

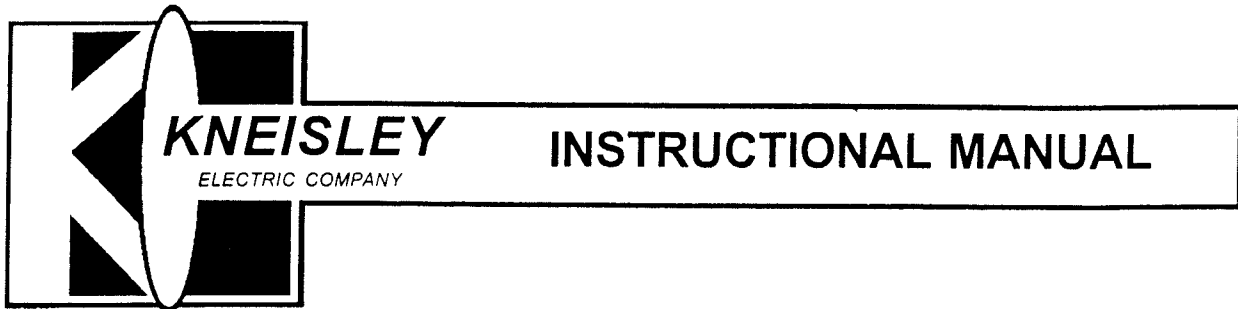
# Film-Tech

The information contained in this Adobe Acrobat pdf file is provided at your own risk and good judgment.

These manuals are designed to facilitate the exchange of information related to cinema projection and film handling, with no warranties nor obligations from the authors, for qualified field service engineers.

If you are not a qualified technician, please make no adjustments to anything you may read about in these Adobe manual downloads.

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***KNI-TRON<sup>®</sup> SERIES***  
**POWER SUPPLIES**

THREE PHASE SILICON POWER SUPPLIES  
FOR XENON LAMPHOUSES

**R2-1023** FORMERLY M50RTX2X2

**R2-1623** FORMERLY M70RTX2X3

**R2-2023** FORMERLY M85RTX2X4

**R2-3023** FORMERLY M95RTX2X2

**R2-4023** FORMERLY M135RTX2X2



P. O. Box 4692 • TOLEDO, OHIO 43610 •

PHONE: (419) 241-1219 • FAX: (419) 241-9920

**NOTE:** *This equipment is packed to withstand handling by any commercial carrier. Please examine it carefully, upon receipt. Any external and internal damage should be reported to the carrier immediately. Obtain carrier's report and file claim. Our responsibility ceases upon acceptance by the carrier.*

## GENERAL INSTRUCTIONS

### GENERAL INSTRUCTIONS APPLY TO ALL POWER SUPPLIES AND LAMPHOUSES

The power supply consists of: a set of high reactance polyphase transformers, an R-2415 Silicon Stack, cooling fan, voltage and current adjustment panel, fine current adjustment panel, three phase relay with 110 Volt energizing coil, and one filter capacitor, assembled and wired in a metal cabinet measuring 20" X 20" X 10".



The Silicon Stack is mounted directly behind the fan. Air flow is directed through the stack, then channeled over both sides of the polyphase transformer bank providing maximum cooling. The air flow exhausts out top of power supply housing. A 4" flue adapter is provided on the power supply top. The power supply can be vented to the outside, eliminating projection room heat and lowering air conditioning costs, should the projection room be air-conditioned.

A hinged door on side of housing opens to expose the current control panel, relay, silicon stack, and ventilating fan. Located on the control panel are twelve (12) rough voltage taps, line connections, and three phase relay.

Control panel for fine current adjustment is located on top of power supply housing, beneath a hinged door.

## INSTALLATION:

Unless fire regulations will not permit power supply installation in the projection room, it is best to install the power supplies on the *Off-Operator side* of the projector pedestal. Output leads, of the power supply, are sufficiently long to reach the terminal board in most lamphouses.

If there is a possibility of water entering the projection room, which occurs in some drive-in theatres, the power supply should be *blocked up* off the floor.

**NOTE: All wiring is to conform with local codes.**

## A.C. WIRING:

Before connecting the power supply, refer to the nameplate. Be certain supply line voltage, frequency, and number of phases are the same as specified on the nameplate. The power supply will not operate correctly on a supply line having characteristics different from those on the nameplate.

