

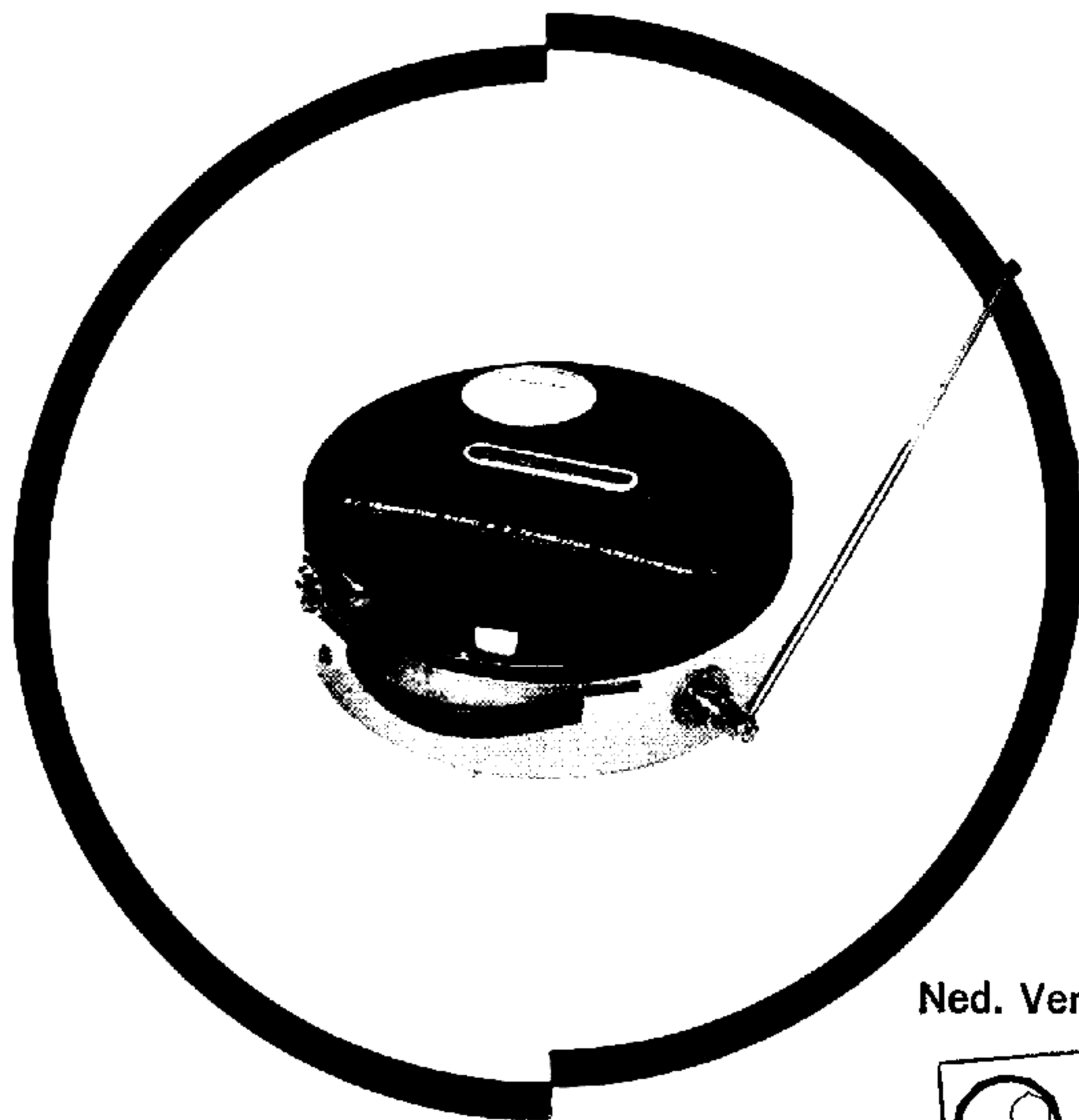
ANSWER

5-TRANSISTOR PORTABLE TAPE RECORDER

TRIPLE CORDER

MODEL ATR-102

Can be used as a record player and a transistor radio



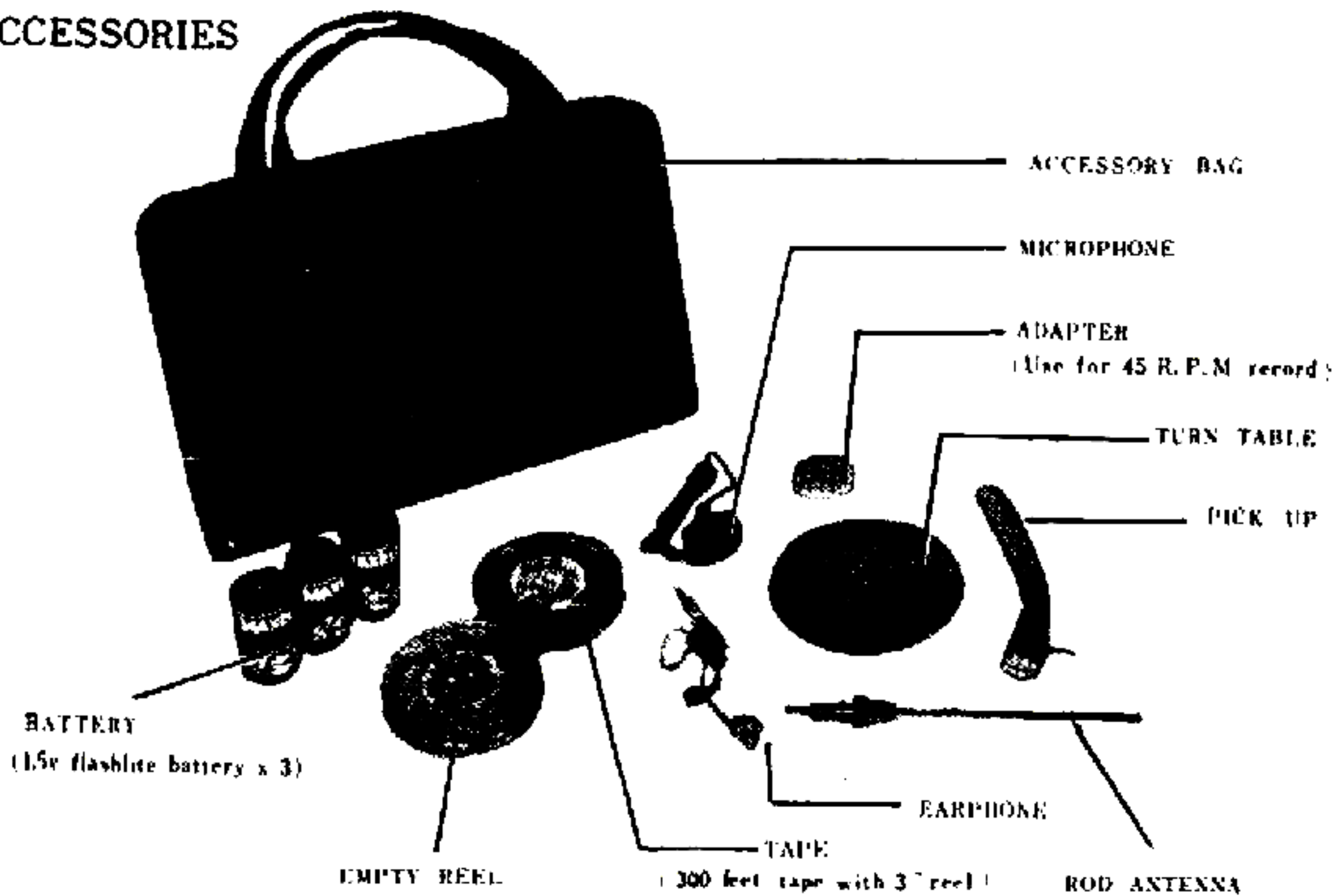
Ned. Ver. v. Historie v



MODEL ATR-102 SPECIFICATIONS

Type	: 7 transistor radio & 5 transistor tape recorder.
Suitable frequency	: 300-5,000%
Driving system	: Rim-Driving system with idler
Transistor	: 2 SB 170, 2SB 171 x2, 2SB 172 x2
Thermistor	: MD-250
Diode	: MA-80
Output power	: MAX. 150mW
Recording track	: Double track
