Fil m-Tech

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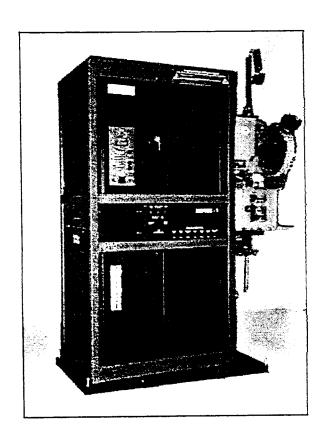
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C2000 CONSOLE ___

User's Manual

BIG SKY INDUSTRIES
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The BIG SKY C2000 Console.

Thank you for selecting the BIG SKY C2000 Console. This Manual will provide the user and installer with most technical and installation information needed to install and operate this console. For all attached equipment (projector, readers, etc.), please refer to the proper manuals furnished by the manufacturer.

For information about:	Turn to page:	
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BIG SKY C2000 Console Specifications:

- -2000 watt
- -45-85 amps DC
- -Consistent, even and high light output as a result of custom-designed, 10" dichroic reflector
- -Modular design (including double, swing-away doors) makes servicing simple
- -Components clearly labeled for easy identification
- -International standard established for breakers, terminal blocks and connections for easy servicing, worldwide
- -Tested and approved to U.L. standards
- -Simplified field-wiring
- -IREM G3X75 power supply
- -Standard breaker panel for local shut-off
- -Console dimensions: 22.5"W x 30.5"L x 62"H
- -Console weight: Approx. 450 lbs.
- -Input voltages: 220VAC 3PH and 120VAC1PH

Also available in 3000, 4000, 5000, and 7000 watt. Please consult your dealer or BIG SKY directly for specifications.

Standard Console Layout:

Pictured below is a diagram of the C2000 Console, indicating major components, switches and controls.

For more detailed information regarding OEM components (those not manufactured by **BIG SKY**), please refer directly to manufacturer manuals.

1-Operator's Door and Lamphouse: Houses main optical components, including reflector, bulb, and ignitor.

<u>2-Meter Panel:</u> Houses all controls and meters for the operation of the Xenon bulb. For bulb information, see "bulb operation" section, located on page 9.

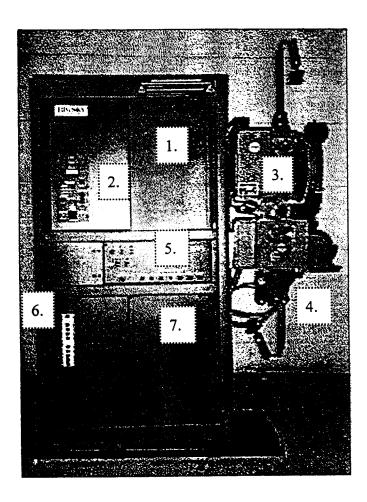
3-Film Projector: Mounts on the front of the console.

4-Cue Detector: Located on the front of the console.

5-Automation: Controls all console functions through signal received from the cue detector.

6-Main Breaker Panel: Houses the main power control and all protective, electrical circuit breakers. See next page.

7-Lower compartment: Houses power supply, master interconnect board and all control connectors.

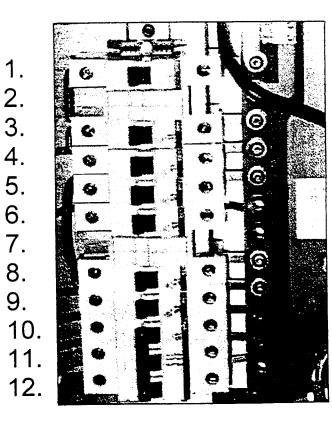


Console Layout, continued...

Main breaker panel

The C2000 console series is equipped with a "Din rail" system for mounting and supplying circuit breakers. This system allows easy replacement and unlimited choices for additional equipment and capacity. The main breaker panel is pictured below, indicating the standard layout.

Position:	Capacity(A):	<u>Description:</u> Feed for exciter supply and upper sound terminal block.
7	10	(Optional feed for lower sound terminal block available.)
3	6	Automation feed
4	16	Curtains and masking feed
5	16	Single phase/main projector motor feed
6		(Optional 3-phase projector motor feed 2)
7		(Optional 3-phase projector motor feed 3)
8	16	Accessory feed
9	16	Xenon section feed
10	30	Xenon power supply feed (3-phase)
11	30	Xenon power supply feed (3-phase)
12	30	Xenon power supply feed (3-phase)



Xenon Lamp Controls:

Pictured below is a photo of the standard meter panel used on all BIG SKY consoles and lamphouses. Through this panel, bulb performance, hours used, ignition control and power control may be monitored.

