Image DMX

The Image 85 DMX fixture's large soft light coverage and its small, energy footprint, combined with the ease of rigging compared to tungsten lighting sources makes it the darling of motion picture and television visual effects designers.

The relatively cool source takes about six different colored visual effects lighting colors, but most notably the specialized Kino Flo spiked blue and spiked green tubes for deep, rich saturation of color when lighting blue and green colored cyclorama stages.

Its smaller sibling, the Image 45 DMX, produces the same quality of light, with the same light control and beam spread features, but uses half the energy. The Image 45 works ideally on bluescreen and greenscreen stages that are no more than 15 feet in height.

See *Blue/Green Screen* or *Virtual Studios & Chroma Key*

Image Features Include

- DMX lamp switching
- HO/Standard switching
- Individual lamp control
- Gel Frame, Louver
- Instant-on, dead quiet
- True-Match® daylight and tungsten lamps
- Remote hand-held lamp control (**DIM-5** optional)

Available in Yoke Mount and Pole-Op.

More Information

Image 85/45 DMX

The Image 85 and Image 45 have distinct advantages over conventional quartz softlights:

- Metal alloy fixture includes gel frame, louver and card holders (Image 85 only)
- Broad, even light - ideal for blue and green screen
- Low amperage draw, energy savings
- Long lamp life, low lamp replacements, low maintenance labor
- Low operating temperature
- Low air-conditioning costs
- More efficient heat management design for stable color temperature
- Uses 5500K, 3200K and 2900K, 420nm blue and 525nm green lamps
- Mix lamps for various color temperatures
- High color rendering True Match lamps work well alongside conventional quartz lights or HMI's.
- DMX control for stable color temperature and light level control
- Color Gels do not burn out or fade due to lower heat of fixture.
- Traditional Yoke Mount with two position setting, Pole-Op

Each System Includes:

1 DMX Image Fixture
1 Silver Louver
1 Gel Frame

The Image 85 and 45 are soft, broad lighting sources. In the film world, the Image 85 is probably the most popular light for lighting blue and green screens because of its even cast of light and individual lamp control.
It is also a popular light on stage and location used outside of a window, a large front or side fill, or as a top light.

The Image 45 is the same light output as the 4ft 4Bank. The advantage for some applications is that the Image 45 has a built-in, onboard ballast. It also has DMX control and Yoke or Pole-Op Yoke Mount. So for news studios and smaller virtual studios, it is the ideal light source.
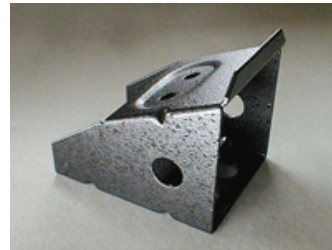
For more information See **Blue/Green Screen** or **Virtual Studios & Chroma Key**
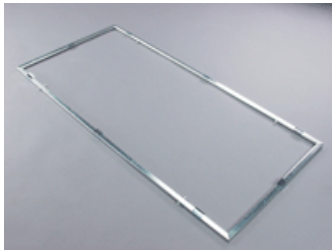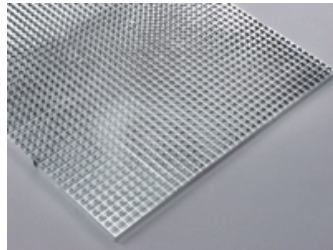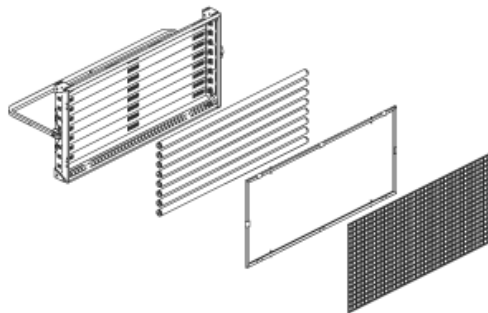

