Operation Manual

Select/DMX 4Bank

KINO FLO®
Lighting Systems

System

	CFX-4804 4ft 4Bank Fixture **CFX-2404** 2ft 4Bank Fixture
	MTP-KL41 Kino 41L Mount w/ 3/8" Pin (10mm)
	X16-25 4Bank Extension, 25ft
	BAL-455-120 Select/DMX 4Bank Ballast, 120VAC **BAL-455-230** Select/DMX 4Bank Ballast, 230VAC

Each 4Bank DMX System consists of:

1 Fixture
1 Mounting Plate
1 Extension Cable
1 Select/DMX 4Bank Ballast

True Match® Lamps

	488-K29-S 4ft Kino KF29 **488-K32-S** 4ft Kino KF32 **488-K55-S** 4ft Kino KF55 **242-K29-S** 2ft Kino KF29 **242-K32-S** 2ft Kino KF32 **242-K55-S** 2ft Kino KF55

Lighting Kits

Gaffer DMX Kit

KIT-2GF-X120
Gaffer DMX Kit, 120VAC (2-Unit)

KIT-2GF-X230
Gaffer DMX Kit, 230VAC (2-Unit)

Kit Contents:
2 4ft 4Bank Fixture
2 Select/DMX 4Bank Ballast
2 MTP-BL41 Mount w/ Baby Receiver (16mm)
2 Extension, 25ft
2 Lamp Case
1 Gaffer Ship Case

Dimensions: **Weight:**
56.5 x 13 x 21.5"   75.5 lb
(143.5 x 33 x 55cm)   (34kg)

Interview DMX Kit

KIT-2NT-X120
Interview DMX Kit, 120VAC (2-Unit)

KIT-2NT-X230
Interview DMX Kit, 230VAC (2-Unit)

Kit Contents:
2 2ft 4Bank Fixture
2 Select/DMX 4Bank Ballast
2 MTP-BL41 Mount w/ Baby Receiver (16mm)
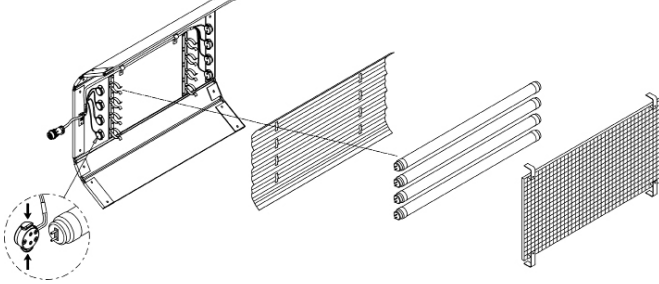2 Extension, 25ft
2 Lamp Case
1 Interview Ship Case

Dimensions: **Weight:**
35.5 x 13 x 22"   59.5 lb
(90 x 33 x 56cm)   (27kg)

Fixture Assembly

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.

Lamp Harness Color Codes

Red

Yellow

Black

Blue
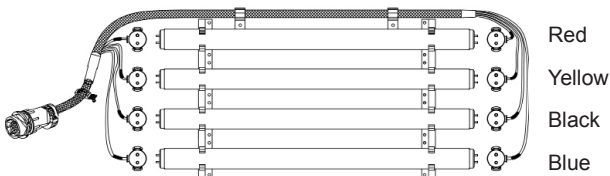
4Bank Harness

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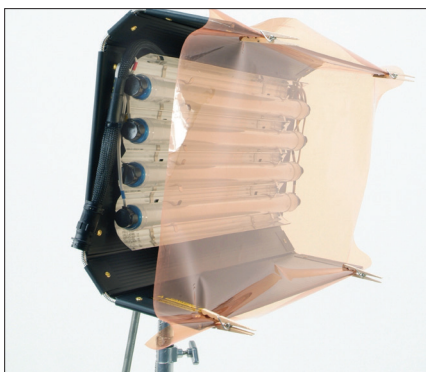
Inserting Lamps

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.
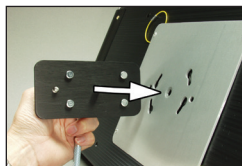
Gelling the Fixture

Restricting the airflow around the lamps can cause the lamps 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

The standard mount **(MTP-KL41)** comes with a 3/8" Lollipop that clamps into a grip head. The ball and socket mount allows the fixture to be oriented in a broad range of angles.

