



OPERATING INSTRUCTION BOOK

MODEL EX-5000 & EX-3000
5020 3020

16MM XENON ARC PROJECTOR

EIKI INTERNATIONAL, INC.
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Manufactured by
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OSAKA, JAPAN.

SPECIFICATIONS:

Description	Model EX-3000 3020	Model EX-5000 5020
Power required	AC	V cycles
Power consumed	A	
Projection lamp	^{EIKI # 5110} Eiki Xenon Arc 500WATT VSH10 UXL-500 D-0	Eiki Xenon Arc 1000W VSH10 UXL-1000 HX-0
Projection lens	2" (50mm) f:1.3 magenda hard coated (Standard)	
Motor	1 × 1/20 HP for projection 2 × 1/25 HP for cooling Lamp & Rectifier	
Amplifier	I. C. 2 ^{cos-206} Transistors 8 Diodes 7 Pre-Amplifier Transistor: 1	
Optical sound	Solar cell	
Amp. output	35W undistorted 35W	
Exciter lamp	4 V 0.75A operated D.C.	
Film Speed	24 & 16 frames per second <i>FORWARD ONLY</i>	
Speaker cabinet	12" bass 2 way system speaker box/8ohm 8" treble	
Monitor speaker	7" dynamic speaker	

UNPACKING:

Your EX-3000 or EX-5000 comes in four packages.
3020 5020

No. 1 Projector (following parts removed for transit)

- 1 × flywheel
- 1 × projection lens
- 1 × projection Xenon lamp 500W or 1000W
- 1 × upper arm & Belt
- 1 × lower arm & Belt
- 1 × amplifier