| Gel Frame | Silver Louver | Cardholder |

Each Image 85 and 45 comes complete with Silver Louver and Gel Frame. The Image 85 also includes four cardholders in the purchase price. The cardholders **(MTP-IB)** are not included with the Image 45 and can be purchased separately.
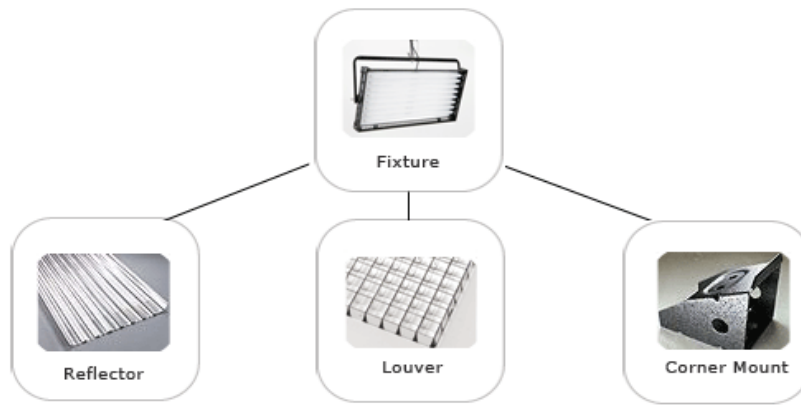
Image 85 DMX Kits

KIT-I85-X1/120
Image 85 DMX Kit, 120VAC

KIT-I85-X1/230
Image 85 DMX Kit, 230VAC

Contents
1 Image 85 DMX
1 Jr. Pin
1 Ship Case

Dimensions
56.5 x 8 x 35"
(143.5 x 20.5 x 89cm)

Weight
65 lb (29.3kg)

KIT-I85-X2/120
Image 85 DMX Kit, 120VAC (2-Unit)

KIT-I85-X2/230
Image 85 DMX Kit, 230VAC (2-Unit)

Contents
2 Image 85 DMX
2 Jr. Pin
1 Ship Case

Dimensions
56.5 x 16 x 35"
(143.5 x 40.5 x 89cm)

Weight
160 lb (72.5kg)

KIT-I85-X4/120 (4-Unit)
Image 85 DMX Kit, 120VAC

KIT-I85-X4/230 (4-Unit)
Image 85 DMX Kit, 230VAC

Contents
4 Image 85 DMX
4 Jr. Pin
1 Ship Case

Dimensions
35 x 33 x 64"
(89 x 84 x 162.5cm)

Weight
335 lb (152kg)

Image 45 DMX Kits

KIT-I45-X1/120
Image 45 DMX Kit, 120VAC

KIT-I45-X1/230
Image 45 DMX Kit, 230VAC

Contents
1 Image 45 DMX
1 Jr. Pin
1 Ship Case

Dimensions
56.5 x 9 x 23.5"
(143.5 x 23 x 59.5cm)

Weight
48 lb (21.6kg)

Image Fixtures Styles

Yoke Mount   Pole-Op

The Image DMX fixture styles available include: Yoke Mount and Pole-Op.

The Yoke Mount

The traditional Image 85 and 45 DMX have Yoke Mounts designed to allow the yoke brackets to be placed in one of two positions. The additional option is useful when hanging the units in a studio with a low ceiling.

MTP-I80   **MTP-I40**

The Junior Pin Assembly for yoke **(MTP-I80)** can be used on the Image 85 or 45 Yoke Mounts to mate to a junior receiver (28mm). The Baby Receiver Assembly for yoke **(MTP-I40)** can only be used on the Image 45 Yoke Mount and mates to a baby pin (16mm). The MTP-I40 is not strong enough to hold the weight of the Image 85. (Both assemblies are sold separately.)

The Pole-Op

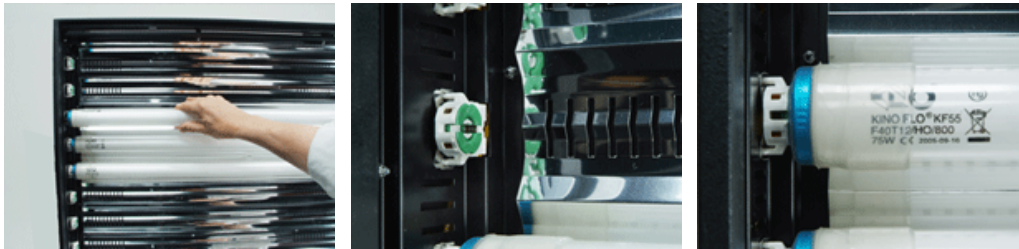Image w/ Pole-Op   Pole-Op   Jr. Pin
                                           (Included)

