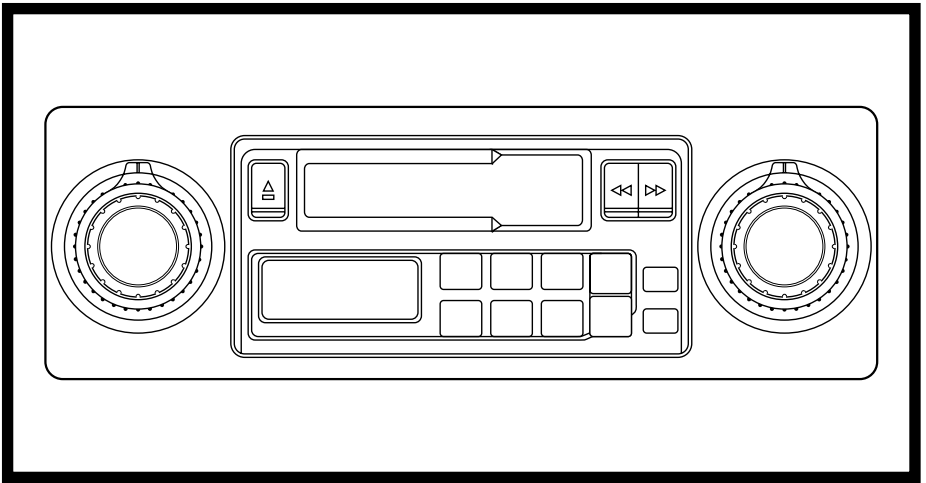


OPERATING
INSTRUCTIONS

SANYO

MAR-B1021



**AM/FM Stereo Radio with
Auto-Reverse Cassette Player**

CONTENTS

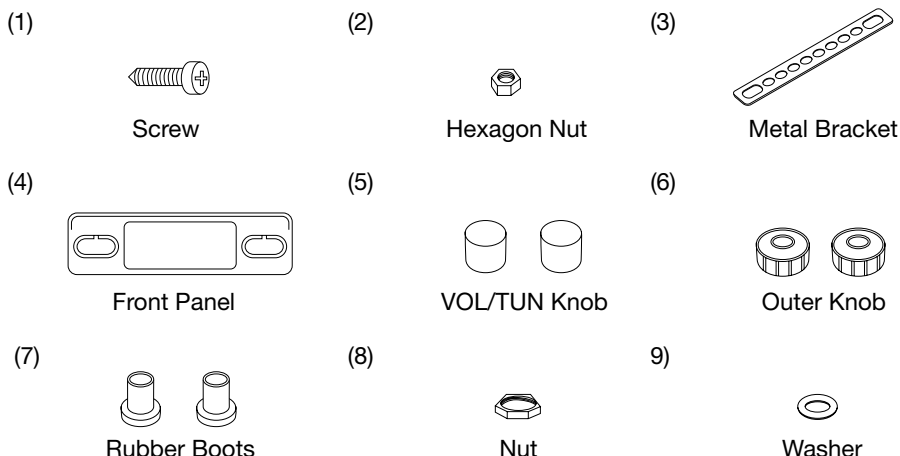
Accessories	1
Operation.....	2 - 3
Installation.....	4
Electrical Connections.....	5 - 6
Maintenance	7
Specifications	8
Warranty.....	9

ACCESSORIES

Please retain the carton and packing materials, as this is the best protection for the unit should it be necessary to return it for servicing.

Check the packing carefully for the following accessories:

- | | |
|--|----------------------|
| (1) 2 x Screw 5x14mm (used to fix the mounting bracket to the eye/support bracket). | (7) 2 x Rubber Boots |
| (2) 1 x Hexagon Nut (used for fixing the mounting bracket to the eye/support bracket). | (8) 4 x Nuts |
| (3) 1 x Metal Bracket | (9) 4 x Washer |
| (4) 1 x Front Panel | |
| (5) 2 x VOL/TUN Knob | |
| (6) 2 x Outer Knob | |

