

OPERATING  
INSTRUCTIONS

**SANYO**

**MAR-1000**

**INTELLITUNER**



**MINI-SIZE  
FM-STEREO/AM  
ETR/CASSETTE  
RECEIVER WITH  
AUTO-TRAVEL  
PRESET TUNING**

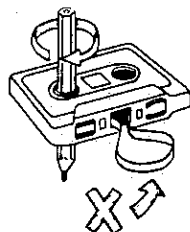
SS

# CONTENTS

WARNING.....	1
PACKING LIST.....	2
ELECTRICAL CONNECTIONS .....	3 ~ 4
INSTALLATION .....	5
LOCATION OF CONTROLS.....	6
TAPE OPERATION .....	7
RADIO OPERATION.....	8
PRESET STATION TUNING.....	9
PRESET SCAN (P.SCAN).....	10
CLOCK OPERATION — SETTING THE TIME .....	10
MAINTENANCE HINTS .....	11

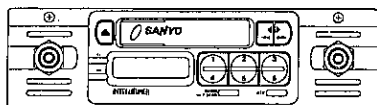
## WARNING

1. This unit is designed to operate on 12 volts DC, **NEGATIVE** ground electrical systems only.
2. When fuse replacement is necessary, use only a 6 amp fuse. Do not use a fuse with a higher rating. If the fuse fails after replacement, check all electrical connections to determine if there is a short in the wiring. Do not attempt to repair the unit yourself. If servicing is required, return the unit to an authorized SANYO car audio dealer.
3. The precision polished tape playback head should not be touched by any metallic or magnetic objects.
4. If noise is a problem . . .  
This unit incorporates a noise filter in the power supply circuit. However with some vehicles, noise may still be present. If this should occur, consult a SANYO car audio dealer or a professional auto sound installation technician.
5. Never play dirty or dusty tapes. These will degrade the sound quality and performance of the unit. To keep tapes clean, always return them to their plastic case after use.
6. Do not use tapes with labels that are wrinkled or peeling off.

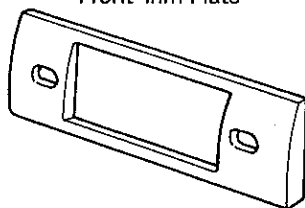


# PACKING LIST

Main Unit  
MAR-1000



Front Trim Plate



x1

Inner Control Knob



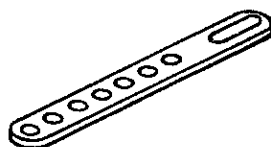
x2

Outer Control Knob



x2

Back Strap



x1

Quickie bolt



x1

Screw  
5M x 13



x1

Nut (A)  
10M x 2.3



x4

Nut (B)  
5M



x1

Washer (A)  
10M



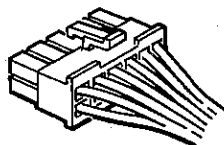
x2

Washer (B)  
10M x 22 x 1



x2

Connector



x1

Instruction Manual



x1

Shaft Cover



x2

# ELECTRICAL CONNECTIONS

Make all electrical connections (Fig. 2 or 3) before installing the unit. If you are not confident in your ability to install this unit correctly, have it installed by a professional auto sound installation technician.

## NOTE:

This unit is designed to be operated on +12 volt DC negative ground systems. If your vehicle does not provide this type of power source, a voltage inverter/converter will be needed to operate this unit. This can be purchased from a car audio dealer.

## CAUTIONS:

- (1) Do not connect the speaker wires to the metal body or chassis of the vehicle. Connect them directly to each speaker.
- (2) When not using an automatic antenna, cover the terminal of the blue wire (Remote) with electrical tape, to prevent it from shorting to the unit or the vehicle chassis.
- (3) Connect the yellow wire (Memory back-up) to a point which provides a constant voltage source (12 volts), even when the ignition is turned off and the key removed.

