Film-Tech

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XETRON/NEUMADE

XCN & XCND SERIES

PROJECTION CONSOLES

SUPPORT MANUAL

XETRON DIVISION
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WITH IREM POWER SUPPLIES

XETRON
XCN CONSOLE SERIES
SUPPORT MANUAL

Congratulations on your choice to use the XETRON XCN Series of Projection Consoles. These Consoles have proven to be one of the most versatile and flexible systems available today, and used by many of the major theatre company's world wide. They are an integral part of the NEUMADE/XETRON family of cinema projection equipment and accessories. These consoles can be used with most 35 and 70mm projectors, special sound systems, and with our MAXI-12XPC Automation can control every aspect of cinema operation. Most products also carry domestic and international electrical and safety approvals. Contact your dealer to learn about these and other XeTRON products and accessories.

This manual will provide the user with information on how to operate the system, warnings and cautions, power supply and system information and schematics, and parts lists and diagrams. Specific schematics and wiring diagrams for each installation are packaged separately with the consoles.

In this manual . . .

XETRON

Neumade

Warnings and Cautions

Electrical Cautions:

This unit has more than one electrical service and voltage level. Make sure all breakers are off or disconnected before servicing to avoid electric shock.

Recommended Electrical installation will include a single master breaker in the electrical supply panel to control all input voltages and can function as the main On/Off control for the console.

High-Voltage is present during the ignition of the bulb. Make sure all doors are closed and covers are in place before usage.

Explosion Warning:

Xenon bulbs are under high pressure, especially when hot. Allow the bulb to completely cool before handling. Never power down the console until bulb is cool, as bulb and reflector damage will occur. Always wear protective face shield and clothing when handling the Xenon bulb, never touching the glass part of the bulb with your hands.

Light and Burn Caution:

Do not remain in front of, or look directly into the projected light during operation. Severe burns and/or damage to the eye may result. Look only at the light through protective glasses. Xenon bulbs naturally emit dangerous UV and IR radiation when lit, and while electrodes are still hot.. Do not look directly into light, or directly at a lit bulb. Allow bulb to completely cool before opening Lamphouse door. Do not operate lamp for more than five minutes with the hand douser closed.

Installation Notes:

Upon receipt of equipment, inspect for missing items, damaged parts, all accessories, manuals, and related items. Make sure all wiring and connection diagrams for this specific location are also included, as all connections of theatre periphery equipment are marked on these drawings.

All wiring connections are located in the lower compartment of the console on the operator's side, behind the locking access door. The main electrical connections are as marked on the main terminal block mounted to the right of the master interconnect board. Be sure to connect the correct voltages and phases as marked and shown on the wiring diagrams. All control circuits for sound, lights, curtains, or other equipment are on the interconnect board. Be sure all voltage levels are correct for the equipment used, and the proper terminal strip and terminals are connected as per the wiring instructions. Depending on the level of equipment provided with this console, attach and wire the projector, dimmer, audio equipment, or other equipment that is part of the system, and not provided by XeTRON.

Install the xenon bulb with the proper adapters, being sure to observe bulb polarity. Center all basic unit adjustments, and be sure the horizontal axis of the bulb is parallel to the optical axis. Adjust as needed. Always wear protective clothing and eye-wear, and observe all cautions on page two of this manual. Make sure all electrical connections are tight, and the access cover on the Basic Unit tower is closed. When installing a 3000W or greater bulb, be sure the cooling openings on the positive end of the bulb are at a top and bottom orientation.

Once complete, power the console up. When the main circuit breakers are turned on, the cooling fans should start. Check the local and manual controls of all equipment to verify proper operation. While leaving the Xenon section turned off, run the system by the automation to verify proper operation. First by manual operation, check the Xenon section for proper operation, voltage and current levels, and auto-strike, and then allow the automation to run it. If any problems are encountered, consult the troubleshooting section of the corresponding manual, or a qualified serviceperson for help. This manual also contains wiring diagrams for standard console wiring and equipment level. Consult your specific job wiring diagrams, schematics, and manuals for complete electrical information on included and optional equipment.

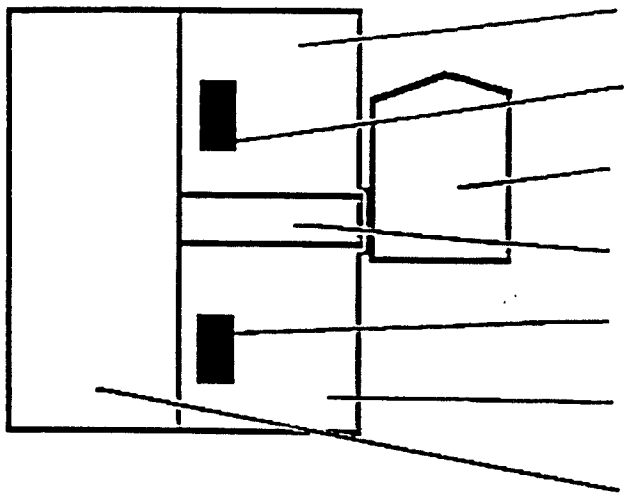
Now that the system is operational, perform the final optical alignment of the film projector to the light source to get the best and most even amount of light on the screen. XeTRON does offer an alignment kit if needed. Set the current level of the power supply to the proper operating level for the wattage bulb used. Make all alignments and adjustments to the sound system for optimum performance, set proper dimmer levels and curtain positions, and fine tune any other connected equipment.

Build your film prints, load them onto the platter, thread the film, start the popcorn maker, and Lights! Camera! Action!

Basic Layout and Controls of XeTRON Consoles:

Shown below are the two basic layouts of XeTRON consoles, and the locations of major components, switches, and controls. See specific manuals of components not included in this manual for operating instructions.

XCND CONSOLE COMPONENTS LAYOUT



Operator's Door and Lamphouse: Main optics section including reflector, bulb, ignitor, etc . . .

Meter Panel: All controls and meters for operation of the Xenon bulb. (See page 5)

Film Projector: Mounted on front of the console. Cue Detector and all sound readers are present also.

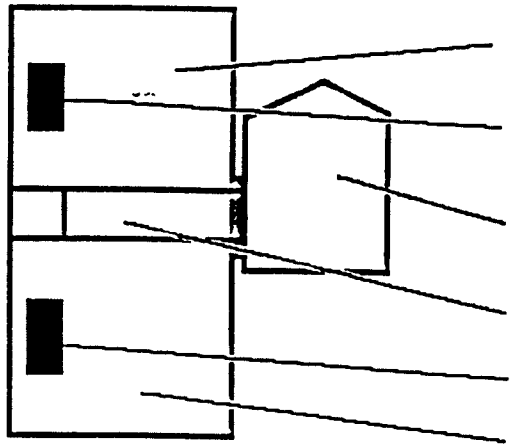
Automation: Controls all console functions. Receives cues from a cue detector under the projector.

Main Breaker Panel: All protective Electrical circuit breakers located and marked. Main power control.

Lower Compartment: Houses power supply, master interconnect board, and all control connections

Sound Rack: Space for mounting Audio Equipment.

XCN CONSOLE LAYOUT



Operator's Door and Lamphouse

Meter Panel

Film Projector

Automation

Main Breaker Panel

Lower compartment

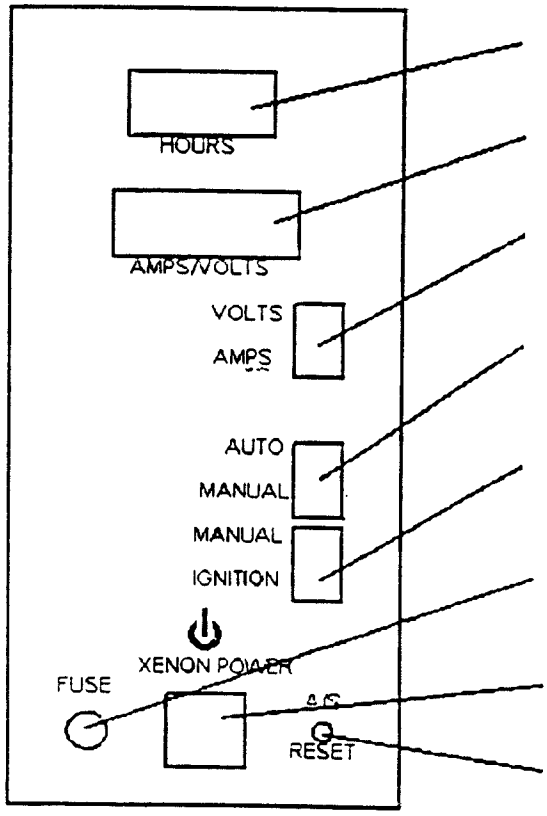
Xenon Bulb Operation and Electrical Controls:

Shown below is the standard meter panel used on all **XETRON** Consoles and Lamphouses to control and monitor the Xenon bulb. The panel monitors bulb performance and hours used, ignition control, and power control.

In most applications, the power is controlled through the Automation, allowing for the remote control of all Xenon functions. When this method is used, the Xenon power switch is left in the ON position, and the Ignitor control is in automatic. When the automation closes its contacts in the Xenon control loop, power is automatically applied to the Xenon section, and the bulb is automatically struck.

When the bulb is to be manually operated. The Ignitor control switch is put in the manual mode. Power is applied to the section via the Xenon Power Switch, and then the bulb is struck via the Manual Ignition switch.

The following diagram shows the main components of the Meter Panel, their operation, and the corresponding XeTRON part number. If you encounter problems with the bulb control, refer to the troubleshooting section in this manual, your XeTRON Dealer, or XeTRON directly.



Hour Counter - Counts total hours Xenon power is on. (Non- Resettable)(XCN-223-135A)

Amps/Volts Meter - Shows Bulb Current and Voltage. Reads open circuit voltage before ignition. (XCN-223-136)

Meter Control Switch - Selects readout for Amps/Volts Meter. Defaults to Amps reading. (XCN-223-130)

Ignitor Control Switch - Selects Manual or Automatic Ignition of Xenon Bulb. (XCN-223-131)

Manual Ignition - Activates Ignitor when pressed. Xenon power must be on. (XCN-223-130)

Fuse - For cooling fans and blowers. Replace with same size and rating. (XH-210-11)

Xenon Power Switch - Power on/off for Xenon section. (XCN-223-132)

Auto-Strike Circuit Breaker - Protects Auto-Strike circuit from an overload. (XH-210-29)

Automations and Basic Operating Procedures:

Almost all modern Theatre Projection systems are controlled by an Automation system. These systems can control everything from simple projector functions to all facets of lighting, sound, curtain, and accessory control. These automation systems can control all theatre functions automatically, requiring the operator only to start the system, and then the automation controls all theatre functions. XeTRON offers the MAXI-12XPC, a powerful and versatile automation system that features matrix-style cue programming for all peripheral equipment with easy, one-button operation.

Regardless of whose Automation is used, the theory of operation is the same. The manual control switches operate their designated equipment when pressed, no matter in what state the automation is in. Controlled functions vary by automation, but usually include projector motor, change over, and turret controls, Xenon power, Exciter, Dimmer, and Curtains. Most modern automations can be custom configured to automatically control whatever equipment is present, and what cues will activate them. Also, most modern automations will have the cues and equipment controlled set by either a matrix or programmable memory. Older, simpler automations will only control the projector and a few functions.

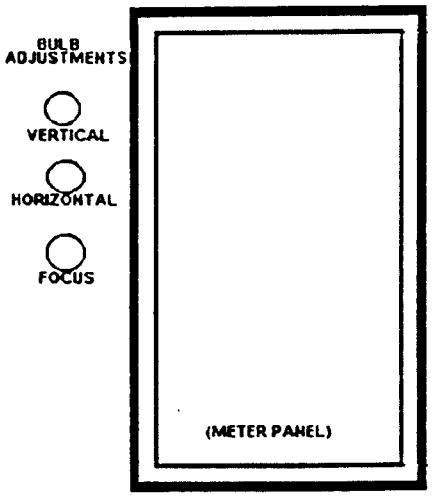
All automations operate in a similar manner. Pressing the "Start" button will start the projector motor, light the xenon bulb, open the change over, and set light and sound. Depending on the automation, other equipment can also be controlled during the start sequence such as curtains, extra lights, etc. Readable cues on the film (#'s 1 - 8, inboard/outboard, bar code, etc.) can control optical format, sound switching, special functions/optional equipment, interlock start, and show end, depending on how the automation is programmed. Different running formats, such as interlock and intermission are also controlled by the automation. Emergency inputs, such as Fail-Safe, Platter film tension sensors, Fire alarms, etc., connect to the automation and will interrupt the presentation if activated. Once the show is over and the film has completely run through, re-configure the platter, re-thread the film, and run the next show.