Power may be controlled either manually, or through the automation. For manual operation, the ignitor control switch needs to be in the 'manual mode.' Power is then supplied through the Xenon power switch, striking the bulb by momentarily pressing the manual ignition switch.

When power is controlled through the automation, the Xenon power switch is to be set to the 'ON' position, and the ignitor in 'automatic.' Once the automation closes its contacts in the Xenon control loop, power is automatically supplied to the Xenon section, including the striking of the bulb.

Components:

1-Hour Counter- Counts total hours Xenon power is on.

2-Amps/Volts Meter- Indicates bulb current and voltage; reads open circuit voltage before ignition.

3-Meter control switch- Selects readout for amps/volts meter; defaults to amps reading.

4-Ignitor control switch- Selects manual or automatic ignition of Xenon bulb.

<u>5-Manual ignition-</u> Activates ignitor if pressed when Xenon power is on.

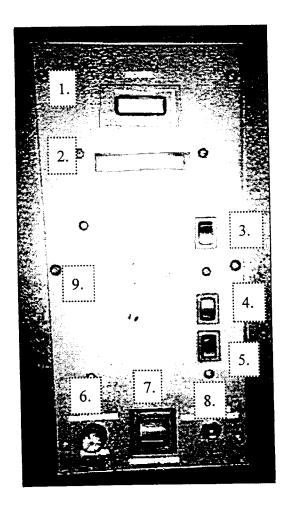
6-Fuse- Cooling fans and blowers 5 And

7-Xenon power switch- Controls on/off power for Xenon section.

8-Auto-strike circuit breaker- Protects auto-strike circuit against overload.

1 And

<u>9-Safety switch indicators-</u> Indicates an open-door or safety switch in the Xenon power supply control loop.



Installation notes and directions:

Upon receipt of this console:

- Inspect for any possible damage, missing parts, accessories and manuals.
- -Check that all wiring and connection diagrams for this installation are included.
- -Check that all connection information for all peripheral equipment is indicated on these diagrams

To locate components:

- -Check the diagrams on page 5 for locations of major components.
- -Main electrical connections are indicated on the main terminal block, mounted to the right of the high-power interconnect board.
- -All Line-Voltage wiring connections are located on the High-Power Interface Board, in the lower compartment, located on the operator's side
- -All control circuits for sound, lights, curtains or other equipment are located on the Console Termination board, on the non-operator side of the console.

Proper installation and safety procedures:

- -Be sure to connect the correct voltages and phases as indicated on the wiring diagrams.
- -Be sure all voltage levels are correct for the type of equipment used.
- -Be sure to attach and wire all peripheral equipment used in conjunction with this console.
- -When replacing parts, be sure to use the same type, size, rating as the original.

Installing Xenon Bulb:

- -Install the Xenon bulb with the proper adapters, making sure to observe the bulb polarity.
- -Center all basic unit adjustments
- -Make sure the horizontal axis of the bulb is parallel to the optical axis.
- -Always wear protective clothing/eye-wear and observe all cautions as indicated on page 10 of this manual
- -Make sure all electrical connections are tight.
- -Make sure 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 top/bottom orientation.

Installation notes, continued...

Operation:

- -After safety procedures and installation are complete, turn the power on.
- -Once the main circuit breakers are turned on, the cooling fans should start.
- -Check the local and manual controls of all components to verify proper operation
- -Run the system, without the Xenon section on, to verify operation.
- -Check the Xenon section manually for proper operation, voltage and current levels and auto-strike
- -Check the Xenon section again through the automation.
- -For the most even light, be sure to perform the final optical alignment of the projector to the light source.
- -Set the current level of the power supply to the proper operating level for the bulb in-use.
- -Make all alignments and adjustments to the sound system for optimum performance.
- -Set proper dimmer levels and curtain positions.
- -Check connections of all auxiliary equipment.

Problems:

If problems occur, first consult the diagrams and photographs contained in this manual or the troubleshooting and service guides located on pages 19 and 20 of this manual.



Installation cautions:

Electrical:

-This unit has more than one electrical service and voltage level. Make certain all breakers are turned off or are 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 bulb ignition. Make sure all doors and covers are in place before usage.

Explosion:



-Xenon bulbs are under high pressure; especially when hot. Allow the bulb to cool completely before handling. To avoid damage to the bulb and reflector, never power down the console until the bulb is cool. And, to avoid injury in case of explosion, be sure to wear a protective face shield and clothing, and use care when handling.

Light and burn caution:



-Xenon bulbs emit potentially hazardous UV and IR radiation when hot. Therefore, do not remain in front of the bulb, look directly into the projected light or lit bulb, as severe burns or damage to the eye may result. Be sure to operate the lamp for no longer than five minutes with the hand douser closed and allow the bulb to cool completely before opening the lamphouse door.