## 1. WIRING — 4-SPEAKER INSTALLATION

When installing the wiring connector, be certain that it is fully inserted into the jack on the rear of the unit, until it locks in place. To disconnect the connector, push down on the lock tab and pull the connector out.

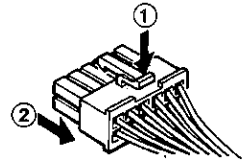


Fig. 1

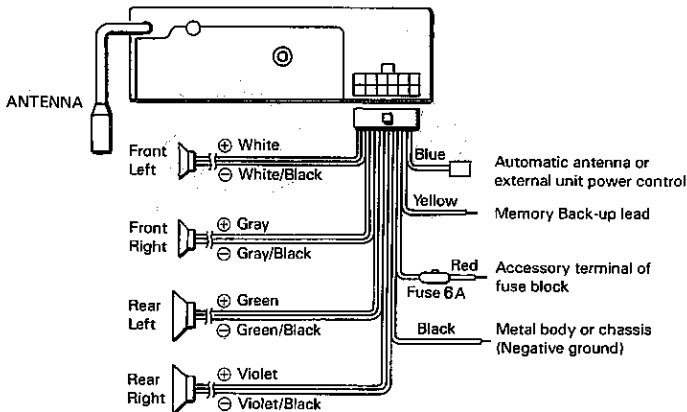


Fig. 2

## 2. WIRING — 2-SPEAKER INSTALLATION

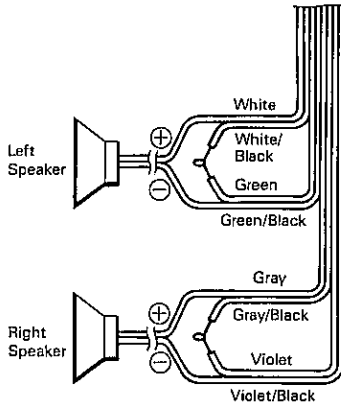


Fig. 3

### CAUTION:

When using a two-speaker installation, twist the White/Black and Green wires together and cover the exposed ends with electrical tape. Then twist the Gray/Black and Violet wires together and cover the exposed ends with electrical tape. This is to prevent the wires from shorting to the vehicle chassis. If this is not done and a short occurs, the power output IC in the unit can be damaged.

### Speaker usage and placement

This unit is designed for use with two or four speakers. Optimum performance will be achieved with the use of matched pairs of speakers of 4 ohms impedance, but essentially equal performance can be obtained using matched speakers of 8 ohm impedance. A minimum of two speakers must always be installed, one on the left and right side of the vehicle, to obtain proper stereo effect.

For the ultimate in stereo reproduction, install four speakers, one each in the front left and right side of the vehicle and in the rear left and right side of the vehicle.

## 3. Fader control

### • When using 4-speakers

The FADER control adjusts the volume balance between the front and rear speakers. When the control is turned fully counter-clockwise, sound will only be heard from the front speakers. When the control is turned fully clockwise, sound will only be heard from the rear speakers.

### • When using 2-speakers

The FADER control does not operate when using 2-speakers.

# INSTALLATION (IN-DASH MOUNTING)

Before installing the unit, remove the transport screw (A).

The illustration below, shows an example of one installation procedure. Minor variations may be made, to correspond to the dashboard of the vehicle.

## SHAFT WIDTH ADJUSTMENT

To adjust the shafts to align with the holes in the vehicle dashboard, loosen the nut on each shaft and slide the shafts to the left or right. When the correct spacing has been obtained, tighten both nuts.