The Pole-Op Yoke allows the Image 85/45 to be hung from a pipe grid and adjusted from the ground using a long pole. The fixture includes a yoke with an attached junior pin.
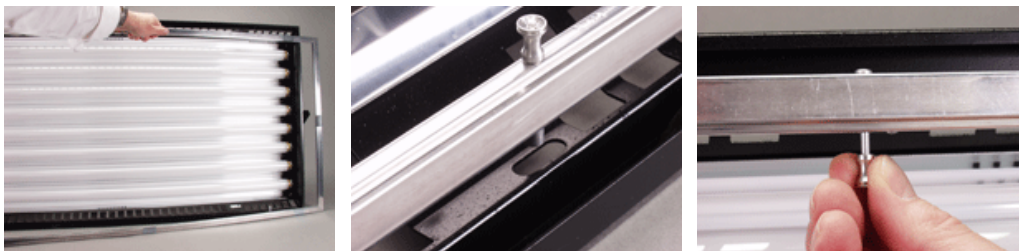
The blue cup alters the Pan (left or right) and the white cup alters the Tilt (up or down)

Inserting Lamps

Insert lamps into both lamp holders. Twist ¼ turn to make electrical contact.

Gel Frame

The gel frame is secured to the fixture by 4 spring-loaded pins.

Applying Gel to Frame
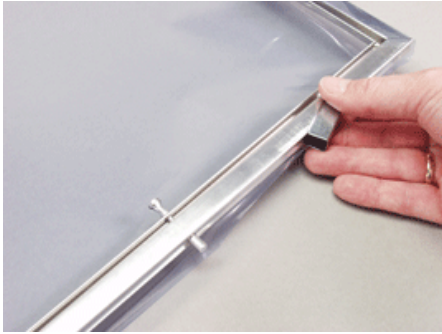
The Gel Frame comes with Gel Clips. Cut the gel to size and use the Clips to fasten the gel to the Frame.

Louver

Place the long edge of the Louver into the lower channel containing a set of leaf springs. Press down on the Louver and slip the upper edge of the Louver into the upper channel of the fixture.

Barndoors
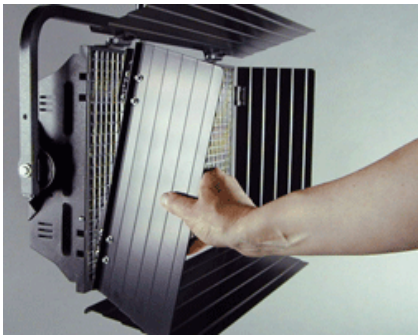
Barndoors are sold in sets of four **(BRD-I80)** or **(BRD-I40)**.
The Barndoors are designed so that they can be individually mounted.

Card Holder

If a larger cutter is needed to control the light, foam core can be used and simply clipped to the cardholders.

Remote Lamp Selector

DIM-5

The Image series has DMX controls and an onboard lamp selector (that turns lamps on/off on an "inside-out" pattern). Yet another light control option is to u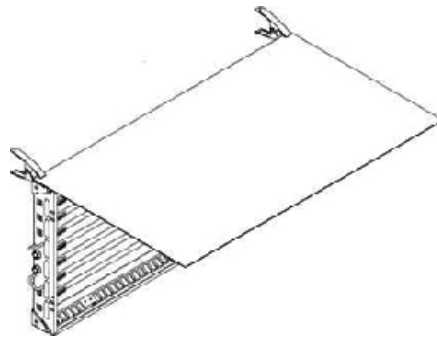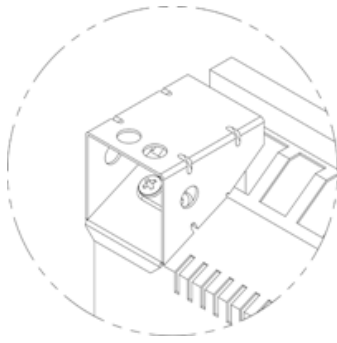se the **(DIM-5)** hand-held lamp selector. In this application, the **DIM-5** duplicates the onboard control - turning lamps on/off with an "inside-out" pattern, useful if there is no DMX controller and the unit is hung out of reach.