Troubleshooting Guide:

PROBLEM	SOLUTION
Console will not "power up"	Check main electrical breakers and electrical panel feeds Check electrical wiring and connections between console and panel Check breakers on console, and all input wiring If equipped with contactors/remote on, check fuse, switch, wiring, etc. of remote
Console components will not turn turn on (Automation, Dimmer, etc.)	Check fuse(s) of equipment in question Check equipment on/off switch Check corresponding console breaker, wiring, and plugs Check solder connections, plugs, and traces on master interconnect board
Xenon bulb will not ignite A. Power Supply not on	Check if Basic Unit blower on and at full speed, pulling in air-vane switch Check door switches for locked position Check power switch on meter panel Check Automation switches, both manual and automatic Check wiring and plugs on meter panel board, interconnect board, power supply Check contactor in power supply for damage or incorrect wiring
B. No Ignition of Xenon Bulb	Check Auto/Manual switch on Meter panel for desired starting method Try manual ignition of bulb to verify if Ignitor works. If so, see above Check circuit breaker on meter panel Check wiring and plugs between Meter Panel and Ignitor Check Spark Gap inside Ignitor for short or damage Low open circuit voltage, or bulb amperage adjustment too low Bad or missing Xenon bulb mechanical connections Loose D.C. cables Bad D.C. meter shunt Bad Xenon Bulb
C. Xenon Bulb flickers / dim	Check Power supply for single phase condition, open diode(s), damage Damage to bulb and/or electrodes Excessive hours on bulb
Automation does not start	Check Fail-Safe or Film tension sensor for on position, and reset if needed Check operating buttons for stuck or broken operation Check for correct operating mode (Normal, Interlock, etc.)
Automation does not read cues	Check film for presence and/or placement of cues on film Check and adjust sensitivity adjustment of cue detector Check power feed, wiring, and connections of cue detector from automation

PROBLEM	SOLUTION
Automation does not control peripheral equipment.	Disconnected, loose,missing, or damaged cables. Mis-wired control wiring Loose solder connections on interconnect board Loose or missing relays in Automation Peripheral equipment not turned on or in manual mode Diode chip for selected relay reversed or missing in matrix on selected cue line Missing or damaged cues on film
Film Projector does not run	Disconnected, loose, or damaged wiring or interconnect board solder connections Open fuse Damaged or missing motor relay in automation and/or interconnect board Projector power breaker off or damaged Mechanical problem with projector Film wrap or jam on platter
Projector components do not work (C/O, Turret, etc.)	Missing, loose, damaged wiring or connections on interconnect board Open fuses or circuit breakers Electrical or mechanical damage Diode chip for selected relay missing or backwards in automation
Poor or low sound level	Exciter Lamp off or dim Mis-aligned exciter lamp or photo-cell Audio equipment levels not set Sound in wrong format
Poor or uneven light distribution	Xenon bulb not aligned in reflector Basic unit not positioned correctly for reflector and projector Projector not aligned to lamphouse optics Turret not positioned correctly (lens change) Bulb current set too low Power supply problem
IF YOU ARE UNABLE TO FIX THE PROBLEM, CONTACT A QUALIFIED SERVICE PERSON, YOUR DEALER OR SERVICE COMPANY, OR XETRON DIRECTLY.	

CONSOLE BULB ADJUSTMENTS WITH OPERATOR'S DOOR BULB ADJUSTMENT ACCESS HOLES.



In order to ease XENON bulb adjustments in our XCM and XCND consoles, the bulb adjustments have been moved to a remote location just behind the operator's door, as shown in the illustration above. The tool used is the standard hex tool provided . All adjustments are now made with the operator's door closed, and allow for simplified and safe bulb adjustments while the xenon bulb is lit. To make the adjustments, insert the hex wrench through the desired hole, seat tool in remote adjuster socket, and rotate until desired effect obtained.

The following bulb adjustments move the NEGATIVE end of the Xenon bulb in respect to the Positive end:

Vertical - Raises and lowers bulb end in the vertical plane.
Horizontal - Moves bulb end Left or Right.
Focus - Moves entire bulb forwards or backwards in the reflector to affect light spread.

Please note that sometimes the positive end of the bulb or attached projector may also need alignment in order to achieve optimal light pattern. Also, once excessive resistance is encountered while making adjustments, the axis being adjusted is probably at it's travel limit. Do not force the adjustment any farther, but look to see what optical components are probably out of alignment.

BASIC ALIGNMENT PROCEDURE FOR XENON CINEMA PROJECTION CONSOLES AND LAMPHOUSES

1. Theory and Concept

The most basic principle to be understood in aligning an optical system is to have all components centered and aligned to a single center axis.
In a typical cinema projection system, this center axis will project from the reflector/bulb assembly, through the film projector aperture and lens, to the center of the screen. Alignment of all these components to this axis is critical to achieving maximum light output, distribution, and evenness.

2. Mechanical Alignment.

A. General Procedure - Once an axis is known, all components are aligned to it. If the Reflector is hard mounted, the Xenon bulb is next centered in the reflector, so that it is centered and aligned to the axis. If the reflector is movable, align to the bulb. The projector is also aligned to this axis, so that the projector is level to the console/Lamphouse, and the console/Lamphouse is level to the floor. The final alignment is done so that the projector is level, and the optical axis is centered through the aperture and projection lens, to the center of the screen.

B. XeTRON Equipment - First be sure that the console/Lamphouse is level, and adjust the leveling feet as needed. Center all bulb positioning settings on the basic unit, so that the bulb socket is centered, and will serve as the beginning point of the center axis. Using an alignment kit, center and level the projector on this axis.

On XeTRON Consoles and Lamphouses, the projector is raised by loosening the bolts that attach the projector mount by 1 to 2 turns only, and then raising the projector by turning the two adjusting screws on the main projector mounting plate to raise and level the projector. Horizontal alignment is accomplished by loosening the six bolts that attach this main plate to the console body, and move laterally until centered.
Once the projector is aligned and tightened, install the bulb, and set the positive post height so that the bulb is centered on the axis, and/or parallel to the console floor. Turn on the console and projector, and ignite the bulb. Tilt and center the projected light on the screen.

3. Optical Alignment

The light on the screen should resemble a dark circular center spot, with concentric rings around it. The overall projected image should be circular and symmetrical. If this is not the case, re-check the system alignment and correct as needed. Run the bulb through it's focus, so that the concentric rings appear(see figure 1.), and check for centering. Adjust the focus so the rings disappear, and a central, circular dark spot is centered on the screen. Adjust the horizontal and vertical bulb position adjustments so that the arc image is superimposed and centered on the dark spot(see figure 2.). Remeber that when looking at, and adjusting the image, all movements of the bulb are opposite for what is seen on the screen. If any of the adjustments are turned to their limits, and still the image is not centered, re-check the alignment of all optical components, and then re-align the bulb. Once the alignment is done, adjust the bulb focus for the largest dot possible with only a thin ring of light around it (see figure 3.) This verifies proper alignment between lamp section and projector. Check and re-align projector if needed.

Once the bulb is centered, put in the projection lens, and project for only 10 seconds at a time to avoid lens damage, and observe the light pattern on the screen. Adjust bulb focus to check for even distribution of light, and even dark corners when adjusted so. Flatten the field for even light distribution. Raise the current level of the power supply to the correct level for the bulb. A reading of 14 to 18 footlamberts should be measured at the screen.

Figure 1.

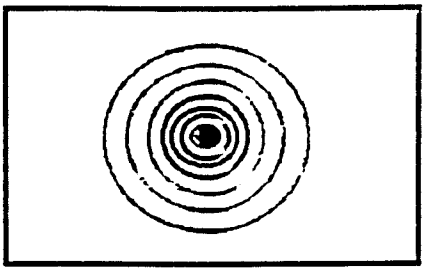
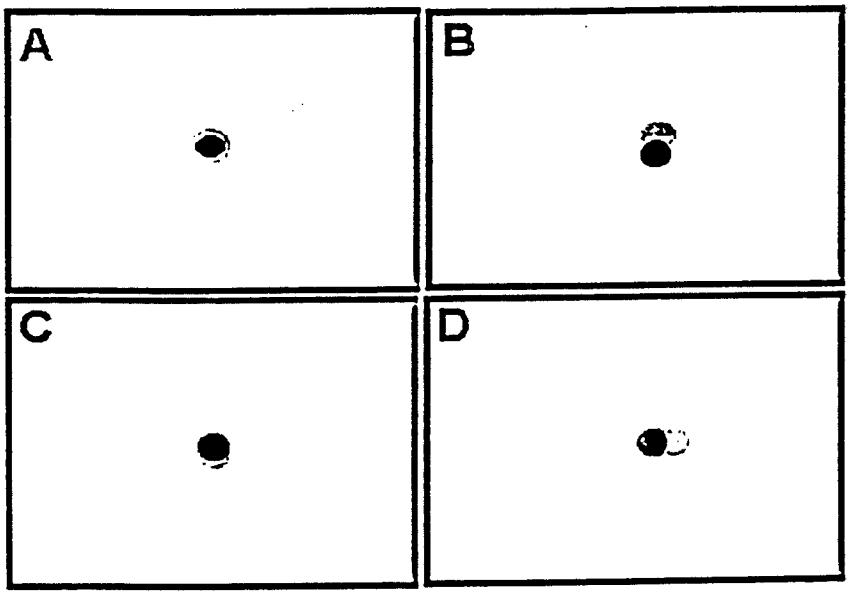
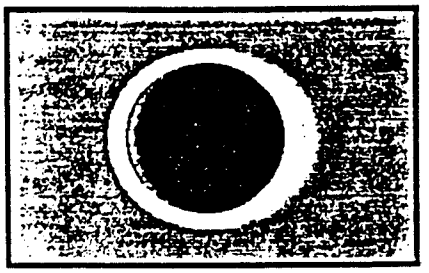


Figure 2.



A. Arc superimposed and centered.
B. Arc below center.
C. Arc above center.
D. Arc left of center.

Figure 3.



RELATIONAL BULB SIZE TO SCREEN SIZE CHART

SCREEN WIDTH	SCREEN HIGHTH	BULB SIZE
TO 30'	TO 15'	2000 WATT
TO 38'	TO 20'	3000 WATT
TO 50'	TO 26'	4000 WATT

The above figures are only rough guides. Many factors should be considered when calculating the correct xenon bulb for a particular auditorium. Besides screen size, the type of projector, lens type, type of port hole glass and projection throw should be considered when specifying a particular system.

VENTILATION REQUIREMENTS

LAMPHOUSE SIZE	RECOMMENDED CFM
1000-2000W	500
3000W	600
4000W	750
7000W	850

The above figures are minimum requirements. While many factors determine bulb life, we feel air flow is the most important.

WORKING DISTANCE MEASUREMENTS

		REAR OF REFLECTOR TO PROJ. APERTURE
XH26020 XH26020CD	10" REFLECTOR	19.5"
XH300159 XH300160	11" REFLECTOR	20.5"
XH460RM XH460CD	15" REFLECTOR	31.15"

If the type of projector was stated on the order, the basic unit should be positioned in the correct distance with normal projector mounting practices.

BULB ADAPTER CHART

1-3K XCN/XCND CONSOLE WITH 10" REFLECTOR

XENON BULB ADAPTER	POSITIVE ADAPTER	NEGATIVE
XBO1000HS	XH3007527	XH3007521
XBO1000HTP	XH3007526	XH300752
XBO1600HS	XH3007527	XH3007521
XBO2000H		XH3007522
XBO2000HS	XH3007527	XH3007521
XBO2000HTP		XH3007523
XBO2500HS	XH3007528	XH3007524
XBO3000HS	XH3007528	XH3007524
XBO3000HTP		XH3007525

1-3K XCN/XCND CONSOLE WITH 11" REFLECTOR

XBO1000HS	XH3007527	XH3007521
XBO1600HS	XH3007527	XH3007521
XBO2000H		XH3007522
XBO2000HS	XH3007527	XH3007521
XBO2500HS	XH3007528	XH3007524
XBO3000HS	XH3007528	XH3007524

4K XCN CONSOLE WITH 15" REFLECTOR

XBO2000H	XH3007547	XH3007548
XBO2500HS	XH3007545	XH300754
XBO3000HS	XH3007545	XH300754
XBO3000H		XH3007541
XBO3000HTP	XH3007546	XH3007542
XBO4000HTP	XH3007546	XH3007543
XBO4000HS		XH3007544
XBO7000HS		XH3007544

4000 WATT CONSOLE
NEW BASIC UNIT & COOLING INSTRUCTIONS AND NOTES

All 4000 watt consoles from Serial# 3384 fowards are now manufactured with the basic unit and cooling system from the Xetron 400/7000 watt lamphouses. This results in dramatically lowered surface temperatures on the console frame, cooler lamp and reflector temperatures, and dramatically quieter operation.

