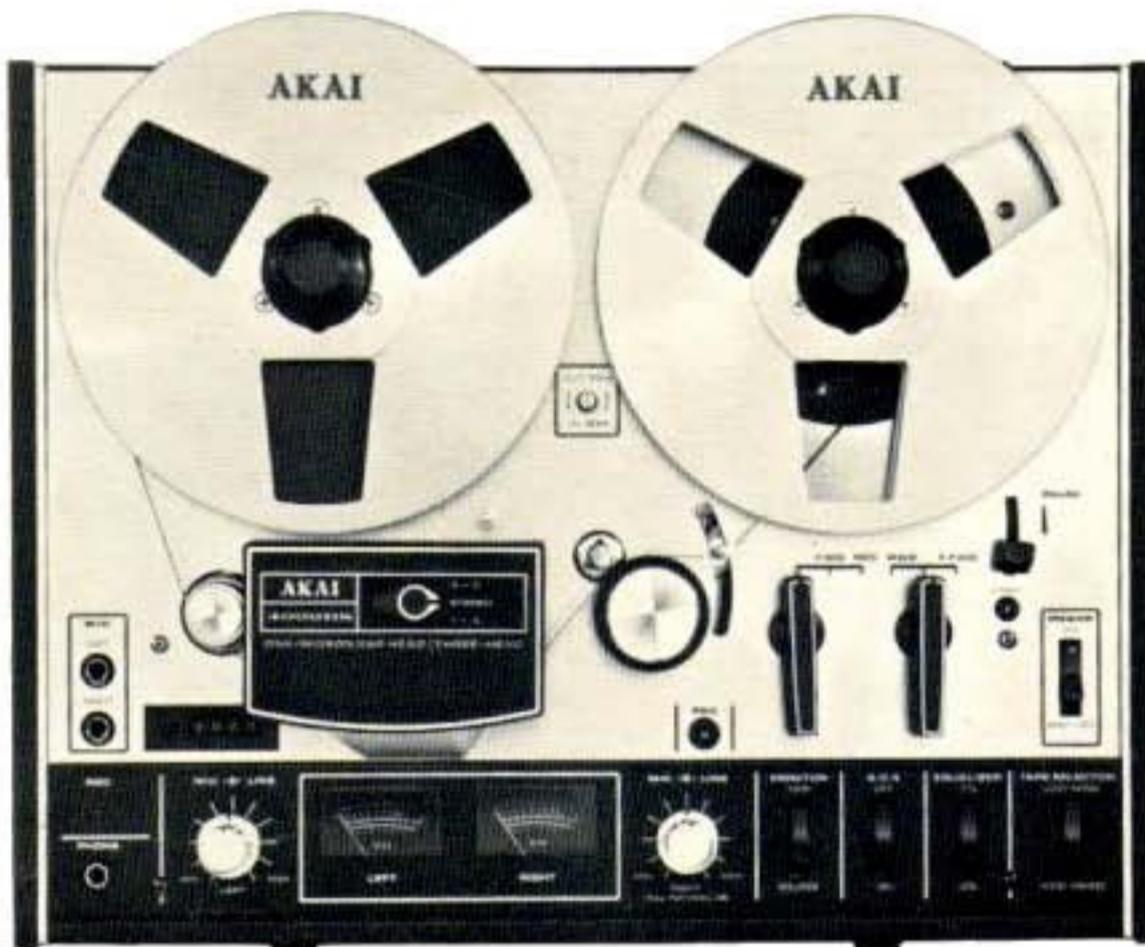


4000DS

STEREO TAPE DECK

OPERATOR'S MANUAL



AKAI

MANUFACTURED & DISTRIBUTED BY AKAI ELECTRIC CO., LTD./AKAI TRADING CO., LTD./AKAI AMERICA LTD.



CEE, CSA, UL and L.A. Standard models are not equipped with Voltage Selector and Cycle Conversion Switches. Therefore, voltage and cycle conversion is not necessary. If your machine corresponds to any of these standards, please disregard all referenced to voltage and cycle adjustment throughout this manual.

CEE Models : 220 V, 50 Hz

CSA Models : 120 V, 60 Hz

UL Models : 120 V, 60 Hz

L.A. Models : 120 V, 60 Hz

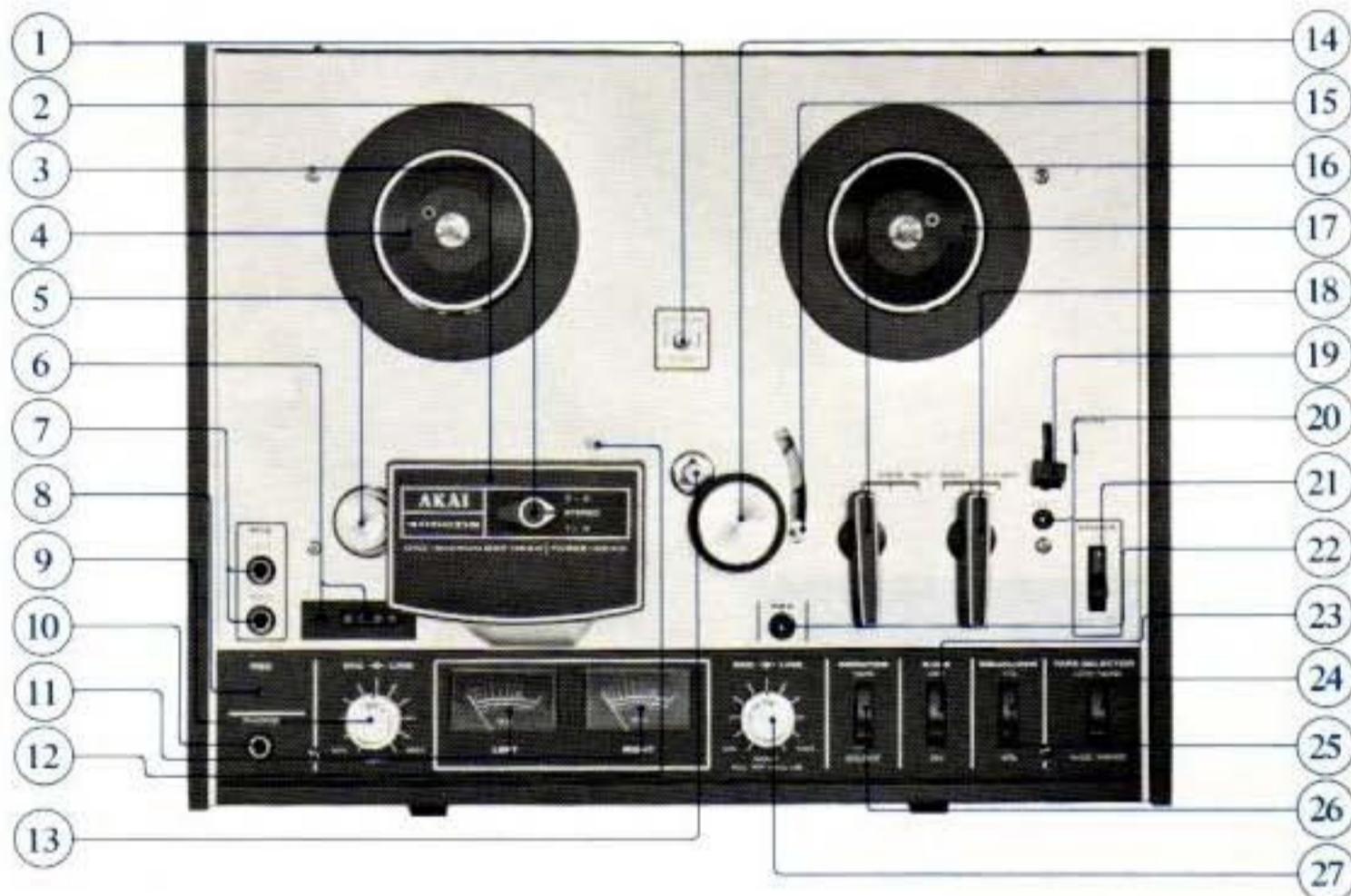
WARNING

To prevent fire or shock hazard, do not expose this appliance to rain or moisture.