Align the center pin of the mounting plate 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.
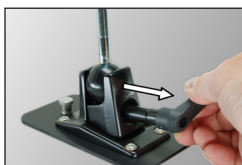
The **yellow wire loops** provide attachment points for a safety chain.
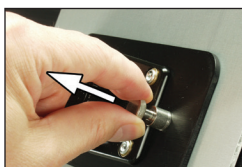
To remove the plate, pull up on the locking pin and reverse the mounting procedure.

A 180° turn loosens the orientation of the mount. A right turn tightens the mount.

The tension on the lock lever may be adjusted by pulling the handle away from the mount.

This disengages the handle from the screw mechanism and allows the lever to be reoriented.

You can also use a screwdriver to adjust the tension. Pull back on handle and adjust screw.

Lollipops are interchangeable.

MTP-L   Kino 41 Lollipop w/ 3/8" Pin (10mm)
MTP-LB   Kino 41 Lollipop w/ Baby Rcvr (16mm)
MTP-LBS Kino 41 Lollipop w/ Baby Rcvr Short
                    (16mm)

Other Fixture Mounting Options

The grommet holes along the edge of the fixture are designed to allow the fixture to be screwed onto set walls.

Extension Cable

To insert the cable, position the logo up to 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 four Singles or two 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 120VAC Ballast requires 110 to 130 Volts AC 50/60 Hertz on an earth grounded circuit; the 230VAC Ballast requires 220 to 240 Volts AC on an earth grounded circuit. The electronic Ballast operates at a high frequency of 25kHz. It is dead-quiet, instant-on and lightweight.

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/DMX 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.

Select/DMX 4Bank 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 signals through other Fixtures or Instruments. (**Note**: Each ballast (BAL-455 Series) has an "**AUTO TERMINATE**" feature. The last ballast that does not have an XLR cable attached to the "Out" port will automatically terminate.)

C) **Fuse**: Provides circuit protection. Note: If Fuse is "blown" or "open", replace with same type of fuse rating as marked.

D) **DMX Address**: Sets DMX Address of Fixture. (Channels 1~4 = Lamps; Channel 5 = 4ft/2ft)

E) **DMX Indicator**: Lights if valid DMX signal is present.

F) **Manual Switches**: Turns lamps on and off manually.

G) **Lamp Select Switch**: Set to **4ft** for 4ft lamps and **2ft** for 2ft lamps.

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.

Red
Yellow
Black
Blue
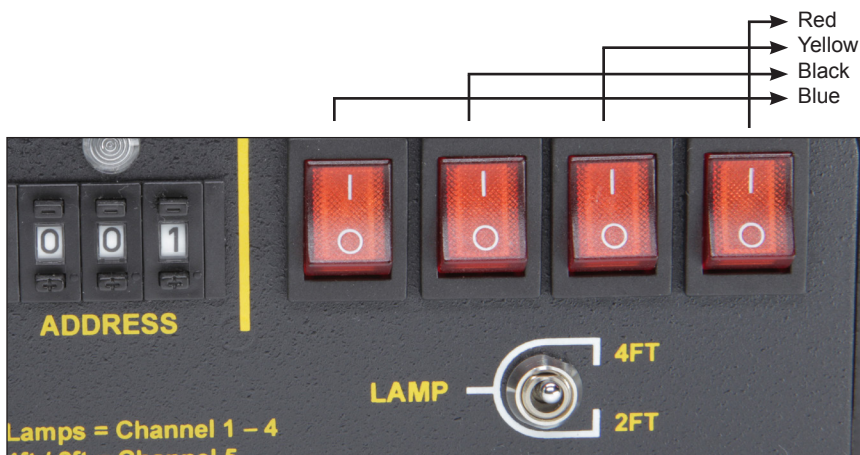
Lamp Select Feature

The Select/DMX Ballasts have a **4ft/2ft** switch. Set the selector switch to **4ft** for 4ft lamps and **2ft** for 2ft lamps.