Automations:

Most modern theatre projection systems are controlled through an automation system. These systems are 'programmed' to control most presentation functions, such as lighting, sound, curtains and accessory control, all at the touch of a button.

The 'programming' is accomplished by readable cues contained on the film. Once the cue has been read, the signal can automate operation of desired functions including optical format, sound switching, lighting, intermission, special functions/optional equipment, interlock start and show end. All automations will start the projector motor, light the Xenon bulb, open the change-over and set light and sound levels. If desired, emergency inputs such as failsafe, platter tension sensors and fire alarms can also be connected to the automation. Basically, the automation system can be configured to meet very specific needs in each auditorium.

For information on BIG SKY automation systems, turn to the equipment list, located on page 17 of this manual. For Series 1 Automation features and operation, please refer to the Automation section of this binder.



Series 1 Automation

Optical and Ventilation Specifications:

Bulb size: To determine the correct Xenon bulb for a particular system, a variety of factors, including projector type, lens type, port hole glass and projection throw should be considered. When determining the ratio of screen width and height to bulb size, refer to the following guide:

Screen width	Screen height	<u>Bulb size</u>
Up to 30'	Up to 15'	2000 watt
30'+ to 38'	15'+ to 20'	3000 watt
38'+ to 50'	20'+ to 26'	4000 watt

Ventilation: Proper air flow is important to long bulb life. When determining ventilation requirements, refer to the following guide:

Console size	Recommended CFM (Cubic feet/minute)	
1000-2000 watt	500	(Minimum)
3000 watt	600	u
4000 watt	750	u
7000 watt	850	u

Working distance measurements: If the projector type was stated on the order, the basic unit is already positioned correctly for your installation. If not, refer to the following guide:

Reflector size	Distance from rear reflector to projector	
	<u>aperture</u>	
10.5"	20.5"	
15"	31.15"	

Bulb Adapter Chart:

Xenon bulb	Positive adapter	Negative adapter
10.5" reflector:		
XBO 1000HS XBO 1600HS	16HSPOS	16HSNEG
XBO 2000H		20HNEG
XBO 2500HS XBO 3000HS	25HSPOS	25HSNEG
13.5" reflector:		
XBO 3000H		30H4KNEG
XBO 2500HS XBO 3000HS	25HS4KPOS	25HS4KNEG
XBO 4000HS		40HSNEG
XBO 7000HS		40HSNEG

Power supply specifications:

The specifications for IREM power supplies are listed below. For more detailed information, including drawings, refer to the enclosed IREM instruction manual.

IREM power supply G3X75	Console Wattage 2000	Specifications Input AC 3-phase Range: 208/230V Freq: 60 Hz Power: 4kVAmax
	•	Output DC Range: 22-32V; 45-75A No-load voltage 105V
G3X131	3000,4000	Input AC 3-phase Range: 208/230V Freq: 60Hz Power: 8.5kVAmax
		Output DC Range: 26-32V; 70-140A No-load voltage 95V

Parts list:

The following is a listing of frequently ordered spare parts available for the C2000 console. They may be ordered through your dealer.

Schematics:

Please refer to the "Schematics" section in the rear if this binder.

Equipment list:

The C2000 is one of a series of motion picture projection equipment and accessories available from BIG SKY Industries. A complete line of automations, lighting controls, projectors, sound equipment, platter systems, lamphouses, power supplies and ignitors, film guidance hardware and accessories are available. For product specifications, pricing and ordering information, contact your dealer.

Consoles:

C2000 2K console C3000 3k console C4000 4K console C7000 5-7k console

Deluxe consoles:

C2000D 2k extended console C3000D 3k extended console

Console options:

Rotron blower wair vane switch Additional breakers Prewire sound in deluxe consoles Prewire projector Time-delay circuit for blowers Main contactor

Automations:

A2000 Matrix automation A2108 8-screen remote A2116 16-screen remote A2124 24-screen remote

Automation options/accessories:

Clock timer
Optical failsafe w/micro-switch failsafe
Sensing tape, optical

Lighting controls:

D4000 Single-channel 4k Dimmer D4400 Dual-channel 4k Dimmer

<u>Projectors</u>

E15M Ernemann 15 Projector/manual E15A Ernemann 15 Projector/auto. ESRD Dolby Digital Reader E15 Ernemann 15 Complete System

Sound Equipment:

S1000 Sound Rack; 40 rack S1200 Sound Rack; 40 rack, blower, contactor, recptacles S1400 Sound Rack; X1200 plus pre-wire for custom comp. S2000 Monitor Panel

Film Guidance Hardware:

FH1000 Arms w/platter guidance hardware FH1100 Wall-mount guidance hardware FH1200 Wall-mount fixed roller FH1300 Swing-arm accumulator FH1400 Roller on bar

Platter Systems:

P3350 3-Deck Platter System P3700 3-Deck Platter System P5350 5-Deck Platter System PMT35 35mm Make-Up Table PMT70 35/70 mm Make-Up Table

Platter Accessories:

P1350 35mmPayout Head P1700 70mm Payout Head P1351 35mm Take-Up Ring P1701 70mm Take-Up Ring

Lamphouses:

L2000 1-2000w Lamphouse L3000 2-3000w Lamphouse L4000 3-4000w Lamphouse L7000 5-7000w Lamphouse

Power Supplies & Ignitors:

N3X75 IREM2000 watt power supply
N3X7595 IREM 3000 watt power supply
N3X95150 IREM 4000 watt power supply
N3X180 IREM 7000 watt power supply
N3X10K IREM 10,000 watt power supply
AFU200 Auxiliary Filter Unit
AS16D40M IREM Ignitor
ASN700A IREM Ignitor, low-noise

Replacement Parts:

C1050 10.5" Dichroic Reflector C1060 13.5" Dichroic Reflector C1070 12" Glass Dichroic Reflector

Warranty:

All BIG SKY products and accessories are warranted against malfunction or failure due to defects in workmanship or materials for a period of one year from the date of shipment. If a problem occurs during the warranty period, the unit will be repaired or replaced(at Big SKY's option) without charge for materials or labor. This limited warranty does not cover products that have been altered, abused, modified, or operated in other than specified conditions.

Our limited warranty does not cover damages resulting from accident, misuse or abuse, lack of responsible care, or failures not attributable to manufacturing defects. BIG SKY INDUSTRIES Inc. makes no warranties, express or implied, including warranties of merchantability or fitness for a particular purpose. Final warranty decisions are to be made by BIG SKY INDUSTRIES only.

RETURN POLICY: Factory authorization MUST be obtained before returning any product. A 15% restocking charge will be issued on unused equipment (in original box) that is returned for credit. Credit is issued to the dealer's account only.

WARRANTY SHIPPING: All returns must be shipped freight pre-paid by the dealer. Equipment returned without a factory return authorization (RA) will be refused. RA number must be written clearly on the shipping box. If air freight is requested by the dealer, the difference between air and ground will be billed to the dealer.

Technical assistance:

<u>Troubleshooting guide:</u> If the console should not operate properly, first check the following guide to determine the cause. If, after checking the guide, operation is still not proper, contact your dealer or an authorized theatre equipment service person.

Problem: Console won't power up	Solution: -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 of remote	
Console components won't turn on (automation, dimmer)	-Check fuses for 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 won't ignite	-Check that power supply is turned on -Check that basic unit blower is on, 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 and power supply -Check contactor in power supply for damage or incorrect wiring	
-	-Check auto/manual switch on meter panel for desired starting method -Try manual ignition of bulb to verify ignitor operationCheck circuit breaker on meter panel -Check wiring and plugs between meter panel and ignitor -Check spark gap inside ignitor for short or damage -Check bulb amperage adjustment setting; may be too low -Check for low open circuit voltage -Check for missing or bad bulb mechanical connections -Check for loose DC cables, bad DC meter shunt or bad Xenon bulb	
Xenon bulb flickers	-Check power supply for single phase condition, open diodes or damage -Check for bulb/electrode damage -Check for excessive bulb hours - CHECK FOR BAD FILTER CAPACITOR	
Automation won't start	-Check fail-safe of film tension sensor for 'on' position; reset if needed -Check operating buttons for stuck or broken operation -Check for correct operating mode (normal, interlock)	
Automation doesn't 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	
Automation doesn't control peripheral equipment	-Check for disconnected, loose, missing or damaged cables -Check for mis-wired control wiring	

Troubleshooting, continued...

Automation doesn't control peripheral equipment

- -Check for loose or missing relays in automation
- Check that peripheral equipment is turned 'on,' and in 'auto' mode
 Check for diode chip for selected relay is not reversed or missing in matrix on selected cue line
- -Check for missing or damaged cues on film
- -Check for loose solder connections on interconnect board

Film projector doesn't run

- -Check for disconnected, loose or damaged wiring -Check interconnect board solder connections
- -Check for open fuse
- -Check for damaged or missing motor relay in automation and/or interconnect board
- -Check that projector power breaker is 'on' and not damaged
- -Check for mechanical problems with projector
- -Check for film wrap or jam on platter

Projector components don't work (change-over, turrets)

- -Check for missing, loose, damaged wiring or connections on interconnect board
- -Check for open fuses or circuit breakers
- -Check for electrical or mechanical damage
- -Check the diode chip for selected relay; be sure it's not missing or backward

Poor or low sound level

- -Check the exciter lamp for dimness; make sure it's turned 'on'
- -Check exciter lamp or photo-cell for mis-alignment
- -Check audio equipment for correct settings
- -Check sound format