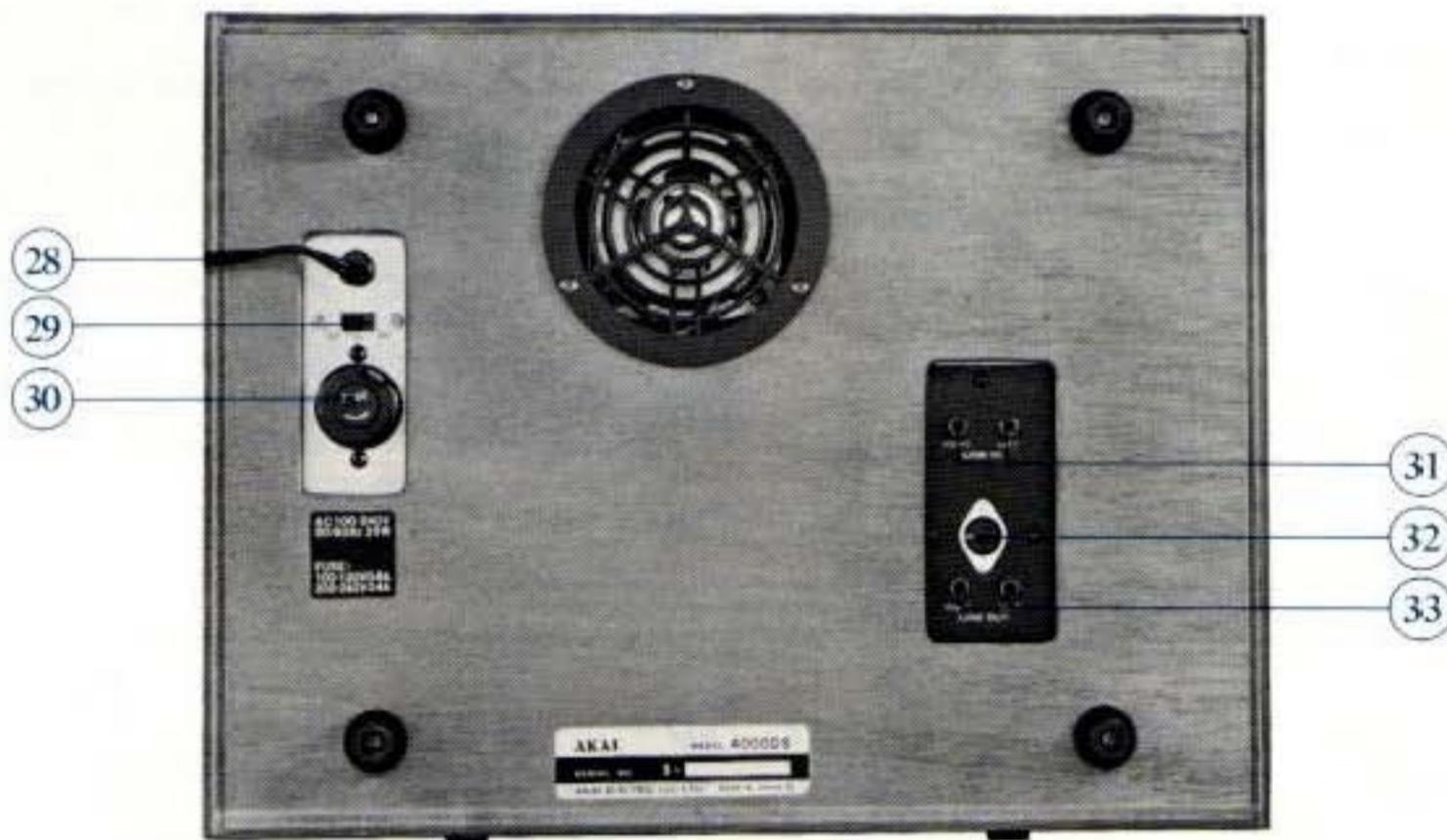
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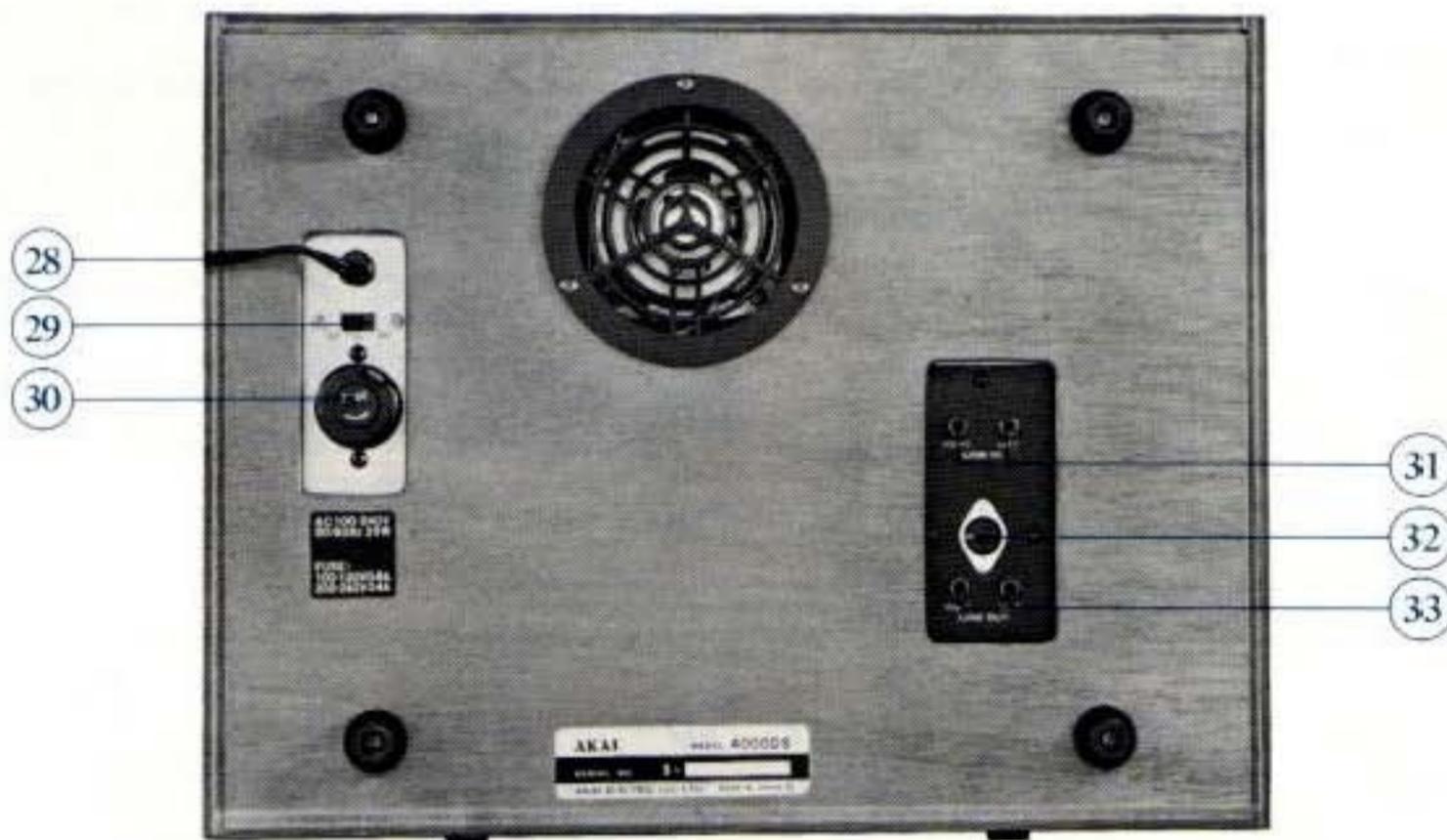
CONTROLS



