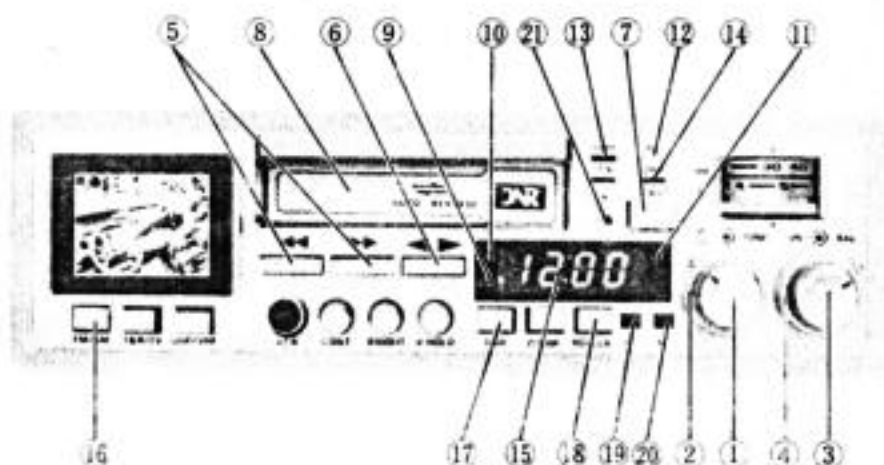


Controls & Functions (RADIO/TAPE)



- 1. POWER ON/OFF SWITCH AND VOLUME CONTROL**
Rotating the knob clockwise will turn power on, and increase the volume level. Rotating the knob counter-clockwise will decrease the volume level, and completely counter-clockwise, until a click is heard, will turn off the power.
- 2. TONE CONTROL**
Turn the knob clockwise to increase, and counter-clockwise to decrease treble response.
- 3. MANUAL RADIO TUNING KNOB (RADIO)**
Rotate the knob either clockwise or counter-clockwise to select AM and FM radio stations.
- 4. BALANCE CONTROL**
Rotating the knob clockwise or counter-clockwise will regulate the sound level to the right (clockwise) and left (counter-clockwise) speakers.
- 5. FAST FORWARD/REWIND BUTTON**
Fast Forward is lock type (as well as REWIND) and at the end of F.F., or REWIND, the lock is released and reverse the direction of play. At locked condition of F.F., or REWIND, if you push the Eject button, halfway in the lock is released and normal play follows.
- 6. CHANNEL SELECTOR SWITCH**
Push in and out to select the program of a cassette tape (Forward or Reverse).
- 7. EJECT BUTTON**
To stop playing the tape or at end of tape, pushed button fully to Eject Cassette Tape.
- 8. TAPE SLOT**
To activate the tape mode, insert a cassette tape through the door. The tape will engage, and the unit will automatically switch from radio to tape play.

9. AM INDICATOR

This indicates the Radio is in AM radio reception mode.

10. FM INDICATOR

This indicates the Radio is in FM radio reception mode.

11. FM STEREO INDICATOR

This will light up while FM Stereo program is being received.

12. RADIO INDICATOR

When illuminated, will indicate radio operation.

13. TAPE INDICATOR

When illuminated, will indicate tape operation.

14. DYNAMIC NOISE REDUCTION INDICATOR

When DNR system is activated, light is on.

15. TIME/FREQUENCY DISPLAY

The display indicates station frequency when the tuning control (3) has been set. Also the display will indicate the time.

16. AM/FM RADIO SELECTOR SWITCH

Push in the switch for AM mode (switch IN), and depress it for FM mode (switch OUT).

17. DYNAMIC NOISE REDUCTION (DNR) BUTTON

Push in to activate. Reduces annoying high frequency noise by up to 10 dB on AM and FM broadcasts as well as on cassette tapes.

18. CLOCK/RADIO SELECTOR SWITCH

The switch changes the digital display to either time or frequency.

19. CLOCK HOUR SET CONTROL

Press the control in with a pen. Hold the control in for rapid hour advance.

20. CLOCK MINUTE SET CONTROL

Press the control in with a pen. Hold the control in for rapid minute advance.