BASIC UNIT:

The Basic unit is still physically configured the same, except that the lamp mount and adjustments are now from the top of the tower, and a larger and quieter blower now directly forces air over the lamp and reflector. Drawing #XH-300-259 shows bulb/adapter final location when installed in the new basic unit. The bulb must be slid all the way rearward in the negative bulb holder, until it contacts the rear stop. Lamp X and Y adjustments are made from the top of the tower, and the focus adjustment knob faces the rear. Drawing #XH-300-260 shows the specific bulb adjusting locations. The front or positive mount can also be moved for longer bulbs if needed. Consult XETRON for specific bulb/plate applications. Make sure bulb has full travel without falling off of the front mount. The bulb adapter is still the same one specified for the 4000W bulb.

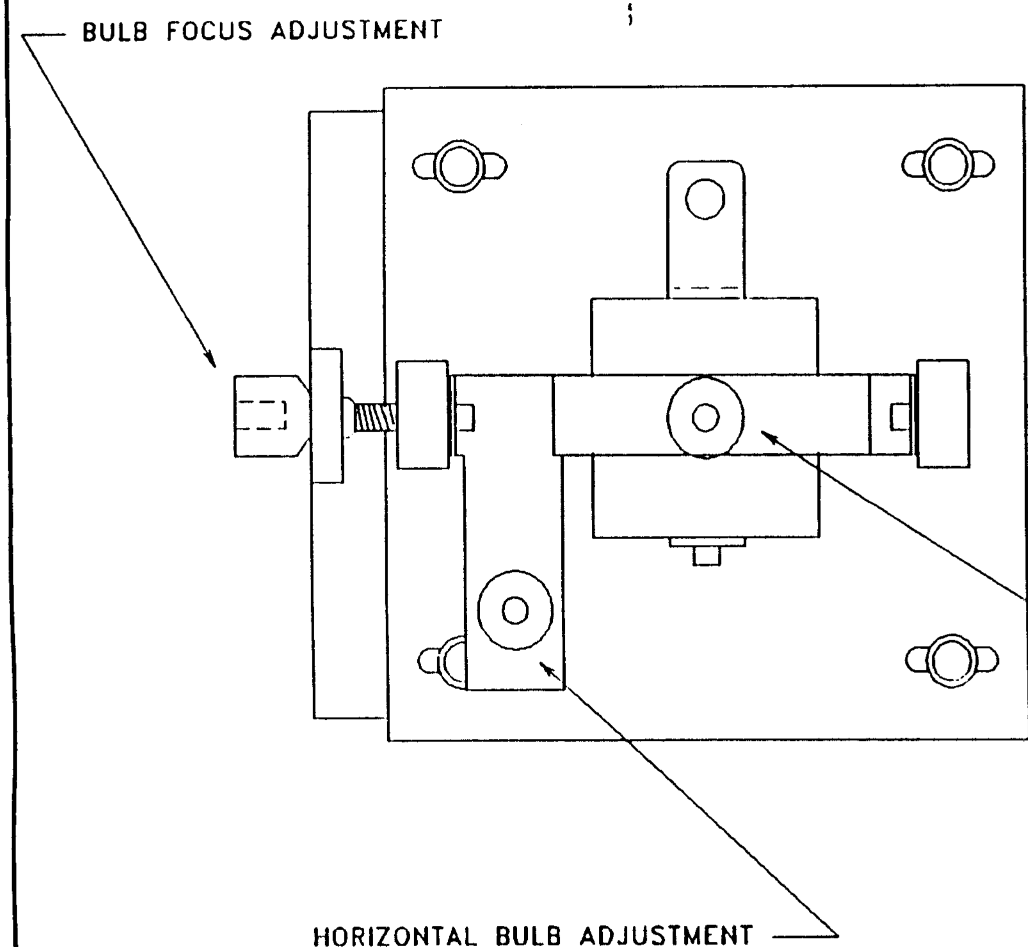
COOLING SYSTEM:

As stated previously, the cooling system has been upgraded for greater cooling and less noise. The Basic Unit blower is twice the capacity of the original one, and now forces air directly over the bulb and outside reflector surfaces. It is most important to be sure that this blower's intake is clean and un-restricted at all times. The console exhaust fan is also a larger capacity fan than before, and also must be un-restricted in the sizing and routing of ducting and hoses.

Please contact your dealer or Xetron directly if you have any questions or problems.

REV. #	DESCRIPTION	DATE	APPROVED

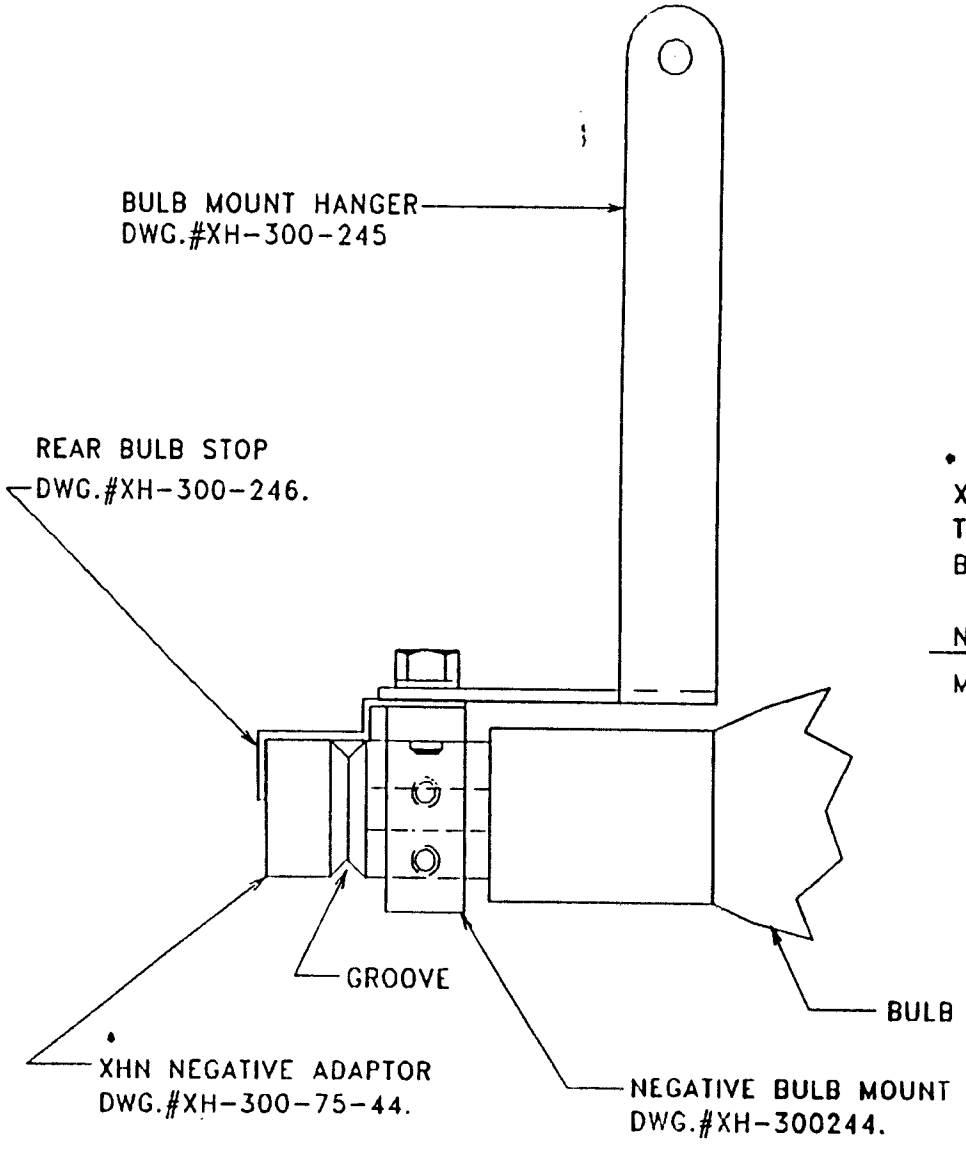
BASIC UNIT VIEWED FROM TOP



XETRON® DIV. OF NEUMADE PRODUCTS CORP.

TOLERANCES	PROJECT: 4/7K BASIC UNIT	SCALE: NTS	DRAWN BY: DR	APPROVED
	TITLE: BULB ADJUSTMENTS LOCATIONS			
DATE: 11-15-94	DRAWING NUMBER: XH-300-260			

REVISIONS			
REV. #	DESCRIPTION	DATE	APPROVED



XHN NEGATIVE ADAPTOR MUST BE PUSHED ALL THE WAY THROUGH THE NEGATIVE BULB MOUNT AND BE STOPPED BY REAR BULB STOP.

NOTE: GROOVE MUST PASS THROUGH NEGATIVE BLUB MOUNT AS SHOWN.

XETRON® DIV. OF NEUMADE PRODUCTS CORP.

TOLERANCES	PROJECT: 7K&4k BASIC UNIT	SCALE N.T.S.	DRAWN BY J.K.	APPROVED
	TITLE: BULB ADAPTOR POSITIONING			
DATE: 11-15-94	DRAWING NUMBER: XH-300-259			

XCN MAXI LIGHT I CONSOLE PARTS LIST - MAY 1991

part number	description	pieces per assembly
XCN022	monitor panel blank	1.00
XCN026	amplifier blank panel-rear	1.00
XCN059	terminal strip 12-pole	1.00
XCN112	leveling feet	6.00
XCN170	top & bottom rear panel	2.00
XCN173	panel w/out flange	1.00
XCN174	panel w/flange	1.00
XCN175	base	1.00
XCN180	non-operating side panel	1.00
XCN183	main cabinent	1.00
XCN185	duplex panel	1.00
XCN187	base cover	1.00
XCN197	vent stack 8"	1.00
XCN211B	operating door - bottom	1.00
XCN211T	operating door - top	1.00
XCN219	breaker panel	1.00
XCN223	meter panel assembly	1.00
XCN227	12 x 12 circuit board assby.	1.00
XCN228	terminal strip - 8 pole	1.00
XCN231	coupler	1.00
XCN237	door latch brkt	2.00
XCN239	door lock spring	2.00
XCN247	mounting bracket for 12 x 12	1.00
XCN266	mounting brkt cover	1.00
XCN279	micro-switch door lock	2.00
XCND108A	D.C Cable P.S - Positive Bulb Con	1.00
XCND108B	D.C Cable - P.S to Shunt	1.00
XCND108C	D.C Cable - Igniter - bulb socket	1.00
XCND108D	D.C Cable - Igniter to Shunt	1.00
XCP1091A	dowser blade	1.00
XCP118N	interior light baffle	1.00
XCP124	nose cone panel	1.00
XCP136	nose cone	1.00
XCP16115	grommet 1"	7.00
XCP167	soundhead adaptor	1.00
XCP171	duplex receptacle	1.00
XCP173	handles	2.00
XCP208	terminal strip - small 12 pole	1.00
XCP2081	terminal marking strip	1.00
XH20012	dowser spring	1.00
XH2002	hand dowser hub	1.00
XH2003	dowser handle	1.00
XH2004	dowser handle stud	1.00
XH2009	dowser pin	1.00
XH2409	shunt	1.00
XH260A	basic unit assembly	1.00
XH30014	dowser arm	1.00
XH30016	dowser bearing bushing	1.00