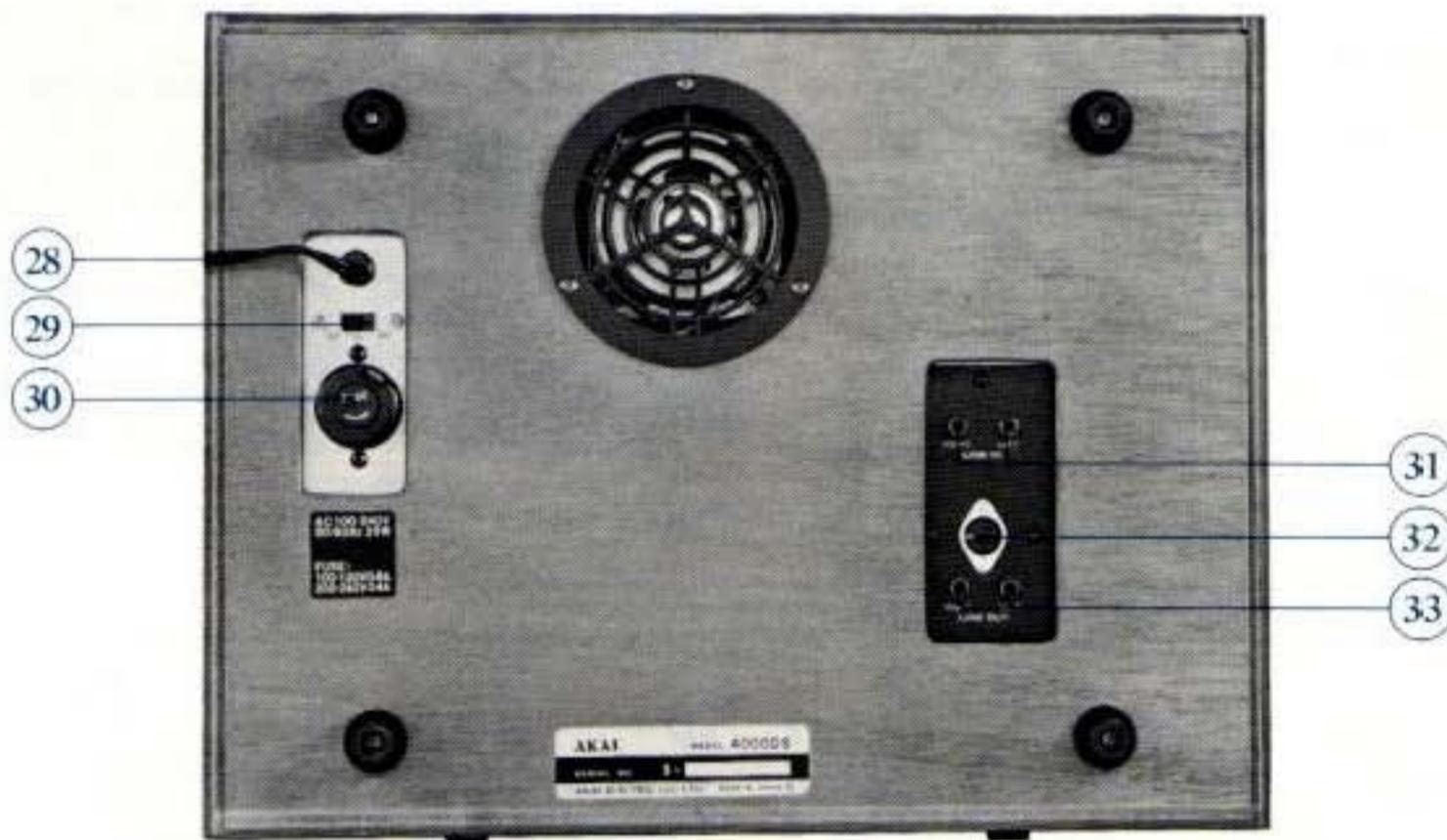
1. **CYCLE CONVERSION SWITCH (A)**
OUT position 50 Hz, IN position 60 Hz.
2. **TRACK SELECTOR SWITCH**
For stereo recording/playback set to STEREO position, and for monaural recording/playback set to 3-2 or 1-4 depending upon desired track.
3. **HEAD COVER**
Houses Erase, Recording, and Playback Heads.
4. **SUPPLY REEL TABLE**
5. **TAPE GUIDE**
6. **INDEX COUNTER & RESET BUTTON**
7. **MICROPHONE JACKS (Left & Right)**
8. **RECORDING INDICATOR LAMP**
Lights when recorder is set to recording mode.
9. **RECORDING LEVEL CONTROL (Left)**
Outer control : Line; Center control : Microphone or Din Jack.
10. **HEADPHONE JACK**
For monitoring sound or private headphone listening. Use headphones of 8 Ω impedance.
11. **VU METERS (Left & Right)**
Indicates recording and playback levels.
12. **CAPSTAN STORAGE POST**
13. **CAPSTAN**
Transports tape and controls tape speed. See Tape Speed Selection procedure.
14. **PINCH WHEEL**
Presses against capstan to transport tape.
15. **SHUT-OFF LEVER**
See Automatic Shut-Off procedure.
16. **RECORD/PLAYBACK LEVER**
For playback set to FWD position, and for recording set to REC position.
17. **TAKE-UP REEL TABLE**
18. **FAST FORWARD/REWIND LEVER**
See Fast Forward & Rewind procedure.
19. **PAUSE LEVER**
See Pause Control procedure.
20. **START BUTTON**
Releases Pause Lever.
21. **POWER/AUTOMATIC SHUT-OFF SWITCH**
For turning on power, set to ON position. For automatic Shut-off, see Automatic Shut-Off procedure.



22. **RECORDING SAFETY BUTTON**
23. **S.O.S (Sound-On-Sound) BUTTON**
See Sound-On-Sound Recording procedure.
24. **TAPE SELECTOR SWITCH**
Set to WIDE RANGE or LOW NOISE position according to tape being used. Scotch #211 tape is considered standard for this machine. In this case, set to LOW NOISE position. Set to WIDE RANGE position only when using special wide range tape of a grade higher than low noise tape.
* The use of regular tape is not recommended.
25. **EQUALIZER SWITCH**
Must be set to correspond with tape speed. See Tape Speed Selection procedure.
26. **MONITOR SELECTOR SWITCH (Tape & Source)**
During recording mode when the Monitor Selector Switch is set to TAPE position, signals can be monitored as the tape passes the playback head. When set to SOURCE position, the program source will be monitored. For erasing or private listening during playback mode, the Monitor Selector Switch should be at TAPE position.
27. **RECORDING LEVEL CONTROL (Right)**
Outer control : Line; Center control : Microphone or Din Jack.
(For monaural playback, pull center control outward).
28. **AC CORD**
29. **CYCLE CONVERSION SWITCH (B)**
This Switch and the Cycle Conversion Switch (A) must be set to correspond with area power source.
30. **UNIVERSAL VOLTAGE SELECTOR & FUSE POST**
See Voltage & Cycle Conversion procedure.
31. **LINE INPUT JACKS (Left & Right)**
Connect to output jacks of external source.
32. **DIN JACK**
Enables inter-connection with an external amplifier by means of a single Din cord. Use instead of Rec. or P.B. Jacks. Note that when using Din cord, the recording level is controlled with the Microphone Recording Level Controls.
33. **LINE OUTPUT JACKS (Left & Right)**
Connect to tape in or aux jacks of external amplifier for playback.



22. **RECORDING SAFETY BUTTON**
23. **S.O.S (Sound-On-Sound) BUTTON**
See Sound-On-Sound Recording procedure.
24. **TAPE SELECTOR SWITCH**
Set to WIDE RANGE or LOW NOISE position according to tape being used. Scotch #211 tape is considered standard for this machine. In this case, set to LOW NOISE position. Set to WIDE RANGE position only when using special wide range tape of a grade higher than low noise tape.
* The use of regular tape is not recommended.
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Must be set to correspond with tape speed. See Tape Speed Selection procedure.
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During recording mode when the Monitor Selector Switch is set to TAPE position, signals can be monitored as the tape passes the playback head. When set to SOURCE position, the program source will be monitored. For erasing or private listening during playback mode, the Monitor Selector Switch should be at TAPE position.
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Outer control : Line; Center control : Microphone or Din Jack.
(For monaural playback, pull center control outward).
28. **AC CORD**
29. **CYCLE CONVERSION SWITCH (B)**
This Switch and the Cycle Conversion Switch (A) must be set to correspond with area power source.
30. **UNIVERSAL VOLTAGE SELECTOR & FUSE POST**
See Voltage & Cycle Conversion procedure.
31. **LINE INPUT JACKS (Left & Right)**
Connect to output jacks of external source.
32. **DIN JACK**
Enables inter-connection with an external amplifier by means of a single Din cord. Use instead of Rec. or P.B. Jacks. Note that when using Din cord, the recording level is controlled with the Microphone Recording Level Controls.
33. **LINE OUTPUT JACKS (Left & Right)**
Connect to tape in or aux jacks of external amplifier for playback.



22. **RECORDING SAFETY BUTTON**
23. **S.O.S (Sound-On-Sound) BUTTON**
See Sound-On-Sound Recording procedure.
24. **TAPE SELECTOR SWITCH**
Set to WIDE RANGE or LOW NOISE position according to tape being used. Scotch #211 tape is considered standard for this machine. In this case, set to LOW NOISE position. Set to WIDE RANGE position only when using special wide range tape of a grade higher than low noise tape.
* The use of regular tape is not recommended.
25. **EQUALIZER SWITCH**
Must be set to correspond with tape speed. See Tape Speed Selection procedure.
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During recording mode when the Monitor Selector Switch is set to TAPE position, signals can be monitored as the tape passes the playback head. When set to SOURCE position, the program source will be monitored. For erasing or private listening during playback mode, the Monitor Selector Switch should be at TAPE position.
27. **RECORDING LEVEL CONTROL (Right)**
Outer control : Line; Center control : Microphone or Din Jack.
(For monaural playback, pull center control outward).
28. **AC CORD**
29. **CYCLE CONVERSION SWITCH (B)**
This Switch and the Cycle Conversion Switch (A) must be set to correspond with area power source.
30. **UNIVERSAL VOLTAGE SELECTOR & FUSE POST**
See Voltage & Cycle Conversion procedure.
31. **LINE INPUT JACKS (Left & Right)**
Connect to output jacks of external source.
32. **DIN JACK**
Enables inter-connection with an external amplifier by means of a single Din cord. Use instead of Rec. or P.B. Jacks. Note that when using Din cord, the recording level is controlled with the Microphone Recording Level Controls.
33. **LINE OUTPUT JACKS (Left & Right)**
Connect to tape in or aux jacks of external amplifier for playback.

VOLTAGE & CYCLE CONVERSION

VOLTAGE

Your machine is equipped with a universal voltage selector offering six selections of voltage from 100 V to 240 V AC for worldwide operation. Voltage is preset at the factory according to destination. Please confirm setting prior to operation and if readjustment is necessary, proceed as follows: (A) Disconnect power cord and remove the Fuse Post by screwing in direction of arrow. (B) Remove the Voltage Selector Plug and reinsert so that proper area voltage is shown through the Plug cut-out. (C) Change fuse according to voltage (please refer to supplied fuse tag instructions).