Image Fixture DMX Control Panel

The Image 85 and 45 have DMX control to turn lamps on/off and an additional channel to lower the light level by ½ of a stop. There are 2 modes of operation - Individual mode and Fixture mode. In Individual mode each lamp has its own address. In Fixture mode, all the lamps are controlled from one address. On the information to follow many of the examples will be based on the Image 85.
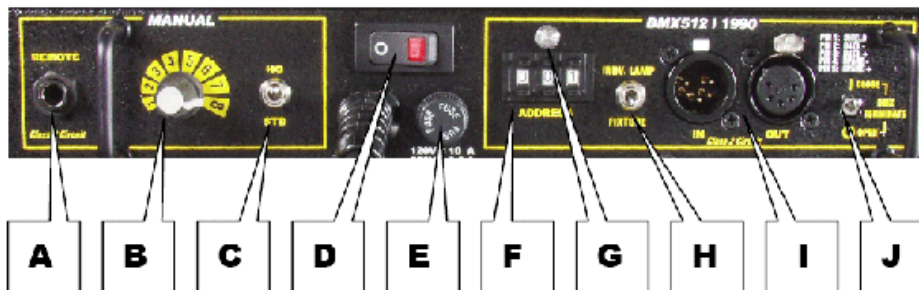
A) Remote Jack: Input for remote hand-held lamp control. Turns lamps on and off manually without connecting to DMX.

B) Manual Selector Dial: Turns lamps on and off manually without connecting DMX Cable to Fixture.

C) HO/Std Selector Switch: HO setting operates all lamps in fixture at High Output. Std setting operates all lamps in

fixture at Standard light output. (Std is ½ f-stop lower than HO.)

D) Power Switch: Has a built-in indicator light, which can detect if AC power is present in power cord. "O" = OFF position.

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

F) DMX Address: Sets DMX Address of Fixture.

G) DMX Indicator Lamp: Lights if DMX is present and conforms to DMX 512, 1990

H) Individual Lamp / Fixture Switch: Converts between Individual Lamp and Fixture methods of DMX control.

I) DMX-In & DMX-Out: DMX-In receives DMX signals from Dimmer Board. DMX-Out relays DMX signal through to other Fixtures or instruments.

J) DMX Terminate Switch: Terminates DMX signal at the end of Fixture series.

Power Requirements

Provide 120vac or 230vac primary power depending on the model. Do not dim the fixture through a dimming circuit. If powering the fixtures through a dimmer board, set the dimmer profile to non-dim.

Manual Operation

Image 85 and 45 DMX Fixtures may be operated manually with the manual lamp selector dial. The dial enables you to turn lamps on and off with an "inside-out" pattern (i.e., if all lamps are on, the outside tubes will turn off first).

The HO/Std switch sets the output level of all the lamps in the fixture. In HO mode all lamps operate at a high output level. In Std mode all lamps operate in Standard light output. There is about a ½ f-stop drop in light in the Std mode.

DMX Image 85 Switching
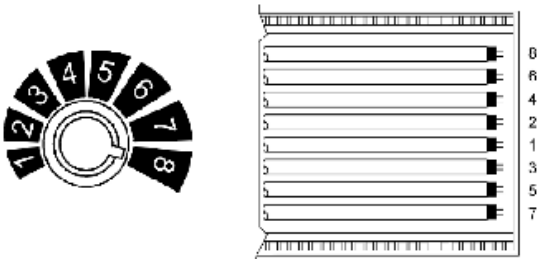
DMX Image 45 Switching
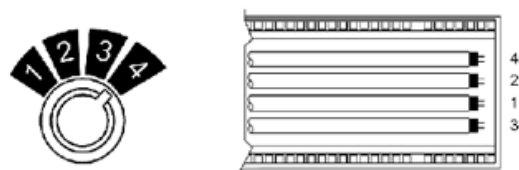
Note: Manual lamp switching, HO/Std as well as remote hand-held control **(DIM-5)** is disabled as soon as DMX cables are applied. For Manual control with DMX cables plugged in, set address to "000". There is a five second delay when switching between DMX and Manual control.

DMX Addressing

Prior to hanging any instruments set the DMX address of each Fixture. 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 Image 85 fixture operates on 9 addresses. After the first DMX address is entered, the Image 85 Fixture automatically captures 9 addresses. Eight addresses to lamps 1 – 8 and the 9th address to control the HO/Std Select feature. The 9th address controls the HO/Std setting of all the lamps in the fixture. A dimmer level of 0%~50% sets the lamps in the HO mode. Dimmer settings from 50%~100% sets the lamps into the Std mode.
For the sake of simplification, it is advisable to select address sequences such as 10, 20, 30, 40 and so on.