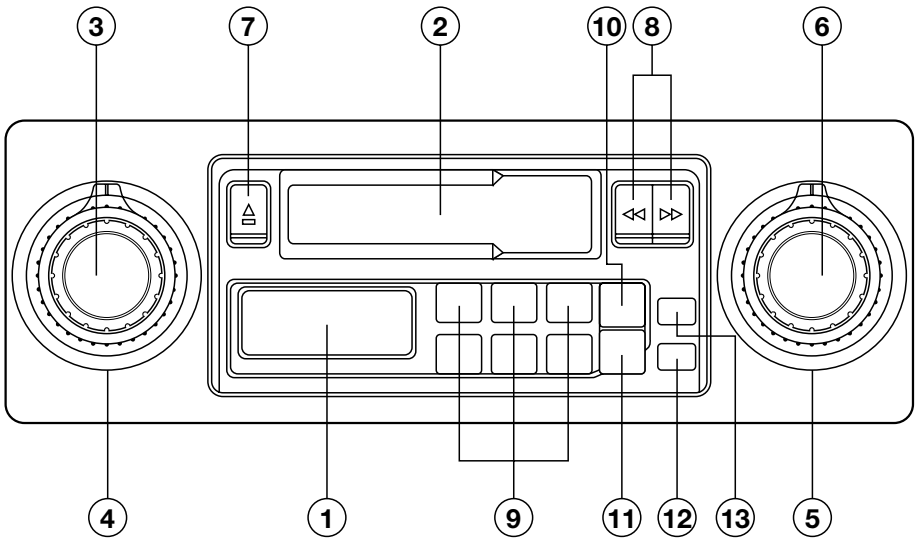


CAUTION

- This unit is designed to operate on 12 volts DC, negative ground electrical systems only.
- When fuse replacement is necessary, use only a 5 amp fuse. Do not replace with a higher rated fuse. If the fuse blows often, carefully check all electrical connections for any short circuits and have your car's voltage regulator checked also.
- Do not install the unit where it will be exposed to direct sunlight or hot air discharged from the car heater.
- Do not expose the unit to water or moisture.
- This AM/FM Radio with Cassette should not be adjusted or repaired by anyone except qualified service personnel. If servicing is required, return the unit to an authorized **SANYO** mobile audio dealer.
- Changes or modifications not expressly approved by **SANYO** may void the user's authority to operate this equipment.
- This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:
 - (1) This device may not cause harmful interference, and
 - (2) this device must accept any interference received, including interference that may cause undesired operation.

OPERATION

CONTROLS AND FUNCTION KEYS



1. LIQUID CRYSTAL DISPLAY PANEL

In radio mode, the frequency, preset number, etc. will be shown on the display. In tape mode, the direction indicator appears on the display.

2. CASSETTE COMPARTMENT

Insert the cassette with the exposed tape facing to the right. The unit will switch to TAPE mode automatically.

3. OFF/VOLUME

Rotate the knob to switch the power on or off and to adjust the volume.

BALANCE (push)

Push and rotate the knob to adjust the sound balance between the left and right speakers.

4. FADER

Rotate the knob to adjust the sound balance between the front and rear speakers.

5. TONE

Rotate the knob to adjust the the high frequency sound level.

6. TUNE/SEEK/ATP (AUTO TUNING PRESET) CONTROL

This button performs two functions: Auto Tuning Preset Scan and Auto Tuning Preset Memory. This function allows you to locate and store up to six stations in the selected band automatically. Select the desired band, then rotate the knob counterclockwise to select a station on a lower frequency or clockwise to select a station on a higher frequency. Hold the knob in either position for more than 0.5 seconds to begin automatic scanning. The tuner will locate and stop at the next receivable station.

Auto Memory Scan Function

Use this function to check the stations stored in memory. Press the ATP button to select the preset stations for five seconds each, beginning with the current station, Either press the ATP button again or press one of the preset buttons (1-6) to stop scanning. During the preset scan operation, the preset number flashes on the display.

Auto Memory Store Function

This function automatically locates and stores up to six stations, starting from the current point on the selected band. Press and hold the ATP button for more than 2 seconds to begin the ATP operation. After automatically storing the station, preset scan will begin, starting with preset number 1. Preset scanning will continue until it is canceled.