* Be sure to disconnect power cord before attempting to readjust voltage.

* To maintain optimum performance and prolong the life of your machine, it is important that the line voltage be held within a 10% deviation of standard area voltage.

CYCLE

Correct tape speed cannot be obtained if the Cycle Conversion Switches are not properly positioned. (A) With a screw driver, turn Switch (A) on face panel counterclockwise about 1/8 of a turn and move to IN or OUT for 60 Hz or 50 Hz operation according to area power source. The Switch must be rotated back to its original position after being reset. (B) Cycle Conversion Switch (B) at rear of recorder must also be set accordingly.

* Do not attempt to rotate the Cycle Conversion Switches when the motor is not running.

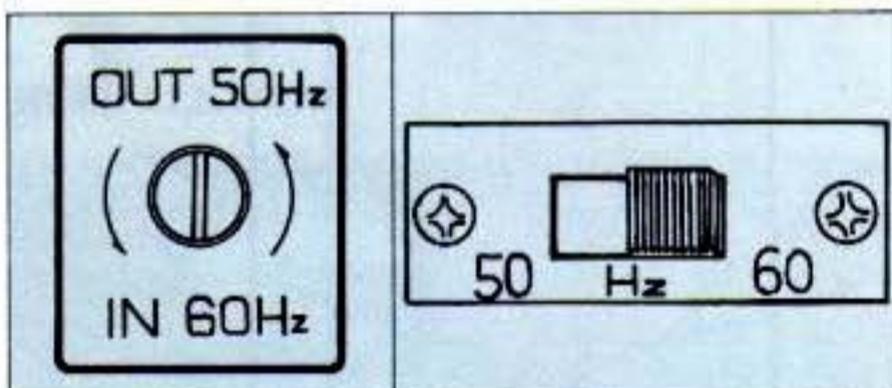
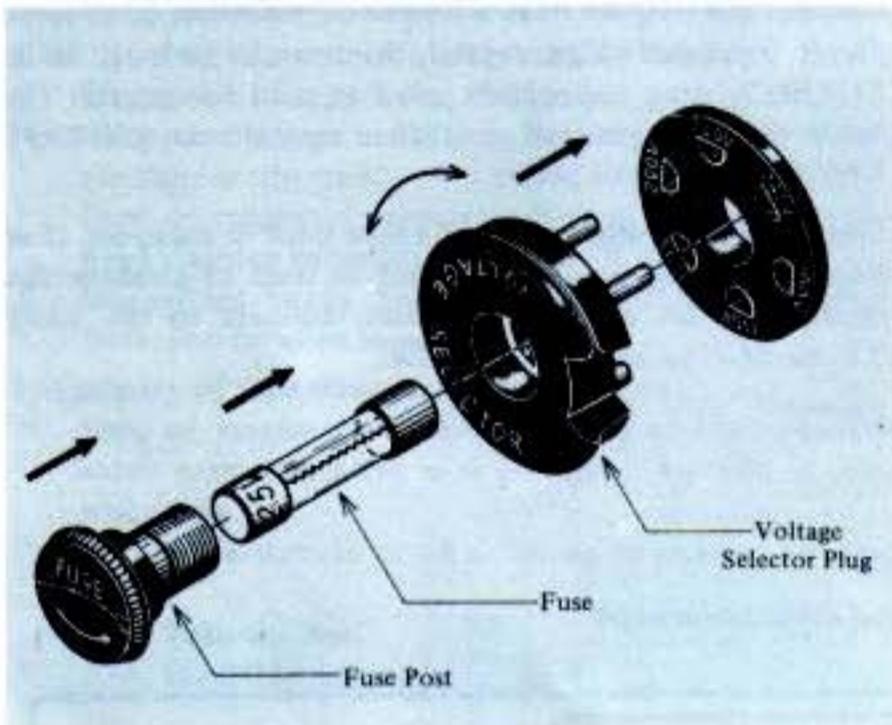
PAUSE CONTROL

To momentarily stop the tape during recording or playback, lift Pause Lever upward. Pause Control is especially useful for editing tape during recording. To release Pause Lever depress Start Button.

* Pause control has no effect during fast forward or rewind mode.

FAST FORWARD & REWIND

For fast forward or rewind, operate Fast Forward or Rewind Lever. This feature permits rapid selection of recordings on the tape. This Lever locks into position and cannot be operated while the Record/Playback Lever is in operation and vice-versa.



TAPE SPEED SELECTION

This model operates on two tape speeds; i.e., 3-3/4 and 7-1/2 ips. Tape speed is determined by the capstan. The Equalizer must be set accordingly for proper equalization. For 3-3/4 ips remove outer capstan and place on storage post. For 7-1/2 ips use the outer capstan.

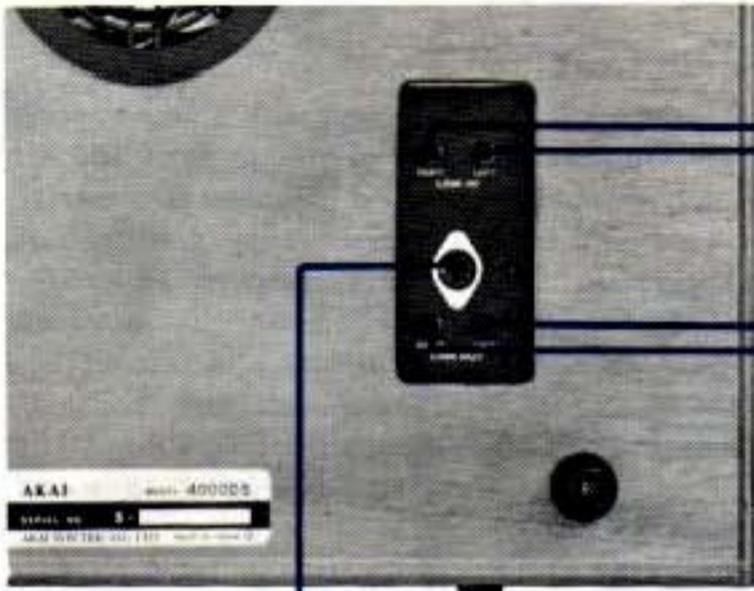
Recording Time:

(Stereo 1800ft tape) 3-3/4 ips : 3 hrs., 7-1/2 ips : 1.5 hrs.
(Monaural 1800ft tape) 3-3/4 ips : 6 hrs., 7-1/2 ips : 3 hrs.

AUTOMATIC SHUT-OFF

One of the exclusive features of this model is the automatic shut-off function of the unit. For automatic shut-off, thread tape through Automatic Shut-Off Lever and set Power/Automatic Shut-Off Switch to SHUT-OFF position after setting machine to playback or recording mode. When the tape comes to the end the Shut-Off Lever will drop cutting the power of the entire unit.

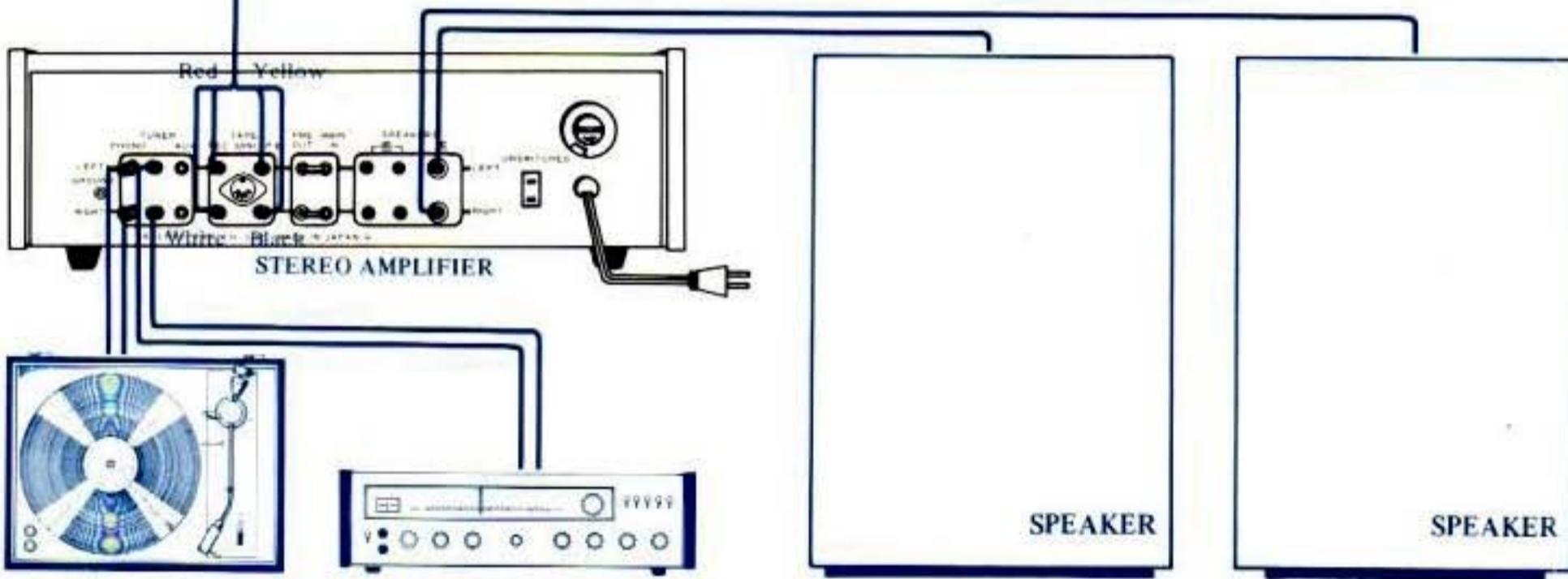
CONNECTIONS



Connect the outputs from a tape deck, recorder, or a record player equipped with crystal or ceramic pick-up. If an RCA/RCA plug connection cord is used to connect this mode with an external amplifier, connect to the TAPE REC jacks of the amplifier.

