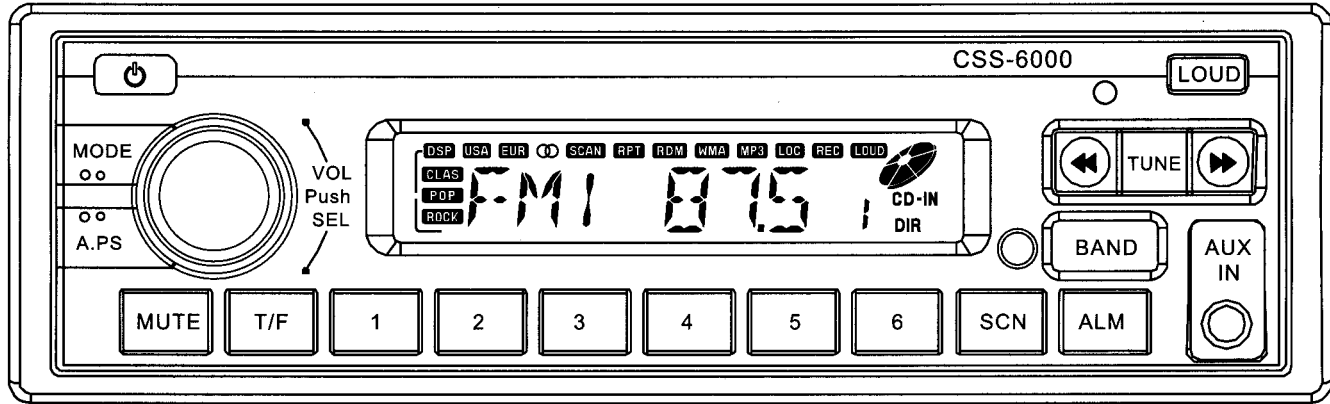


# CSS-6000

## AM/FM/STEREO, 4-CANNEL, Public Address Capability



# Owner's Manual

*Custom Radio Corporation*

# General features

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This FM/AM/ STEREO car audio unit is equipped with the following features.

## **1. Radio unit (Tuner)**

- Electronic station search
- Memory function which you can store 18 FM Stations and 12 AM stations in Memory.
- A.PS (Auto Preset Store) system selects and memorises the stations automatically in order of good reception .

## **2. AUX IN**

- The radio is equipped with a Auxiliary Audio input jack, that allows the user to listen to external sources, such as Mp3 players.

## **3. Public Address (PA)**

- Two four-pin connectors on the rear of panel accept microphone inputs.

## **4. Others**

- Electronic volume control function. ("SEL" Button - DSP, Bass, Treble, Balance, Fader, VOL)
- High-Power external Amp design (35Wx4 channels)

## ◆ RADIO SYSTEM

### POWER Button

- Press this button to turn the audio unit ON and OFF.

### BAND Button

- During radio operation, each time this button is momentarily pressed, the radio band is changed. The indications



Will appear on the display panel according to your selection.

### TUNE (SEEK) Button

- **AUTO:** Momentarily pressing and releasing either TUNE button will activate the Automatic Seek Tuning function, provided manual tuning mode is not in effect. The radio will seek the next acceptable signal strength station in the + or - direction and then stops and remains at that frequency.

### MANUAL TUNING

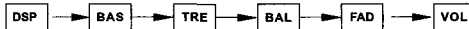
- To manually select a desired frequency, press and hold down TUNE button until radio BEEPS and "MANU" briefly appears on display. Now use TUNE up/dn button to select desired station. To exit the manual tuning mode, hold down TUNE button for more than 2 seconds until radio BEEPS.

### MUTE BUTTON

- Press this button to mute output.
- Press again enable output.

### SET (SELECTOR) Button

- Electronic encoder type button which is used to select and control all functions related to the volume and sound quality of the audio unit.
- When you momentarily press this button, you can change the following functions shown in the order below:



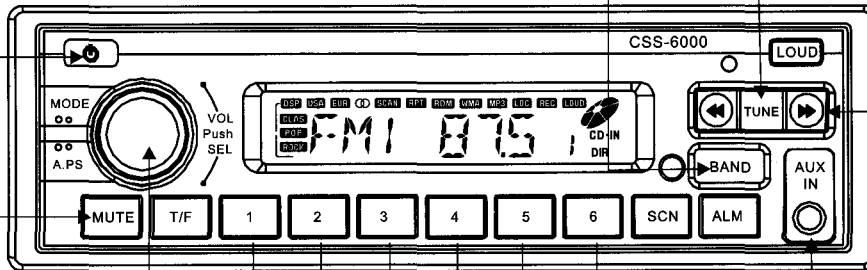
**[Note]** Once you've selected the function you wish to change, you have 5-seconds to adjust the settings before it automatically switches back to the volume control (Default).