Recording system	: D. C. bias system
Recording time	: by double track.....about 24 minutes.
Erasing system	: D. C. erasure
Rewinding time	: Within 2.6 minutes.
Speaker	: 2-9/16 (65mm) P. D. Speaker
Motor	: D. C. Servomotor with speed governor.
Dimensions	: 8" dia. x 3-1/2" hight (200mm) (90mm)
Weight	: Net weight 1.9 kgs. Gross Weight 2.1 kgs.
Power source	: 1.5V Flash-light battery x 3 (4.5V)
RADIO CIRCUIT	: 7-transistor, super-heterodyne system
Transistor	: 2SA101, 2SA102 x 2, *2SB 171 x 2, *2SB172 x 2. (*common to tape recorder)
Diode	: MA-80
Frequency	: 535-1605 KC
Sensitivity	: 160uV/5mW
S/N ratio	: 24db at input 1mV/m 120mW with 10% distortion
Switching system	: by rod antenna plug-in system.

ACCESSORIES



1. FEATURES :

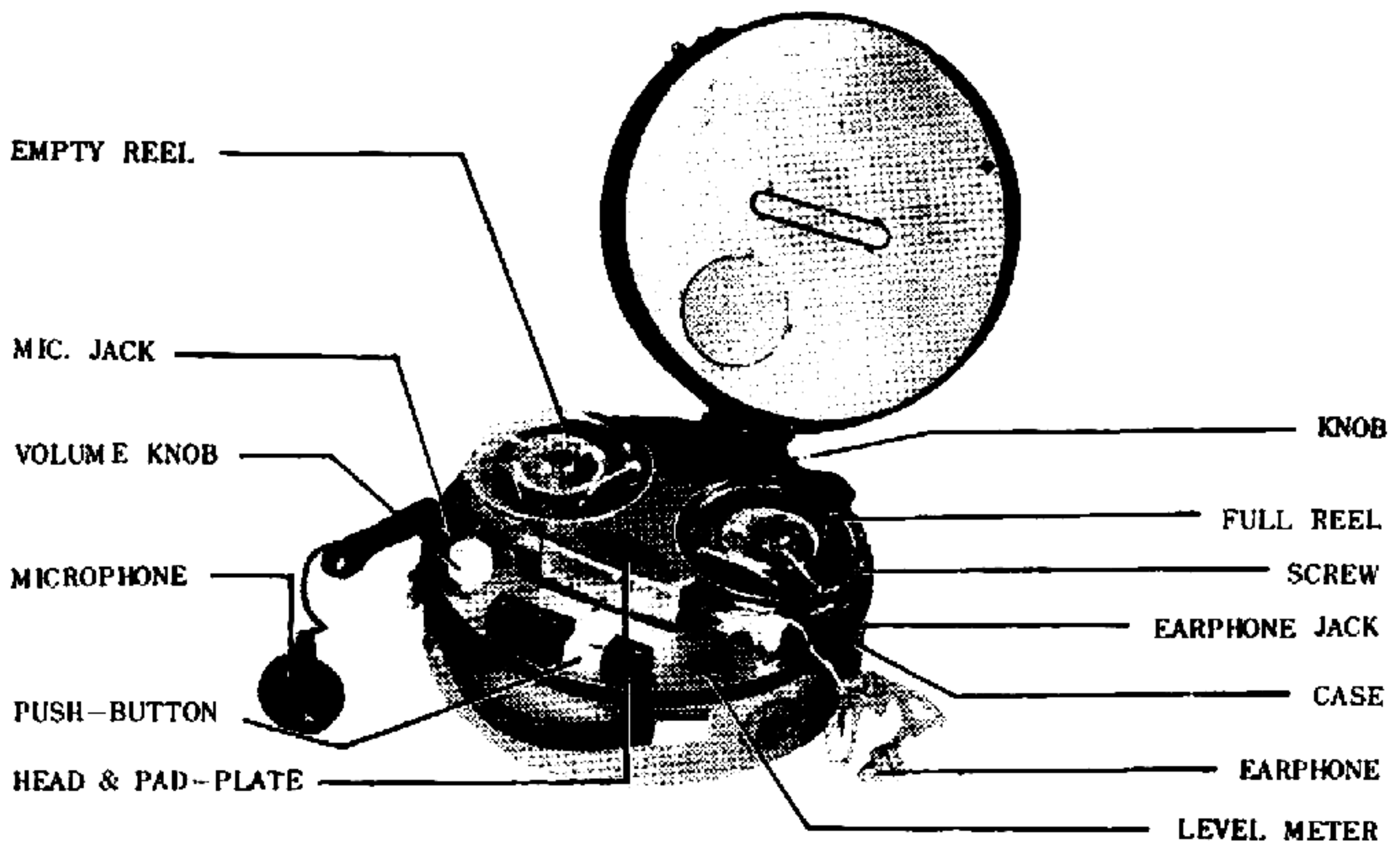
- a. The first portable "Triple-corder" in the world !
- b. Can be used also as a record player and a transistor radio !
- c. Small and compact; handy and efficient !
- d. Easy and simple to handle with the unique push-button system !
- e. Economical long-life flashlight batteries in use !