Connect to the input jacks of a tape deck or recorder. If an RCA/RCA plug connection cord is used to connect this model with an external amplifier, connect to the TAPE P.B. or AUX jacks of the amplifier.

← Standard Accessory DIN/RCA plug connection cord



Turntable with magnetic cartridge

Stereo tuner

SPEAKER

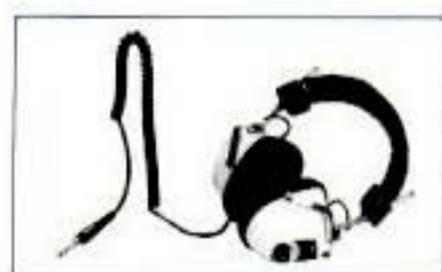
SPEAKER



RCA/RCA plug connection cord.



DIN/DIN plug connection cord. Can be used instead of the line jacks to connect with the Din jack of the external amplifier. This enables recording/playback with a single connection cord.



For monitoring or private listening use stereo headphones of 8 Ω impedance.

OPERATING PRECAUTIONS

The conditions listed below do not indicate mechanical failure of the unit. If your machine exhibits any of the following, please check for trouble as indicated.

Loss of sensitivity or tone quality may be due to :

- * Wrong side of tape facing the heads.
- * AC power voltage lower than the voltage to which your machine is adjusted.
- * Dust or magnetic particles adhering to the heads. See head cleaning procedure.
- * Magnetized heads. See head demagnetizing procedure.
- * Defective or worn tape.

Irregularity of tape transport may be due to :

- * Dust or magnetic particles adhering to the heads and other parts which the tape contacts. See head cleaning procedure.
- * Dirty tape surface or oil adhering to capstan or pinch wheel.
- * Bent Take-Up Reel.
- * Tape loaded improperly.

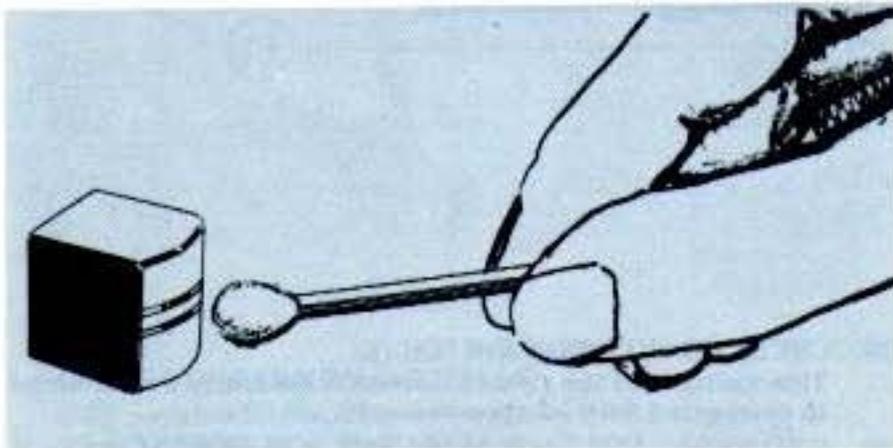
If your machine will not record or playback, check to see that connections are correct and controls are properly positioned.

The following conditions are provided for your convenience.

- * Your machine requires constant voltage for optimum performance.
- * If the sound sources are so far away from the microphones that the recording level controls must be turned up to maximum, some hum or noise will inevitably be recorded. A test recording is recommended before attempting a final recording.

Should there be a problem with your machine, write down the model and serial numbers and all pertinent data regarding warranty coverage as well as a clear description of the existing problem and contact your nearest authorized Akai Service Station or the Service Department of Akai Company, Tokyo, Japan.

HEAD CLEANING



For quality performance, it is imperative that the heads be kept clean at all times. Accumulation of dust and magnetic particles on the heads results in poor head-to-tape contact and deteriorates sound quality and sensitivity. It is, therefore, recommended that the heads be cleaned every time you use your machine. With a stiff cotton swab dipped in Akai Cleaning fluid (Akai Head Cleaning Kit HC-500), rub the entire head surface (do not scratch) until all tape oxide and dust is removed. The capstan shaft, tape lifter, pinch wheel and other parts which the tape contacts should also be cleaned.

- * Alcohol can also be used for head cleaning. Do not use chloroethane, etc. as such chemicals will damage the rubber parts.

PINCH WHEEL & CAPSTAN CLEANING



If foreign matter is allowed to accumulate on the pinch wheel and capstan, these particles will come off on the tape, causing deterioration of sound quality. Oil adhering to the capstan also causes irregularity in tape transport. It is, therefore, recommended that these parts be wiped clean periodically.

OPERATING PRECAUTIONS

The conditions listed below do not indicate mechanical failure of the unit. If your machine exhibits any of the following, please check for trouble as indicated.

Loss of sensitivity or tone quality may be due to :

- * Wrong side of tape facing the heads.
- * AC power voltage lower than the voltage to which your machine is adjusted.
- * Dust or magnetic particles adhering to the heads. See head cleaning procedure.
- * Magnetized heads. See head demagnetizing procedure.
- * Defective or worn tape.

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- * Dust or magnetic particles adhering to the heads and other parts which the tape contacts. See head cleaning procedure.
- * Dirty tape surface or oil adhering to capstan or pinch wheel.
- * Bent Take-Up Reel.
- * Tape loaded improperly.

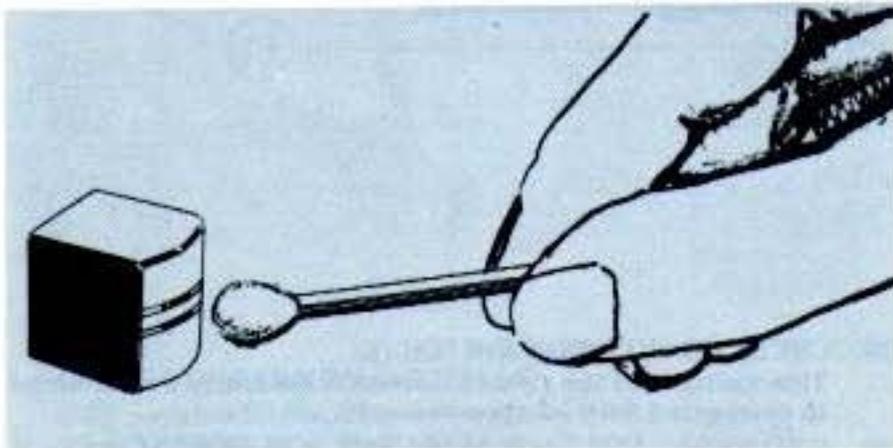
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HEAD CLEANING



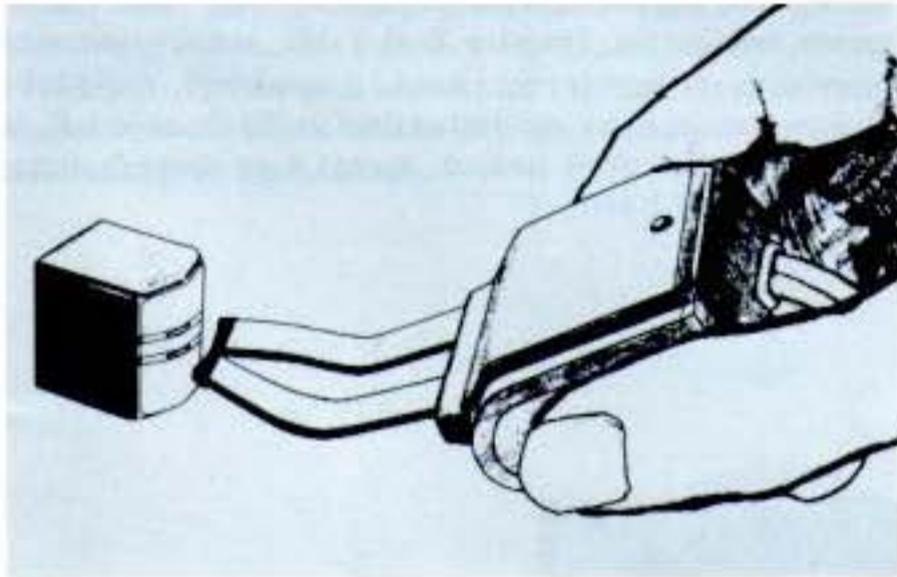
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- * Alcohol can also be used for head cleaning. Do not use chlorothane, etc. as such chemicals will damage the rubber parts.