XCN MAXI LIGHT I CONSOLE PARTS LIST - MAY 1991

part number	description	pieces per assembly
XH30033	sight glass bezel	1.00
XH4304	sight glass	1.00
XH44013	bumper-hand dowser	1.00
XH470A	ignitor	1.00
XH50024	dowser heat screen	1.00
XP9369	dom.proj casting	1.00
	XCN352K	
XCP190	15 amp 1 phase circuit breaker	5.00
XCP194	30 amp 3 phase circuit breaker	1.00
XCN073	20 amp 1 phase circuit breaker	(optional)
XCP194	30 amp 3 phase circuit breaker	(optional)
XCP191	15 amp 2 phase circuit breaker	(optional)
	P35 Circuit Breaker Panel	
XH300160	aconic rhodium	-1.00
XH300159	aconic dichroic	1.00
	XCN352KD	
XH260A	2K basic unit	-1.00
XH260A4	4K basic unit	1.00
XCN078	blower mtg brkt	1.00
XH44010	rotron blower	1.00
XH50021	air deflector anode	1.00
XH50022	air deflector	1.00
XH50023	air deflector brkt	1.00
XCP184	hinged door extension	1.00
XCN170	top & bottom rear panel	-1.00
XCN110	microswitch	1.00
XCN100	door microswitch bracket	1.00
XCN036	door microswitch bracket	1.00
	XCN354KD	
XH260A4	4K basic unit	-1.00
XH260A47	4K basic unit w/slide	1.00
	XCN35704KD	

XCND MAXI LIGHT II CONSOLE PARTS LIST - MAY 1991

part number	description	pieces per assembly
XCN112	leveling feet	6.00
XCN125	1 3/4" slotted panel	1.00
XCN175	base	1.00
XCN185	duplex panel	1.00
XCN187	base cover	1.00
XCN197	vent stack 8"	1.00
XCN219	breaker panel	1.00
XCN223	meter panel assembly	1.00
XCN227	12 x 12 circuit board assembly	1.00
XCN237	door mounting brkt	2.00
XCN239	door lock spring	2.00
XCN266	mounting brkt cover	1.00
XCN279	microswitch door lock	2.00
XCND002	main cabinent	1.00
XCND018	jack	1.00
XCND023	filler panel w/flange	1.00
XCND024	filler panel w/o flange	1.00
XCND026	non-operating side panel	3.00
XCND040	upper partition panel	1.00
XCND046	phenalic insulator	1.00
XCND050	2" grommet	5.00
XCND059	4" duplex box	2.00
XCND069	coupler for jack	1.00
XCND070	1/2" coupler for conduit	1.00
XCND090B	operating door	1.00
XCND090T	operating door screen	1.00
XCND091	mounting brkt 12 x 12	1.00
XCND095	lower partition panel	1.00
XCND096	add-on for lower panel	1.00
XCND105	vented panel for lower	2.00
XCND108A	D.C Cable P.S - Positive Bulb Connection	1.00
XCND108B	D.C Cable - P.S to Shunt	1.00
XCND108C	D.C Cable - Igniter - bulb socket	1.00
XCND108D	D.C Cable - Igniter to Shunt	1.00
XCP1091A	dowser blade	1.00
XCP118N	interior light baffle	1.00
XCP124	nose cone panel	1.00
XCP136	nose cone	1.00
XCP16115	grommet 1"	2.00
XCP167	soundhead adaptor	1.00
XCP171	duplex receptacle	5.00
XCP173	handles	2.00
XCP190C	15amp 1phase circuit breaker	5.00
XCP194C	30amp 3phase circuit breaker	1.00
XD284	6 circuit terminal block	1.00
XH20012	dowser spring	1.00
XH2002	hand dowser hub	1.00
XH2003	dowser handle	1.00

XCND MAXI LIGHT II CONSOLE PARTS LIST - MAY 1991

part number	description	pieces per assembly
XH2004	dowser handle stud	1.00
XH2009	dowser pin	1.00
XH2409	shunt	1.00
XH260A	basic unit assembly with dichroic reflector	1.00
XH30014	dowser arm	1.00
XH50024	dowser heat screen	1.00
XH30016	dowser bearing bushing	1.00
XH30033	sight glass bezel	1.00
XH4304	sight glass	1.00
XH44013	bumper-hand dowser	1.00
XH470A	igniter	1.00
XP9369	dom.proj casting	1.00
XCN073	20 amp 1 phase circuit breaker	(optional)
XCP191	15 amp 2 phase circuit breaker	(optional)

total

XCND352-3KD 2K-3K Deluxe Console

	Console	1.00
	G3X75 Power Supply	1.00
	XCND352KAD	

XCND353KAD 3K Deluxe Console

	Console	1.00
	G3X131 Power Supply	1.00
	XCND353KAD	

BASIC UNIT ASSEMBLY PARTS LIST - MAY 1991

part number	description	pieces per assembly
XCN195	air vane switch complete	1.00
XCN225	basic unit main frame	1.00
XCN229	basic unit base duct	1.00
XCN286	air chute	1.00
XCN244	air chute base	1.00
XCN252A	positive bulb connection block	1.00
XCN253	positive bulb connector	1.00
XCN255	pivot stop	1.00
XCN256-62	index plate	1.00
XD12015	grommet	4.00
XH2601	blower	1.00
XH26010A1	spring	1.00
XH26010A2	brass precision ball	2.00
XH26010A3	square cross bar	1.00
XH26010A4	bronze internal lockwasher	1.00
XH26010A5	bulb socket stud	1.00
XH26010A6	bulb socket nut	2.00
XH26010A7	flat brass washer	1.00
XH26011	index knob	1.00
XH26013	focus swivel bar	1.00
XH260134	focus adj screw	1.00
XH260141	focus control arm	2.00
XH26016	Vertical drive stud bracket	2.00
XH260161	Vertical adj screw	2.00
XH26017	pivot brkt focus control arm	1.00
XH260183	adj block horizontal	1.00
XH26035	magnet	1.00
XH26039	air vane brkt	1.00
XH2605B	adjusting plate	1.00
XH2608A	horizontal adj plate	1.00
XH2609	vertical adj plate	1.00
XH26091	vertical center	1.00
XH300102	main frame cover plate	1.00
XH300160	aconic reflector rhodium	1.00
XH300167	shroud	1.00
XH300178	side rail tension spring	2.00
XH30078	interchangeable bulb holder	1.00
XH50033	positive post	1.00
XH50054	spring	1.00
MMMM	shoulder bolt 1/4" X 5/8" 10/24	8.00
XH300187	spring	8.00
XCND056	nylon cup washer	8.00
MMMM	1/4 x 20 x 3" pivot bolt	1.00
MMMM	1/4-20 asna nut	1.00
MMMM	1/4" spring washer	1.00
MMMM	1/4 x 28 jam nut	6.00
MMMM	3/8 spring washer	2.00
MMMM	3/8 x 16 asna nut	2.00

BASIC UNIT ASSEMBLY PARTS LIST - MAY 1991

part number	description	pieces per assembly
MMMM	1/4ID x 11/16OD x 1/32 nylon wa	5.00
MMMM	10/32 x 5/8" button head	8.00
	Total	
	Dichroic Aconic Basic Unit	
XH300159	Dichroic Aconic Reflector	1.00
XH300160	Rhodium Aconic Reflector	-1.00
	Total	
XCN225	Basic Unit Main Frame 1-3K	-1.00
XCN240	Basic Unit Main Frame 4K	1.00
XH300160	Rhodium Aconic Reflector	-1.00
XH460CD	Dichroic 15" Reflector	1.00
XH26035	Donut Magnet	2.00
XH300147	magnet bracket	-1.00
XH300154	magnet brkt clamp	-1.00
XH300162	magnet	-1.00
	Total - 4K System	
XCN271	slide plate adjusting brkt	1.00
XCN272	slide plate adjusting block	1.00
XNS031	thrust bearing	2.00
XH50058	adjusting screw	1.00
	Total - 4K w/slide plate	

XCN227 12 X 12 CIRCUIT BOARD PARTS LIST - MAY 1991

part number	description	pieces per assembly
XCN223-110	PLUG 4 POSITION	1.00
XCN223-111	RECEPTICLE 4 POSITION	1.00
XCN223-112	PLUG 2 POSITION	1.00
XCN223-113	RECEPTICLE 2 POSITION	2.00
XCN223-114	PLUG 3 POSITION	2.00
XCN223-115	RECEPTICLE 3 POSITION	2.00
XCN227-100	PLUG 3 POSITION	1.00
XCN227-101	PLUG 15 POSITION	1.00
XCN227-102	PLUG 17 POSITION	1.00
XCN227-103	RECEPTICLE 3 POSITION	1.00
XCN227-104	PLUG 5 POSITION	2.00
XCN227-105	RECEPTICLE 5 POSITION	2.00
XCN227-106	RECEPTICLE 15 POSITION	1.00
XCN227-107	RECEPTICLE 17 POSITION	1.00
XCN227-108	NON PLUGGABLE 2 POSITION	9.00
XCN227-109	NON PLUGGABLE 3 POSITION	15.00
XCN227-110	20 PIN RIBBON CONNECTOR	1.00
XCN227-111	40 PIN RIBBON CONNECTOR	1.00
XCN227-112	LOCK EJECTOR HOOKS	4.00
XCN227-113	FUSE HOLDER - PC MOUNT	7.00
XCN227C	12 x 12 CIRCUIT BOARD COMPLETE	1.00

XCN223 METER PANEL PARTS LIST - MAY 1991

part number	description	pieces per assembly
XCN223-100	battery 3V lithium .78 dia.	1.00
XCN223-101	battery holder	1.00
XCN223-102	1000uf 50V radial electrolytic	1.00
XCN223-103	220uf 16V radial electrolytic	1.00
XCN223-104	.022uf 50V metalized film	2.00
XCN223-105	.1uf 50V metalized film	1.00
XCN223-106	.47uf 250V metalized polyester	1.00
XCN223-107	150uf 6.3VDC sintered anode capacitor	1.00
XCN223-108	dip bridge 1A 100V	1.00
XCN223-109	AC input/transistor output optocoupler	1.00
XCN223-110	4 position plug	4.00
XCN223-111	4 position recepticle	4.00
XCN223-112	2 position plug	1.00
XCN223-113	2 position recepticle	1.00
XCN223-114	3 position plug	1.00
XCN223-115	3 position recepticle	1.00
XCN223-116	sip socket 3 position .100 spacing	2.00
XCN223-117	sip socket 13 position .100 spacing	1.00
XCN223-118	8 position recepticle	1.00
XCN223-119	8 position plug	1.00
XCN223-120	autostrike relay - pc mount	1.00
XCN223-121	autostrike socket - pc mount	1.00
XCN223-122	hold down spring	1.00
XCN223-123	100 ohm 1/2 watt resister	1.00
XCN223-124	1800 ohm 5 watt resistor	1.00
XCN223-125	150 ohm 1/4 watt resistor	1.00
XCN223-126	1 meg 1/4 watt resistor	1.00
XCN223-127	10k multi turn pot	2.00
XCN223-128	1k 1/4 watt resistor	1.00
XCN223-129	100k 1/4 watt resistor	1.00
XCN223-130	pc rocker switch (man ign/amp/volt)	2.00
XCN223-131	pc rocker switch (auto/manual)	1.00
XCN223-132	panel mount rocker (power)	1.00
XCN223-133	transformer	1.00
XCN223-134	regulator	1.00
XCN223-135	hour meter - pc mount	1.00
XCN223-136	volt/amp meter - pc mount	1.00
XCN223-137	6 pin IC socket	1.00
XCN223-138	spacer - volt/amp meter	2.00
XCN223-139	spacer - pc board mount	6.00
XCN223-140	high speed rectifier	1.00
XCN265	spacer - hour meter	2.00
XH21011	fuse holder	1.00
XH21029	autostrike breaker 1 amp	1.00
XH300123	47V 5W zenor diode	1.00
XCN223	Circuit Board complete only	1.00
XCN223C	Meter Panel Assembly complete	1.00

XETRON®

XETRON
IREM POWER SUPPLY
SUPPORT MANUAL

MAY 1991

DIV. OF NEUMADE PRODUCTS CORP. Ten Saddle Rd., Cedar Knolls, NJ 07927 U.S.A. Telephone (201) 267-8200

The XETRON/IREM power supplies have been designed to meet strict operational standards. In the pages that follow, we have included part lists, schematics and a comprehensive trouble shooting guide.

Listed below are the specification for each power supply available:

SKU	WATTAGE	OPERATIONAL RANGE	PHASE	VOLTAGE	WT
G1X50	1000	35-50 amps	1	120V	114
G3X75	2000	45-75 amps	3	208/230V	190
G3X131	4000	70-140 amps	3	208/230V	370
N3X75	2000	45-75 amps	3	208/230V	190
N3X75/95	3000	45-95 amps	3	208/230V	270
N3X141	4000	70-140 amps	3	208/230V	366
N3X160	5000	80-160 amps	3	208/230V	490
N3X200	7000	100-200 amps	3	208/230V	540

** ALL THREE PHASE POWER SUPPLIES ARE AVAILABLE IN ALTERNATIVE VOLTAGE CONFIGURATIONS (i.e. 380V 50HZ, 200V 50HZ, 220V 50HZ)

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The Irem power supplies are designed to cover a wide range of power applications and are normally used to supply filtered direct current to short arc Xenon bulbs in motion picture equipment.