Attached are general specifications and schematic of internal wiring of the power supply. A 1-1/4" diameter hole is provided in the power supply front panel, for installation of rigid or thin wall conduit, for incoming A.C. line.

Take note of line current on general specification sheet to determine correct wire gauge for the incoming line. Secure the three incoming A.C. Line leads to the three terminals on the control panel marked **LINE — LINE — LINE**.

## RELAY CONNECTIONS:

Power supplies furnished, with the Xenex<sup>®</sup> Lamphouse are equipped with relays having 120 Volt energizing coils, fed by a single phase, 120 Volt A.C. Line from the lamphouse.

- a) Run two #14 AWG wires in flexible liquid tight conduit through the 7/8" diameter hole in the power supply front panel.
- b) Secure leads firmly to the two terminals marked **RELAY** on terminal board in power supply.
- c) Connect opposite ends to terminals marked **RELAY** on terminal board in the XENEX<sup>®</sup> lamphouse.

## D.C. LEADS:

A Greenfield Connector is furnished for use in connection of the D.C. leads with the XENEX<sup>®</sup> Lamphouse. Greenfield should be run between the power supply and the lamphouse to reduce risk of RF interference when igniter fires.

## GROUNDING POWER SUPPLY AND LAMPHOUSE:

BECAUSE OF HIGH IGNITION VOLTAGE, **GROUNDING THE XENEX® LAMPHOUSE AND THE POWER SUPPLY IS IMPORTANT!!!**

A GREEN GROUND WIRE is connected within the power supply when shipped from the factory. On XENEX® Lamphouses, a grounding terminal is supplied on the lamphouse terminal board. Connect the **GREEN** Wire to this terminal. System ground is to be connected to ground lug provided in power supply.

## CONNECTION WITHIN XENEX® LAMPHOUSE:

- a) A terminal board is mounted inside the lamphouse (left rear). Two holes are provided, for conduit and Greenfield fittings, in lower left side of lamphouse.
- b) Shield the D.C. Leads and GREEN GROUND WIRE in Greenfield and run them to the terminal board in lamphouse. Connect *Positive* and *Negative* Leads to their *respective* terminals on the board. **Leads are polarized to prevent reversing polarity.** Connect the GREEN GROUND WIRE to ground terminal in the lamphouse.
- c) Connect the two #14 gauge wires to terminals marked **RELAY** in lamphouse. Run wires through 1/2 inch liquid tight conduit to rectifier using 7/8 inch diameter holes provided. Connect wires in rectifier to terminals marked **RELAY**.

## OPERATING THE STANDARD VOLTAGE POWER SUPPLY:

Refer to the General Specification sheet. On each phase, there are four (4) taps on each of the primary windings, which compensate for broad current and voltage adjustment. The taps on the (side) control panel are spaced wide for **ROUGH ADJUSTMENT**. Those on the panel beneath the hinged doors on top, are spaced close together for **FINE ADJUSTMENT**. Rough adjustment ranges from 190 to 250 Volts, with tap settings at: 190., 210, 230, or 250 Volts. (Modified schematics accompany odd voltage power supplies).

When the power supply is shipped, the **Y Bar** is positioned on the lowest **FINE** Current Taps at the extreme left of terminal board. The **WIDE** range adjustment taps are positioned at 250 volt terminals. These provide lowest settings.

If correct operating current cannot be obtained at this setting, measure the incoming line voltage and move the **WIDE** range taps to the position nearest your measured line voltage. **EXAMPLE:** Incoming line measures 220 Volts, set taps at 230 Volts on terminal board. Move **FINE CURRENT ADJUSTING Y BAR**, as necessary, to obtain correct operating current. Refer to lamphouse or console instructions for operating procedure.

The feeder wires from the load side of the relay are connected, vertically, to the **ROUGH ADJUSTMENT TAPS**. Moving the feeder wires to the right decreases amperage. All three leads **MUST** move to the right, or left, together. **NEVER** connect two leads on position #3 and one lead on position #4, etc., as you will upset phase balance. Screen flicker will result.

**BE CERTAIN ALL CONNECTIONS ARE CORRECT AND TIGHT!!!**

## **RIPPLE VOLTAGE:**

The power supply has a low inherent ripple voltage. One 10,000 MFD Electrolytic Condenser is connected across output of the power supply to aid ignition and to further reduce the ripple voltage value.