PINCH WHEEL & CAPSTAN CLEANING



If foreign matter is allowed to accumulate on the pinch wheel and capstan, these particles will come off on the tape, causing deterioration of sound quality. Oil adhering to the capstan also causes irregularity in tape transport. It is, therefore, recommended that these parts be wiped clean periodically.



HEAD DEMAGNETIZING

Normally, the steel pole pieces which form part of the recording and playback heads become slightly magnetized. The effect of magnetization is that it causes considerable drop out or introduces noise into your recordings. It is recommended that head demagnetization be performed periodically. This can be accomplished with a bulk head demagnetizer by bringing it very close to the heads and making several small circular motions over the head surface areas as well as the parts which the tape contacts.

- * Be sure to cut off the power of the unit prior to demagnetizing the heads.
- * Both prongs of the demagnetizer should be covered with a kind of masking tape to prevent heads from being scratched.
- * Do not use magnetized tools in the vicinity of the heads.
- * Read the instructions of the demagnetizer carefully before operation.

TAPE ERASING

Any signals previously recorded on the tape will be automatically erased as a new recording is made. For erasing only, set machine to recording mode. No plugs should be connected to the Input Jacks and Volume Controls should be kept at minimum. For quick and complete erasure, the use of a bulk tape eraser is recommended.

- * When erasing monaural recorded tape, be sure to set the Track Selector Switch to the track which is to be erased. If set to STEREO position, both tracks will be erased.

ADJUSTMENT OF RECORDING LEVEL

When the machine is set to recording mode, the recording input levels are registered on the VU Meters, but the recording level can be more precisely set by monitoring through headphones. Adjust Recording Level Controls while monitoring signal strength through headphones. Adjust so that the VU Meters register normally. For recording with the least possible distortion, keep the recording level as high as possible within the yellow part of the meter scale. For monitoring source, set Monitor Switch to TAPE position and for monitoring recorded signals, set to SOURCE position.

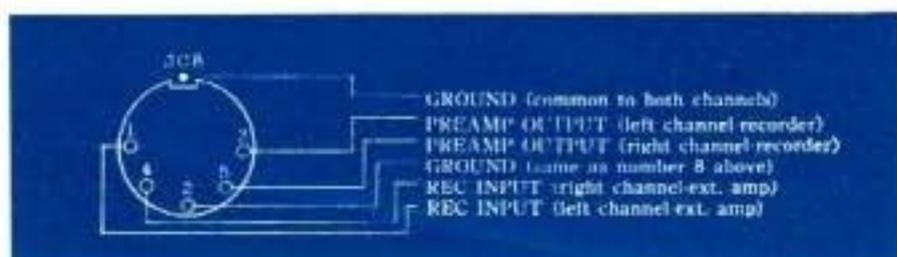
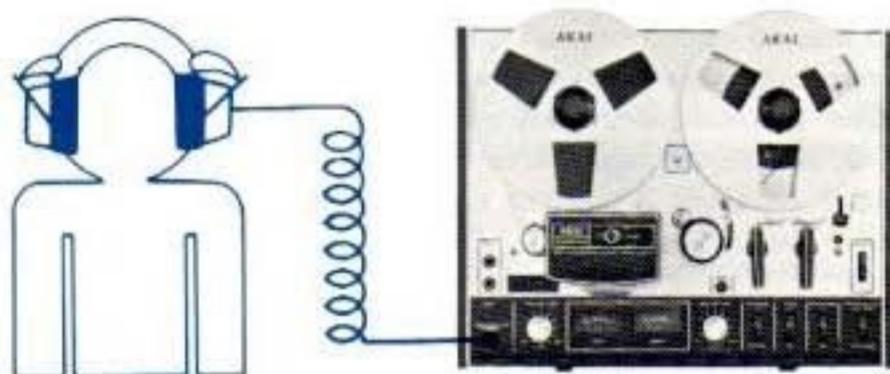
SOUND MONITORING

For sound monitoring or private listening, connect stereo headphones of low impedance type ($8\ \Omega$) to Headphone Jack. Akai models ASE-22 and ASE-20 are highly recommended.

HOW TO USE THE DIN JACK

The Din Jack can be used instead of Rec and P.B. Jacks if your amplifier has a corresponding connection. This one cord system eliminates the necessity of four separate connections and disconnections.

- * When using Din Jack, the recording level is adjusted with the Microphone Recording Level Controls.





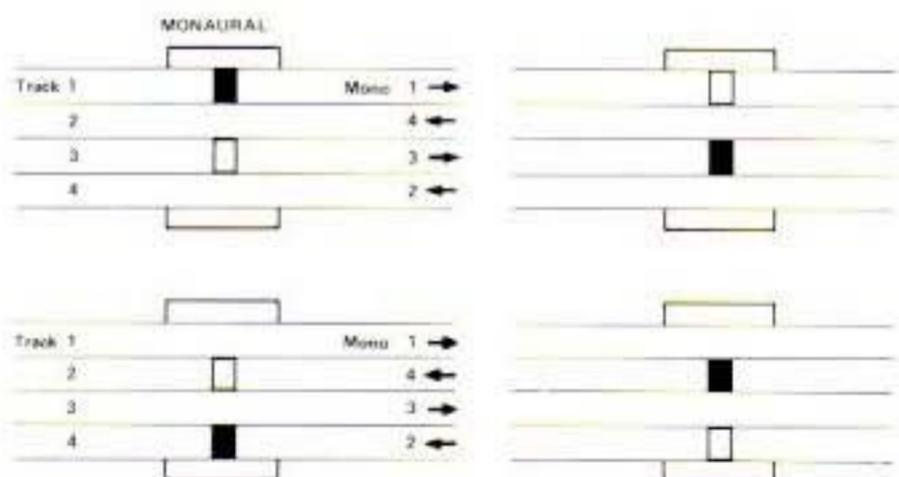
TAPE LOADING

Place a full reel of tape on the Supply Reel Table and an empty reel on the Take-Up Reel Table, and fix reels into place with the rubber caps (standard accessory). Thread the tape as illustrated by the dotted lines in the figure at left. If automatic shut-off is desired, thread tape through Automatic Shut-Off Lever.



4-TRACK STEREO RECORDING SYSTEM

4-Track stereo recording requires the simultaneous use of two tracks. For stereo operation, set Track Selector to STEREO position. The first recording takes place on tracks 1 and 3, and the second on tracks 2 and 4 after the reels have been inverted.



4-TRACK MONAURAL RECORDING SYSTEM

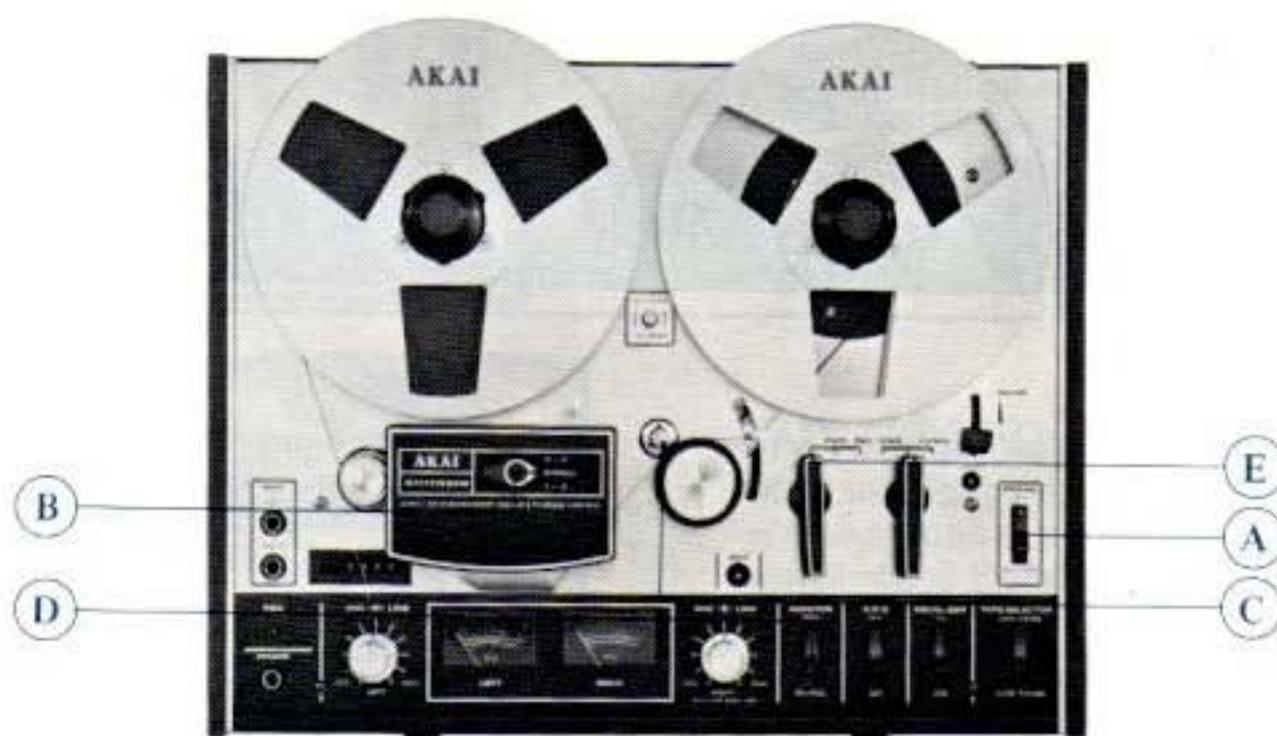
4-Track monaural recording track sequence is 1-4-3-2. For monaural operation, set Track Selector to 1-4. The first recording takes place on track 1 and the second on track 4 after the reels have been inverted. For recording on tracks 3-2, set Track Selector to 3-2. The third recording takes place on track 3 and the fourth on track 4 after the reels have been inverted.