When operating **4ft** lamps in high ambient temperature or where the units are rigged into place with restricted airflow, the **2ft** setting can be used to lower the color temperature and remove any green spike. The light drops about a 1/2 f-stop in exposure when dropping from **4ft** to **2ft**.

It is not recommended to operate 2ft lamps in the **4ft** setting. At the **4ft** setting, the color temperature of the 2ft lamps will rise dramatically and experience a high green spike.

Note: The manual **2ft/4ft** switch is disabled as soon as the DMX cable is applied.

To manually control the **2ft/4ft** switch with DMX cables plugged in:

1) Unplug the DMX cable or
2) Leave cables plugged in and set DMX address to "000". There is a 5 second delay when switching between DMX and Manual control.

DMX Operation

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 4Bank DMX ballast operates on 5 addresses. This 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. (See p.14 for parts.)

After the DMX address is entered, the ballast automatically assigns the first 4 addresses to control lamps 1-4 and the 5th address controls the 4ft/2ft setting. The 4ft/2ft setting is defaulted to 4ft.

To activate the 2ft lamp setting on address 5, set dimmer slider to full. Setting the dimmer value under 49% or not programming address 5 will restore the 4ft setting.

Note: The 4ft/2ft select setting controls all 4 lamps equally. Individual settings per lamp are not possible.

IMPORTANT!

The dimmer board/ light console should have its channel set to LINEAR light output response. (LINEAR response is the default setting on most dimmer boards.)

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

Red
Yellow
Black
Blue

DMX Address Sequence
DMX Address 001

| Lamp #	DMX Address
Lamp 1	1
Lamp 2	2
Lamp 3	3
Lamp 4	4
4ft/2ft	5

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To chase one lamp through multiple fixtures:

1) Set each ballast with its own address: 001, 006, 011, 016 and so on.
2) Program address 005, 010, 015, etc. for 2ft operation.
3) Program lamp sequence to chase from 001 through 004, 006-009,
   011-014 and so on.

To chase same lamp position simultaneously through multiple fixtures:

1) Set each ballast address to 001 (or a common address).
2) Program address 005, 010, 015, etc. for 2ft operation.
3) Program lamps to chase from address 001-004.

Note: Each ballast is automatically "terminated" for proper DMX
**   signals.**
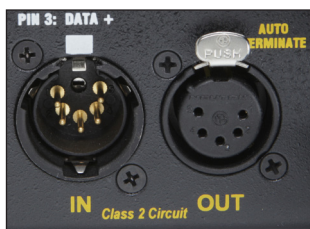
Auto Terminate Feature

Select/DMX 4Bank ballasts (455 Series)
have an "**AUTO TERMINATE**" feature.
The last ballast that does not have an
XLR cable attached to the DMX "Out" port
will automatically terminate.

Any theatrical lighting board with DMX 512
protocol can be used to individually turn on/off
lamps in a fixture.

Select/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.

DMX Cables

The ballast uses 5-pin XLR male and female connectors to receive DMX signals from the Dimmer Board and jumper the Ballasts in a series. DMX pin-out wiring follows the USITT DMX 512 standard:

>**Pin 1: Shield**
>**Pin 2: Data –**
>**Pin 3: Data +**
>**Pin 4: Spare –**
>**Pin 5: Spare +**

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

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).

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.