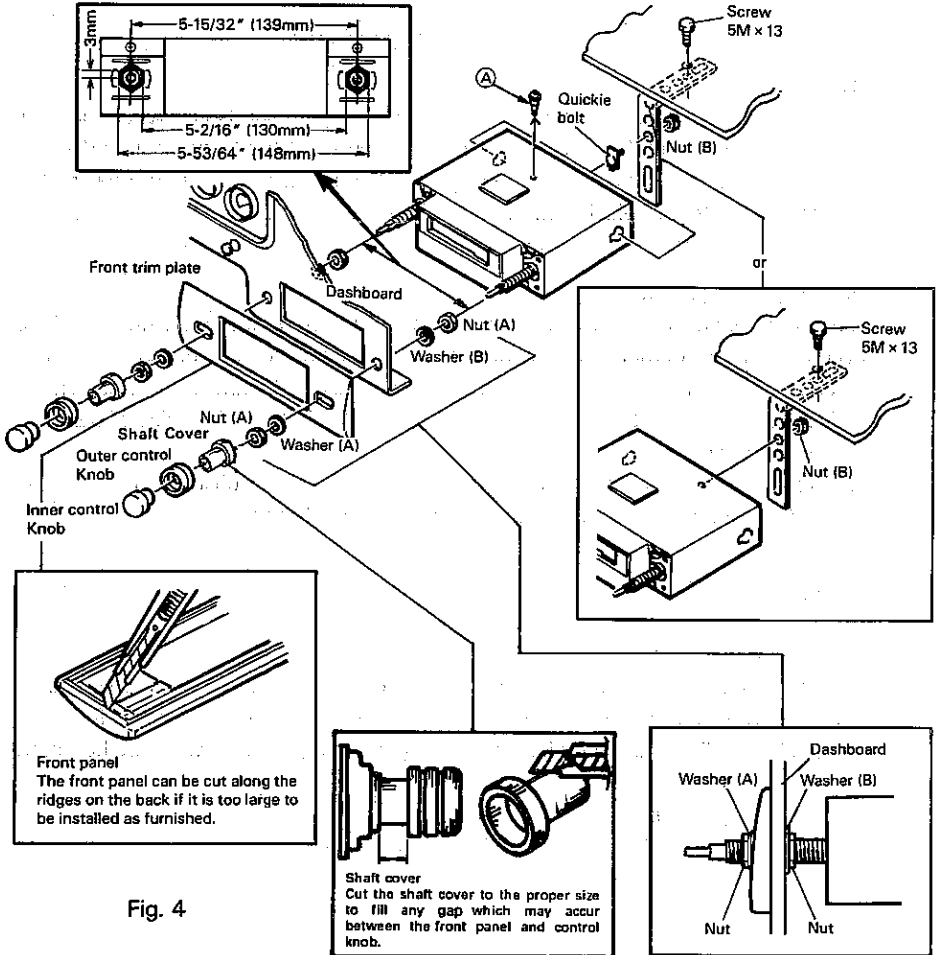
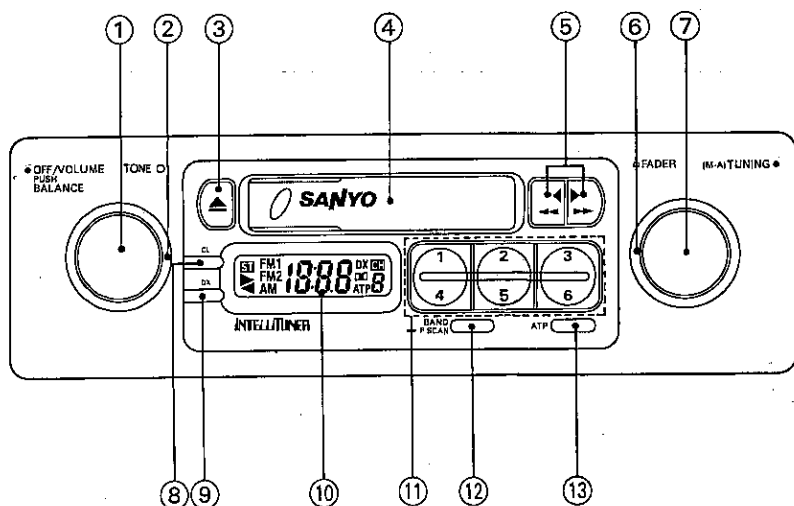


Fig. 4

### NOTE:

In some cases it may be necessary to file the opening(s) in the trim plate and/or dashboard to install the unit.