Poor or uneven light distribution

- -Check Xenon bulb for correct alignment in reflector
- -Check basic unit for correct position in relation to reflector and projector
- -Check projector for correct alignment to lamphouse optics
- -Check turret for correct position (lens change)
- -Check bulb current setting; be sure it's not too low
- -Check power supply for correct operation

Technical assistance, continued

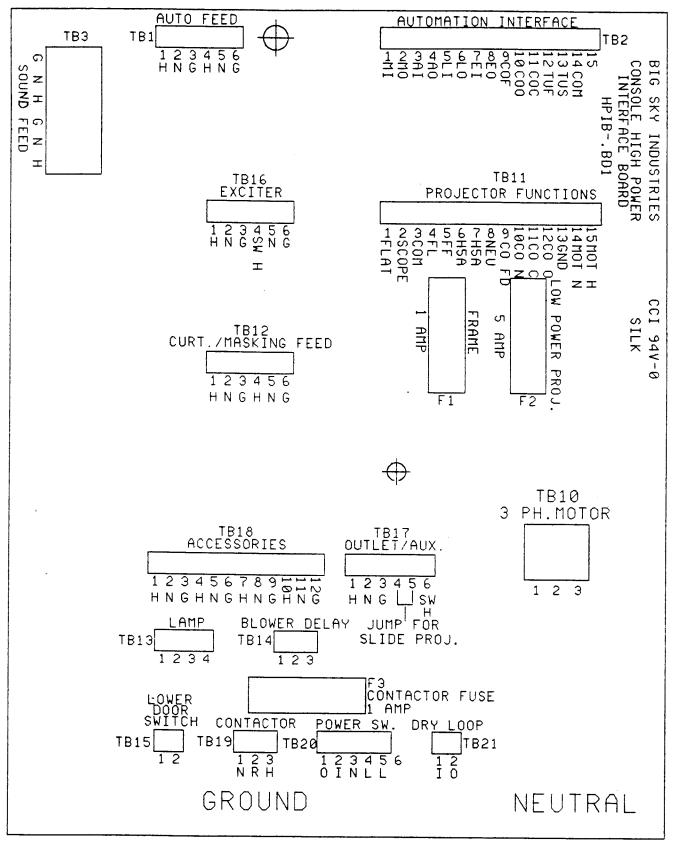
<u>Service:</u> If you have checked the troubleshooting guide and are still having problems with operation, contact your theatre equipment dealer. If you are unable to resolve your problem quickly or easily, contact BIG SKY Industries' Engineering department at:

BIG SKY INDUSTRIES 259 Center St. Phillipsburg, NJ 08865

908-454-6344 908-454-6373(fax) Monday to Friday, 8:30AM to 5:00PM E.S.T.

You may also obtain additional product information by calling this number.