2. PREPARATION :

- a. Unscrew 2 screws on the bottom cover, insert 3 flashlight batteries into holders and close the cover.
- b. Place a full reel on the right hand spindle and empty reel on the left hand spindle.
- c. Pull out the starting end of the tape, pass it through between the head and the pad plate and insert it in the center of empty reel, turning the empty reel two or three times clockwise.

3. RECORDING :

- a. Plug the microphone into MIC. jack.
- b. Push REC. button and start recoring, holding the microphone at the distance of approx three inches from the mouth.
- c. Adjust the volume with VOL. knob in order that indicating needle of the level meter is around the border line of silver and green and black.



- d. Push STOP button when the recording is finished.
- e. When the right tape becomes empty, remove the reels, turn them over and place them in position.

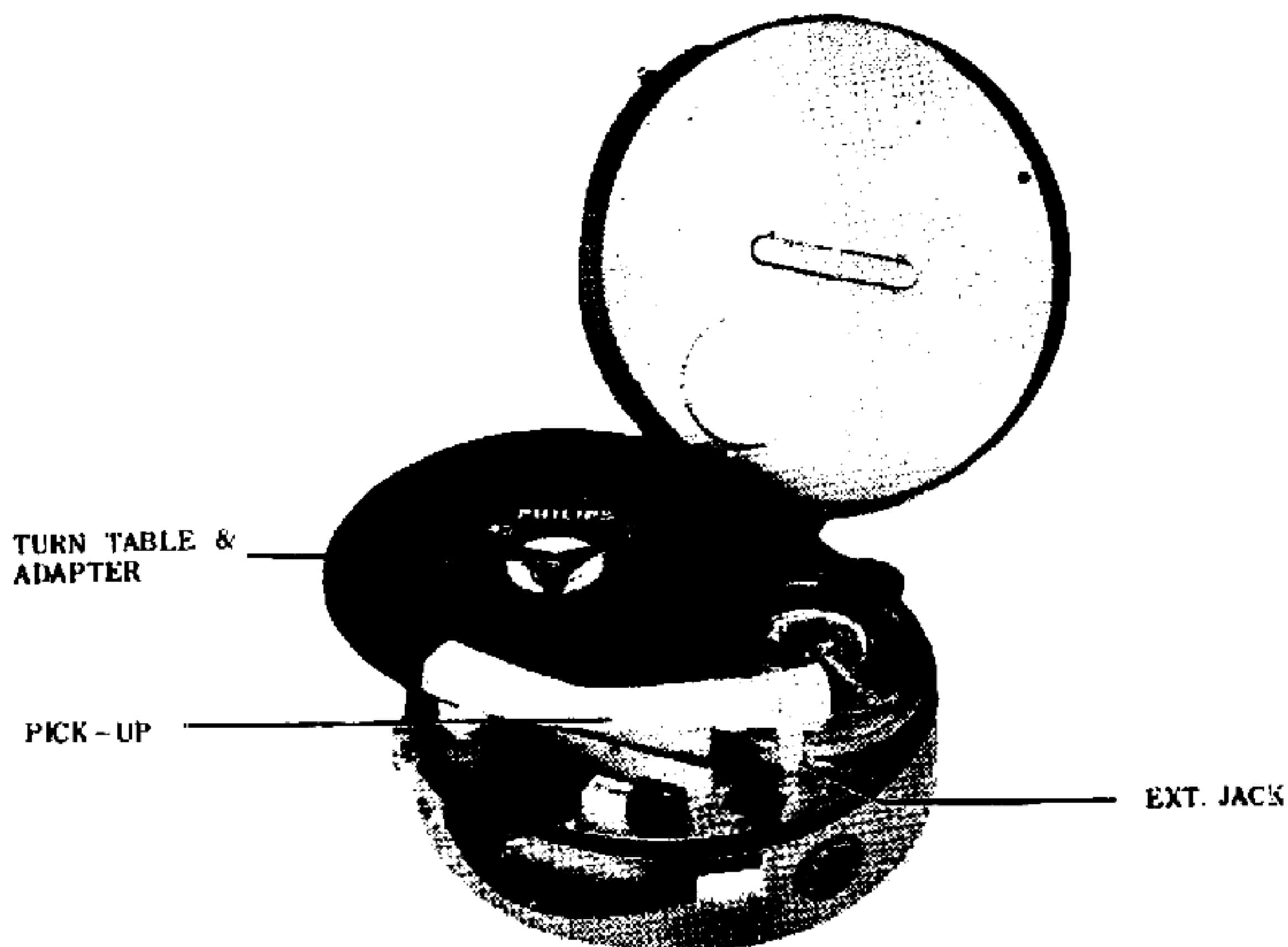
NOTE : Always keep to push STOP button when the machine is not in use.