No. 2 Rectifier

No. 3 Base and the above parts from the projector and power supply cord

No. 4 Speaker cabinet

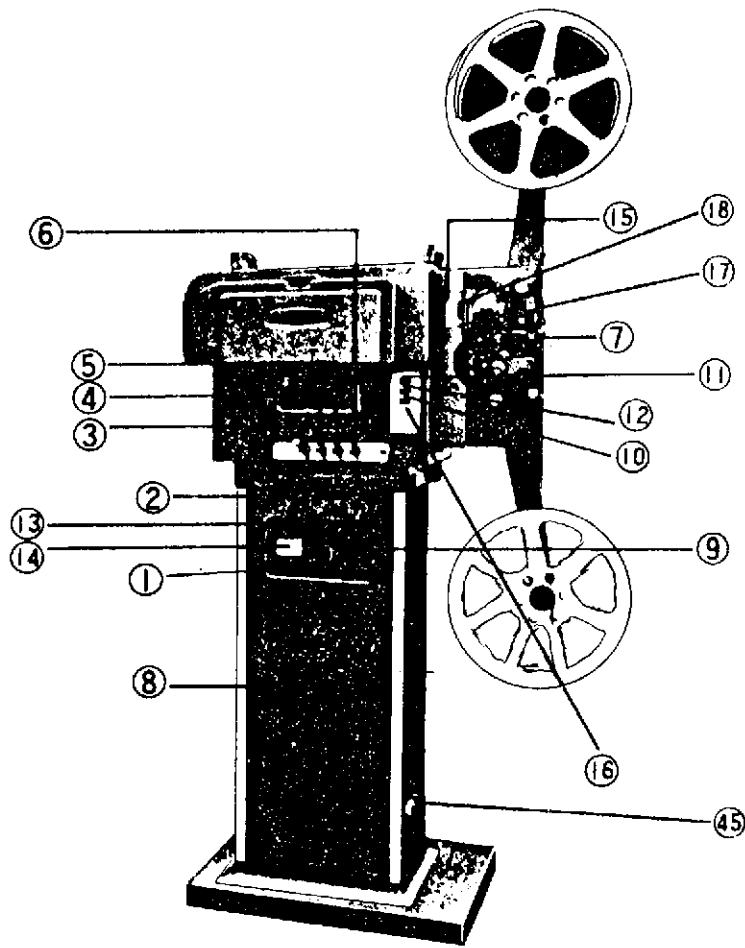
EX-3000 & EX-5000 packed for Shipping

	width	length	height	total cft.	weight lbs.
No. 1	1' - 7"	2' - 2"	3' - 1"	10' - 7"	139
No. 2	1' - 4"	1' - 9"	3' - 6"	8' - 2"	174 / EX-3000 196 / EX-5000
No. 3	1' - 4"	1' - 7"	2' - 5"	5' - 1"	77 3020 5020
No. 4	1' - 7"	2' - 1"	2' - 10"	9' - 4"	126 EX-3000 Speaker
No. 5	2' - 2"	3' - 0"	4' - 0"	26' - 0"	234 EX-5000 Speaker

* Size & weight of EX-3000 & EX-5000 See page 10
3020 5020

SETTING UP.

- (1) Lay the rectifier unit on about 5" height firm stand.
- (2) Attach the base to the bottom of the rectifier with 4 nuts, then stand the rectifier on the floor.
- (3) Install the projector unit on the rectifier tightly. Unlock and open the projector. Pull out 4 cords from top of rectifier through the two holes. You can do it easily by turning the tilting control, thus opening the access area.
- (4) Keeping the projector open, connect the following cords:
 - (a) monitor wire plug
 - (b) speaker wire plug
 - (c) photocell cord 2 pin
 - (d) amplifier AC & exciter 4 pin
 - (e) 5 pin cord connector
 - (f) preamplifier wire plug
 - (g) lamp leads - red to red, black to black on terminal strip with wing nuts.Fasten "amplifier screw" to secure the chassis.
After all have been done, lock the projector.
- (5) Arm.
 - (a) Attach the upper arm on the top of the projector with two screws. Tighten securely.
 - (b) Attach lower arm with screws and fasten.
When using 5000 ft. spool, pull the lower arm forward, and fasten wing nut.
 - (c) Place the upper arm belt and the lower arm belts over the reel arm pulleys.



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|-----------------------------|---------------------------------|
| 1. Main switch | 10. Film drive switch |
| 2. Neon lamp | 11. Lamp fan switch |
| 3. Amplifier switch | 12. Lamp switch |
| 4. Treble control | 13. Current control |
| 5. Bass control | 14. Ammeter |
| 6. Volume control | 15. Film threading diagram |
| 7. Optical, magnetic switch | 16. Forward reverse switch |
| 8. Monitor speaker | 17. Masking lever <i>FRAMES</i> |
| 9. Monitor speaker volume | 18. Stop lever |
| | 45. AC consent |

A. ADJUSTMENT AND CHECKING

1. AMPLIFIER CHECKING:

Make sure that all switches are "off" before turning the "Main Switch" on. The "Main Switch" can be turned on. The "amplifier switch" is on the left hand knob. The meter will show the voltage to the amplifier. If you are on a low voltage supply, turn the knob clockwise one or two notches to increase the voltage for the amplifier.

The bass and treble controls are adjustable and should be normally with the white line in a 12 o'clock (midway) position.

The "volume control" should be adjusted carefully. This amplifier has high wattage output.

When using magnetic film, turn the MAG-OPT switch to MAG position. This will turn the exciter lamp off, and the magnetic head will fall on to the film, thus reproducing the magnetic sound track.

The volume of the monitor speaker is controlled by the volume control knob on the control panel in front of the rectifier unit. It may be necessary to insert a phone plug into the main speaker jack so that monitor speaker will operate.

2. FILM TRANSPORT CHECKING:

Turn on the "film drive" switch. The sprockets should turn, and the spindles should be running smoothly. Operate the stop lever by depressing completely. This releases a clutch on the shutter shaft allowing motor to turn with film transport stopped. A light shield is placed in front of aperture.