Each Image 45 fixture operates on 5 addresses. After the first DMX address is entered, the Image 45 Fixture automatically captures 5 addresses. Four addresses to lamps 1 – 4 and the 5th address to control the HO/Std Select feature. The 5th address controls the HO/Std setting of all the lamps in the fixture. A dimmer level of 0%~50% sets the lamps in the HO mode. Dimmer settings from 50%~100% sets the lamps into the Std mode.
For the sake of simplification, it is advisable to select address sequences such as 10, 15, 20, 25 and so on.

DMX Termination

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

Set to close (I) when the Fixture is the last DMX control device in the chain.

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

Image Fixtures can be jumpered using the In and Out ports. As many as 100 Fixtures can be jumpered on one chain as long as the DMX cable run remains under 1000 feet or 40 x 25ft DMX cables.
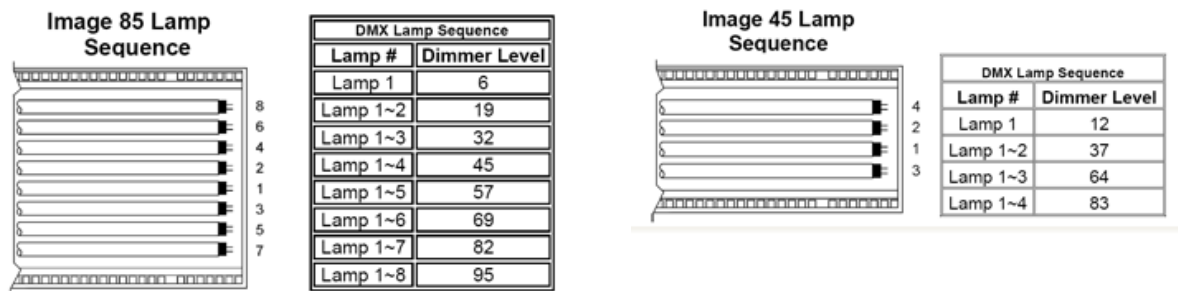
Fixture Lamp Mode

Setting the unit to Fixture mode allows the user to re-create the "Inside-Out" pattern of the manual switch.

One dimmer channel controls the lamps, a second channel the HO/Std setting. Assign the first address to a dimmer channel. Adjusting the slider up or down sets the number of lamps to be turned on. For HO/Std control on Image 85, assign the 9th address to the second dimmer slider. For Image 45, assign the 5th address to the second dimmer. From 0%~50% operates all the lamps in the fixture at HO mode, from 50%~100% in the Std mode.

One of the best applications for the "Fixture Mode" is when lighting Blue and Green Screens or large Cycloramas. For example: One row of Image 85 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. Assigning the 9th address on all the fixtures renders control over the HO/Std settings.

Dimmer level/Lamp response-Sliding the fader on the dimmer board from 0% ~ 100% controls the number of lamps that are on within a fixture. Note: the lamps may respond ± 4 channel levels, depending on the dimmer board.

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.)

Image 85 Lamp Sequence

DMX Lamp Sequence	
Lamp #	Dimmer Level
Lamp 1	6
Lamp 1~2	19
Lamp 1~3	32
Lamp 1~4	45
Lamp 1~5	57
Lamp 1~6	69
Lamp 1~7	82
Lamp 1~8	95

Image 45 Lamp Sequence

DMX Lamp Sequence	
Lamp #	Dimmer Level
Lamp 1	12
Lamp 1~2	37
Lamp 1~3	64
Lamp 1~4	83

HO/Std Control: Image 85-Assign a second dimmer channel to the 9th address to control the HO/Std mode. Image 45-Assign the 5th address. Dimmer level 0%~50% operates all the lamps in the fixture at HO mode, from 50%~100% in the Std mode.
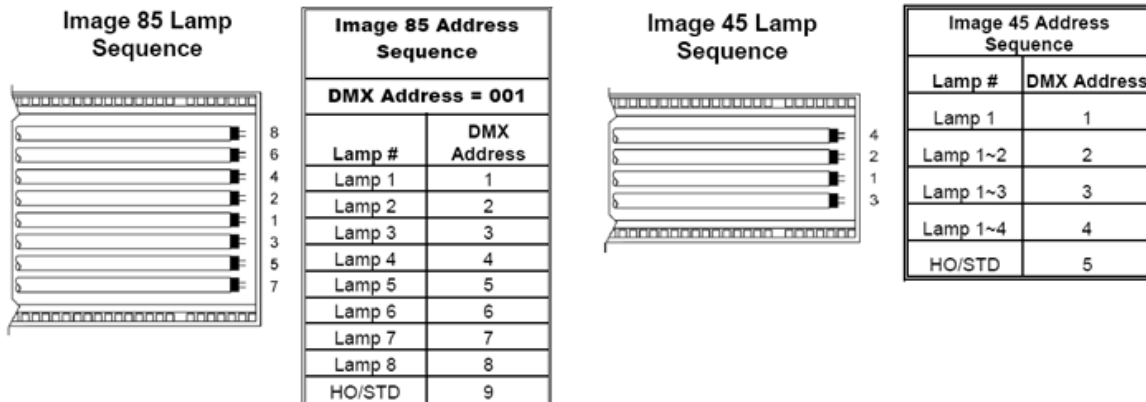
Individual Lamp Mode