- If ATP is started in the DISTANT mode, the selected band will be scanned once.
- If ATP is started in the LOCAL mode, the selected band will be scanned up to three times - twice in the local mode, then once in the DISTANT mode.
- If ATP is started while a preset station is selected, the current preset station will be replaced by the next available station on the selected band. (Some other preset stations may also be replaced, depending on signal strength.)

7. EJECT (▲)

Push this button to eject the cassette.

8. FAST FORWARD/REWIND/DIRECTION BUTTONS

Forward Play Mode ▶

Fast Forward: Press ▶▶

Rewind: Press ◀◀

Reverse play Mode ◀

Fast Forward: Press ◀◀

Rewind: Press ▶▶

Direction: Press both buttons simultaneously to change the direction of tape travel.

9. PRESET MEMORY BUTTONS (1, 2, 3, 4, 5, 6)

These buttons are used to select and store stations in the preset memory. A total of 30 stations can be stored (18 FM and 12 AM). To memorize and recall preset stations, follow the steps below.

- Store stations in memory

Select a band (FM1, FM2, FM3, AM1, AM2), then tune in the station you wish to store.

Press and hold one of the preset buttons (1-6) for more than 1 second to store the station.

A 'beep' will sound when the station has been stored in memory.

- Recall a preset station

Select a band (FM1, FM2, FM3, AM1, AM2), then press one of the preset buttons (1-6) to select a preset station. The selected preset number will appear on the display.

10. TIME FREQUENCY SELECTOR (CLK)

During radio operation, press this button to recall the time display. Press the button again or activate any tuning function to restore the frequency display. (The frequency display will return after 5 seconds if no other button is pressed.)

SETTING THE CLOCK

1. Rotate the volume control to turn the power ON.

2. Press the CLK button (10) to select the time display.

3. Press and hold the CLK button (10). While holding the CLK button, rotate the tuning control (6) counterclockwise to set the hour or clockwise to set the minutes.

11. BAND SELECTOR (BND)

Press this button to change the selected band in the following order:



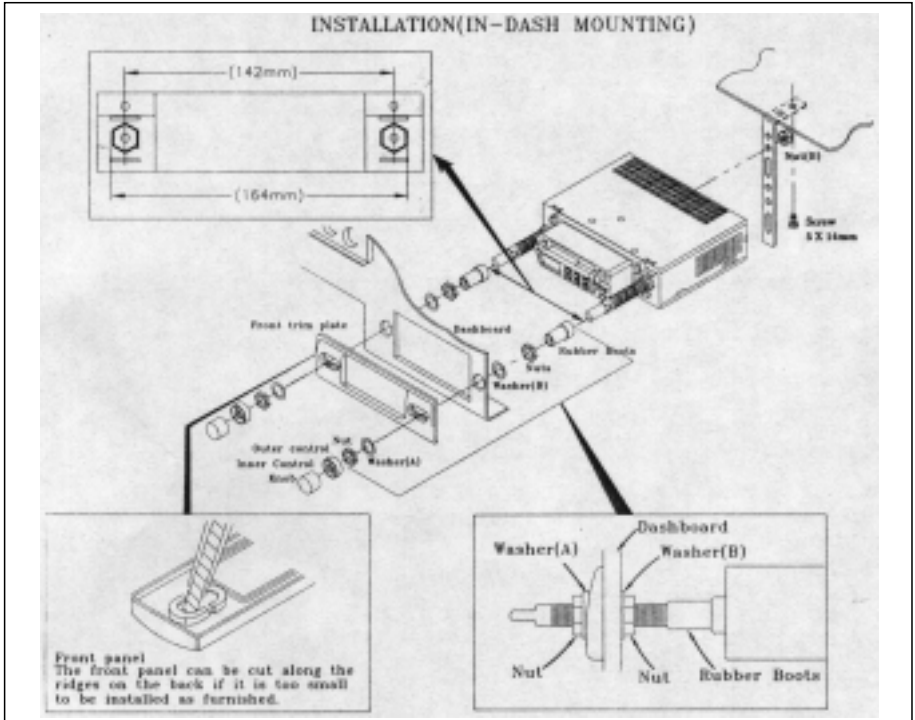
12. MONO/STEREO SELECTOR (M/S)

Press this button to switch the radio between stereo mode and mono mode. When the stereo setting is selected, the ST indicator will appear on the display when an FM stereo broadcast is received.