3. LAMP CHECKING AND ADJUSTMENT:

Turn on "lamp fan" and "xenon lamp" switch. The lamp should light immediately. The lamp must be focused properly so that maximum brightness is uniform over the whole screen.

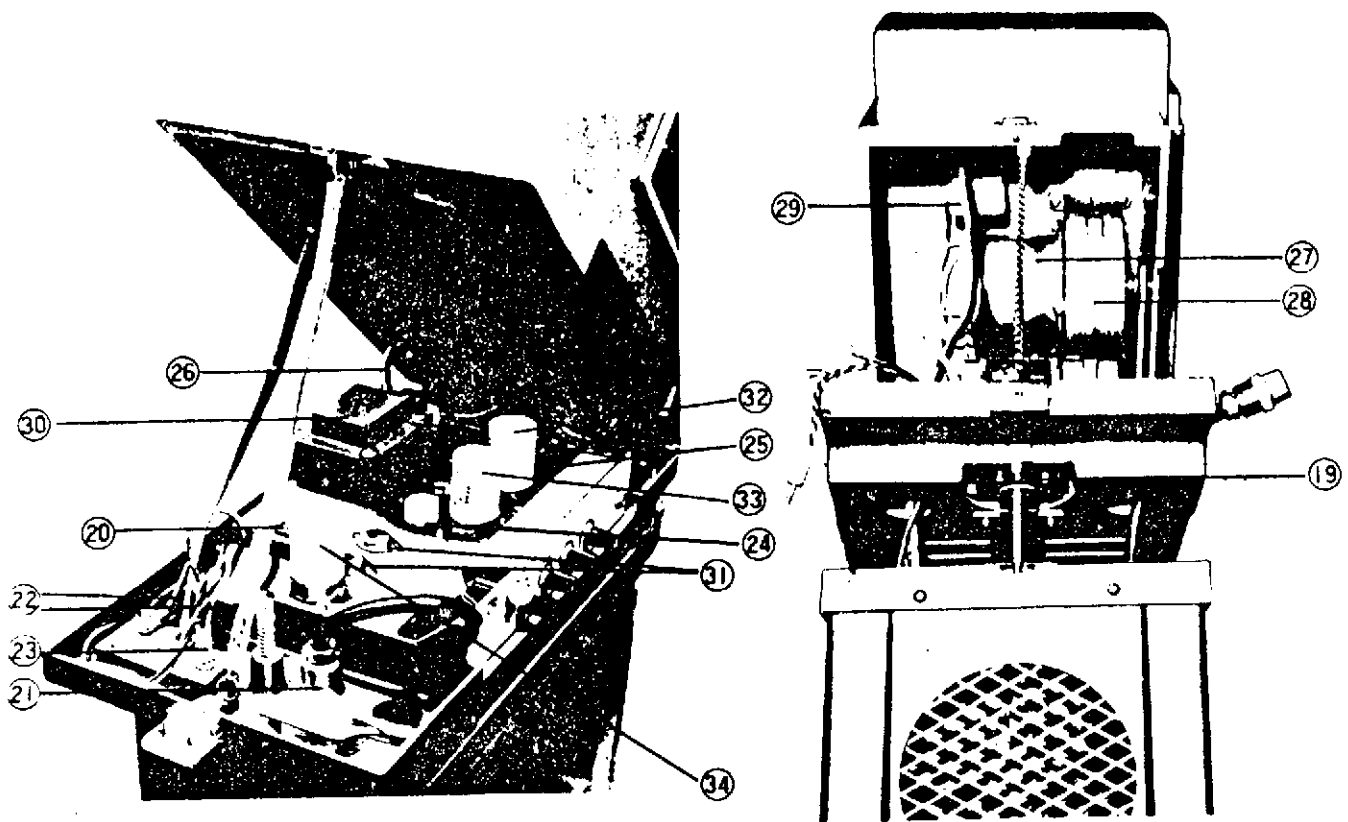
To focus, swing the lens holder out. You will see a large doughnut shaped circle of light with dark spot in the center on the screen. At rear of the xenon lamp socket with a large door open, you can reach three adjusting knobs. Turn these knobs a little bit at a time, and adjust

Each one individually to bring the most uniform light on the screen. Also making sure that the dark spot in the center is small as possible without any bright light shining around the edges.