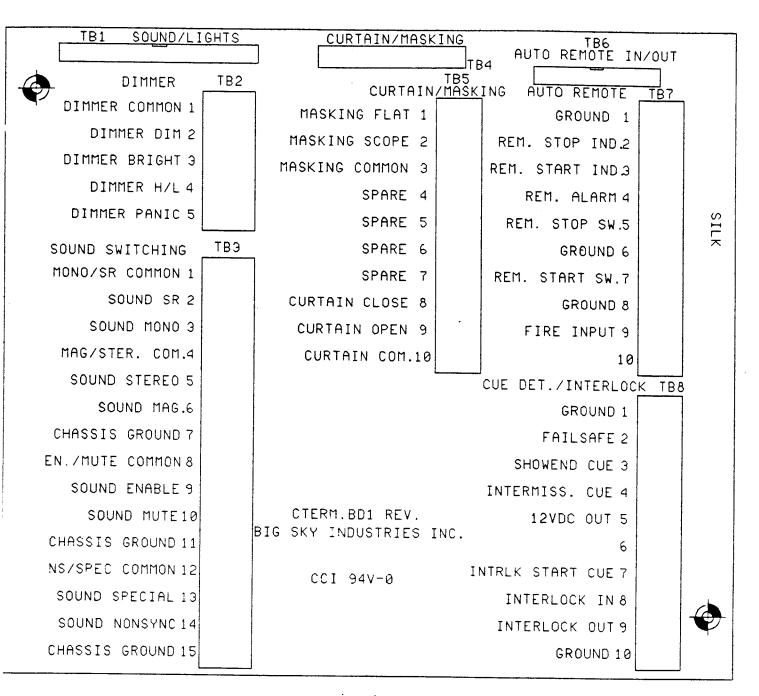
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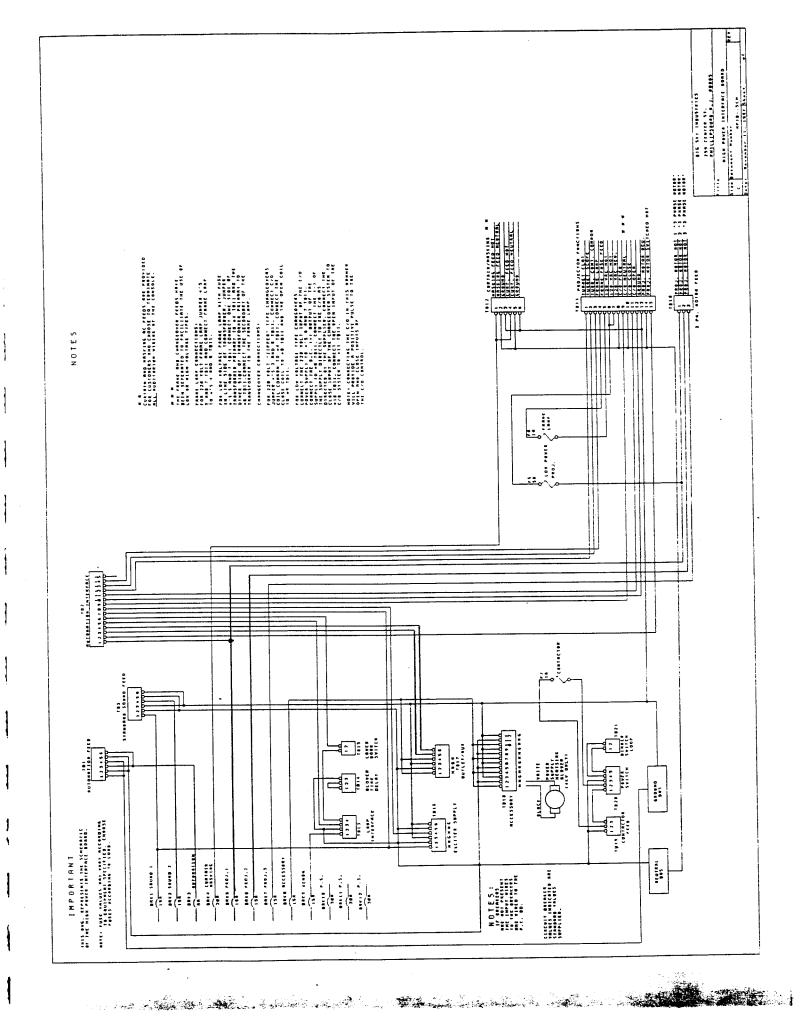
CONSOLE HIGH POWER INTERFACE BOARD