13. LOCAL/DISTANT SELECTOR (L/D)

Press this button to select local or distant mode. Select the local mode to receive only the strongest stations. Use the distant mode to receive all stations, including ones with weak signals. The system is set initially to the distant mode. (This function only operates in the FM mode.)

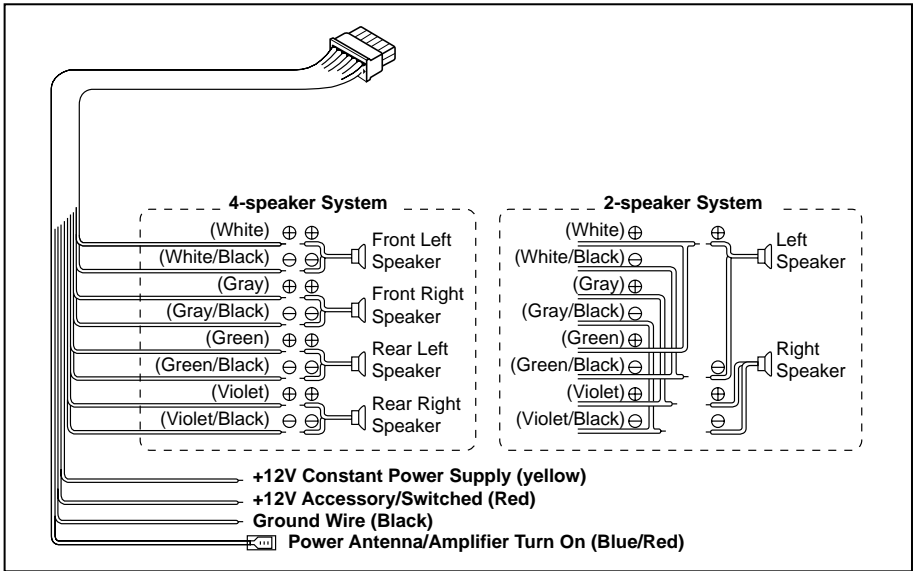
INSTALLATION



1. First, determine the correct shaft spacing required for your vehicle, then adjust the spacing as necessary.
2. Install one shaft boot on each control shaft.
3. Install one shaft nut and one shaft washer on each control shaft. Determine the correct positions for the shaft nuts by placing the unit in the dashboard.
4. From behind the dashboard, insert the unit through the dash opening. If the unit protrudes too far, or not far enough, adjust the position of the shaft nuts. (Once the correct position is found, it may be necessary to cut off excess material to shorten the shaft boots.)
5. Attach the rear support bracket to the threaded stud on the rear of the stereo using the supplied nut.
6. Attach the free end of the rear support bracket to the vehicle with the screw provided.
7. Secure the front of the unit with the supplied shaft washers and nuts.
NOTE: The faceplate is provided for use on automobiles which have enough space surrounding the radio to accept the plate. Attach the faceplate to the stereo by mounting the nuts and washers in front of the faceplate. (If the shafts have been moved to the extreme outside position, it may be necessary to widen the openings in the faceplate by using a round file.)
8. Attach the knobs to the control shafts.

ELECTRICAL CONNECTIONS

WIRING FOR MAR-B1021



Caution

- DO NOT connect any speaker wires to the metal body or chassis of the vehicle.
- Connect each speaker wire directly to each speaker terminal.
- All speaker common (-) wires must remain floating.

1 Antenna socket

- Insert the plug from the antenna installed in your vehicle into this socket. (if your vehicle has a dual antenna system, a dual antenna to single antenna cable adaptor may be required.)

2 +12V Constant Power Supply (Yellow)

- Connect this wire to the +12V power terminal which receives power continuously.