Swing the lens in place. A slight adjustment of the lamp may be necessary so that the light output through the lens is uniform on the whole picture area on the screen. This is a very important adjustment to get the most value from the projector.

The intensity of the light is controlled by the current adjuster switch on the control panel of the rectifier.

The current when the lamp is ignited should be maximum 45 amperes on EX-5000. For EX-3000 the lamp current should be 35 amperes maximum. Once this control is set, it should stay there so that lamp ignites the first time you turn switch on. The repeated attempt at ignition by the lamp will shorten life. Now the lamp should be turned off. The lamp fan should be allowed to run for some time allowing the lamp to cool properly. After the lamp is cooled, the lamp fan may be turned off. This generally may take 3 to 5 minutes.



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|--|------------------------|
| 19. Tilting Knob | 27. Lamp-cooling motor |
| 20. Fuse 2A (amplifier) | 28. Fan cover |
| 21. 5P consent (circuit of amplifier,
drive motor & lamp cooking motor) | 29. Motor condenser |
| 22. Out put lead | 30. Power transformer |
| 23. Monitor wire plug | 31. 2SC 647 transistor |
| 24. Fastening screw of amplifier | 32. Condenser C44 |
| 25. 3P consent (circuit of photo cell) | 33. " C45 |
| 26. 10P Consent (circuit of amplifier
& exciter) | 34. " C33 |

B. FILM THREADING

Install spool on the supply arm. Make sure the belt behind the arm is not crossed. You thread film according to simple threading diagram at the face plate of the projector. Make sure after the film has been threaded, you lower the film shoes on the sprockets. Make sure the loops are the correct size. Upper loop should be about $1\frac{1}{2}$ " above the lens holder and the lower loop should be also $1\frac{1}{2}$ " below the lens holder. This is very important for synchronizing the sound with the picture. Turn the threading knob on front of projector by hand a few turns to check film travel.

C. PROJECTION

1. STARTING:

Now before turning the film drive on, make sure that the "Rewind-Forward" switch is in the **forward** position. This projector does not run a film in reverse. Now switch on the film drive, the lamp fan and xenon lamp and you will have a picture on the screen. Adjust focus as necessary.

2. FRAMING

Adjust framing device if necessary to make sure that only one frame appears on the screen.

3. TILTING DEVICE:

The lower arm is adjustable through 35" range. The tilting knob at the rear of the projector is used to position the projector area on the screen. This lower arm motion makes it possible to get much more range in this adjustment.

4. VOLUME CONTROL:

When preparing the film for projection it is a good idea to keep the volume turned off with tone controls in a center position. As the film title and sound appear, ~~gradually~~ turn the volume up to the proper level. This also allows sound drum to speed up and ~~you~~ you will be more like a professional projectionist.

5. STOPPING:

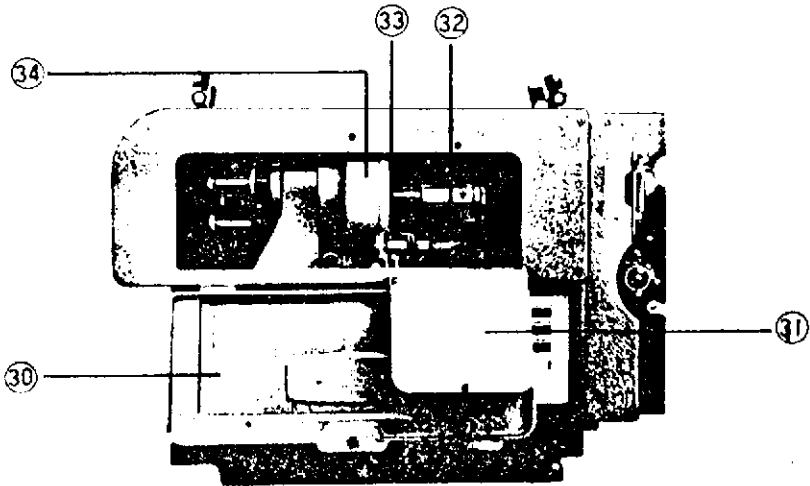
If you wish to stop the projector, the dowser stop lever beside lens holder will stop the mechanism. This will also put a shield in front of the film, so that heat from the lamp will not burn the film.