4. PLAYBACK :

- a. Push REW. button, and the tape will start rewinding.
- b. Stop the tape at the desired position.
- c. Push PLAY button, and playback - sound will be heard.
- d. Push STOP button when the playback is finished.
- e. When playing, the indicator of level meter will show battery condition. If the needle comes down to the border line of silver and green have to be replaced.
- f. Earphone may be plugged in for listening to the playback - sound.

5. ERASING :

- a. Turn the volume control knob to the minimum, and take off the microphone.
- b. Rewind the recorded tape.
- c. Push the REC. button, and any previously recorded sound will be automatically erased.

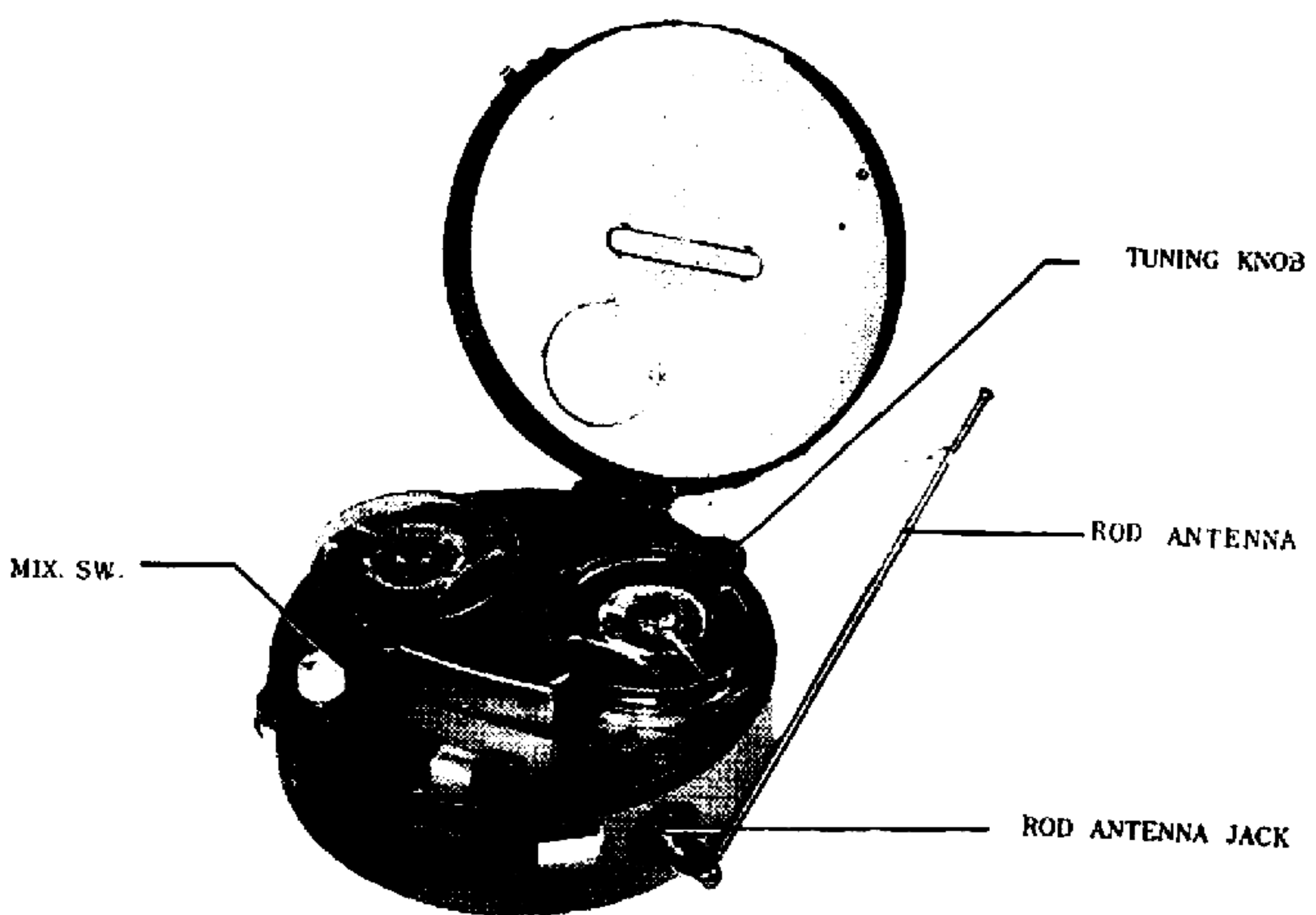


6. RECORD PLAYER :

- a. Remove the stopper screw of the left reel and screw in the turn table.
- b. Place 45r. p.m. record on the turn table, using the adapter if necessary.
- c. Plug the pick-up into EXT. jack.
- d. Push PLAY button.
- e. If you want to record the sound of the record being played, push REC. button and control the volume.
- f. If you want to record it while listening to it, push REC. and PLAY buttons simultaneously. In this case the level meter does not work.
- g. Before playback, be sure to remove the pick-up.

7. RADIO : (FOR BC. BAND ONLY)