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.

After the first DMX address is entered, the DMX Image 85 automatically captures 9 addresses. Lamps are on addresses 1- 8. The 9th address controls the HO/Std mode. For the sake of simplification, it is advisable to select address sequences such as 10, 20, 30, 40 and so on. If the 9th address is not addressed the fixture will default in the HO setting. Settings of 0%~50% on the dimmer slider on the 9th address will operate lamps in the HO setting. Settings from 50%~100% operate the lamps in the Std mode and the overall light output of the fixture drops by ½ f-stop.

For example, if the DMX Image 85 base address is set at 001, the configuration below will provide eight lamps individually addressable through DMX 512. Address 009 controls the HO/Std mode.

Image 85 Address Sequence

DMX Address = 001

Lamp #	DMX Address
Lamp 1	1
Lamp 2	2
Lamp 3	3
Lamp 4	4
Lamp 5	5
Lamp 6	6
Lamp 7	7
Lamp 8	8
HO/STD	9

Image 45 Address Sequence

Lamp #	DMX Address
Lamp 1	1
Lamp 1~2	2
Lamp 1~3	3
Lamp 1~4	4
HO/STD	5

After the first DMX address is entered, the DMX Image 45 automatically captures 5 addresses. Lamps are on addresses 1– 4. The 5th address controls the HO/Std mode. For the sake of simplification, it is advisable to select address sequences such as 10, 15, 20, 25 and so on. If the 5th address is not addressed the fixture will default in the HO setting. Settings of 0%~50% on the dimmer slider on the 5th address will operate lamps in the HO setting. Settings from 50%~ 100% operate the lamps in the Std mode and the overall light output of the fixture drops by ½ f-stop.

The Kino Flo Lamps

The Image 85 and Image 45 DMX are the brains and the lamps are the beauty of the Image 85/45. The vaunted T-12 tube offers a large surface area of soft light. The wide design creates a nearly shadowless display that drops off evenly.

It's important to know that the True Match daylight and tungsten 4ft tubes common on sets around the world are unique to Kino Flo because they display broad, even, color-correct light that cinematographers have come to depend on. These are the only high color rendering fluorescent lamps made for the professional film and video production. In addition, Kino Flo has developed its own line of visual effects and designer colors for Blue and Green screen and Virtual Studios.

For more information See **Blue/Green Screen** *or* **Virtual Studios & Chroma Key**

The Image 85/45 DMX will operate any 4ft T-12 tube but the color will not be true and the life span will be shorter. All True Match lamps used in the Image fixture are available Safety-coated. Safety coating protects the user from broken glass if the tube breaks.

Safety-coated lamps are required for Rental and Location Applications. For permanent installations or Studio applications such as TV Broadcast, uncoated lamps are recommended.

Image 85/45 DMX Advantage

Long Lamp Life

Kino Flo uses 800ma cathodes on all its 4ft lamps to stand up the higher output achieved by the Kino Flo ballast. Additionally, the 800ma cathodes are also designed to relieve the stress of on/off cycles, especially on DMX products. In some cases, the DMX operator may set the units on a "chase mode" or other effect that increases the on/off cycles of the lamps.

All fluorescent lamps display a lumen depreciation curve. This means that over months of use the light output gradually drops and lowers in color temperature. A lamp may be rated at 10,000 to 20,000 hours but its useful light quality is shorter. It is realistically more in the 2000 to 2500 hour range. In a Studio environment this adds up to about one year of continous use.