6. REWINDING:

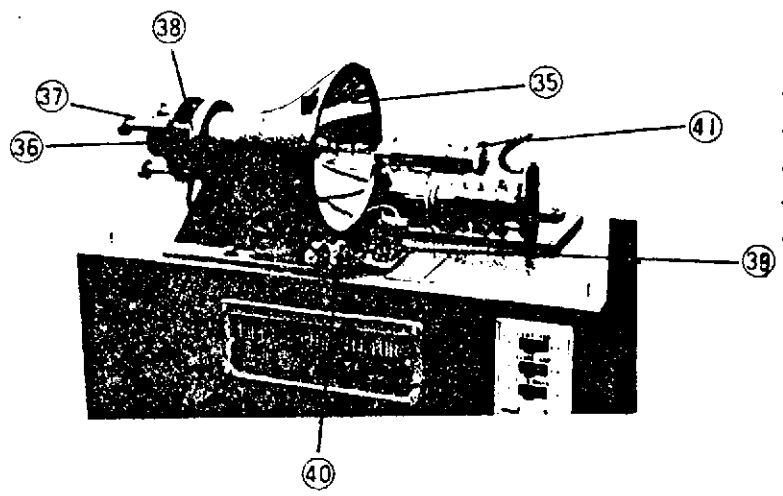
To rewind the film after showing, thread tail of film on upper reel. Cross the upper belt between spindle and idler pulley. Push the rewind switch into rewind position. Next turn on film drive switch. This will engage the motor, the clutch will automatically connect the belt to the top spindle, thus rewinding the film.

7. 5000 FT. REEL:

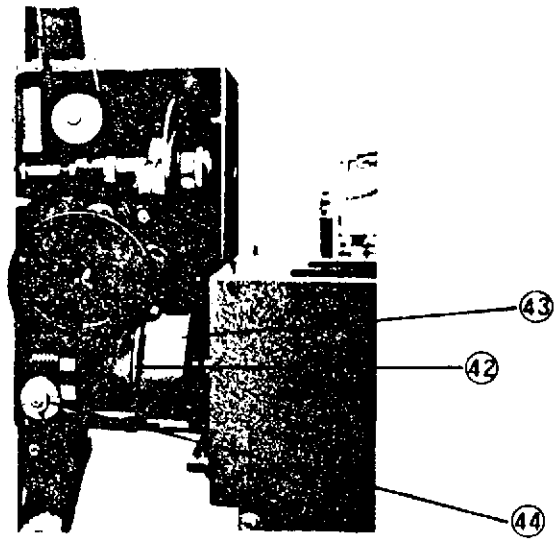
When using 5000 ft. film, the lower arm may be adjusted to allow room for the larger reel.



- 30. Lamp house outer door
- 31. Lamp house inner door



- 32. Xenon lamp
- 33. Mirror ring
- 34. Mirror house
- 35. Mirror
- 36. Insulated fibre for lamp socket
- 37. Adjusting screw for lamp focusing
- 38. Spring
- 39. Micro switch
- 40. Door micro switch
- 41. Lamp lead line



- 42. Mechanism drive motor
- 43. Fan cover
- 44. Forward, rewind changing gear

D. CHECKING ORDER

1. PLUG INTO AC POWER AND MAIN SWITCH:

When AC cord is plugged into the power source, the neon light should be on. If it is not on, check the cord, if necessary, the socket in the wall, or the fuses. These can be reached through the rear panel of the rectifier unit.