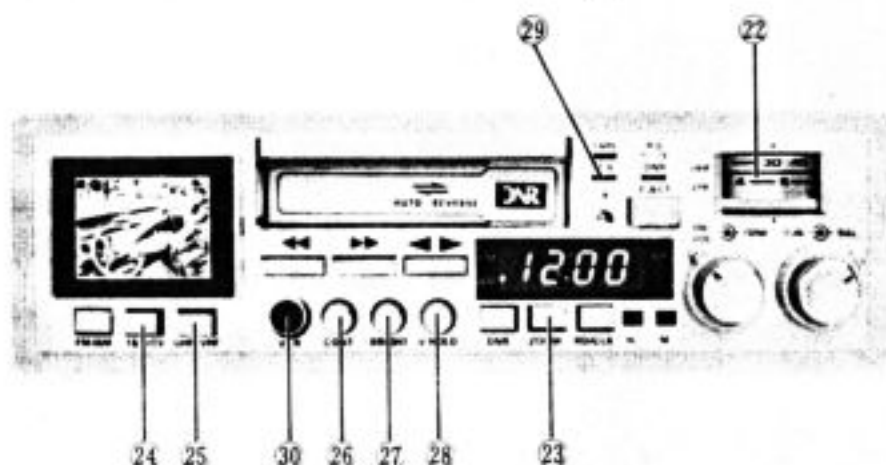
21. ANTENNA TRIMMER

For best AM radio reception, adjust the antenna trimmer.

1. While on the AM band, tune to a weak station.

2. With an insulated screwdriver, turn the antenna trimmer screw to the point where the sound is the loudest. SET IT AND FORGET IT.

Controls & Functions (TELEVISION)



22. TUNING KNOB

Tune to your desired channel or station and obtain vivid picture and clear sound.

23. ZOOM UP CONTROL

When pushed in the switch will picture zoom up, depress switch normal picture.

24. T.V. RADIO, TAPE SELECT SWITCH (T&R/TV)

Push in the switch for T.V. mode (switch IN) and depress it for radio, tape mode (switch OUT).

25. T.V. SELECT SWITCH (UHF/VHF)

Push in the switch for UHF mode (switch OUT) and depress it for VHF mode (switch IN).

26. CONTRAST CONTROL (CONTRAST)

Adjust this control to obtain proper black and white elements of the picture.

27. BRIGHTNESS CONTROL (BRIGHT)

Adjust this control to obtain favorite brilliance of the picture.

28. VERTICAL HOLD CONTROL (V-HOLD)

Adjust this control to stop up or down movement of the picture.

29. T.V. ON INDICATOR

When illuminated, will indicate T.V. operation.

30. VCR JACK

When connected to the extra monitor T.V. or VTR, the video will be input.