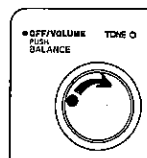
# LOCATION OF CONTROLS



- ① Power on-OFF/VOLUME/PUSH BALANCE control
- ② TONE control
- ③ Eject button (▲)
- ④ Cassette slot
- ⑤ Fast Forward, Fast Rewind (◀◀/▶▶), Reverse button (◀/▶)
- ⑥ FADER control
- ⑦ TUNING (manual, seek)/Time adjust
- ⑧ Clock button (CL)
- ⑨ Distant/Local button (DX)
- ⑩ Radio frequency/Time display/Tape direction indicator
- ⑪ Preset buttons (1 · 2 · 3 · 4 · 5 · 6)
- ⑫ BAND select/Presetscan button
- ⑬ Auto-travel Preset button (ATP)

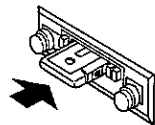
# TAPE OPERATION

1. Turn the Power knob ① to on.

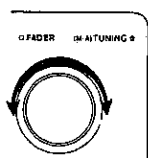
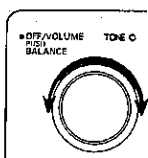
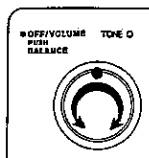


2. Insert a pre-recorded cassette into the cassette slot ④ with the cassette opening to the right and full reel out.

The unit automatically starts playing.

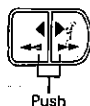


3. Adjust Volume, Balance ①, TONE ② and Fader ⑥ controls as desired.



- \* At low volumes, the human ear is less sensitive to high and low frequencies. This unit incorporates a circuit so that the sound at high and low frequencies is automatically boosted to output well-balanced sound.

4. To play the opposite side of the tape, press both fast wind buttons ⑤ simultaneously. The tape direction indicator ⑩ will change.



When the end of one side of the tape is reached, the unit will automatically reverse the tape direction and the opposite side of the tape will play.

5. To fast wind the tape, press either fast wind button ⑤ (◀◀ or ▶▶). The tape will rapidly wind in the direction of the arrow on the button pushed. To resume play, lightly press the other fast wind button.



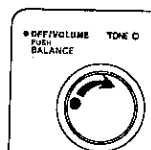
6. To eject the cassette, press the Eject button ③ and remove the cassette. Rotate the Power on-off/Volume/Balance control ① fully counter-clockwise, to turn the unit off.



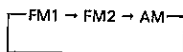


# RADIO OPERATION

1. Turn the Power knob ① to on.



2. Press the Band button ⑫ to select the desired band.



3. Tune in a desired station as follows.

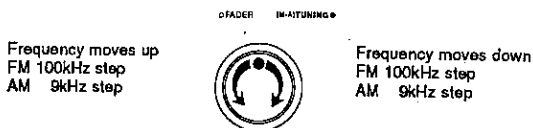
## Manual Tuning

Twist the Tuning knob ⑦ to the left (to tune down in frequency) or right (to tune up in frequency) and quickly release it. The unit will tune up or down in steps.

## Auto (Seek) Tuning

Twist the Tuning knob ⑦ to the left (to tune down in frequency) or to the right (to tune up in frequency) until the frequency shown in the display starts to change rapidly (approximately 1 second).

The unit will seek in the direction that the knob is twisted, and stop on the first strong station.



## NOTES:

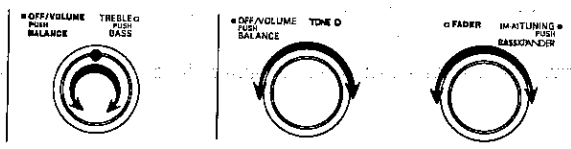
- The FM stereo **ST** indicator will light when an FM stereo station is received.
- Local/Distant button (LO/DX)... ⑨

This button has an influence on the STOP level of automatic tuning.