PLAYBACK COMPATIBILITY

Playback is accomplished through an external amplifier and speakers. Playback sequence and track selection is identical to that outlined in stereo and monaural recording systems above.

PLAYBACK OF PRE-RECORDED TAPE

Please read the operating precautions carefully before attempting operation. Connect the Line Outputs of the 4000DS to the tape inputs of the external amplifier and connect two speakers to the amplifier. Connect AC cord and load a pre-recorded tape.



STEREO PLAYBACK

- A. Turn on Power Switch.
- B. Set Track Selector to STEREO position.
- C. Select tape speed and set Equalizer Switch to consistent speed.
- D. Set Tape Monitor Switch to TAPE position.
- E. Set Record/Playback Lever to FWD position to begin playback.
- F. Adjust external amplifier controls.
- G. To stop playback, return Record/Playback Lever to vertical position.

MONAURAL PLAYBACK

Only the left channel is used for monaural playback. Substitute the following step for step B of stereo playback procedure and add step H.

Tracks 1-4

- B. Set Track Selector to 1-4 position.
- H. Invert reels for playback on track 4.

Tracks 3-2

- B. Set Track Selector to 3-2 position.
- H. Invert reels for playback on track 2.

* When playing back a monaural recorded tape, pull the right channel center recording level control outward.

RECORDING USING MICROPHONES



Please read the operating precautions carefully before attempting operation. Connect AC cord and load a blank new tape.

TAPE SELECTOR SWITCH

This model is equipped with a Tape Selector Switch enabling the use of Low Noise or Wide Range tape. Scotch #211 tape is considered standard for this machine. In this case, set to LOW NOISE position. Set to WIDE RANGE position only when using special wide range tape of a grade higher than low noise tape. While a superior frequency response covering 23,000 Hz at 7-1/2 ips is attained with low noise tape, this is further extended with the use of wide range tape.

STEREO RECORDING

- A. Turn on Power Switch.
- B. Set Track Selector to STEREO position.
- C. Select Tape Speed and set Equalizer switch to consistent speed.
- D. With Reset Button, set Index Counter to "0000" position. This Index Counter provides an easy reference for locating positions on the tape.
- E. Insert microphone plugs into Microphone Jacks. Maintain a distance of at least 2 meters (7 ft.) between microphones.
- F. Set Monitor Switch to SOURCE position.
- G. Adjust and balance microphone input level with Microphone Recording Level Controls while observing VU Meters. Normal recording should not exceed "0" VU on either VU Meter.
- H. When an optimum recording level has been determined,

while holding Record Safety Button at depressed position, set Record/Playback Lever to REC position to begin recording. Note that at this time the Recording Indicator Lamp will light.

- I. To stop recording, return Record/Playback Lever to vertical position.

MONAURAL RECORDING

Only the left channel is used for monaural recording. Substitute the following steps for steps B, E and G of stereo recording procedure and add step J.

Tracks 1-4

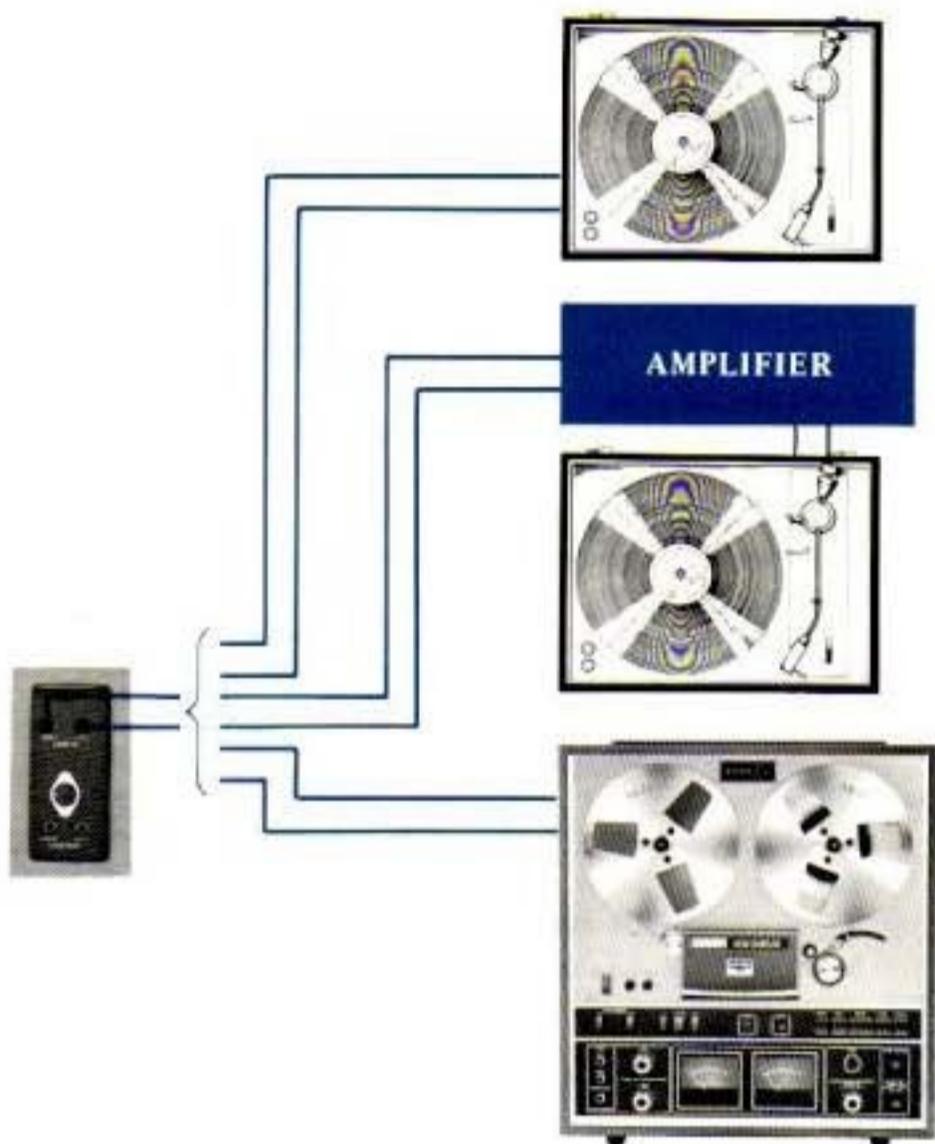
- B. Set Track Selector to 1-4 position.
- E. Insert microphone plug into left Microphone Jack.
- G. Adjust and balance microphone input level with left Microphone Recording Level Control while observing left VU Meter.
- J. Invert reels to record on track 4.

Tracks 3-2

- B. Set Track Selector to 3-2 position.
- E. Insert microphone plug into left Microphone Jack.
- G. Adjust and balance microphone input level with left Microphone Recording Level Control while observing left VU Meter.
- J. Invert reels to record on track 2.

* Disregard right VU Meter indication when making a monaural recording.

* When monitoring monaural recording through headphones, pull the right channel center recording level control outward.



SOUND-ON-SOUND RECORDING

For transfer of previously recorded material from one track to another accumulating as many individual recordings on a single track as is desired. Use for language training or various interesting musical compilations.

First Recording

- A. Turn on Power Switch.
- B. Confirm that there are no connections to the Line Input Jacks.
- C. Set Index Counter to "0000" position.
- D. Set Track Selector Switch to 1-4 position.
- E. Insert microphone plug into left Microphone Jack.
- F. Set Monitor Selector Switch to SOURCE position.
- G. Adjust left Microphone Recording Level Control while observing left VU Meter.
- H. While holding Recording Safety Button at depressed position, set Record/Playback Lever to REC position to begin first recording ;i.e., DO-RE-MI.
- I. When the first recording is complete, rewind tape to starting point.