2. AMPLIFIER SWITCH:

Now, turn Amplifier Switch on, pilot lamp should come on. If pilot lamp is not on, check fuse in amplifier and check 5P connector at the rear of the machine. Amplifier switch on, then exciter lamp should light after 10-15 seconds. If exciter lamp does not light, see that optical magnetic switch is in optical position. Check also exciter lamp.

3. DRIVE SWITCH:

With drive switch on projection mechanism should run. If it does not, check the motor belt, also stop switch or dowsler switch should be up.

4. LAMP FAN SWITCH:

Next switch is lamp fan switch, now the cooling motor fan should run, if not, check the 5P connection at the rear of the amplifier.

5. XENON LAMP SWITCH:

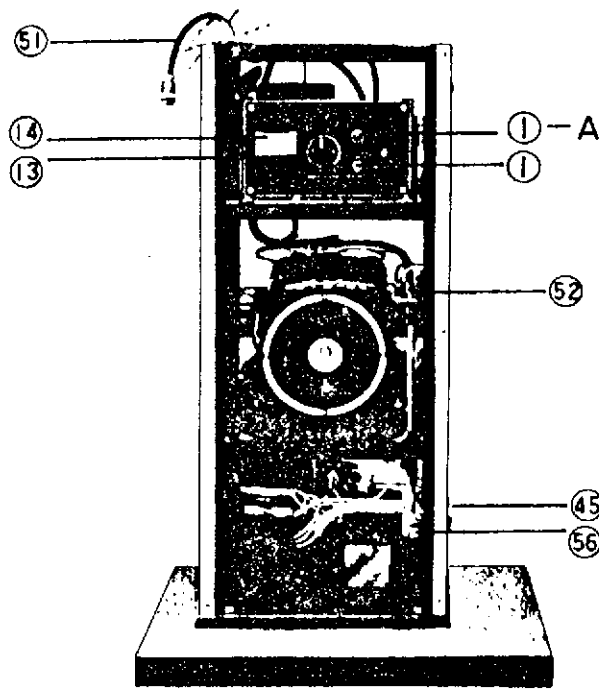
Now switch on the Xenon lamp switch. Xenon lamp should light. If it does not, check the high frequency terminal on the lamp. If the small lamphouse door is open, the xenon lamp will not light.

As soon as the xenon lamp is lit or as soon as the lamp is turned on, the cooling fan in the rectifier unit will turn. This cools the rectifier system.

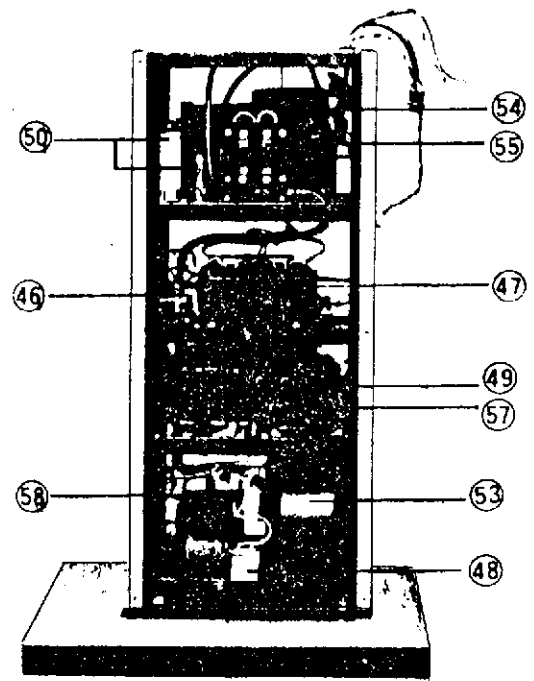
If the small door is closed, if cooling fan is running and if the cooling fan of the rectifier is running, still xenon lamp does not light, check the 5P connection at the rear amplifier. If the xenon lamp still does not light, check the red and black leads going from rectifier to the lamphouse. Terminal strip is in the rear of the amplifier area. Make sure these are securely fastened. Also connection in the lamphouse itself. Lamp should light. If not, replace with a new one.