Installation

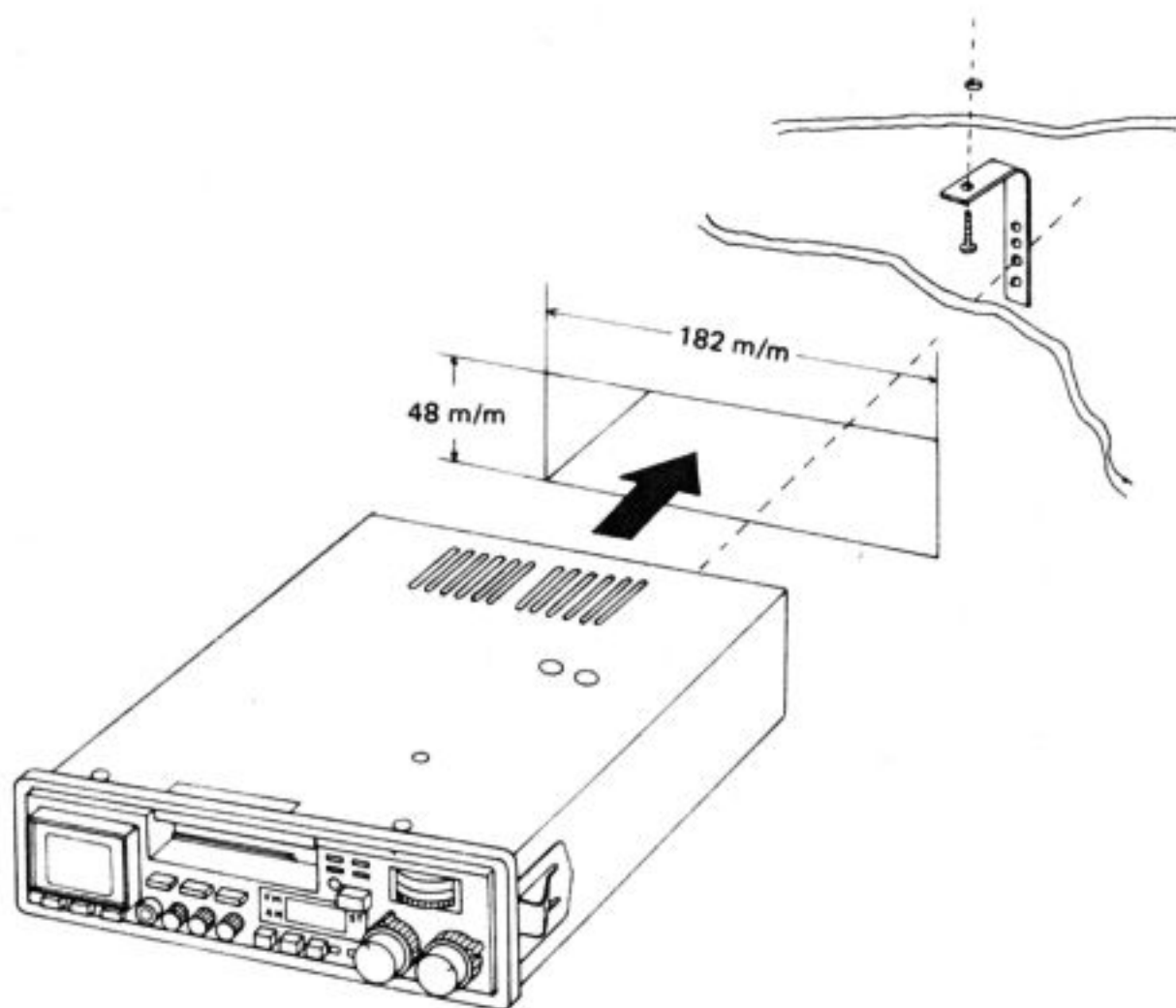
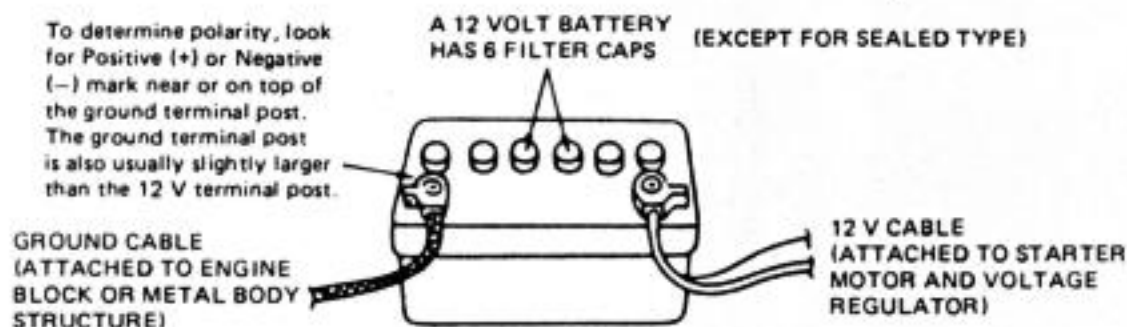


FIG. 1

1. Select a location for mounting your T.V. unit where it does not interfere with safe driving and where the controls on the unit are within easy reach from the driver's seat.
2. Do not expose this appliance to direct sun for a long period of time. It may cause damage to the cabinet. It can become too hot inside a car parked in the sun or at the beach in strong direct sunlight. To prevent damage to the cabinet, shade the set from direct sunlight.