LO position: only stronger local signals are selected.

DX position (DX): also weaker stations with lower signal level will be selected, only the distant (**DX**) mode will light up in the display.

4. Adjust the Volume, Balance ①, TONE ② and Fader controls as desired.



5. Rotate the Power on-off/Volume/Balance control ① fully counter-clockwise, to turn the unit off.

# PRESET STATION TUNING

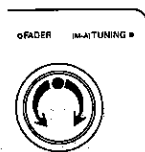
## To Preset Stations

This unit features an electronic memory circuit which is capable of memorizing 12 FM, 6 AM and 6 AM or FM Auto-travel Preset (ATP) stations, for a total of 24 stations.

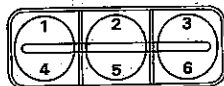
1. Press the Band button (12) to select the desired band.



2. Twist the Tuning knob (7) to tune in a desired station. Follow the procedure specified in RADIO OPERATION, step 3.



3. To memorize the station, press and hold down the desired preset button until the channel indicator (CH) and number in the display flashes. The station is now memorized.



4. To preset additional stations, repeat the procedure in step 3.
5. After a station has been preset, it can instantly be received (recalled) by pressing the same number preset button.

## Auto-Travel Preset (ATP)

Press the Band button (12) to select the desired band. Then press and hold down the Auto-travel Preset (ATP) button (13) until the ATP indicator lights. The unit will search for stations across the selected band, at first seeking stronger stations. Any station with sufficient signal strength will be automatically memorized (up to 6 stations). If there are not 6 stations of sufficient signal strength, the unit will start a second search across the band seeking weaker stations. After this, search will automatically stop and the last station to be memorized will be heard.

All presets (1 through 6) can be used for recalling the stations which have been automatically memorized.

Auto-travel Preset can only be operated on one band at a time. If the ATP procedure is carried out on another band, stations previously memorized will be cleared from the memory. Press the Auto-travel Preset (ATP) button (13) a second time. The ATP indicator will turn off, and normal preset stations can then be recalled.

## PRESET SCAN (P.SCAN)

This makes possible automatic scanning of preset FM and AM frequencies using the P.SCAN button.

1. Select the desired band by depressing the band selector ⑫ button.
2. Press and hold down the Preset Scan ⑪ button (P.SCAN), until the channel indicator (CH) and number in the display starts to flash (approximately 1 second).
3. The unit will automatically scan the preset stations in the order that they were memorized (1→2→3→4→5→6→1) on the band selected.

*Preset Scan will start on the current preset. If the unit is on preset 3 when this mode is activated, scanning will start from preset 4 and will continue 5→6→1→2 . . . .*

4. When a preset station that you wish to listen to is heard, press the Preset Scan ⑪ button (P.SCAN) button a second time. The display will stop flashing, and the unit will remain on the current station.

## DIGITAL TIME DISPLAY

### Time display

- The digital time display will remain on when the units power is turned off.
- While a cassette tape is playing, the digital display shows the time and direction of tape travel.
- To view the time when listening to the radio, press and release the Clock (CL) button ⑧. The time will be displayed for approximately 5 seconds.

### Clock operation — Setting the time

Press and hold in the Clock (CL) button ⑧. Twist the tuning knob ⑦ to the left to set the hour and to the right to set the minute. Release the Time control (CL) button.