3 +12V Accessory/Switched (Red)

- Connect this wire to the terminal which receives power while the ignition switch is ON or in the ACCESSORY position.
- If the ignition switch does not have an ACC position, connect this wire to a +12V power terminal which receives power continuously. (Same as item 2.)

4 Ground wire (Black)

- Connect this wire to the vehicle chassis.

5 Power Antenna/Amplifier Turn On (Blue/Red)

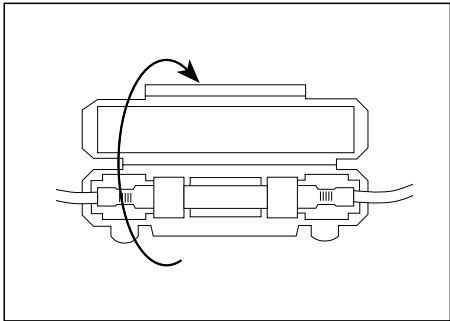
- Connect this wire to the control terminal of a Power Antenna or an external amplifier.
- When not using a Power Antenna or an external amplifier, this wire is not connected.

Note:

When using a two-speaker installation, the Green, Green/Black, Violet and Violet/Black wires, which are used for the rear speaker connections, should be combined with the front speaker connections as shown below and in the wiring diagram.

- Left (+): White and Green
- Left (-): White/Black and Green/Black

- Right (+): Gray and Violet
- Right (-): Gray/Black and Violet/Black



- When fuse replacement is necessary, remove the blown fuse by opening the fuse holder, then install a new 5 amp fuse (switched power supply) or 0.5 amp fuse (constant power supply).

- RCA Line Out Jacks
Connect a patch cable (not supplied) from the White and Red RCA line output jacks to the line input terminals of an external amplifier.

MAINTENANCE

1. This unit is designed to operate on 12 volts DC, **NEGATIVE** ground electrical systems only. Do not attempt to install this unit in a vehicle that has a positive ground system.
2. Do not touch the playback head with any metallic or magnetic tools.
3. This unit has built-in filtering to eliminate most of the noise that might come through the power source. However, with some vehicles, particularly older models, some clicking or other unwanted noise might be present.
4. Please follow the suggestions below to ensure many years of trouble-free operation.



Keep the product dry. If it does get wet, wipe it dry immediately. Liquids might contain minerals that can corrode the electronic circuits.



Keep the product away from dust and dirt, which can cause premature wear of parts.



Use and store the product only in normal temperature environments. High temperatures can shorten the life of electronic devices, damage batteries, and distort or melt plastic parts.



Clean the front panel with a soft, clean cloth moistened with lukewarm water and wrung dry



Handle the product gently and carefully. Dropping it can damage circuit boards and cases and can cause the product to work improperly.

MODEL MAR-B1021 SPECIFICATIONS

FM TUNER SECTION

Frequency Range	87.5 MHz ~ 107.9 MHz
Usable Sensitivity	17.23 dBf
50 dB Quieting Sensitivity.....	20.76 dBf
Frequency Response	20 Hz ~ 10 KHz
I.F. Response Ratio	70 dB
Image Response Ratio.....	43 dB
Signal-to Noise Ratio	60 dB
Alternate Channel Selectivity.....	50 dB
Stereo Separation	30 dB
Capture Ratio.....	1.5 dB
Antenna Impedance.....	75Ω

AM TUNER SECTION

Frequency Range.....	530 KHz ~ 1710 KHz
Usable Sensitivity (S/N 20 dB)	20 μV
I.F. Response Ratio	60 dB
Image Response Ratio.....	36 dB
Signal-to-Noise Ratio	50 dB
Antenna Impedance.....	75Ω

CASSETTE DECK SECTION

Wow & Flutter (WRMS)	0.1%
Fast Winding (C-60).....	150 sec.
Frequency Response	50 Hz ~ 8 KHz
Channel Separation (1 KHz).....	35 dB
Signal-to-Noise Ratio	52 dB

AUDIO SECTION

Maximum Power Output	5W x 4
Load Impedance.....	4Ω

GENERAL

Operating Voltage	12V (14.4V Typical)
Operating Current Maximum5A
Installation Size (W x H x D).....	178 x 50 x 149 mm

IMPORTANT INFORMATION

Because its products are subject to continuous improvement, **SANYO** reserves the right to modify product designs and specifications without notice and without incurring any obligation.