Electrical Connections

THIS UNIT IS FOR USE ONLY WITH A 12 VOLT DC POWER SOURCE WITH A NEGATIVE GROUND. To determine the type of electrical system in your vehicle, inspect the battery. The battery should appear as shown:

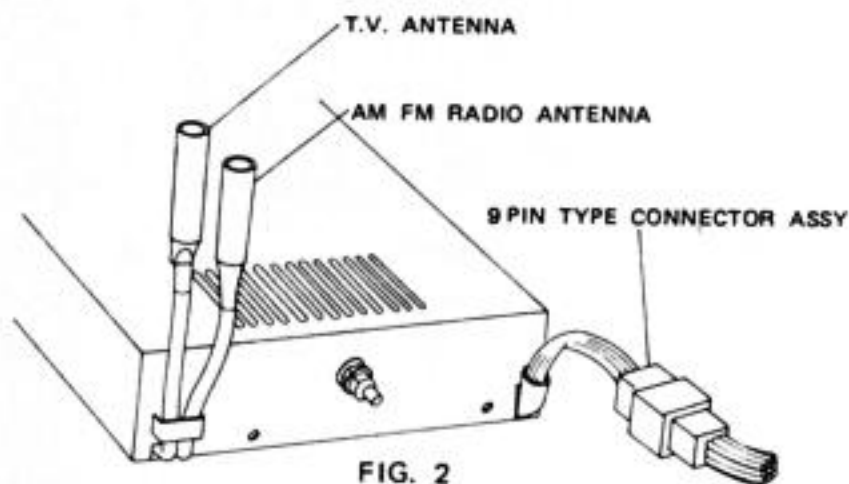


IF YOU ARE NOT CERTAIN OF THE POLARITY OF THE ELECTRICAL SYSTEM OF YOUR CAR, PLEASE CONSULT WITH YOUR AUTOMOBILE DEALER.

CAUTION: TO AVOID POSSIBLE INJURY AND TO PREVENT DAMAGE TO YOUR STEREO UNIT OR TO YOUR AUTOMOBILE, DISCONNECT BOTH CABLES AT THE BATTERY TERMINALS BEFORE PROCEEDING WITH ANY OF THE FOLLOWING INSTRUCTIONS.

1. Turn the unit OFF before making electrical connections.
2. Connect the Wired Plug to the Socket on the unit. Make sure the pins on the Plug are aligned with the holes on the Socket before inserting.
3. Connect the free end of BLACK Ground Wire to the chassis ground (metal framework) of the vehicle.
4. Connect the RED power lead (with in-line fuse) to the ACCESSORY Terminal (or Accessory side of the electrical system) only.
5. Connect the BROWN power lead (with in-line fuse) to the ON position of the Ignition Switch. The Ignition Switch or fuse box terminal are used so that the power to the unit is turned off by the Ignition key.
6. Connect the YELLOW power lead (with in-line fuse) to a direct 12 V positive (+) side of the electrical system. This connection should be made to a constant DC power source not related to the Ignition Switch. This YELLOW wire will operate the digital clock on a constant basis when connected properly.
7. Connect female AM/FM Antenna Socket to a standard automotive type antenna.

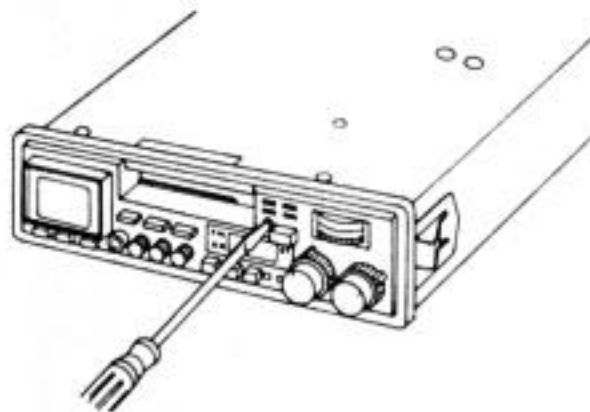
8. Connect female TV Antenna Socket to a 75-ohm unbalanced Mobile TV Antenna. (It is not necessary to use a UHF/VHF Splitter since this is already incorporated in the chassis/circuitry of this unit.)
9. Connect the speaker wires as shown in FIG. 3, Page 8 of this manual. DO NOT GROUND SPEAKERS to the chassis of the vehicle.
10. Check all connections very carefully for correct wiring as shown in FIG. 3, Page 8. Tuck away the loose wires and secure them under the dashbord so that they do not interfere with safe driving.
11. Connect the battery terminal cables securely back to the battery, while the unit is in the "OFF" position.



Antenna Trimmer

For the best AM radio reception, be sure to adjust the Antenna Trimmer.