Accessories and Parts

DFS-4804	4ft 4Bank Flozier, Full
DFS-4804-H	4ft 4Bank Flozier, Half
DFS-D4	2ft 4Bank Flozier, Full
DFS-D4-H	2ft 4Bank Flozier, Half
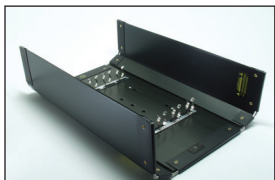
FIX-4804	4ft 4Bank Fixture Shell
FIX-2404	2ft 4Bank Fixture Shell

HAR-4804	4ft 4Bank Harness
HAR-2404	2ft 4Bank Harness
HAR-4802	4ft Double Harness
HAR-2402	2ft Double Harness
HAR-4801	4ft Single Harness
HAR-2401	2ft Single Harness
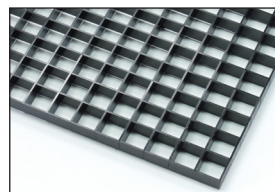
LVR-4804-B	4ft 4Bank Louver, Black
LVR-2404-B	2ft 4Bank Louver, Black
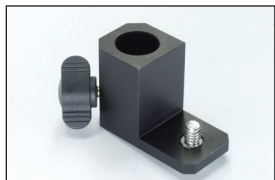
MTP-BAL	Kino Ballast Baby Mount (16mm)

MTP-BL41 Kino 41L Mount w/ Baby Rcvr (16mm)

MTP-BL41S Kino 41L Mount w/ Baby Rcvr Short (16mm)

MTP-L   Kino 41 Lollipop w/ 3/8" Pin (10mm)

MTP-LB   Kino 41 Lollipop w/ Baby Rcvr (16mm)

MTP-LBS Kino 41 Lollipop w/ Baby Rcvr Short (16mm)

REF-4804   4ft 4Bank Reflector
REF-2404   2ft 4Bank Reflector

X16-A4   4Bank to Single Splitter
X16-A9   4Bank to Double Splitter

X16-12   4Bank Extension Cable, 12ft

X09-25   Double Extension Cable, 25ft
X09-12   Double Extension Cable, 12ft
X04-25   Single Extension Cable, 25ft
X04-12   Single Extension Cable, 12ft

Expendables

EXP-FXR-S   Fixture Wire Repair Kit (Silver)

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

EXP-M&T   Adhesive Mounts & Releasable Ties (25pk)

PRT-CR4   4Bank Connector Locking Ring (4pk)
PRT-CR2   Double Connector Locking Ring (4pk)
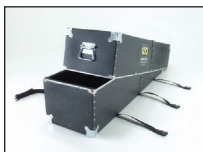**PRT-CR1**   Single Connector Locking Ring (4pk)

PRT-HLC   Kino Locking Lamp Connector (1pk)

See our website at **www.kinoflo.com** for more repair parts.

Cases

| KAS-C46 | KAS-54L | KAS-KFC | BAG-201 |

| Part Number	Description	Dimensions	Weight (Empty)	Holds
BAG-201	2ft 4Bank Soft Case	28 x 7.5 x 20" (72.5 x 19 x 51cm)	3.5 lb (2kg)	2ft 4Bank System (1), Lamp Case
BAG-401	4ft 4Bank Soft Case	55 x 8 x 19.5" (140 x 20.5 x 49.5cm)	6 lb (3kg)	4ft 4Bank System (1), Lamp Case
INS-L4	4-Lamp Foam Pad	24 x 9 x 1" (61 x 23 x 2.5cm)	N/A	Fits KAS-48, 72, 96
INS-L6	6-Lamp Foam Pad	24 x 13 x 1" (61 x 33 x 2.5cm)	N/A	Fits KAS-54S, 54L, 96L
KAS-21	2ft System Ship Case	30 x 10 x 16" (76 x 25.5 x 41cm)	12.5 lb (6kg)	2ft 4Bank System (1)
KAS-41	4ft System Ship Case	57 x 10 x 20" (145 x 25.5 x 51cm)	24.5 lb (11kg)	4ft 4Bank System (1)
KAS-48	4ft Lamp Ship Case	52.5 x 11 x 12" (133.5 x 28 x 30.5cm)	16 lb (7.5kg)	4ft Lamps (20)
KAS-54L	4ft Fixture Ship Case, Large	57.5 x 15 x 17" (146 x 38 x 43cm)	25.5 lb (12kg)	4ft 4Bank Fixtures (5)
KAS-54S	4ft Fixture Ship Case, Small	57.5 x 15 x 12" (146 x 38 x 30.5cm)	21 lb (9.5kg)	4ft 4Bank Fixtures (3)
KAS-C26	6-Lamp Carry Case (2ft)	26.5 x 6 x 4" (67.5 x 15 x 10cm)	1 lb (.5kg)	2ft Lamps (6)
KAS-C46	6-Lamp Carry Case (4ft)	50.5 x 6 x 4" (128.5 x 15 x 10cm)	1.5 lb (.7kg)	4ft Lamps (6)
KAS-GAF2	Gaffer Kit Ship Case	56.5 x 13 x 21.5" (143.5 x 33 x 55cm)	32 lb (14.5kg)	4ft 4Bank System (2), Lamp Case (2)
KAS-INT2	Interview Kit Ship Case (2)	35.5 x 13 x 22" (90 x 33 x 56cm)	25 lb (11.5kg)	2ft 4Bank System (2), Lamp Case (2)
KAS-INT3	Interview Kit Ship Case (3)	35.5 x 13 x 23" (90 x 33 x 58.5cm)	26 lb (12kg)	2ft 4Bank System, 2ft Double System (2), Lamp Case (2)
KAS-KFC	Ballast & Cable Crate w/ Lid	21.5 x 15 x 12" (54.5 x 38 x 30.5cm)	6 lb (3kg)	Ballasts, Cables, Mounting Plates