All units are designed to deliver the nameplate power on a continuous basis and with a nominal variation in line voltage. The units will deliver normal power with line voltages from 208 to 230 volts.

Output power is regulate by changing the magnetic flux coupling the primary and secondary transformer windings. This shunt is connected to a hand wheel and moved up and down to provide a continuously variable change in output.

All IREM power supplies are supplied with magnetic switches for ON/OFF control. Please consult the power supply schematics for circuit details and note that an extra set of contacts are provided for latching the switch in the on position and releasing when the toggle switch RC is opened or the off switch is depressed. Also in reference to this drawing, it will be observed that each primary consists of tow coils in series and the parallel and each coil having a center top. These coils are also star connected and this permits the use of six identical diodes mounted on a common heat sink to be used. Each diode is shunted by a .22 mfd capacitor to bypass any switching transients that could damage the diode.

The power supplies use high reactance transformers to provide a suitable volt-ampere output characteristic. The no load voltage must be 80-120 volts when first energized and drop to approximately 25 volt, depending upon the size of the bulb, when the bulb ignites and starts to draw current. All Xenon power supplies have a large output capacitor whose discharge is very helpful in starting the initial current flow through the bulb.

The RA unit serves the special purpose of inserting a low value resistance in series with this capacitor so its charging and discharging peak currents will be reduced. After the bulb is ignited, the relay shorts out this resistor and permits the capacitor to do its normal filtering function. The bulb manufacturers recommends that the output current pulsation not exceed 10% peak to peak. The IREM units normally check less than this value.

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It is very important that tight, clean connections be maintained and that the units be properly protected with fuses or circuit breakers. The technical data sheet provides the necessary information as to current drawn by each unit.

Normal service calls for removal of the panels once a year to brush off the collected dust and checking to see that the input and output connections are tight. These units depend upon convection currents for cooling and must not be located in confining quarters or in rooms having high ambient temperatures. The transformers are designed to operate at temperatures not to exceed room temperature plus 65 degrees centigrade.

As the magnetic shunts operate in a very strong magnetic field, they can be the source of a loud hum if not properly centered. In this case, they vibrate against the transformer laminations causing the noise.

Brass center screws in fiber blocks are provided to readjust the position of these shunts when necessary. Please refer to drawing #7010-A for instructions.

If trouble is experienced lighting the bulb despite the fact that the spark gap in the lamphouse is delivering a good normal spark, the RA unit in the power supply may be suspected. If the one ohm resistor should be open or the capacitor out of the circuit due to some malfunction of the RA relay, a temporary connection can be made by pulling away the four circuit nylon plug from the relay assembly and using two pieces of solid #14 wire to make jumpers - once connecting the two inside connections (black wires) together and the second to connect the two outside (red wires) connections together. This will enable the capacitor to be connected directly across the output of the power supply and ignite the bulb with a higher than normal peak starting current, but would be satisfactory until a new RA unit can be installed. If this does not correct the condition, the capacitor should be checked.

At any sign of trouble it is always advisable to check the no load voltage of the unit to see if the normal 80 to 120 volts are being obtained. Under normal conditions, the bulb will ignite almost instantaneously with an ignition time of one second or less. If the bulb fails to ignite, under no circumstances should the start button be pressed for more than ore or two seconds - nor in rapid succession. This can damage the ignitor components as they are designed for momentary duty only.

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TROUBLE SHOOTING GUIDE

1. Power Supply will not turn on - magnetic contactor will not close

- Check AC fuses - foreign particles or rust in magnetic contactor. Defective coil in magnetic contactor. Check toggle switch. Check TP in series with coil (single phase units only). Operate contacts manually. In case automation is used, check external circuit which will be bypassed if toggle switch is ON.

2. Adjusting wheel turns very easily - power supply makes noise under load

- Adjust brass screws in each transformer bank - refer to special page in manual. The noise is mechanical and does not indicate any electrical malfunction.

3. Adjusting wheel turns very hard

- Shunt tight due to adjusting screws - do not force wheel - loosen brass screws in each transformer bank - then check for excessive hum with power supply under load.

4. Difficult to strike Xenon bulb or erratic start

- Check for burned or pitted contacts in the relay on the RA control board in power supply. Remove plastic plug from RA unit - using #14 jumper wires - jump black to black and red to red to bypass RA. See if bulb will strike with no hesitation - if so, replace RA unit. Power supply can be operated with the jumper wires, but new RA unit should be installed as soon as possible. Check Xenon bulb for excessive erosion of tip as this widens the gap and makes starting more difficult. Failure to obtain 85-90 volts no load may indicate a defective filter capacitor. Check the internal wiring of the lamphouse/console to see if spark is going to ground rather than through the bulb. Remove the D.C. cable while making this check.

- Check .1 mfd (600 or 1000v) capacitor (one of 4 on igniter) in circuit between the negative DC lead and 1000V (preferably oil) anywhere across the negative DC to ground and try ignition.

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5. No 220 VAC for ignition from terminals marked 220 VAC single phase units only. Three phase units take the 220 VAC for ignition directly from the load side of the magnetic contactor.
- Auxiliary transformer winding in power supply open due to excessive load - replace transformer section or obtain temporary operation by using separate AC supply to lamphouse.

6. Magnetic contactor chatters - will not hold in
- One phase of the 3 phase power is either open or low. Minimum should be 208V, check latching contacts.

7. Flicker on screen - machine running
- One of the most common causes is too much light. Either reduce the power supply amperage or defocus the xenon bulb. Check for damaged or defective xenon bulb.

8. Flicker on screen - machine not running - white light only
- Bad Xenon bulb. arc can be very unstable if tungsten deposit appears on bottom of anode. Bad diode - Check with AC probe (6A scale) should not exceed approximately 2.5 amps. Open filter capacitor or defective RA unit. Check diodes with ohmmeter after disconnecting one lead. Capacitor or capacitors (large can type unit) could be defective 3 phase disconnect switch. Check voltage on each phase at power supply input. Capacitors can be tested by turning on power supply, no ignition, turn off and place short or VM across output. Should have violent spark or voltmeter should show 80-90 volts with gradual drops off to zero.

9. Bulb will not ignite - very low open voltage supply hums
- This applies to N3 & G3 supplies and indicates that one or more of the diodes may be shorted. To check diodes, turn off the power to the supply. disconnect one side of each diode and check each one with an ohmmeter on low scale. A good diode will read infinity in one direction and approximately 5 to 15 ohms in the opposite direction. If you read the same low resistance in both directions, the diode is defective and should be replaced. Note that all diodes do not have to read exactly the same resistance.

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XETRON/IREM POWER SUPPLIES
TROUBLE SHOOTING INFORMATION

MARCH 1985

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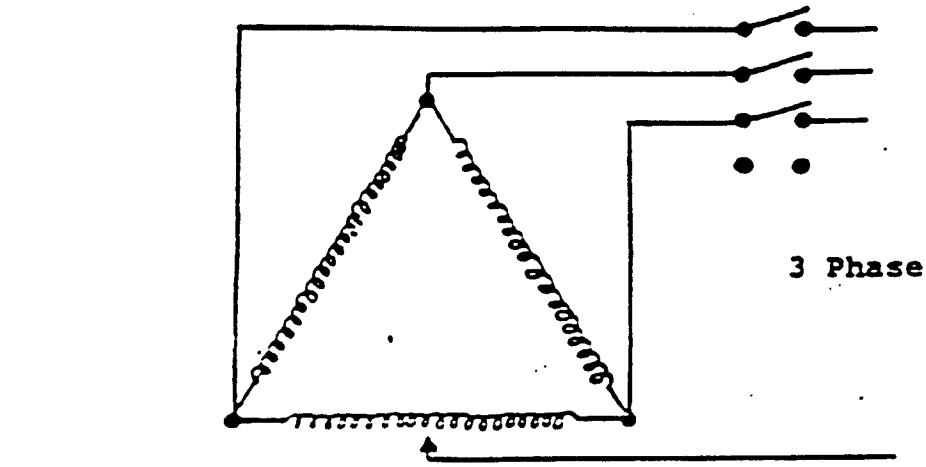
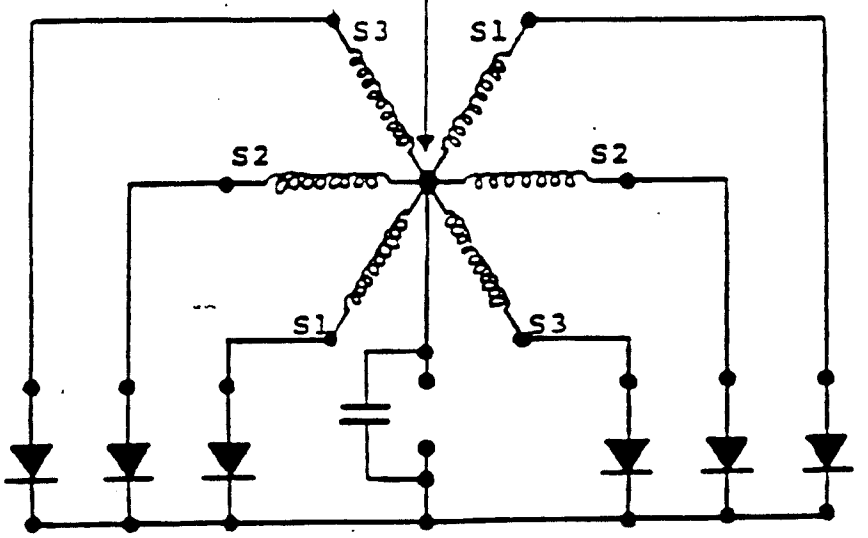


3 Phase Unit

Delta Primary
Star Secondary



1. To check 3Ø secondary for balance, use AC voltmeter from negative DC terminal to lead from each diode. The voltage should be the same at each diode.

2. DC voltage drop, with load, should be the same across each diode. Measured from the positive DC terminal to each diode.

XETRON®

XETRON XHN/XCN SERIES HORIZONTAL LAMPHOUSE/CONSOLE TERMINATION

31 OCTOBER 1986

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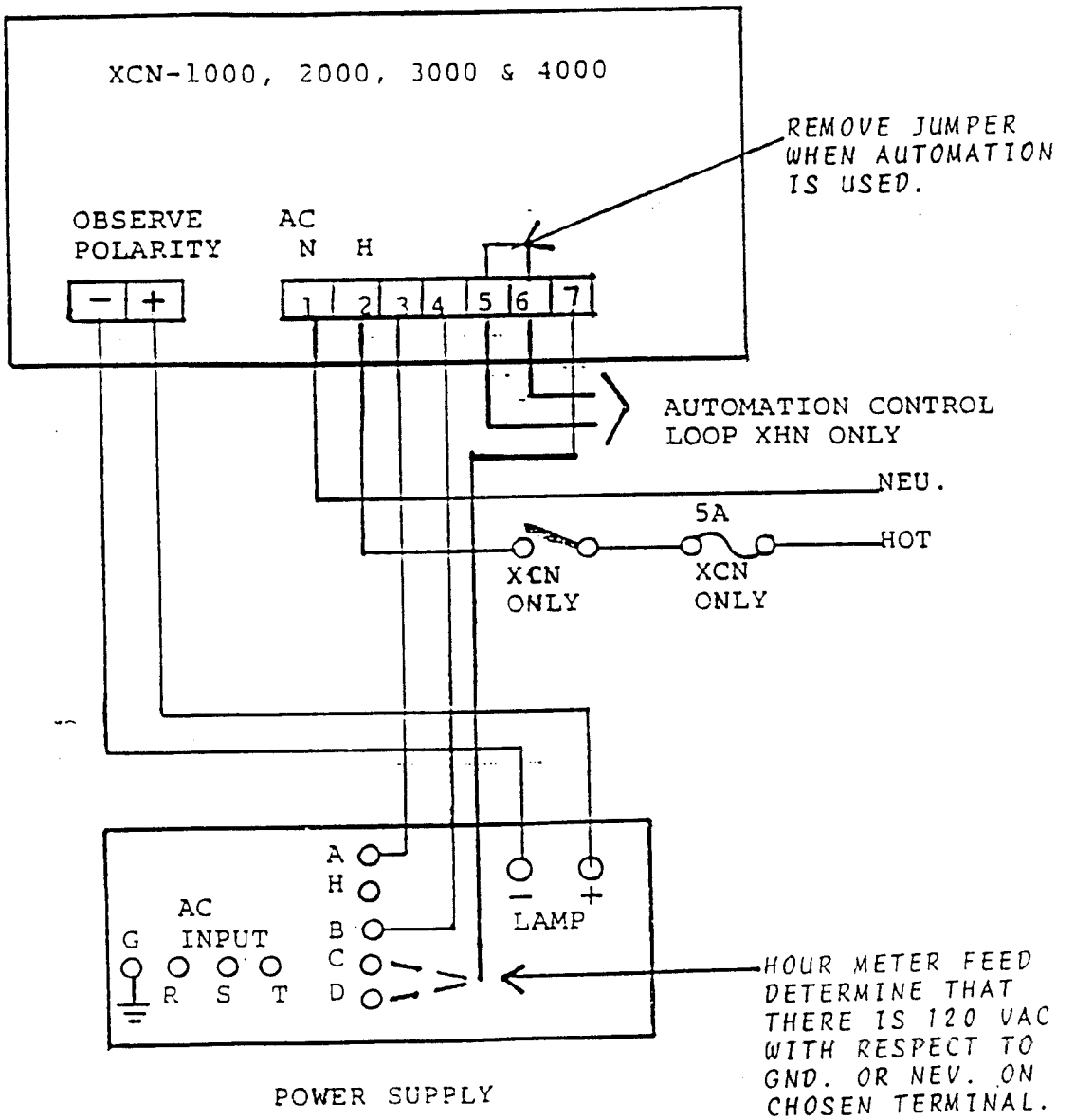