RECORDING FROM AN EXTERNAL AMPLIFIER

If an external amplifier or tuner amplifier is used, connect the tape outputs of the external amplifier to the Line Inputs of the 4000DS in step E of stereo recording procedure. VU level is controlled with the Line Recording Level Controls.

- * If the Din Jack is used for this connection, VU level is controlled with the Microphone Recording Level Controls.

RECORDING FROM A TURNTABLE

To record from a stereo or monaural disc, a crystal or ceramic pick-up can be connected directly to the Line Inputs instead of step E of recording procedure. However, if magnetic or similar cartridges are used, connect to the Line Inputs of the 4000DS through an external amplifier.

TAPE DUBBING

When tape duplication is desired, connect the Line Outputs of your 4000DS to the line inputs of the recording machine instead of step E of recording procedure.

Second Recording

- J. Depress S.O.S. Switch to ON position.
 - K. Set Track Selector Switch to 3-2 position.
 - L. Increase left Line Recording Level Control to maximum level.
 - M. Connect stereo headphones to monitor first recording on track 2.
 - N. While holding Recording Safety Button at depressed position, set Record/Playback Lever to REC position to begin second recording ; i.e., MI-FA-SOL. The first recording is heard through headphones.
 - O. Reset left Microphone Recording Level Control until proper level is obtained while observing VU Meter.
- * The second recording MI-FA-SOL is made on track 3 as the first recording DO-RE-MI is heard through headphones. The two recordings will be completely merged on track 3 ; i.e., DO-MI-RE-FA-MI-SOL.
 - * The third and subsequent recordings are made in the same manner as the second by switching Track Selector Switch to and from 1-4, 3-2.
 - * For playback, set Track Selector to track on which the last recording was made. Then set Monitor Switch to TAPE position and pull the right channel center recording level control outward.

SOUND MIXING

For mixing microphone and line input signals, proceed as follows :

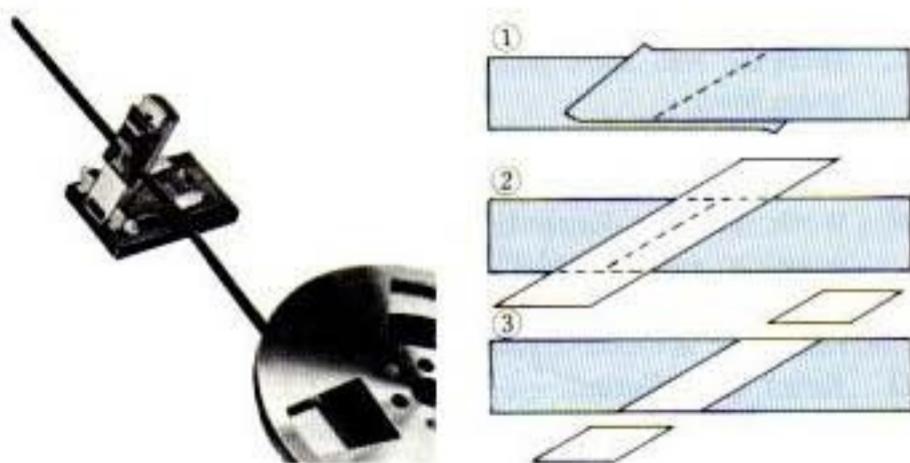
- A. Insert microphone plugs into Microphone Jacks and connect line outputs of external source to the Line Input Jacks of the 4000DS.
- B. Adjust microphone volume level with Microphone Recording Level Controls and line input level with Line Recording Level Controls.
- C. For playback, operate Track Selector Switch according to tracks used in making recording.

* Mixing can also be accomplished by using the Din Jack and Line Input Jacks simultaneously. In this case, the Din Jack input is controlled with Microphone Recording Level Controls.

SOUND-WITH-SOUND RECORDING

This feature is especially convenient for teacher/student repetition and comparison (teacher's voice on track 1, student's voice on track 3) when studying languages.

- A. Turn on Power Switch.
- B. Confirm that there are no connections to the Line Input Jacks.
- C. Set Index Counter to "0000" position.
- D. Set Track Selector Switch to 1-4 position.
- E. Insert microphone plug into left Microphone Jack.
- F. Set Monitor Selector Switch to SOURCE position.
- G. Adjust left Microphone Recording Level Control while observing left VU Meter.
- H. While holding Recording Safety Button at depressed position, set Record/Playback Lever to REC position to begin first recording ; i.e., A-B-C-D. . . .
- I. When the first recording is complete, rewind tape to starting point.
- J. Set Track Selector Switch to 3-2 position.
- K. Set Monitor Selector Switch to TAPE position.
- L. Insert stereo headphones to monitor the first recording on the left channel.
- M. While holding the Recording Safety Button at depressed position, set Record/Playback Lever to REC position to begin second recording ; i.e., A'-B'-C'-D'. . . .The first recording will be heard through headphones.
- N. After finishing recording, rewind tape to starting position.
- O. Set Track Selector Switch to STEREO position.
- P. Set Record/Playback Lever to FWD position and run tape for playback.



TAPE SPLICING & EDITING

Cut tape diagonally with an overlap so that the ends are lined up. Cutting tape on diagonal eliminates detection of the splice in recording. Cover aligned ends with splicing tape. Press firmly exerting pressure to secure ends evenly. Trim off excess splicing tape cutting into magnetic tape very slightly. This eliminates the possibility of a sticky splice. Splicing tape using scissors requires skillful work. With Akai's specially designed portable Tape Splicer Model AS-3, splicing can be done very smoothly.

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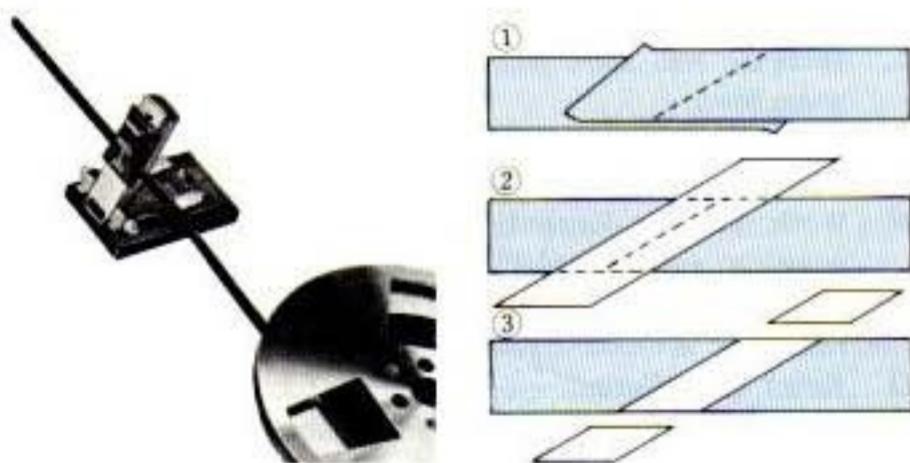
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- C. For playback, operate Track Selector Switch according to tracks used in making recording.

* Mixing can also be accomplished by using the Din Jack and Line Input Jacks simultaneously. In this case, the Din Jack input is controlled with Microphone Recording Level Controls.

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- I. When the first recording is complete, rewind tape to starting point.
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TECHNICAL DATA

Track System	4 track 2 channel stereo/ monaural system
Reel Capacity	Up to 7" reel
Tape Speed	7-1/2 and 3-3/4 ips (2%)
Wow & Flutter	Less than 0.15% RMS at 7-1/2 ips Less than 0.2% RMS at 3-3/4 ips
Equalization	Correct equalization for playback of tape recorded to NAB curve.
Frequency Response	30 to 23,000 Hz using Scotch #211 Low Noise Tape at 7-1/2 ips.
Distortion	Less than 1.5% (1000 Hz "0" VU)
Signal to Noise Ratio	Better than 50 dB
Erase Ratio	Better than 70 dB
Cross-Talk	Better than 70 dB (monaural) Better than 50 dB (stereo)
Bias Frequency	100 kHz
Heads	(3) : One-micron gap Recording Head One-micron gap Playback Head Erase Head
Motors	(1) : 4-pole induction motor
Fast Forward & Rewind Time	Within 150 sec. using a 1200 ft. tape
Recording Capacity	2 hours stereo recording using a 1200 ft. tape at 3-3/4 ips.
Output Jacks	Line (2) : 1.23 V ("0" VU)/100 Ω (Required load impedance : more than 20 k Ω) Phone (1) : 30 mV/8 Ω
Input Jack	Microphone (2) : 0.8 mV/5 k Ω Line (2) : 60 mV/150 k Ω
Din Jack	7 mV
Semi-Conductors	Transistors : 11 Diodes : 4
Integrated Circuits	Linear IC : 4
Power Requirements	100 V to 240 V A.C., 50/60 Hz
Power Consumption	35 W
Dimensions	406(W) x 314(H) x 194(D) mm (15.9 x 12.4 x 7.6")
Weight	11.4 kgs. (25 lbs.)

* Specifications and design are subject to change without notice.