### PRESET (1 to 6) Buttons

- Tune the radio to a desired station then press and hold one of the preset buttons for 2 seconds. The desired station will now be stored in memory.

### AUX IN

- Select AUX IN by pressing MODE repeatedly until "AUX In" will appear on display.

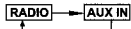


# Description of audio unit features

## RADIO SYSTEM

### MODE Button

- Press MODE button momentarily to select mode like shown below:

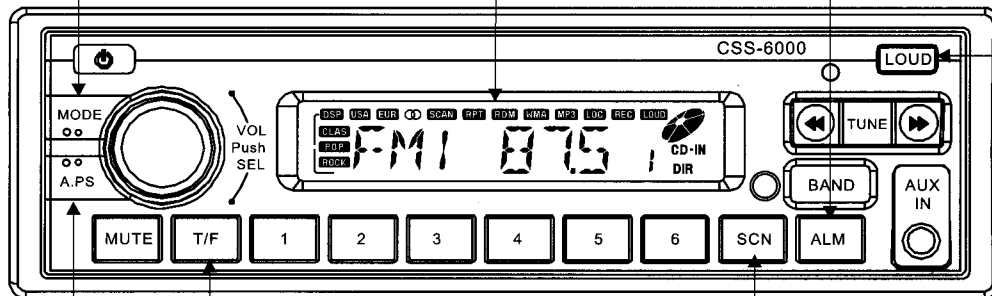


### LIQUID CRYSTAL DISPLAY

- The LCD shows the radio reception information such as the FM, AM, Stereo, Ch No., Reception frequency, Volume, Bass, Treble settings etc...

### ALM (ALARM) Button

- Press and hold this button for 2 seconds to change into Alarm mode.



### LOUD Button

- In order to emphasize the bass and treble at low volume, press the LOUD button. To cancel loudness press the button again.

### A.P.S Button (Auto Preset)

- **AUTO PRE-SET SCAN:** Pressing this button momentarily scans the stations preset 1-6 of the current radio BAND. The unit will stop at each preset station for approximately 5-seconds before continuing to the next preset station, until all 6 pre-sets have been scanned.
- **AUTO PRE-SET STORE:** press this button for more than 2 seconds and it will automatically preset 6 stations into memory (presets 1 to 6) in order of strongest signal strength.

### T/F (TIME/FREQUENCY) Button

- In any mode, the time display is default indication on LCD. When T/F button is pressed while time is displayed, the current frequency will appear for approximately 8 seconds and then revert to time indication.
- **Setting or Changing the time**  
Press and hold the T/F button until time (HOUR) begins to flash. Rotate volume control knob clockwise (CW) to increment hour indication, rotate volume control knob counter-clockwise (CCW) to decrement the hour indication. Now press and hold T/F button again until time (MINUTES) begins to flash. Rotate volume control knob CW to increment the minute indication, rotate volume control knob CCW to decrement the minute indication. Once time (Hour or Minute) has been adjusted, wait 5 seconds until time stops flashing, time is now set.

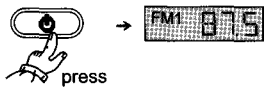
### (SCAN) Button

- When you press this button the frequency automatically stop at the next broadcast for reception for 3 seconds and then continues to scan.  
Note: Pressing SCAN button during scanning, radio will stop at current broadcast.

## ◆ RADIO SYSTEM

### 1. Listening to the radio

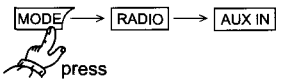
#### a. PWR button



Press the PWR button to turn the unit on; press it again to turn off the unit.

**Note:** Whenever the unit is powered for the first time, it will default to Radio mode (tuner mode). After initial power, it will memorize all settings from previous play mode. When Ignition is turned off while radio is operating normally, the unit will automatically power on when Ignition is turned on again and have memorized all settings from previous play mode.

#### b. MODE button



Press the MODE button to select mode between Radio and Aux In.



