Film-Tech

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INSTRUCTIONS: M50RAX2X, M70RAX2X, AND M85RAX2X MINIATURIZED "KNI-TRON SINGLE PHASE SILICON POWER SUPPLY FOR THE "XENEX" LAMPHOUSE AND THE "XENEX PUP"

This silicon power supply has been designed to permit installation at the lamphouse, eliminating costly wiring, direct current line losses, projection room heat, and to make possible "on the spot" current adjustment. Only one single phase line, terminating at the power supply, is required as far as electrical wiring is concerned. The blower type ventilating system made miniaturizing possible, so the power supply can be located over "waste" space at the base of lamphouse pedestal. Actual usable floor space required is less than one square foot.

The power supply consists of: a single phase main transformer, two large filter reactors, filter capacitors, an R-2480 Silicon Stack, cooling fan, voltage and current adjustment panel, and relay with 110 Volt energizing coil, assembled and wired in a metal cabinet measuring: 20" X 20" X 10".

Transformer and chokes are positioned vertically in the right side of the housing. They are designed to reduce the supply line voltage to the correct value for operation of the power supply elements, and to limit maximum current flow.

The silicon stack is mounted directly behind the fan. Air flow is directed through the stack, then channeled over both sides of the transformer and choke assembly providing maximum cooling. The air flow bends at a right angle and 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 through the lamphouse exhaust system, eliminating projection room heat and lowering air conditioning costs, should the projection room be air conditioned.

A hinged door in side of the housing opens, vertically, to expose the current control panel, relay, silicon stack, and ventilating fan. Located on the control panel are four voltage taps and current adjustment taps, and a relay.

UNPACKING THE POWER SUPPLY:

The power supply is completely assembled and wired at the factory, shipped in a specially designed wirebound packing case for domestic shipment. Care should be exercised when unpacking. File claim with carrier, for any concealed or visible damage, promptly.

The power supply is bolted to the bottom of the packing case, from the outside. The sides of the case wrap around the base, with an inch of free space between the case and the cabinet. The sides are secured to the top and the bottom with nails. CORRUGATED CARTONS ARE ALSO USED.

When unpacking, first remove the top and the wrap-around sides. Then lay the power supply on its side. Remove bolts from bottom of case. DO NOT REMOVE THE BOLTS FIRST, as the power supply will be free to shift around, before balance of packing case is removed. After removing packing case base, install the two R-1845 Legs on the power supply, if required.

The legs and R-1853 Handle are carefully wrapped and packed behind the hinged door in side of cabinet. Install handle, using the 1/4-20 X 1/2" Hex Head Cap Screws furnished. The handle will permit you to stand the power supply in upright position against the lamphouse pedestal. Remove handle, after power supply is in position. Plug handle holes with the 1/4-20 X 1/2" screws.

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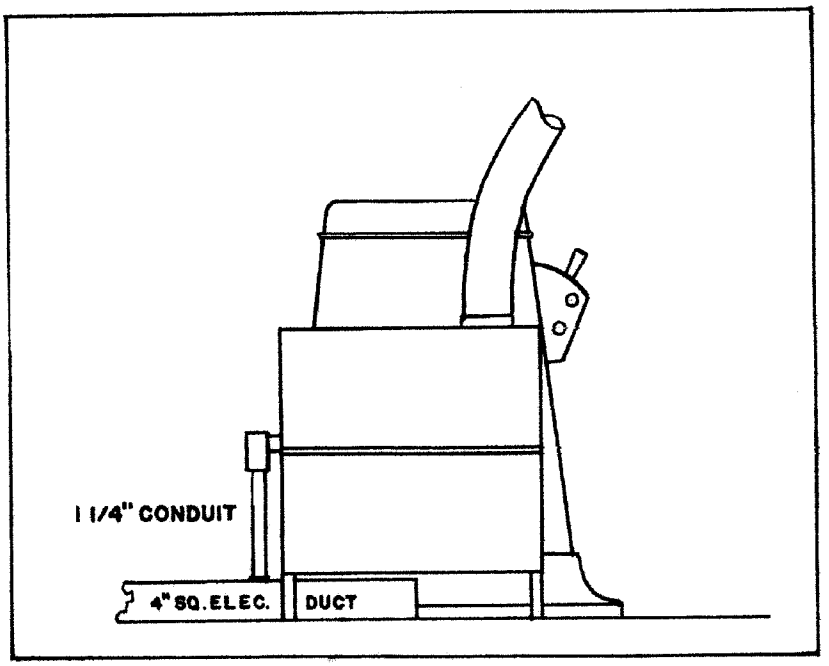
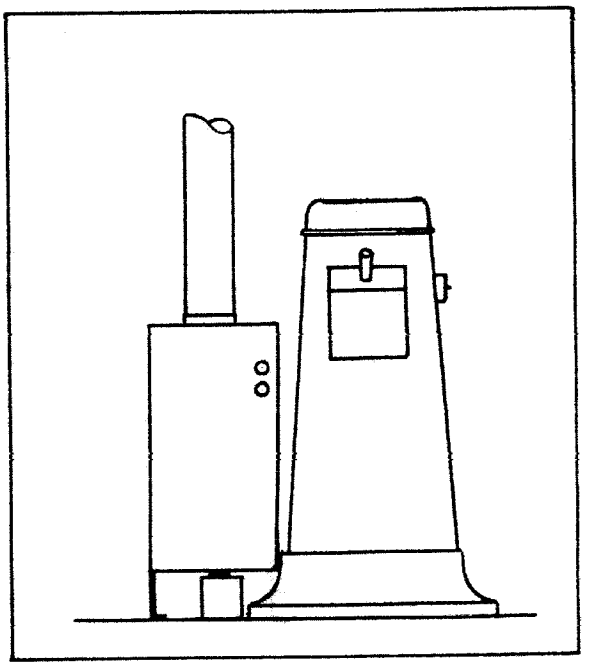
INSTALLATION:

Set the power supply upright against the left side (facing rear of lamphouse) of the lamphouse pedestal. Open side hinged door. A hole is provided in the control panel, and a 12" pointed rod is supplied for the purpose of locating the mounting hole on the pedestal. Place pointed rod through hole in the control panel. Feel it through hole in the right side panel, and place it against side of pedestal. A sharp rap with a hammer will "spot" the mounting hole for the power supply. Move power supply away from pedestal.





Drill a 21/64" diameter hole through pedestal. Insert 5/16-18 X 2-1/2" Hex Head Cap Screw and wrought washer through the pedestal and into tapped bushing in the power supply. Spacer and washers are provided to adjust the power supply to a vertical position. A level should be placed on top the power supply cabinet, so the installation is "plumb". See Drawing above.

A. C. WIRING:

Before connecting the power supply, refer to the nameplate. Be certain supply line voltage, frequency, and phase 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.

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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 input current, on general specification sheet, to determine correct wire gauge for the incoming line. Secure the two incoming A.C. Line Leads to the terminals, on the control panel, marked "LINE" - "LINE".

RELAY CONNECTIONS:

Power supplies furnished with the "XENEX" Lamphouse or "XENEX PUP" 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-wire "BX" Cable through the 7/8" diameter hole in the power supply front panel.

b) Secure leads firmly to the two terminals marked "RELAY" on the terminal board in the power supply.

c) Connect opposite ends to terminals marked "RELAY" on the terminal board in the "XENEX" Lamphouse, and to barrier strip terminals #3 and #4, if used on the "XENEX PUP".

D. C. CONNECTIONS:

A "Positive" and "Negative" Lead, as well as a GREEN GROUND WIRE issue from the rear of the rectifier housing.

a) The D. C. Leads are polarized, by different lug sizes, to prevent incorrect connections which would destroy a Xenon Lamp instantly.

b) "Positive" and "Negative" Leads, from the power supply, connect to "Positive" and "Negative" Terminals, on the terminal boards in the lamphouses. Run the GREEN GROUND WIRE to a solid ground such as a water pipe.

OPERATING THE POWER SUPPLY:

Refer to the general specification sheet. On the main transformer are four taps on one end of the primary winding which compensate for rough adjustment. These cover line voltages ranging from 190 to 250 volts, with tap settings at 190, 210, 230 and 250 Volts. Eight fine adjustment current taps are located on the opposite end of the primary winding.

Movable leads are attached to both the voltage and current adjustment taps. When the power supply is shipped, the movable current adjustment lead is positioned on the lowest current tap at the extreme left of the terminal board. The voltage tap is positioned on the 250 volt tap. These provide the lowest possible output current settings.

Measure the incoming line voltage. Move the voltage tap to the position nearest your measured line voltage. EXAMPLE: Incoming line voltage measures 220 Volts. Set the voltage tap on the 230 Volt position, then move the fine current adjustment tap to the right, step by step, until you obtain the proper operating current.

BE CERTAIN ALL CONNECTIONS ARE CORRECT AND TIGHT!!!
REFER TO LAMPHOUSE INSTRUCTIONS FOR OPERATING PROCEDURE.

RIPPLE VOLTAGE:

The single phase supplies are designed to have a ripple voltage lower than the minimum required by Xenon Lamp manufacturers. Heavy duty chokes and electrolytic capacitors, in a cascaded filter network, are contained in the output circuit to reduce ripple and aid ignition.

THE VENTILATING FAN MOTOR:

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

R-2480 SILICON STACK:

The SILICON STACK has a peak inverse rating sufficiently high to accept all operating conditions. The diodes are further protected by ceramic disc capacitors, in parallel with each diode, to absorb any high voltage transients which might develop from the high voltage Xenon Lamp Igniter.