1. Turn the Radio on and tune to a weak station on AM band, between 1,000 and 1,400 KHz.
2. With a screwdriver, turn the antenna trimmer to the point where the sound is the loudest. No further adjustment will be necessary.



Speaker Connection

In order to fully enjoy Balance Control, connect Unit to speakers. For proper stereo operation, at least one speaker per channel must be connected.

Use Front Left and Front Right speaker wires for two-speaker connection.

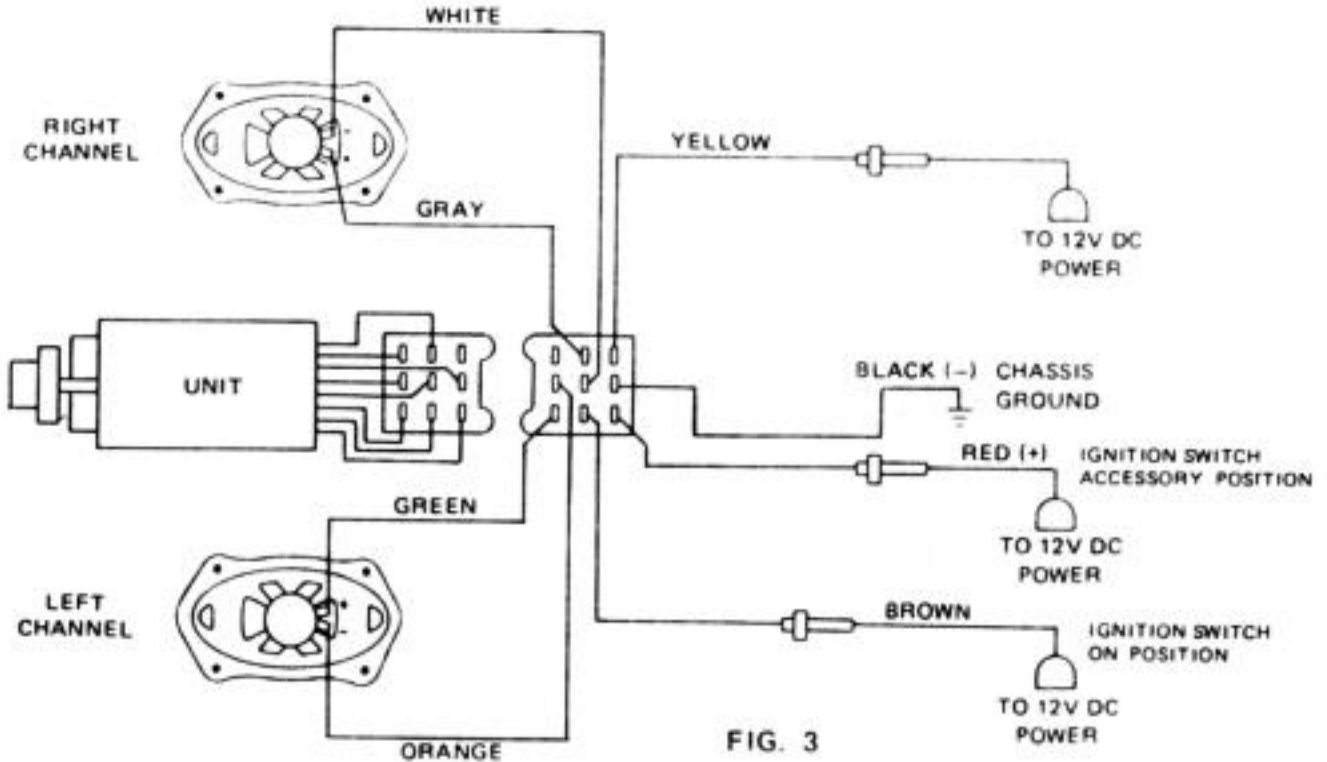


FIG. 3

IMPORTANT: Make sure **YELLOW WIRE** should be connected to the 12 Volt DC power source. (For clock)

REMARK:

- 1) ACC POSITION
T.V. RADIO and TAPE
- 2) ON POSITION
RADIO and TAPE and
(only T.V. sound)