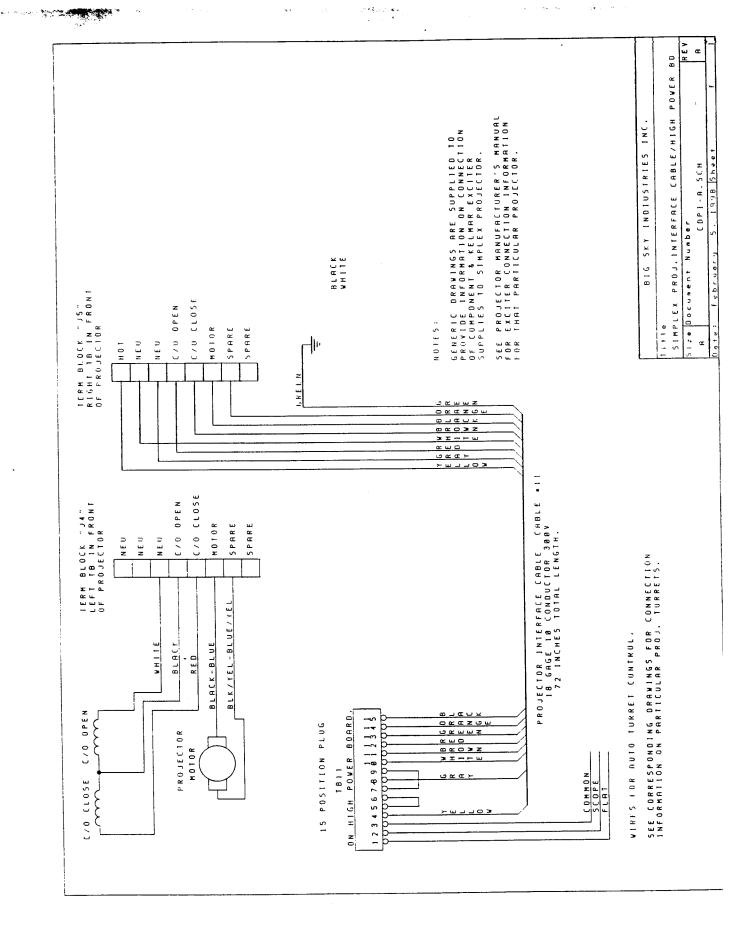
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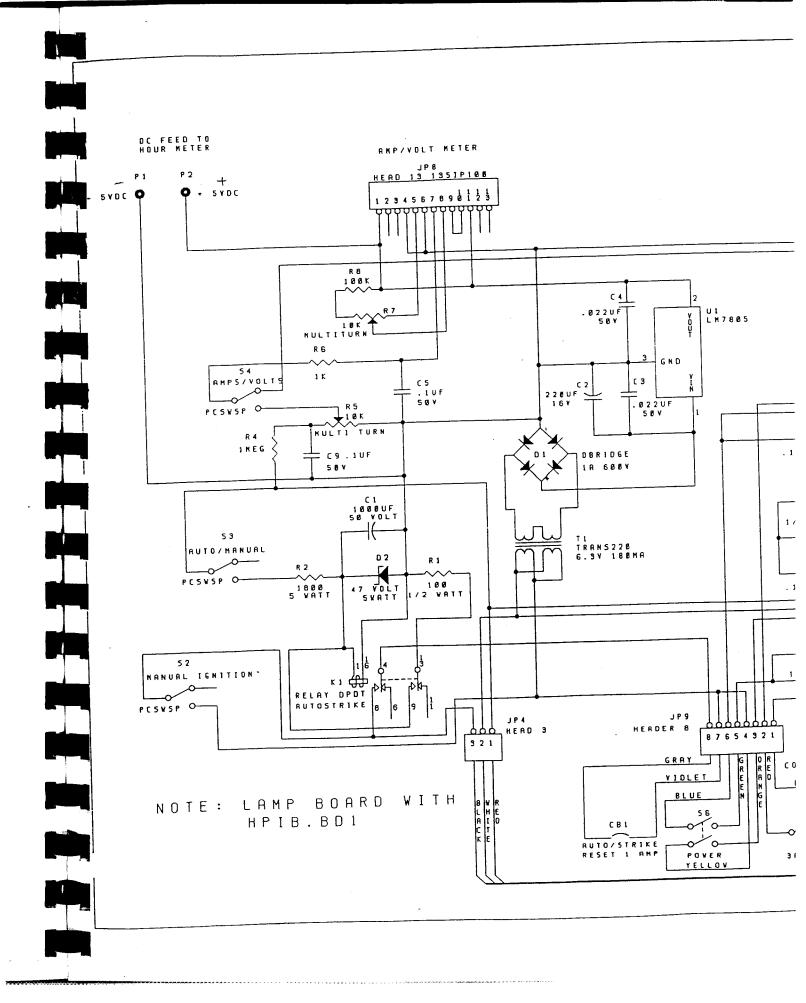
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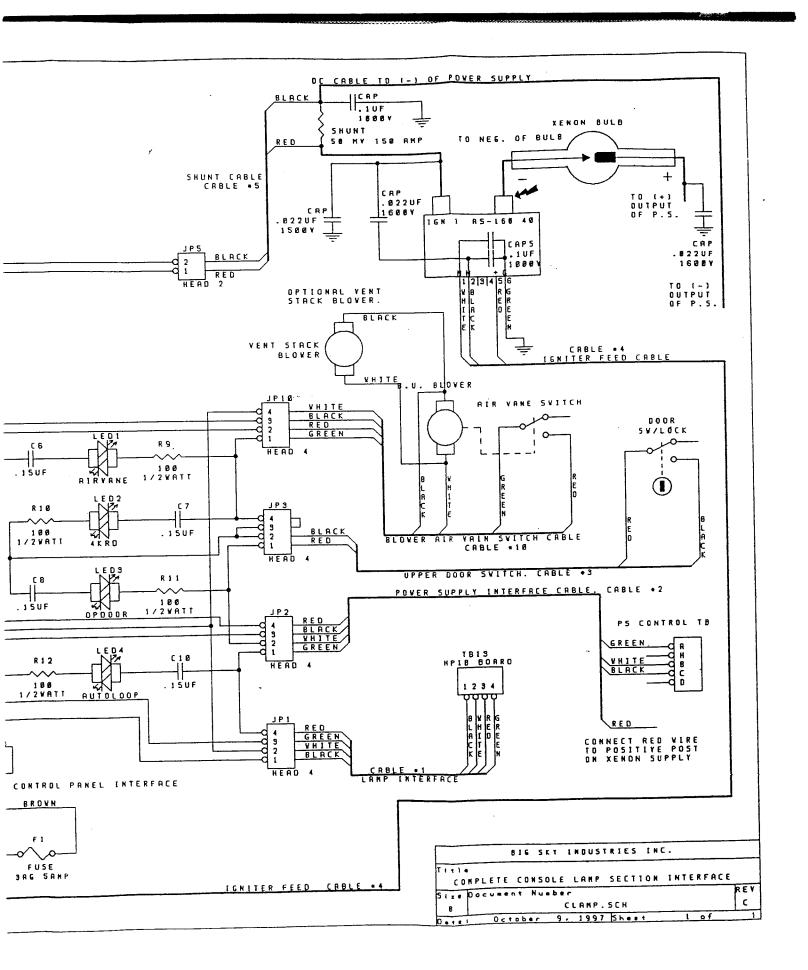