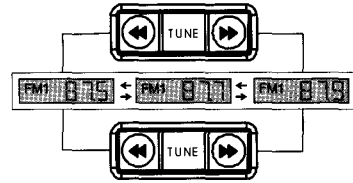
Use the BAND button to select your desired band. (FM or AM)

#### d. How to select / tune a radio station (seek)

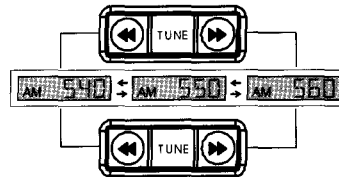
##### - Manual tuning



#### - FM (moves in 200KHz steps)



#### - AM (moves in 10KHz steps)



# Operation method

## 2. Tuning and selecting radio stations



### - Auto station tuning (SEEK) AM and FM

When you press the SEEK buttons momentarily (one touch), the frequency will automatically change to the next strong signal station.

### - MANUAL station tuning (SEEK) AM and FM

To manually tune a desired radio station, press and hold either “◀” or “▶” buttons until radio BEEPS and icon “MANU” appears on LCD briefly and then release. Now press the “◀” or “▶” button momentarily to move the frequency “UP” or “DOWN” in steps. To return to Auto Seek tuning mode, press and hold “◀” or “▶” buttons until unit beeps. The radio is now in Auto Seek tuning mode.

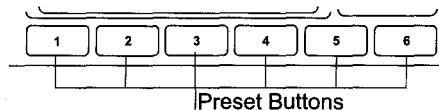
### - PRESET station tuning

To Select a station which is stored in memory, simply momentarily press anyone of the PRESET Buttons 1 to 6. The Station stored in the PRESET button, will automatically be selected. (The LCD show the CH number and frequency.)

## 3. Presets

- To store your favorite radio stations into memory, please follow the steps below.

- Select a radio station by using the tune buttons.
- Once selected, simply hold one of the PRESET buttons down for more than 2 seconds until radio beeps. The station is now stored on the preset selected.



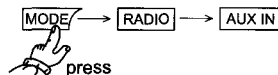
**Note:** 18 FM stations and 12 AM stations can be stored in memory by using the 6 preset buttons.(each band can store 6 stations.)

## 4. VERIFYING STATIONS HAVE BEEN STORED IN MEMORY

Once you have completed storing your desired radio stations, simply press each PRESET momentarily to check if the correct stations have been memorized.

### ◆ AUX IN SYSTEM

Use MODE button to select AUX IN.



- Obtain an audio cable with 1/8 (3.5mm) male plug at each end. First connect the cable to the radio, then connect the other end to an external audio device.
- Now press MODE button repeatedly until “AUX” is displayed on the LCD panel.

**Important:** Before selecting AUX mode, verify the cable connected to both audio device & radio. Since audio devices vary in output amplitude levels. It is recommended that the external audio device not be set at max output volume. Very high output levels from audio devices may cause audio distortion to the output of the radio.

## 1. Controls and functions of the "SEL" button

The Selector button is used to control the following functions:

- DSP
- Bass (Press once)
- Treble (Press twice)
- Balance (Press three times)
- Fader (Press four times)
- Volume
- BEEP on, BEEP 2nd (Press and Hold)
- Volume memory limit (Press and Hold, then Press Once)

### a. Controlling the Volume



- ◆ Once the audio unit is turned on, you can adjust the volume without having to press the "SEL" button.

Right - Increases the Volume  
Left - Decreases the Volume



To increase the volume level, rotate the volume control clockwise (CW). "VOL" will appear and the volume level will be shown on the display panel from a minimum of VOL 0 to a maximum of VOL 30. To decrease the volume level, rotate the volume control counter clockwise (CCW). LCD will automatically return to the normal indication 5 seconds after the last volume adjustment.

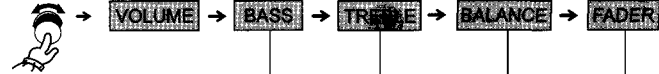
### b. Adjusting Initial Volume

Press and hold the "SEL" button until BEEP ON or BEEP 2ND appears on the LCD, release and press the "SEL" button again and I-VOL 10 will appear on the LCD. Now using the "SEL" knob, adjust the Initial Volume to the desired setting. Once completed, wait 5 seconds for the unit to exit this mode.

**[Note]** If the volume level is lower than the initial Volume setting when audio unit is turned off. Once the audio unit is switched back on again, the audio unit will remember the lower level and resume volume at that level.

### c. Controlling the Bass, Treble, Balance and Fader

These adjustments are controlled by pressing the "SEL" button. Note: If no adjustments have been made within 5 seconds, it will automatically switch back to the Volume Control Mode.