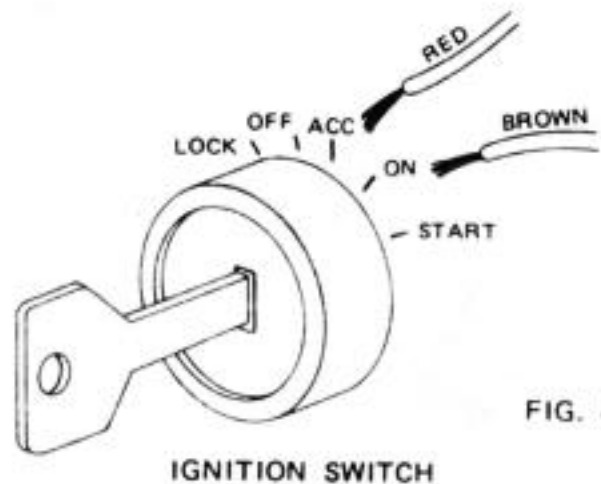
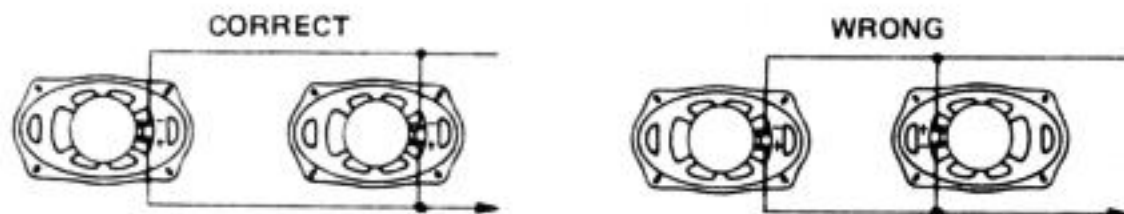


FIG. 4

IMPORTANT: REGARDLESS OF SPEAKER POSITIONS, MAKE SURE THE SAME TERMINALS ARE CONNECTED.

WIRING BOTH PAIRS OF SPEAKERS CORRECTLY ENSURES THE BEST SOUND SYSTEM.



Cassette Tape Operation

1. Rotate the Power On/Off Switch clockwise and increase the volume slightly. The Radio will come on.
2. Set the T & R/T.V. Select Switch to the T & R position.
3. Check your Cassette Tape for tape slack. If there is slack, insert a pen cap (or finger) firmly in the spool hub from the label side as shown in Fig. 5 and turn counter-clockwise until tape loop is flat.

4. Insert the Cassette through the door all the way in. The tape will automatically start to advance.

The Cassette player operation supercedes the Radio operation. Insertion of a Cassette Tape automatically shuts off the Radio and when the Tape is ejected, the Radio will resume operation.

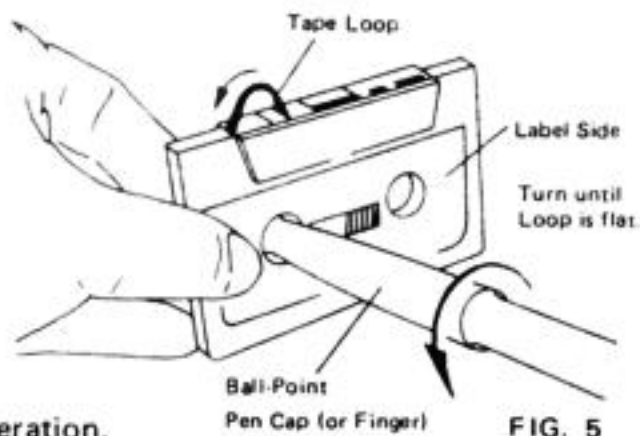


FIG. 5

5. Adjust Volume, Tone and Balance Controls to reproduce the sound as you prefer.
6. By depressing Channel Switch, you can select a program of Cassette—either Forward or Reverse play—and the tape direction will be indicated by the green arrow light.

7. **Fast, Forward and Rewind:** To advance tape rapidly to a desired section of Cassette, push the switch in (<◀). To Rewind Cassette, push the switch in (▶). This is a "Lock-in" Switch. You do not have to hold the Switch for Fast Forward or Rewind. At the end of Cassette tape when Fast Forward or Rewind is completed, the tape will automatically start playing in opposite direction. In order to release the FF, REW switch, push the EJECT button half way.
8. **Auto Reverse:** Auto Reverse Mechanism of the unit provides continuous play of Cassette. The tape is automatically reversed when it reaches the end of tape. If you do not wish Cassette to play continuously, the direction of tape can be changed manually by pushing in the Channel Switch to reverse the tape in the middle of play.
9. **Eject Switch:** To stop tape operation, push the Switch all the way in to Eject Cassette. Then Radio will start operation. Turn off the power by rotating Power On/Off Switch counter-clockwise until a click is heard.

