
Mega 4Bank Dmx Ballast, 120VAC

- **Input Voltage:** 230VAC 50/60Hz
- **Output Frequency:** 25 kHz
- **Amperage:** F120 / 3.7A, F100 / 2.8A
- **Lamp switching:** 4-1/off
- **Output Switching:** HO / STD
- **Ballast size:** 13 x 12.5 x 2.5” (33 x 32 x 6.5cm)
- **Weight:** 6.8lb / 3.1kg
Environmental: Disposal of Old Electrical & Electronic Equipment.

This symbol on the product or on its packaging indicates that this product shall not be treated as household waste. This product is made of recyclable materials and should be disposed of in accordance with local and state regulations.