6. REWIND:

If no rewind, check belts. Make sure that belts are in place and upper belt is reversed. Check rewind switch, may be faulty. Also drive clutch mechanism at the lower end of the drive motor.



(Front)



(Back)

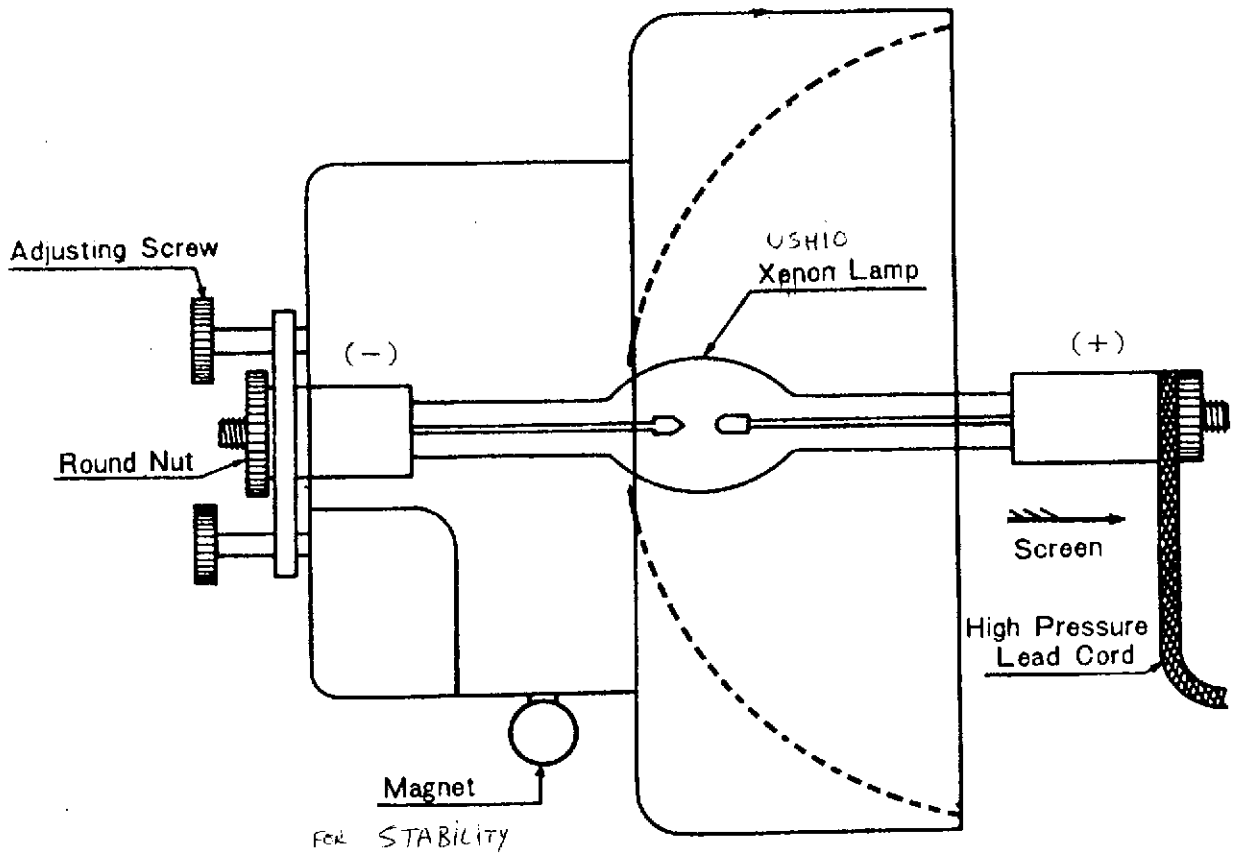
- 45. AC receptacle
- 46. Relay
- 47. Current control transformer
- 48. AC capacitor 20mfd 100WV
- 49. Choke 1KW
- 50. Filter capacitor 2,000mfd 100WV
500mfd 100WV
- 51. Output leads
- 52. Current control rectifier complete
1.8A 20V