CONSOLE TERMINATION BOARD



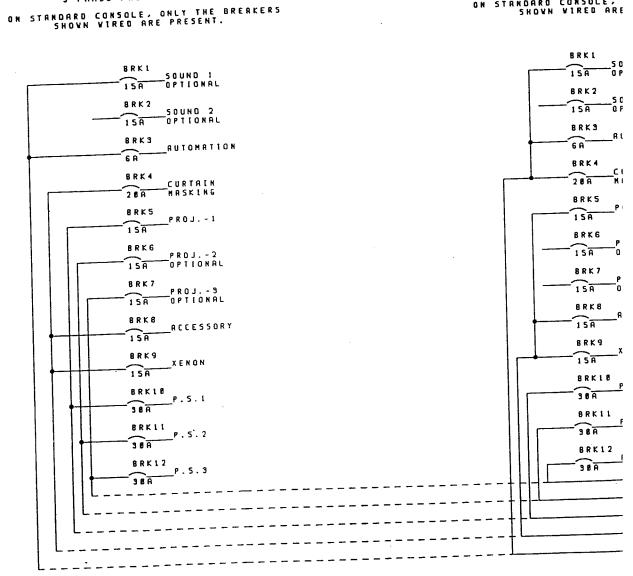






BREAKER LAYOUT FOR C-2000 CONSOLE V/ 3 PHASE PROJECTOR MOTOR.

BREAKER LAYOUT FOR C-SINGLE PHRSE PROJ ON STRNDARD CONSOLE, SHOWN VIRED ARE



NOTE: YALUES OF BREAKERS SHOWN ARE THE STANDARD VALUES SUPPLIED BY BIG 5KY.

IF BREAKERS ARE NOT PRESENT THE INPUT WIRES TO THE BREAKERS ARE WIRED DIRECTLY TO THE OUTPUT SIDE ON THE P.C. BORRD.

BRK S AND 7 ARE PRESENT ONLY FOR A 3 PHASE MOTOR, UNLESS THE BREAKER IS BEING USED FOR ANOTHER FUNCTION.

THE "SOUND 1" BREAKER IS USED FOR "EXCITER FEED". THUS IS ALVAYS CONNECTED.

"SOUND 2" MAY BE USED FOR THE FEED ON A SECOND AMP IN A 2 AMPLIFLER STEREO SOUND SYSTEM.

IF THE SOUND BREAKERS ARE TO BE USED FOR A HIGHER END SYSTEM, A SEPERATE FEED SHOULD BE BROUGHT IN AND RUN DIRECTLY TO THE LORD FROM THE OUTPUT OF THE BREAKERS.

ROJECTOR MOTOR. SEE DWG.CHPIB.SCH FOR HIGH POWER INTERFACE BOARD FEED THROUGH AND BREAKER INFORMATION. LE, ONLY THE BRERKERS ARE PRESENT. BREAKERS SHOWN AS YIEVED FROM FRONT OF CONSOLE. -SOUND 1 OPTIONAL ___RUTOMATION -CURTAIN GND BUSS NEU BUSS ___PROJ. - 1 -PROJ. - 2 OPTIONAL GREEN #12 --PROJ. - 3 OPTIONAL INPUT BLOCK ON XENON SUPPLY ___RCCE550RY G N D R S T ___X E N O N GREEN #12 P.5.1 RED . 18 P.5.2 BLACK #10 12 P.5.3 YELLOY .18 YELLOV +10 CONSOLE MRIN INPUT BLOCK BLACK #18 RED - 18 1-CONSOLE GROUND
2-CONSOLE HEUTRAL
3-CONSOLE HOT PHASE 1
4-CONSOLE HOT PHASE 2
5-XENON SUPPLY PHASE 1
6-XENON SUPPLY PHASE 2
7-XENON SUPPLY PHASE 3 ORRNGE .18 BLUE #10 MAIN TB 1 2 3 4 5 6 7 BIG SKY INDUSTRIES INC. 259 CENTER ST. PHILLIPSBURG N.J. 68865 Title NAIN INPUT VIRING 5-2000 CONSOLE REY Size Document Number CINPUT.SCH 8 October 8, 1997 Sheet Datei