## **THE VENTILATING FAN MOTOR:**

The single bearing fan motor requires no maintenance. It is oiled for life.

## **R-2415 SILICON STACK:**

The Silicon Stack has a peak inverse voltage rating sufficiently high to accept all operating conditions. High voltage transients which may be generated by the ignition device, are effectively stopped by the ceramic capacitors incorporated in the R-2415 Stack.

## **WARRANTY: (NEW WARRANTY ENCLOSED)**

The Silicon Stack is warranted, prorated, as follows, from date of installation. Applicable repair charges:

- Failure in 1st year - No charge
- Failure in 2nd year - 1/3rd of list price
- Failure in 3rd year - 2/3rds of list price
- Failure in 4th year - Full replacement price, or repair at agreed to price.

The stack guarantee card, included in envelope containing instructions, must be completed and returned to us promptly-after installation is completed. **\*OTHERWISE, THE GUARANTEE IS VOID!!!**

The balance of the power supply is warranted for one year, against faulty workmanship and materials, from date of factory shipment.

## **REPLACEMENT PARTS:**

When ordering replacement parts, always specify model number and serial number of power supply. Also, specify serial number of stack being replaced, if replacement stack is ordered. If a stack fails within a three year period, pack the faulty stack, carefully, and return it to us for examination and repair under warranty.