#### 2. Bass control

Turn left to decrease the bass.  
Turn right to increase the bass.

#### 3. Treble control

Turn left to decrease the treble.  
Turn right to increase the treble.

#### 4. Balance control

Turn left to decrease the right speaker volume.  
Turn right to decrease the left speaker volume.

#### 5. Fader control

Turn left to decrease the front speaker volume.  
Turn right to decrease the rear speaker volume.

### d. Controlling the Beep ON, Beep 2ND

**BEEP ON:** Every time you press a button, you will hear a beep sound.  
**BEEP 2ND:** You will only hear beep sound if the button is held down for more than 2 seconds.

To change this feature, simply hold the "SEL" Button down until "BEEP ON or BEEP 2ND" appears on the LCD. Within 5 seconds, turn the "SEL" knob left or right to change the setting. Now wait 5 seconds for the unit to exit this mode.

# Public Address (PA)

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## ◆ PA SYSTEM

### **PUBLIC ADDRESS (PA)**

The Radio is equipped with two microphone input for public address purposes.

#### **1. MICROPHONE ONE (MIC 1)**

When the microphone pres-to-talk switch is activated on microphone one (MIC 1), the current program audio output is interrupted, “MIC 1” appears on the display and the microphone voice input can be heard through the speakers. When the microphone switch is released, the previous program audio output is restored and “MIC 1” disappears from display. Output level heard through the speakers is controlled with MIC 1 volume control.

**Note:** MIC 1 input uses CSS/CRC-103 series

#### **2. MICROPHONE TWO (MIC 2)**

When the microphone pres-to-talk switch is activated on microphone two (MIC 2), the current program audio output is interrupted, “MIC 2” appears on the display and the microphone voice input can be heard through the speakers. When the microphone switch is released, the previous program audio output is restored and “MIC 2” disappears from display. Output level heard through the speakers is controlled with the Radio volume control.

**Note:** MIC 2 input uses CSS/CRC-105 series and gooseneck type microphones.

MIC 2 volume levels will be memorized by the unit from previous set level during normal operation and when radio is turned off.

# SETTING THE CLOCK & ALARM PROGRAMMING

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## **- SETTING THE CLOCK**

1. Turn vehicle ignition on, then power up the radio.
2. Press and hold the T/F button until the time (hour) display begins to flash.
3. With the hour display flashing, rotate Volume control counterclockwise to decrement hour indication, rotate Volume control clockwise to increment the hour indication.
4. Press and hold the T/F button once again until the minutes display begins to flash. Adjust the minutes display in the same manner described for hours indication in step 3.
5. Five seconds after the last hour or minute adjustment is made, the time will be set into the unit and the time indication remains steady.

## **- ALARM PROGRAMMING**

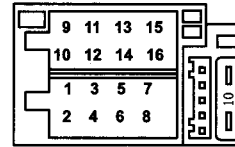
When the radio is off and the ignition switch is on, the alarm feature of the radio can be programmed as follows:

1. Press and hold the ALM button for about 2-3 seconds, ALARM ON or OFF appears on the display.
2. If the alarm is off, rotate the volume control clockwise to turn on the alarm (ALARM ON).
3. Momentarily press the ALM button again; the hours digit flashes; rotate the volume control to set the hours forward (clockwise) or backward (counter clockwise).
4. Momentarily press the ALM button again, the minutes digit flashes, rotate the volume control to set the minutes forward(CW) or backward (CCW) as desired.
5. Press the ALM button again, and ALM SET will appear on the display.

# Car audio wiring configuration

## 1. Connection diagram

Please refer below for vehicle's audio connector wiring configuration...



NO	DESCRIPTION
1	SIGNAL
2	GROUND
3	PWR (+8VDC)
4	SWITCH

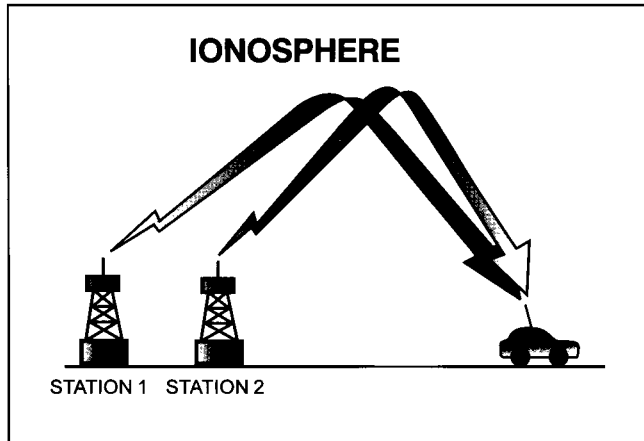
NO	DESCRIPTION
1	SHIELD
2	SIGNAL
3	GROUND
4	SWITCH