- 53. Power transformer
- 54. Fan motor
- 55. Fuse 30A (EX-5000) / 20A (EX-3000)
5020 3020
- 56. Filter capacitor 20mfd 150WV
- 57. Choke 1KW
- 58. Silicon rectifier assembly complete
55V-50A
- ① ON OFF switch
- ①-A Neon lamp
- ⑬ Current control
- ⑭ Ammeter

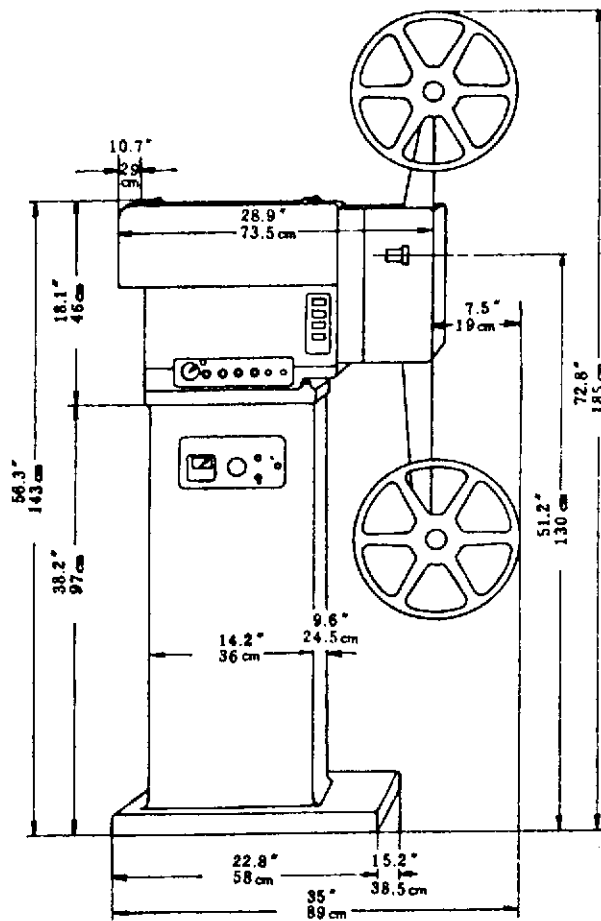
NEW LAMP MOUNTING:

When you are installing a new lamp, you may have to refocus this lamp, so go through the focusing procedure again. When you are installing new lamp (+) sign should be toward the front of the projector, and also facing up. When installing a new lamp, secure positive lead first. Then insert lamp completely into socket and secure negative holding nuts. This will help avoid breakage of lamp.

Also, the plastic mount on the front of the lamp at the positive end should be down. Lamp does not need any support during operation.



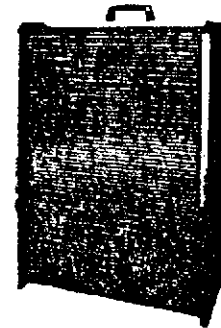
Dimensions & weight



Dimensions in cm. & inch.



Speaker for EX-5000



Speaker for EX-3000

Weight

Projector	31.5 kg	69.3 lbs
Rectifier	56.8 kg	124.9 lbs
Base	3.3 kg	7.3 lbs
Total	91.1 kg	201.5 lbs

Speaker dimensions

EX-5000	44×70×100cm	17.3'×27.6'×39.4'
EX-3000	31×49×71cm	12.2'×19.3'×28.0'