Lamp w/ Harness Specifications

Kino Flo Lamp w/ Harness Dimensions
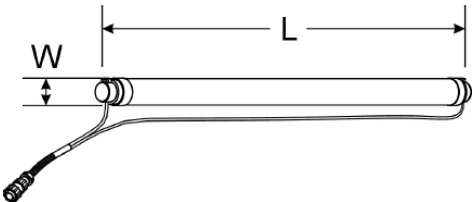
Lamp Type	Length	Width
4ft Med. Bi-Pin	48.5"	1.5"
2ft Med. Bi-Pin	24.5"	1.5"

Fixture Specifications

Kino Flo 4Bank Fixture Dimensions
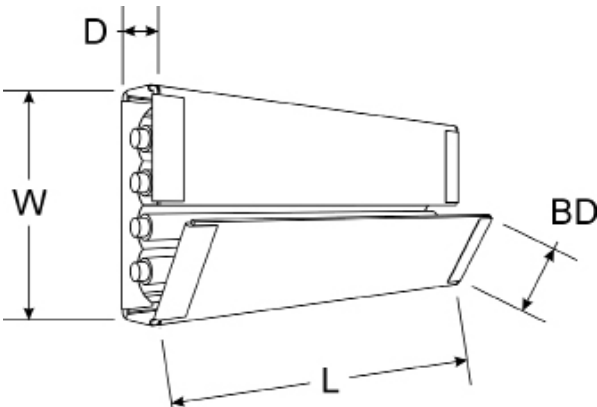
Fixture Style	Length	Width	Depth	Barndoor Width	Weight w/ Lamps
4ft 4Bank	52"	13"	3.5"	6.5"	11.5 lbs
2ft 4Bank	27"	13"	3.5"	6.5"	7.5 lbs

Ballast Specifications

4Bank DMX

BAL-455-120 Select/DMX 4Bank Ballast, 120VAC

Input Voltage: 120VAC 50/60Hz
Output Frequency: 25kHz
Amperage: F75/5.0A, F40/3.5A
Lamp Switching: 1~4
Output Switching: 4ft / 2ft
Ballast Size: 12.5 x 12.5 x 2.5"
(32 x 32 x 6.5cm)
Weight: 6.3 lb (2.9kg)

BAL-455-230 Select/DMX 4Bank Ballast, 230VAC

Input Voltage: 230VAC 50/60Hz
Output Frequency: 25kHz
Amperage: F75/2.5A, F40/1.8A
Lamp Switching: 1~4
Output Switching: 4ft / 2ft
Ballast Size: 12.5 x 12.5 x 2.5"
(32 x 32 x 6.5cm)
Weight: 6.8 lb (3.1kg)

For latest Warranty information and Certifications,
see Kino Flo website at www.kinoflo.com.

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.