LIMITED WARRANTY:

The R-2480 Silicon Stack is warranted, pro-rated, as follows, from date of installation:

Failure in 1st year - No charge for repair.
Failure in 2nd year - 1/3rd of list price is charged for repair.
Failure in 3rd year - 2/3rds of list price is charged for repair.
Failure in 4th year - Full replacement price is charged for repair.

The stack warranty registration card, included in envelope containing instructions, must be completed and returned to us promptly after installation is completed. OTHERWISE, THE WARRANTY IS VOID!!!

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

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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 adjustment under warranty.

NOTE: PLEASE DO NOT RETURN ANY PRODUCT TO US WITHOUT AUTHORIZATION.
ANY RETURNS MUST BE PREPAID.

ADDRESS PARCEL POST OR U.P.S. TO: THE KNEISLEY ELECTRIC COMPANY
2501-9 Lagrange Street
Toledo, Ohio 43608

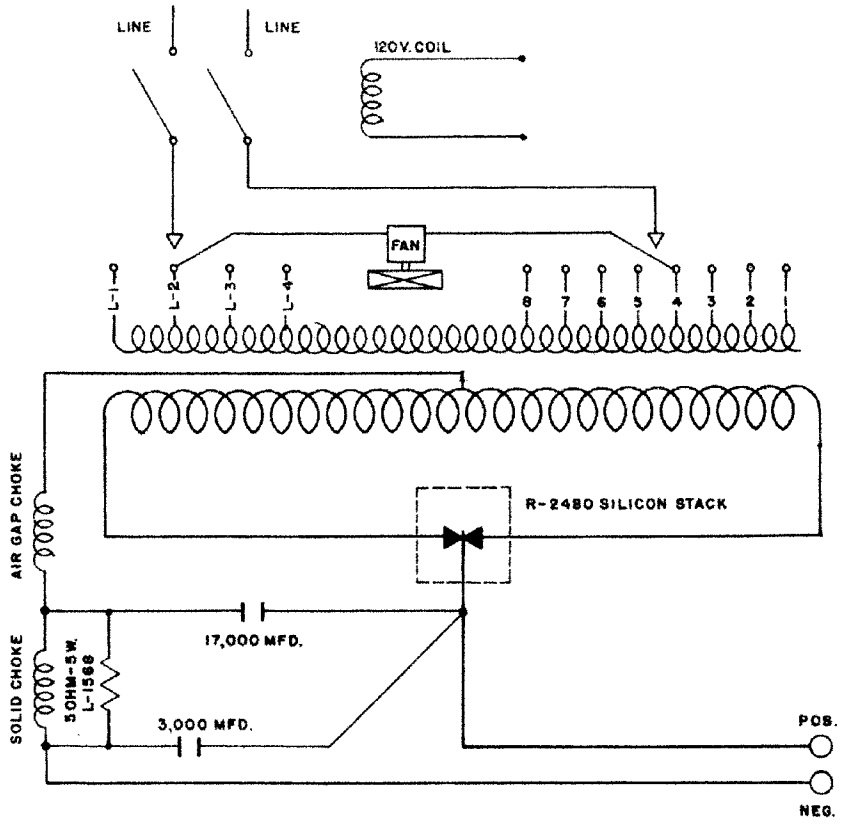
DIRECT LETTER MAIL TO:

THE KNEISLEY ELECTRIC COMPANY P.O. BOX 4692 TOLEDO, OHIO 43620

Printed 2/1/80

M50RAX2X, M70RAX2X & M85RAX2X Instr.
For "XENEX" Lamphouse & "XENEX PUP"
Attach Applicable Schematic.

GENERAL SPECIFICATIONS: M50RAX2X1 KNI-TRON SINGLE PHASE SILICON POWER SUPPLY FOR 1000 WATT XENON LAMP (FOR USE WITH XENEX LAMPHOUSE)



THIS SCHEMATIC APPLIES TO MODEL M50RAX2X1 KNI-TRON SILICON POWER SUPPLY

CASE - 16 Gauge Steel, Baked Umber Wrinkle Finish

SILICON STACK - One R-2480

INPUT VOLTAGE - 230

INPUT CURRENT - Max. 15 Amps.

FREQUENCY - 50/60 Cyc. PHASE - 1

OUTPUT VOLTAGE - No Load 80

OUTPUT VOLTAGE - Load 22

OUTPUT CURRENT - 46 Amps.

VOLTAGE RANGE - 190/250

DUTY - Continuous

FAN COOLED

DIMENSIONS:

HEIGHT MINUS LEGS - 20"
HEIGHT WITH LEGS - 25-1/4"

WIDTH - 10"

LENGTH - 20"

DOMESTIC PACKING:

NET WEIGHT - 193#

GROSS WEIGHT - 213#

EXPORT PACKING:

NET WEIGHT - 193#

LEGAL WEIGHT - 195#

GROSS WEIGHT - 235#

L-25" W-12-5/8" D-26-1/4"

Form No. M50RAX2X1