DIV. OF NEUMADE PRODUCTS CORP. Ten Saddle Rd., Cedar Knolls, NJ 07927 U.S.A. Telephone (201) 267-6200

NOISE REDUCTION

Abnormal hum or vibration which may develop in a power supply can usually be eliminated by tightening the brass screws located in the composition blocks on both sides of the movable shunt or center section of the power supply. These brass screws ar readily accessible after removing the blue panel (N3 Series) and there are ten or twelve brass screws on each side. We recommend the first effort to reduce the noise be made by turning each screw associated with the center transformer one half turn (all adjustments made while power supply is on and under load). If no noise reduction is noted, return it to the "as found" position and try the others, first on one side and then the other. If the noise has not been reduced to a satisfactory level, we recommend the following:

1. Turn on the rectifier and bring it to nominal current.

2. Remove the rectifier front panel (blue - N3 Series).

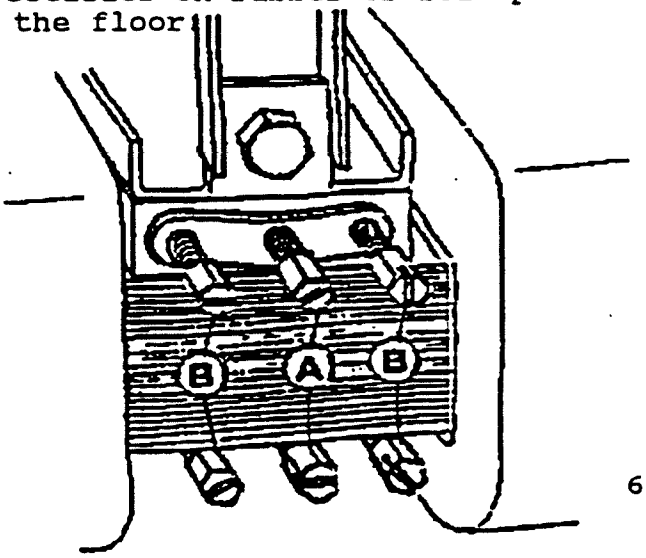
3. Loosen all the center screws (A), whose function it is to lock the adjustment screws (B).

4. Starting from the lower part of the unit, slightly turn clockwise or counterclockwise the adjustment screws (B) (a rotation of few degrees may be enough) until the unit reaches the point of lowest hum. Check that the rotation of the regulation hand-wheel is still normal and not bound.

5 After making the adjustment, tighten the center screw (A). CAUTION - DO NOT FORCE OR OVERTIGHTEN THESE SCREWS.

It is advisable to install the rectifier on rubber or felt pads in order in insulate the unit from the floor

(A) CLAMPING SCREWS
(B) ADJUSTMENT SCREWS



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SPARE PARTS ORDERING INFORMATION

MARCH 1985

DIV. OF NEUMADE PRODUCTS CORP. Ten Saddle Rd. Cedar Knolls. NJ 07927 U.S.A. Telephone (201) 267-8200

REPLACEMENT PARTS ARE AVAILABLE FROM AUTHORIZED XETRON DEALERS

CHANGES IN IREM POWER SUPPLIES ARE SOMETIMES MADE TO ACCOMMODATE IMPROVED COMPONENTS AS THEY BECOME AVAILABLE AND TO GIVE YOU THE BENEFIT OF THE LATEST CIRCUIT IMPROVEMENTS.

IT IS THEREFORE NECESSARY, WHEN ORDERING PARTS, TO INCLUDE THE FOLLOWING INFORMATION:

- part number
- power supply model number
- serial number

XETRON®

XETRON/IREM POWER SUPPLIES

PARTS

MARCH 1985

DIV. OF NEUMADE PRODUCTS CORP. Ten Saddle Rd. Cedar Knolls. NJ 07927 U.S.A. Telephone (201) 267-8200

G1-X100 POWEER SUPPLY 208/230V 60HZ

DESIGN.	DESCRIPTION	TYPE	Q	NUMBER
MS	Magnetic Shunt	G1	1	62000911
T1-T2	Variable Coupling Transformer	G1X100	2	63000374
L1/L2	Inductance	G1X100	2	63050095
MO	Terminal Board	N3-A	1	87445254
H	Regulation Hand Wheel	3332/IM	1	79009051
D1-D4	Silicon Diode	SKN 100/08	4	88111090
C1-C5	Capacitors 0,22 uF 630V	.102	5	88310020
C	Capacitor 0,022 mF	1500V	1	88310040
C7-C11	Capacitors 5800 uF 100V	36 CD	5	88322105
R1-R4	Thermistor 1,5 Ohm 5W	TSD	4	88290101
R5	Resistance 1 Ohm	5W	1	88201100
W	Main Switch	DIL 022 NA	1	88471223

G3-X131 POWER SUPPLY 208/230V 60HZ

MS	Magnetic Shunt	N3	1	62000900
T1-T3	Transformer	N3-29	3	63017094
MO	Terminal Board	N3-A	1	87445254
RA	Ignition Relay	LP/C	1	78800401
H	Regulation Hand Wheel		1	79009050
D1-D6	Silicon Diode 1000 PIV	25 HAR	6	88111010
C1-C6-C8	Capacitors 0,22 uF 600V	102	7	88310020
C7	Capacitors Electrolytic 5800uF		2	88322105
C9	Capacitors 0,022 uF	1500V	1	88310040
RC	Single Pole Switch	T 106 A	1	88401100
W	Main Switch 220V 60Hz	DIL 22 NA	1	88471223

N3-X141 POWER SUPPLY 208/230V 60HZ

MS	Magnetic Shunt	N3	1	62000909
T1-T3	Transformer	N3-29	3	63017110
MO	Terminal Board	N3-A	1	87445254
RA	Ignition Relay	LP/C	1	78800401
H	Regulation Hand Wheel	333/IM	1	79009051
D1-D6	Silicon Diode 1000 PIV	25 AR	6	88111010
C1-C6-C8	Capacitors 0,22 uF 600V	102	7	88310020
C7	Capacitors Electrolytic 5800uF	FC-85	2	88322105
RC	Single Pole Switch	T 106 A	1	88401100
W	Main Switch 220V 60Hz	DIL 22 NA	1	88473223
C9	Capacitor 0,022 uF	1500V	1	88310040

XETRON®

XETRON/IREM POWER SUPPLIES

PARTS

MARCH 1985

DIV. OF NEUMADE PRODUCTS CORP. Ten Saddle Rd. Cedar Knolls. NJ 07927 U.S.A. Telephone (201) 267-6200

N3-X75/G3-X75 POWER SUPPLIES 208/230V 60HZ

DESIGN.	DESCRIPTION	TYPE	Q	NUMBER
MS	Magnetic Shunt	N3	1	62000900
T1-T3	Variable Coupling Transformer	N3-28	3	63017028
MO	Terminal Board	N3-A	1	87445254
RA	Ignition Relay	LP/A	1	78800400
H	Regulation Hand Wheel	3332/IM	1	79009050
D1-D6	Silicon Diode 1000 PIV	41 HAR 40	6	88111022
C1-C6-C8	Capacitors 0,22 uF 600V	102	7	88310020
C7	Capacitor 3400 uF 75/95V	C 36 D	1	88322060
RC	Single Pole Switch	T106/A	1	88401100
W	Main Switch 16A	LC1	1	88471122
C9	Capacitor 0,022 uF	1500V	1	88310040

N3-X75/G3-X75 POWER SUPPLIES 220/380V 50HZ

MS	Magnetic Shunt	N3	1	62000900
AT	Auto Transformer	AM-10	1	63010010
T1-T3	Transformer	N3-52	3	63017024
MO	Terminal Board	N3-A	1	87445254
RA	Ignition Relay	LP/A	1	78800400
H	Regulator Hand Wheel	3332/IM	1	79009050
D1-D6	Silicone Diode	41 HAR 40	6	88111022
C1-C6	Capacitor	102	6	88310020
C7	Capaictor	C 36 D	1	88322060
RC	Single Pole Switch	2400/B2	1	88401103
W	Main Switch	LC1	1	88471122
B	Contactor Coil	220V 50Hz	1	88471902
CT	Control Voltage Switch	5032/IT	1	88511210
F	Fuse	1-A	1	88521010

N3-X75/95 POWER SUPPLIES 208/230V 60HZ

MS	Magnetic Shunt	N3	1	62000902
T1-T3	Variable Coupling Transformer	N3-40	3	63017040
MO	Terminal Board	N3-A	1	87445254
RA	Ignition Relay	LP/A	1	78800400
H	Regulation Hand Wheel	3333/IM	1	79009051
D1-D6	Silicon Diode 1000 PIV	25 AR 40	6	88111010
C1-C6-C8	Capacitors 0,22 uF 600V	102	7	88310020
C7	Capacitor 5800 uF 100/125V	FC 85	1	88322105
RC	Single Pole Switch	T 106A	1	88401100
W	Main Switch 16A 220V 60Hz	LC1	1	88471122
C9	Capacitors 0,022 uF	1500V	1	88310040