AM/FM Radio Operation

1. Make sure the Cassette Tape has been removed from the unit.
2. Set the T & R/T.V. Select Switch to the T & R position.
3. Select AM or FM mode on the Selector Switch.
FM: Pushed OUT.
AM: Pushed IN.
4. Turn the power on and increase the volume slightly.
5. Turn to a desired AM or FM station by rotating the Radio Tuning Knob clockwise or counter clockwise.
6. Adjust the volume, tone, and balance controls to desired levels.
7. **FM Reception in Automobiles:** Your Unit will provide excellent reception of FM stations at a range of 30 miles or more over generally flat terrain. FM reception may temporarily be blocked by tall buildings or hills, and reception of a weak FM station may be affected by strong local electrical interference.
8. Turn the Power On/Off Switch counter-clockwise to turn the Radio off until a click is heard.

Interference Noises in Reception

During reception you may find that your radio will pick up interference which makes the reception of weaker stations difficult. The most common source of these noises is the ignition system of your vehicle. Because your radio is placed relatively close to your ignition system (engine). In such a case, we recommend you consult with your car dealer to eliminate the ignition noise. Usually the ignition noise will be suppressed considerably by using a radio suppression type high voltage ignition wire and suppressor resistor in the ignition system. (Most vehicles employ this wire and resistor but it may be necessary to check them for correct operation.) Another method to suppress the noise is to use additional noise suppressors, which are available from CB/Amateur radio equipment supply shops.

Television Operations

1. Set the ignition switch to the "ACC" position, if set it to the "ON" position, can't get a picture, but get only sounds.
2. Set the T & R/T.V. Select Switch to the T.V. position, then set the T.V. Select Switch to your desired channel band.
VHF . . . Channel 2 to 13: Pushed IN
UHF . . . Channel 14 to 83: Pushed OUT
3. Tune in a desired station by turning the Tuning Knob until the clearest sound and sharpest picture are obtained.
4. Adjust the length and direction of the telescopic antenna for the optimum picture quality.
5. Use the Contrast control to provide the proper contrast between the black and white portions of the picture. Use the Brightness control to adjust the brilliance of the picture.
6. Adjust the Volume control for your desired volume.

■ Vertical Picture Motion

When the picture is moving up or down on the screen adjust Vertical Hold (V-Hold) control until there is no vertical movement.

Specifications

TELEVISION

Picture System	Black and White
Display Tube Size	1.5 inch
VHF Channel	2 to 12
UHF Channel	21 to 69

TAPE PLAYER

Playback System	4-Track, 2-Channels Full Auto-Reversing Dual Capstan Drive
Tape Speed	4.75 cm/Sec (1-7/8")
Wow and Flutter WRMS	Less than 0.25%
Signal to Noise Ratio	More than 45 dB
Channel Separation	More than 35 dB
Cross Talk	More than 45 dB
Frequency Response	30 Hz – 15 KHz

TUNER

	<u>AM</u>	<u>FM</u>
Tuning Range	520 – 1650 KHz	88 – 108 MHz
Intermediate Frequency	455 KHz	10.7 MHz
Sensitivity	Better than 15 dB	Better than 5 dB
I.F. Rejection	More than 38 dB	More than 70 dB
Image Rejection	More than 54 dB	More than 42 dB
Signal to Noise Ratio	More than 40 dB	More than 60 dB
Stereo Separation	N/A	More than 30 dB

GENERAL

Circuitry	15 IC's, 12 Transistors, 30 Diodes, 6 LED, 1 LED Display, 1 X'TAL, 1 LSI
Power Supply	13.8 Volt D.C. Nominal, Negative Ground
Speaker Impedance	4 – 8 Ohm
Maximum Output Power	25 Watts per Channel
Nominal Output Power	18 Watts per Channel @ 10% THD
Dimensions	178 x 200 x 44 mm
Weight	1.9 Kg