True Match lamps are formulated to correspond to the spectral distribution curves of film and television cameras as well as look correct to the eye. They are designed to match the colors from studio quartz units or daylight sources such as HMI's. This gives the lighting director the option of mixing quartz hard light sources with fluorescent soft sources. Most lighting designers want the ability to use both qualities of light to enhance the set.

Architectural lamps are designed to optimize government-mandated standards for lumens per Watt efficiencies (energy savings targets). In order to achieve these standards the lamps contain high levels of green spectrum, which our eyes don't perceive as inaccurate. Film and television cameras do record this added green. For example, this renders for a Caucasian skin tone as grayish and unattractive. The architectural lamps do not match with other studio lamps. They render colors inaccurately and make correction in post almost impossible.

In 1995 Kino Flo received a Technical Achievement Award from the Academy of Motion Picture Arts and Sciences in part for the development of the first color correct lamps for film. Kino Flo continues to be a leader in the industry introducing new developments and constantly improving the efficiencies and formulations of its lamp technology.

Heat Management Design

For Kino Flo, heat management is a critical design element of fixture design. The physical heat of the lamp or the buildup of heat within the fixture will directly influence the color temperature, lumen performance and lamp life.

The Image series fixture design addresses these requirements:

- Two special cooling chambers at opposite ends of the fixture provide ventilation.
- The Reflector is ventilated near the cathodes (hottest spot) of the lamps.
- The lamps are properly spaced apart to maximize light output from the reflector and minimize heat buildup.

Reflector Design

The Image 85 and 45 are designed as soft, broad sources. Therefore, the reflector is a shallow flat reflector to maximize the disbursement of the light coming from the T-12 Lamps. The reflector is made of aluminum with a mirror-like finish. It is also vented near the lamp cathodes to prevent the buildup of heat.

Another great advantage of Kino Flo reflectors over conventional quartz soft lights is that quartz softlights rely on white painted reflectors that yellow and affect the color temperature.

Yoke Mount and Pole-Op

The traditional Yoke Mount was designed to allow the yoke brackets to be placed in one of two positions. The additional option is useful when hanging the units in a studio with a low ceiling. The Pole-Op Yoke offers an advantage of lighting from a grid and eliminating the need for ladder access or costly automated rigging and hoist systems.

The Image 85 and 45 Yoke Mount can be mounted to a junior receiver (28mm) using MTP-I80. Another option for the Image 45 Yoke Mount is to mount to a baby pin (16mm) using MTP-I40. Both assemblies are sold separately.

The Pole-Op Yoke includes an attached junior pin and offers an advantage of lighting from a grid and eliminating the need for ladder access or costly automated rigging and hoist systems.

DMX Control

The Image 85 and Image 45 Fixtures can be controlled through a DMX 512 digital protocol. They do not require dimmer racks. This saves capital costs as well as energy costs.

Most studios are designed with dimmer racks that are regulated from a lighting board. The lighting board sends out a DMX signal to the rack that adjusts the voltage to the lamps through pulse width modulation. The more quartz lights are used, more dimmer racks need to be added. These racks generate heat and noise and require a special soundproof room.

Studios using Kino Flo's can rely on a simple DMX lighting board to control the fixtures. The dimming electronics are contained in the fixture and do not require expensive dimmer racks to adjust line voltage. The DMX signal regulates the dimming levels. There is no additional noise or heat generated by this process. Small studios can use dimmer control boards that cost as little as $400.

Cost Savings

Cost savings attributed to fluorescents cover a broad range of concerns:

- Low energy costs
- Less heat so lower Air-conditioning expenses
- No gel replacements because of low heat
- Few lamp replacements due to long lamp life
- Lamp replacement labor reduced by a factor of 10

Energy Savings Calculations

With the push for reducing fossil fuel consumption TV studios are looking at cooler more efficient lighting systems to reduce costs and save energy. Part of this process involves generating energy values to determine savings.

One of the most important values is Btu/kWh.

British Thermal Units per Kilowatt Hour

Any light generates a percentage of usable light and the rest in heat.

For example, a standard incandescent light bulb converts only 11 percent of its electrical input into visible light, while the rest is dissipated directly as heat. There are energy costs involved in cooling the studio environment. The measure of Btu/kWh is a means of calculating the thermal loads related to operating lighting.

Use the following information to calculate Btu/kWh:

Watts to Btu
1 KWh= 3413 Btu/Hr.
1 watt= 3.413 Btu/Hr.
3.413 Btu per watt-hour