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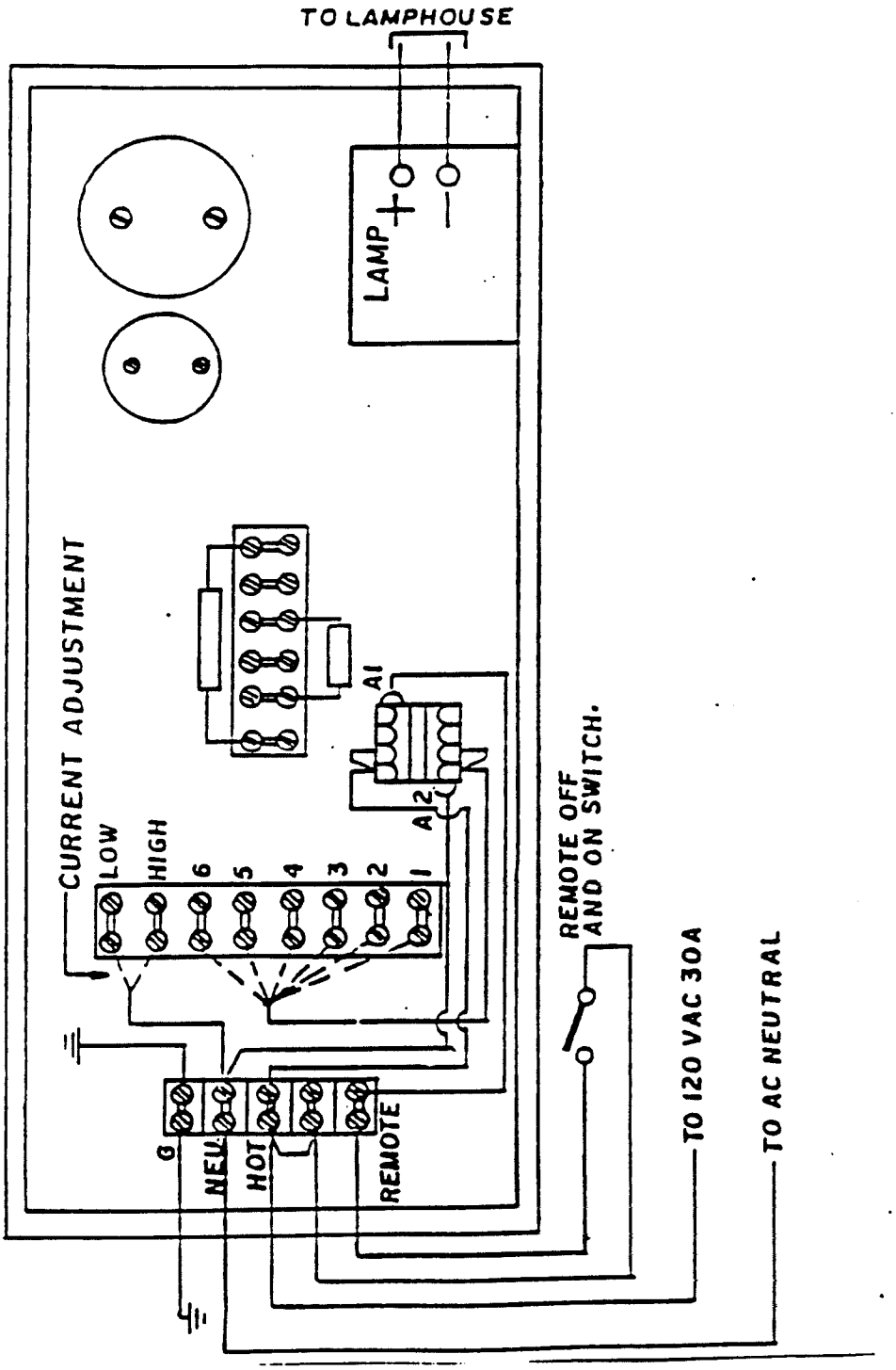
G-X50 CONNECTION DIAGRAM

MARCH 1985

DIV. OF NEUMADE PRODUCTS CORP. Ten Saddle Rd., Cedar Knolls, NJ 07927 U.S.A. Telephone (201) 267-8200



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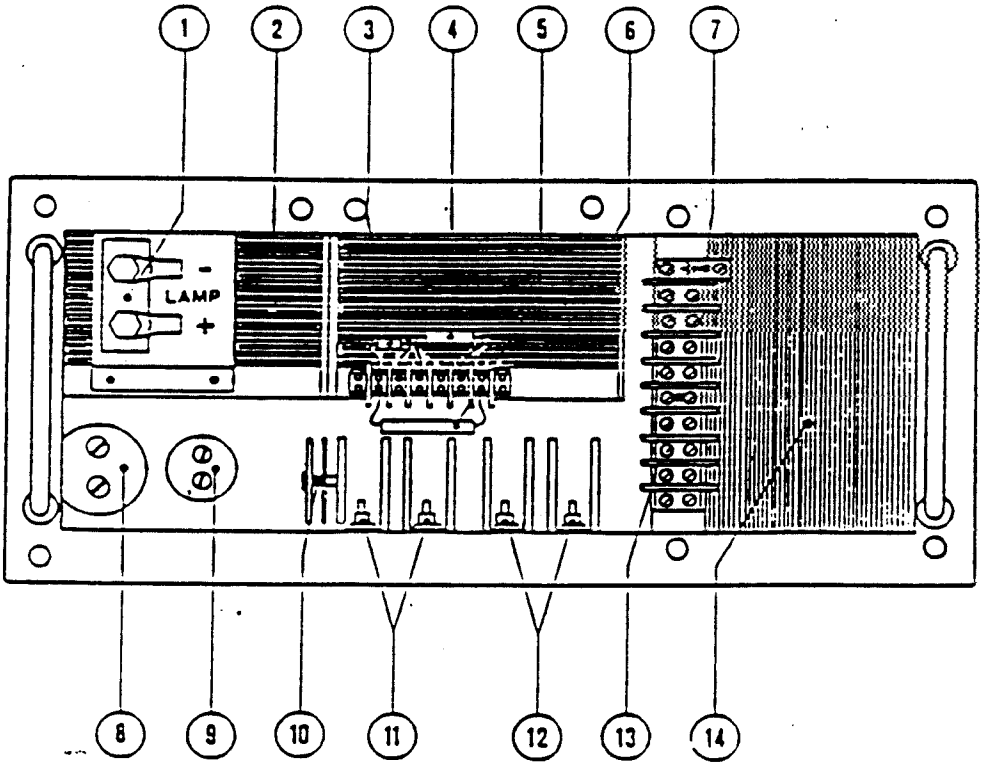
G-X50 POWER SUPPLY
COMPONENTS ARRANGEMENT

MARCH 1985

DIV. OF NEUMADE PRODUCTS CORP. Ten Saddle Rd., Cedar Knolls, NJ 07927 U.S.A. Telephone (201) 267-8200



1) MO1 output terminal
2) Filter impedance
3) D3 Diode
4) R2 Resistor
5) R1 Resistor
6) Filter impedance
7) Ground terminal
8) C3 Filter capacitor
9) C4 Support capacitor
10) Silicon plate
11) D4 Blocking diode
12) D1-D2 Rectifier diodes
13) MO2 Input terminal board
14) Transformer

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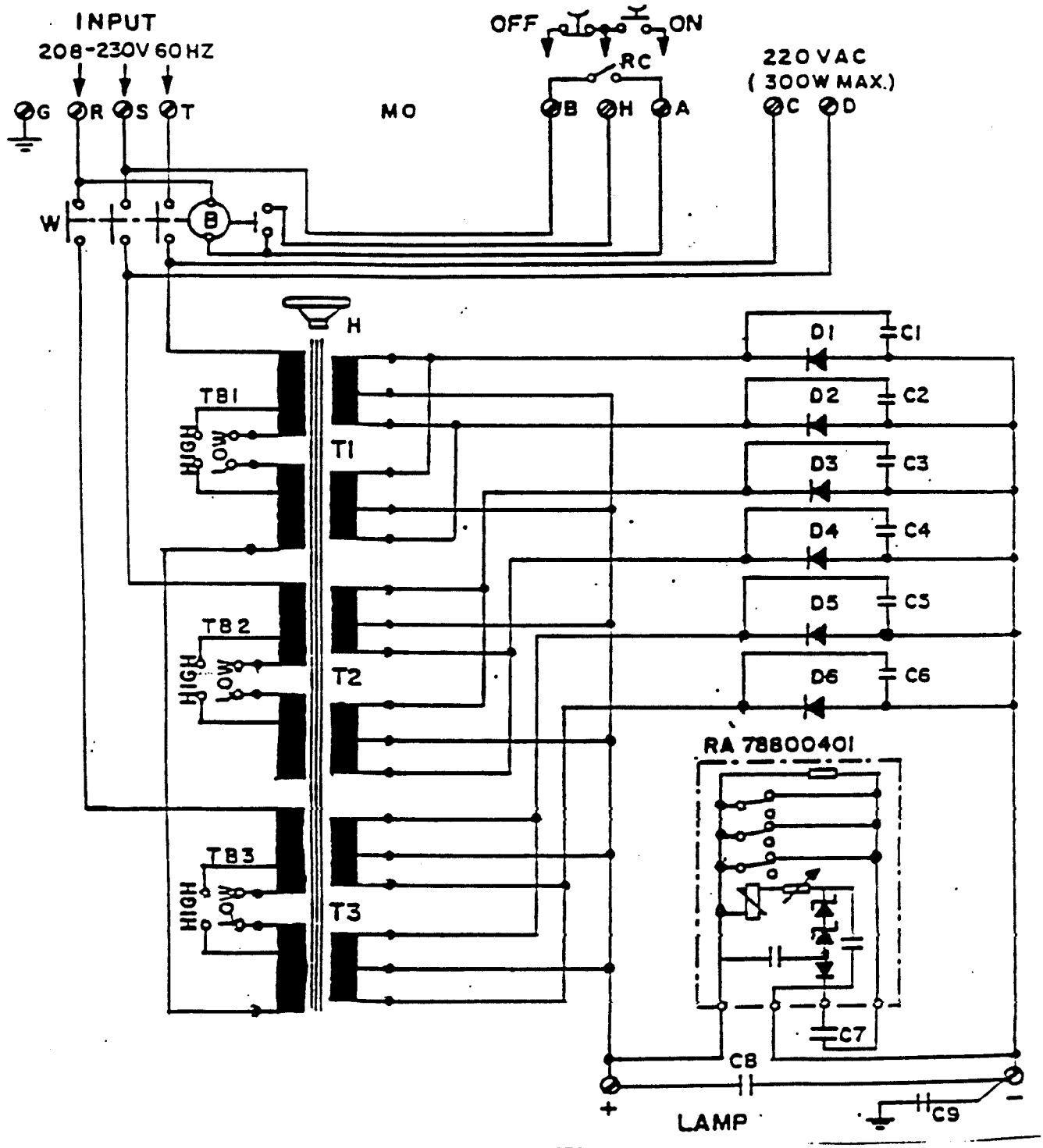
G3-X131 Power Supply Schematic

March 85

DIV. OF NEUMADE PRODUCTS CORP. Ten Saddle Rd, Cedar Knolls, NJ 07927 U.S.A. Telephone (201) 267-8200



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N3-X50/N3-X75
G3-X75/G3-X80
Power Supply Schematic

March 85

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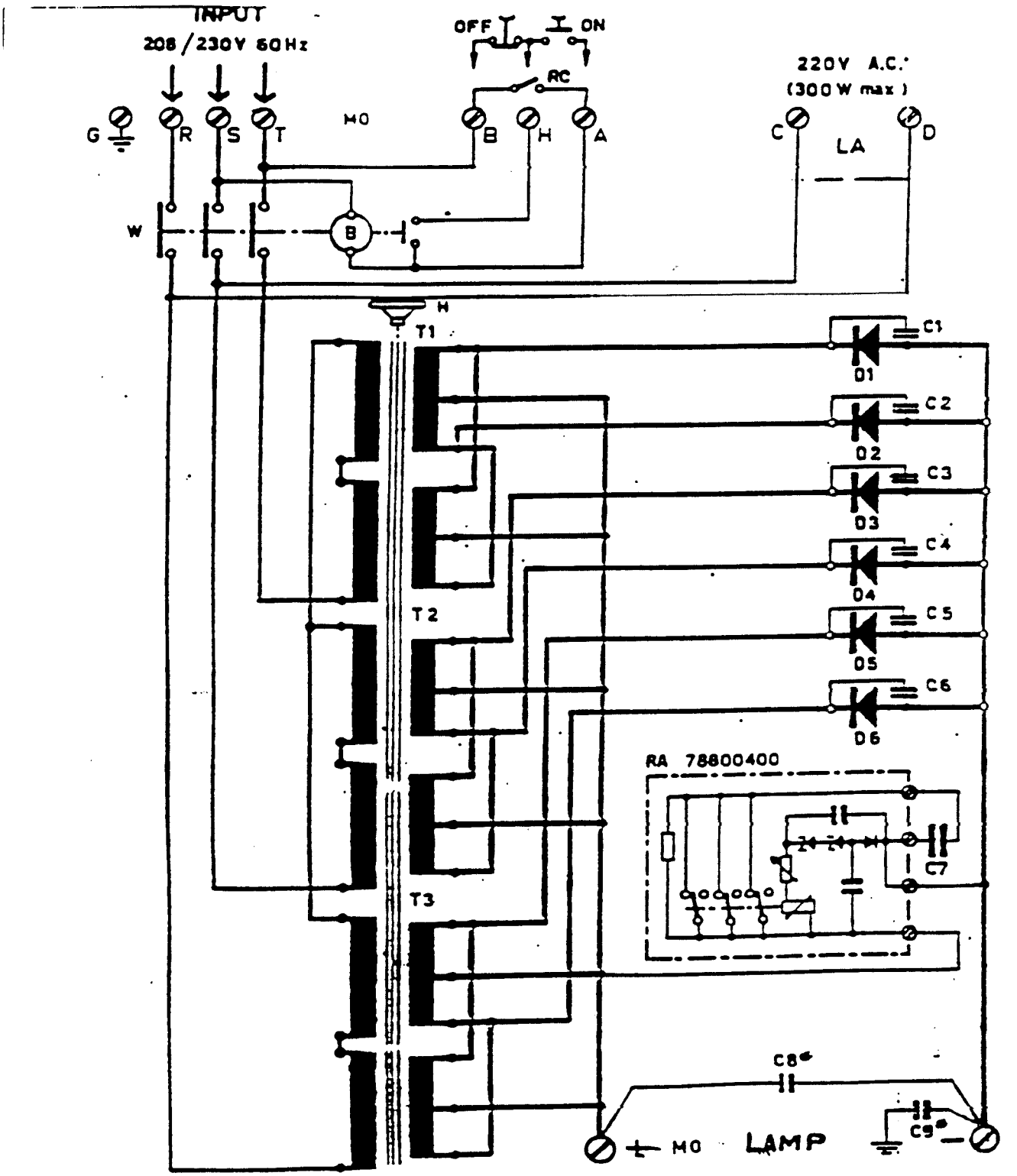