SANYO MOBILE AUDIO MODEL MAR-B1021 LIMITED WARRANTY

OBLIGATIONS

In order to obtain warranty service, the product must be delivered to and picked up from an Authorized Sanyo Factory Service Center at the user's expense, unless specifically stated otherwise in this warranty. The names and addresses of Authorized Sanyo Service Centers may be obtained by calling the toll-free number listed below.

For product operation, authorized service center referral, service assistance or problem resolution, call
CUSTOMER INFORMATION 1-800-421-6382
Weekdays 8:00 AM - 5:00 PM Pacific Time

THIS WARRANTY IS VALID ONLY ON SANYO PRODUCTS PURCHASED AND USED IN THE UNITED STATES OF AMERICA.

THIS WARRANTY APPLIES ONLY TO THE ORIGINAL RETAIL USER, AND DOES NOT APPLY TO PRODUCTS USED FOR ANY INDUSTRIAL, PROFESSIONAL OR COMMERCIAL PURPOSE. THE ORIGINAL DATED BILL OF SALE OR SALES SLIP MUST BE SUBMITTED TO THE AUTHORIZED SANYO SERVICE CENTER AT THE TIME WARRANTY SERVICE IS REQUESTED. Subject to the OBLIGATIONS above and EXCLUSIONS below, SANYO FISHER COMPANY (SFC) warrants this SANYO product against defects in materials and workmanship for the periods specified below. SFC will repair or replace (at its option) the product and any of its parts which fail to conform to this warranty with new or reconditioned products or parts. The warranty period commences on the date the product was first purchased at retail.

LABOR	PARTS
1 YEAR	1 YEAR

EXCLUSIONS

This warranty does not cover (A) the adjustment of customer-operated controls as explained in the appropriate model's instruction manual, or (B) the repair of any product whose serial number has been altered, defaced or removed.

This warranty does not apply to the cabinet or cosmetic parts, knobs or routine maintenance. This warranty does not apply to the elimination of car static or motor noise, correction of antenna problems, or damage to compact discs, speakers, accessories or vehicle electrical systems. This warranty does not apply to repairs or replacements necessitated by any cause beyond the control of SFC including, but not limited to, any malfunction, defect or failure caused by or resulting from unauthorized service or parts, improper maintenance, operation contrary to furnished instructions, shipping or transit accidents, modification or repair by the user, abuse, misuse, neglect, accident, incorrect power line voltage, fire, flood or other Acts of God, or normal wear and tear. The foregoing is in lieu of all other express warranties and SFC does not assume or authorize any party to assume for it any other obligation or liability.

THE DURATION OF ANY WARRANTIES WHICH MAY BE IMPLIED BY LAW (INCLUDING THE WARRANTIES OF MERCHANTABILITY AND FITNESS) IS LIMITED TO THE TERM OF THIS WARRANTY IN NO EVENT SHALL SFC BE LIABLE FOR SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING FROM OWNERSHIP OR USE OF THIS PRODUCT, OR FOR ANY DELAY IN THE PERFORMANCE OF ITS OBLIGATIONS UNDER THIS WARRANTY DUE TO CAUSES BEYOND ITS CONTROL.

SOME STATES DO NOT ALLOW LIMITATIONS ON HOW LONG AN IMPLIED WARRANTY LASTS AND/OR DO NOT ALLOW THE EXCLUSION OR LIMITATION OF CONSEQUENTIAL DAMAGES, SO THE ABOVE LIMITATIONS AND EXCLUSIONS MAY NOT APPLY TO YOU. THIS WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS. YOU MAY HAVE OTHER RIGHTS, WHICH VARY FROM STATE TO STATE.

For your protection in the event of theft or loss of this product, please fill in the information below for your own personal records.

Model No. _____ Serial No. _____

Located on back or bottom side of unit)

Date of Purchase _____ Purchase Price _____

Where Purchased _____

SANYO

21605 Plummer Street
Chatsworth, CA91311

MAR-B1021. Issue Number 1.