**DO NOT RETURN ANY EQUIPMENT WITHOUT AUTHORIZATION.**

**WHEN AUTHORIZED, FREIGHT MUST BE PREPAID.**

## **ADDRESS TO:**

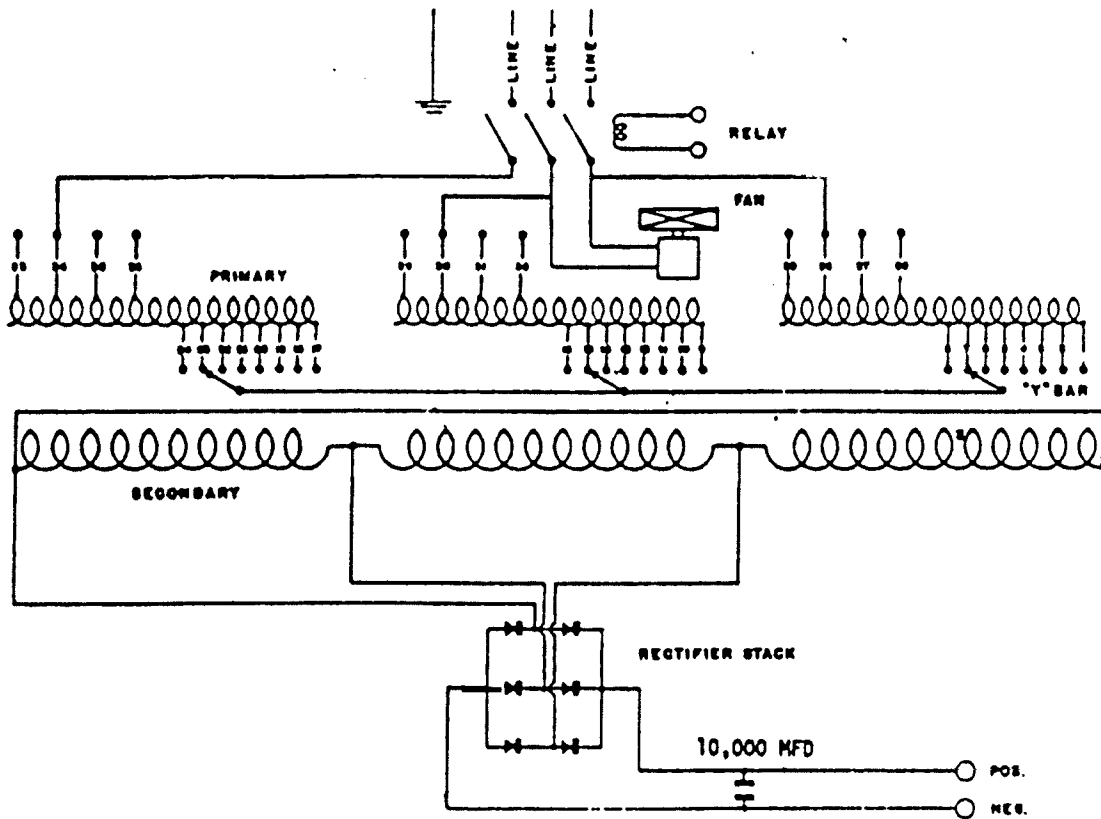
### **FREIGHT, PARCEL POST OR U.P.S.**

The Kneisley Electric Company  
2501 Lagrange Street  
Toledo, Ohio 43608

### **DIRECT LETTER MAIL TO:**

The Kneisley Electric Company  
P.O. Box 4692  
Toledo, Ohio 43610

**THIS SCHEMATIC APPLIES TO  
ALL THREE PHASE KNI-TRON SILICON POWER SUPPLIES**



**MECHANICAL AND ELECTRICAL SPECIFICATIONS**

MODEL	RATED WATTS	THREE PHASE LINE		RATED D.C. OUTPUT		GROSS WT.
		VOLTS	AMPS	VOLTS	AMPS	
R2-1023 (M50RTX2X2)	1000	208/230	11	20	50	150
R2-1623 (M70RTX2X3)	1600	208/230	15	22	65	155
R2-2023 (M85RTX2X4)	2000	208/230	23	29	75	198
R2-3023 (M95RTX2X2)	3000	208/230	20	30	100	198
R2-4023 (M135RTX2X2)	4000	208/230	31	30	135	242

All rectifiers are continuous duty rated, 50/60 Hertz, and have input voltage range 190/250 VAC.

Outside dimensions are 20x20x10 in.

Consult factory for odd voltages and frequency.

Use R2-3023 (M95RTX2X2) for 2500 watt xenon lamp.

## THREE PHASE SILICON POWER SUPPLY PARTS LIST

R-715-2	Relay, 3 Pole, 115 Volt
R-1824	Terminal Board
R-1857-1	Terminal Board, Fine Adjustment
R-1903-1	Capacitor, .01 MFD., 2 KV
R-1958-2	Fan Motor, 230 Volt
R-2406	Wye Bar
R-2415-A	Silicon Stack
R-2422-1	Capacitor, .05 MFD, 1.6 KV
R-2436-2	Capacitor, 10,000 MFD, 100 VDC
R-2437	Diode, 150 AMP., 500 PRV
R-2453	Cooling Fan Blade
	Replacement Transformer, (3 Per Rectifier) (Consult factory)



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# WARRANTY

To the purchasers of Kneisley equipment during the period of warranty coverage stated below, The Kneisley Electric Company warrants the equipment to be free of defects in materials and workmanship as stated below:

SCOPE OF COVERAGE	PERIOD OF COVERAGE	TYPE OF FAILURE COVERED
RECTIFIER STACKS and SIL-TUBES	THREE YEARS, PRORATED, FROM DATE OF FACTORY SHIPMENT	DEFECTIVE MATERIALS OR WORKMANSHIP
ALL OTHER PARTS OF KNEISLEY MANUFACTURE	ONE YEAR FROM DATE OF FACTORY SHIPMENT	DEFECTIVE MATERIALS OR WORKMANSHIP

Kneisley's obligation hereunder is limited to repair and replacement of parts which it determines to have defects in materials and/or workmanship. All warranty service and/or replacement of parts must be performed for you by The Kneisley Electric Company. Costs of shipping Equipment to and from Kneisley for such repair and/or replacement shall be paid by you. Any such warranty replacement or repair shall be subject to the terms and conditions of this warranty for the remainder of the original period of coverage.

This warranty does *not* cover items or parts not of Kneisley's manufacture, such as reflectors, projectors and xenon lamps which are covered by warranties issued by their manufacturers. This warranty does not cover any failures or operating difficulties due to accident, abuse, misuse, alteration, misapplication, improper installation or improper maintenance or service.

**THE FOREGOING WARRANTIES ARE EXPRESSLY MADE IN LIEU OF ANY AND ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, KNEISLEY HEREBY DISCLAIMS AND EXCLUDES ANY WARRANTIES, EXCEPT THOSE MADE HEREIN.**

**UNDER NO CIRCUMSTANCES WILL KNEISLEY BE LIABLE FOR ANY SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES.**

Kneisley does not authorize any person or company to assume for it any other obligation or liability in connection with the sale, application engineering, installation, use, removal or replacement of its equipment, and no such representations are binding on The Kneisley Electric Company.



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