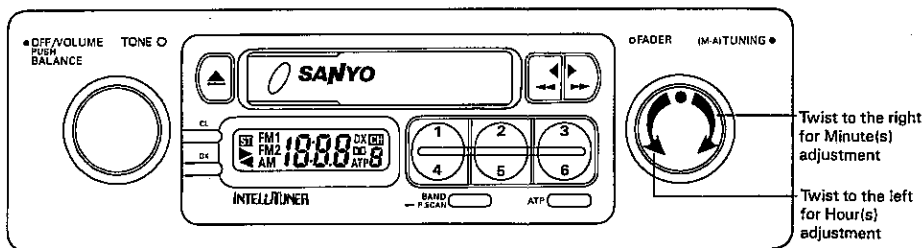


Fig. 7

### NOTES:

- This is a 12-hour clock display.
- The clock and preset radio stations are retained in memory when the unit is turned off.

## MAINTENANCE HINTS

1. When not in use, always remove the cassette from the unit. Eject the tape when the unit will be turned off. Do not leave a cassette inside the unit with the power off.
2. The cassette case is made out of high impact plastic and should not be exposed to temperatures in excess of (55°C), as this can result in deformation of the cassette. The cassette should also not be exposed to temperatures below (-5°C), as this will make the tape brittle and prone to breakage. If the cassette has been exposed to cold temperature extremes, allow the cassette to warm prior to playing.
3. Never place the cassette tape near strong magnetic fields, such as loudspeakers, TV sets, radios or other electrical appliances. Avoid touching the surface of the tape, as this can result in a loss of playback quality.
4. When not in use, cassettes should be placed in their plastic cases and stored in a area that is not subject to temperature extremes or excessive humidity. Proper tape care will ensure longer tape life and better performance.
5. Do not expose the unit or cassette to excessive moisture.
6. When replacing the fuse, use only a new 6 amp fuse. Do not use a fuse with a higher rating. If the fuse fails after replacement, check all electrical connections to determine if there is a short in the wiring or have the unit bench tested by an authorized SANYO service station.
7. For trouble free operation we recommended the use of higher priced quality cassettes.
8. Clean the head, pinch rollers and capstans after approximately 50 — 80 hours of use, with a cotton swab moistened with head cleaner (Fig. 8).

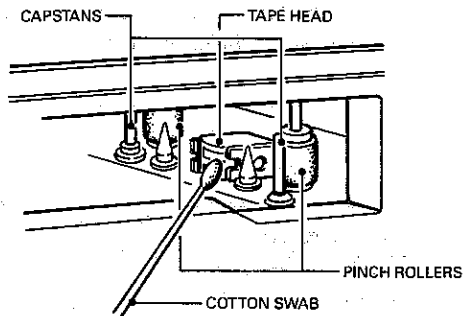


Fig. 8

## SPECIFICATIONS

Specification subject to change without notice.

### FM TUNER SECTION

Frequency Range.....	87.5 MHz ~ 108.0 MHz
Usable Sensitivity.....	12 dBf/75 ohms
50 dB Quieting Sensitivity.....	20 dBf/75ohms
Frequency Response (+3 dB).....	40 Hz ~ 10,000 Hz
Signal to Noise Ratio .....	60 dB
Selectivity.....	65 dB
Stereo Separation.....	30 dB

### AM TUNER SECTION

Frequency Range.....	531 kHz ~ 1602 kHz
Usable Sensitivity (S/N 20 dB).....	25 dB

### CASSETTE DECK SECTION

Wow & Flutter (WRMS).....	0.12%
Fast Winding (C-60).....	90 sec.
Frequency Response (120 $\mu$ s).....	50 Hz ~ 14 kHz.
Stereo Separation (1 kHz) .....	42 dB
Signal to Noise Ratio.....	52 dB

### AUDIO SECTION

Maximum Output Power.....	7.5W X 2
Continuous Power Output (RMS) 3% THD.....	3W X 2
Load Impedance.....	4 $\Omega$ (4 ~ 8 $\Omega$ allowable)

### GENERAL

Operating Voltage.....	14.4 V (11 ~ 16 V allowable)
Input Current.....	2.0 A
Installation size (W X H X D).....	168 X 50 X 126mm





**SANYO Electric Co., Ltd**

MAR-1000, Issue Number 1.