- a. Insert the attached antenna into ANTENNA hole on a side of the cabinet to the full, then turn the antenna clockwise by 40°
- b. Push PLAY button, and turn TUNING knob.
- c. To record radio sound on tape, set the antenna as (a), and push REC. button.
- d. To record radio sound while listening to it, push both REC. and PLAY buttons. In this case also, the level meter does not work.



e. To play back the recorded radio sound, remove the antenna by reversing the procedure of (a), and after rewinding, start the playback.

f. If at a great distance from broadcasting stations, connect the antenna to an indoor antenna to eliminate noise.

8. MIXED RECORDING :

Mixed recording from record and microphone or radio and microphone serves to obtain back-ground music effect.

A. Record and Microphone :

a. Set up the turntable, put on a record-plate, and set up the pick-up and the microphone.

b. Set MIX. SW. in ON position, and push REC. button.

c. Plug the earphone into EAR. jack, and listen to the mixed sound. Monitor it by controlling record tone with VOLUME knob and microphone sound by distance of mouth to microphone.

d. Before playback, be sure to set turn off MIX. SW. and remove the pick-up.

B. Radio and Microphone :

Set up the antenna as (7.a), plug in the microphone, turn on MIX. SW. and push REC. button. Adjust the mixed sound just as in mixed recording from record and microphone.