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G-X50 Wiring Diagram

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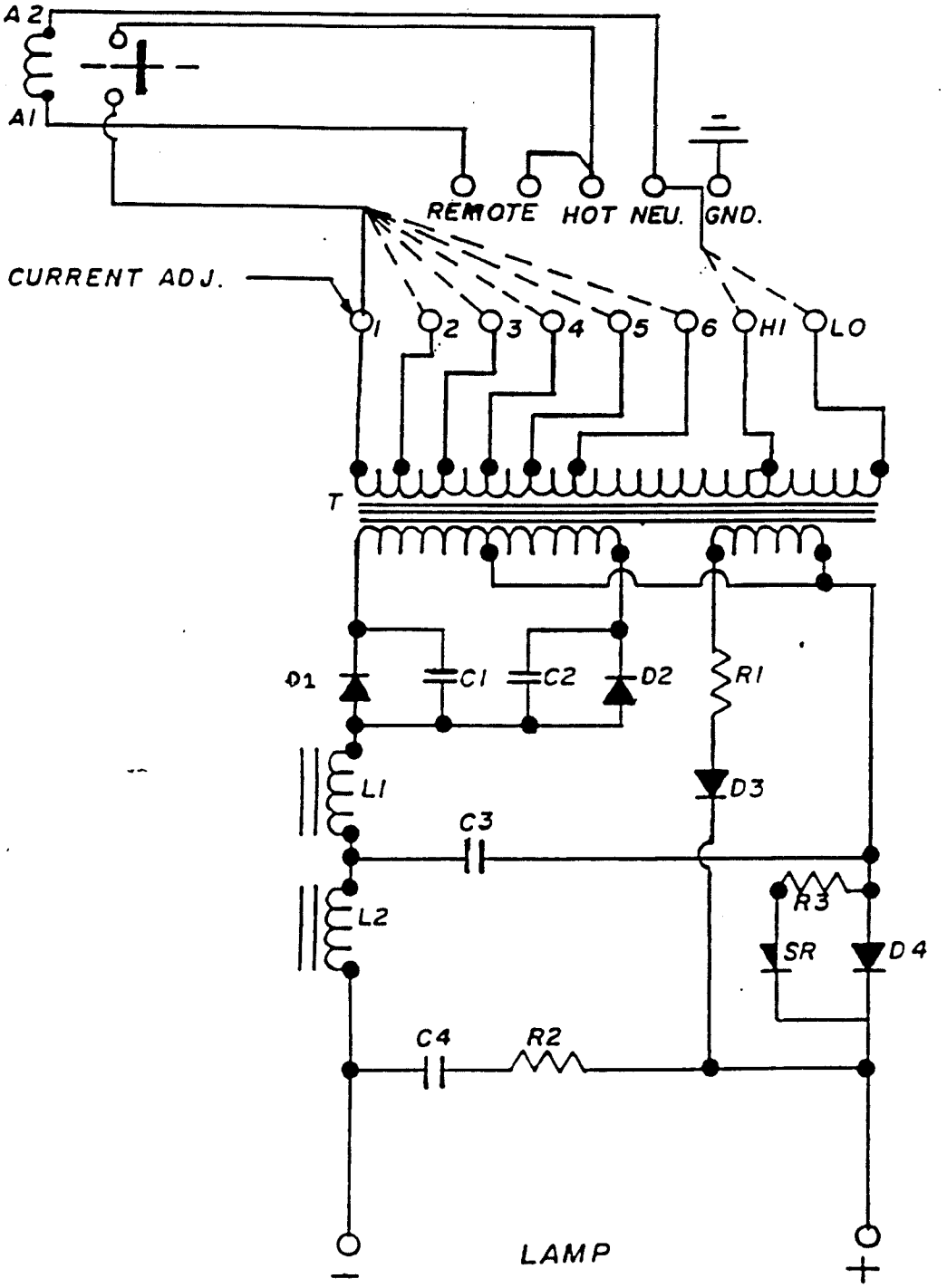
DIV. OF NEUMADE PRODUCTS CORP. Ten Saddle Rd, Cedar Knolls, NJ 07927 U.S.A. Telephone (201) 267-8200



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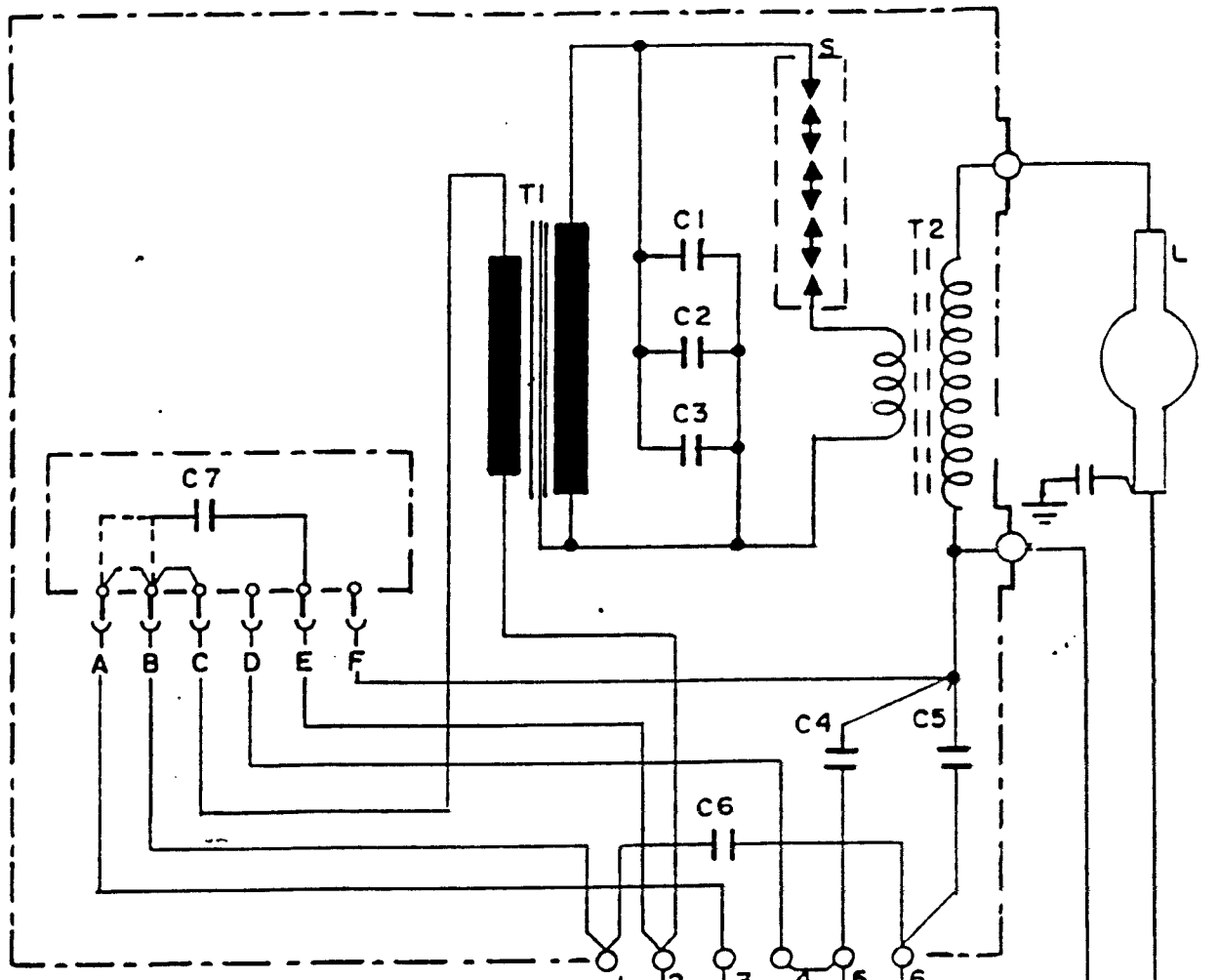
XH-270B-HX-470B

IGNITER SCHEMATIC

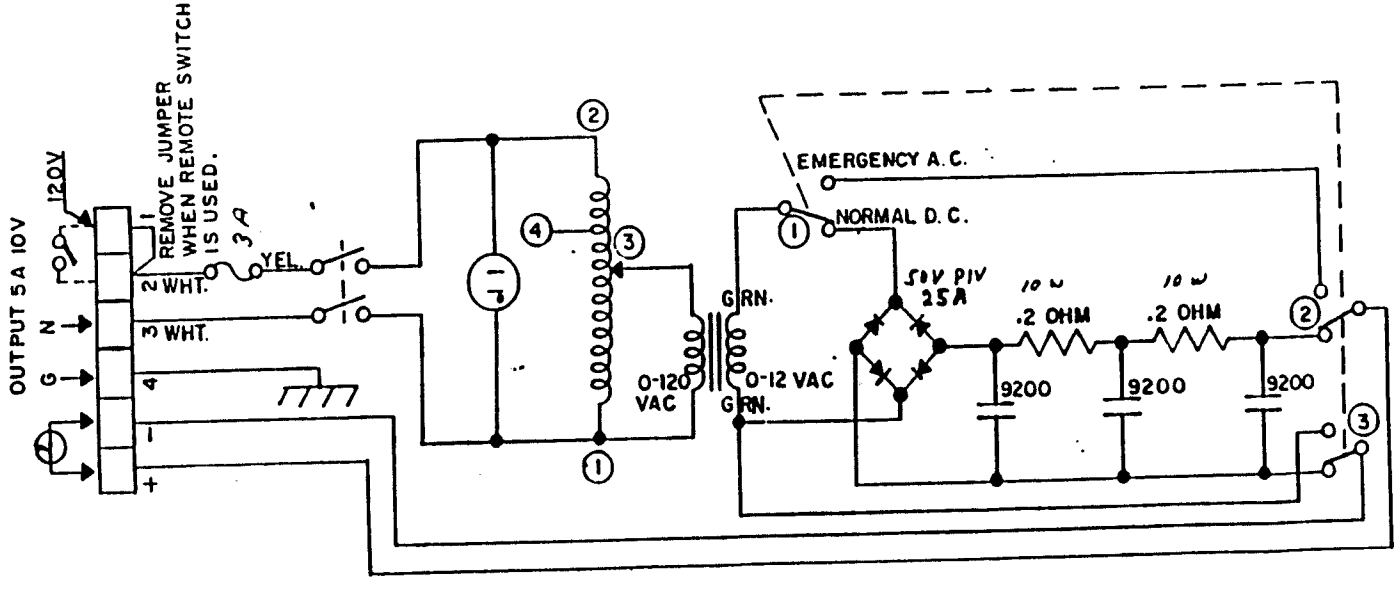
NOVEMBER 10, 1983

XETRON CORPORATION, Ten Saddle Rd, Cedar Knolls, NJ 07927 U.S.A. Telephone (201) 267-8200



C1 .1UF 15KV
C2 .1UF 15KV
C3 .1UF 15KV
C4 .022UF 250V
C5 2200PF 250V
C6 2200PF 250V
C7 .022UF 250V

L LAMP
R RECTIFIER
S SPARK GAP
T1 TRANSFORMER
T2 HT TRANSFORMER



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TOLERANCES	PROJECT	SCALE	DRAWN BY	APPROVED
~	XES-100	~	JK	
	TITLE: EXCITER SUPPLY SCHEMATIC			
DATE: 6-1-83	DRAWING NUMBER: XES 100-1			