No	NOTE	No	NOTE
1		9	REAR RIGHT SPEAKER +
2		10	REAR RIGHT SPEAKER -
3		11	FRONT RIGHT SPEAKER +
4	IGNITION (+12VDC)	12	FRONT RIGHT SPEAKER -
5	AUTO ANTENNA	13	FRONT LEFT SPEAKER +
6		14	FRONT LEFT SPEAKER -
7	MEMORY (BATTERY)	15	REAR LEFT SPEAKER +
8	GROUND	16	REAR LEFT SPEAKER -

## AM

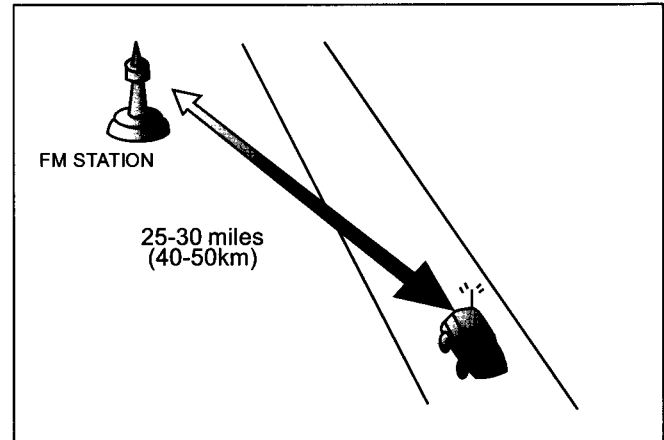
signals can bend around buildings or mountains and bounce off the IONOSPHERE.

This is why AM signals can reach longer distances than FM signals.



## FM (Frequency Modulation) CHARACTERISTICS

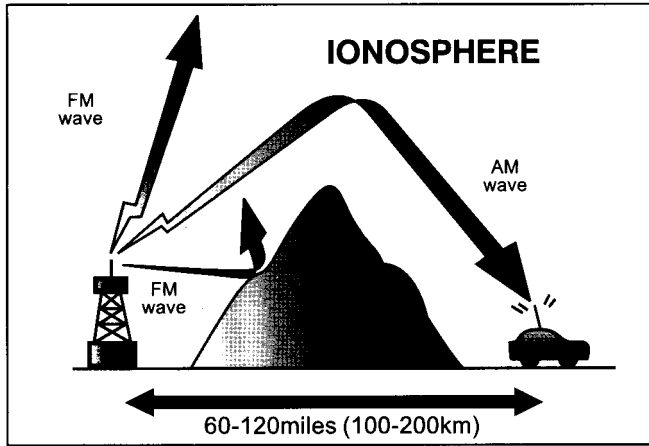
An FM broadcast range is usually about 25-30 miles (40-50km) from the source. Because of extra coding needed to break the sound into two stereo channels, FM has even less range than monaural (non-stereo) FM.



# Radio Reception

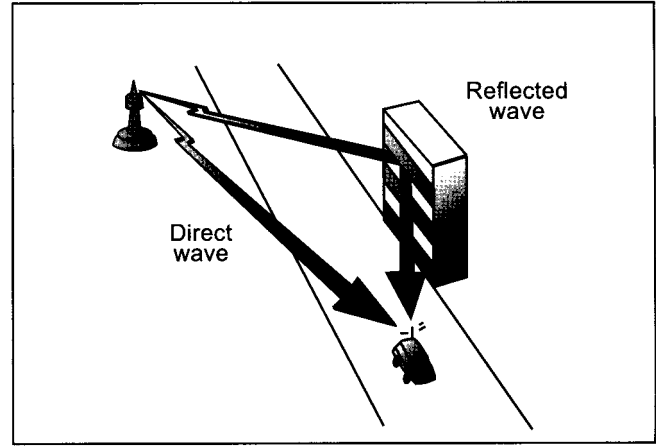
Signals from an FM transmitter are similar to beams of light because they do not bend around corners, but they do reflect. Unlike AM signals, FM signals cannot travel beyond the horizon. Therefore, FM stations cannot be received at great distances compared to AM reception.

Atmospheric conditions can also affect FM reception. High humidity will cause poor reception. However, cloudy days may provide better reception than clear days.



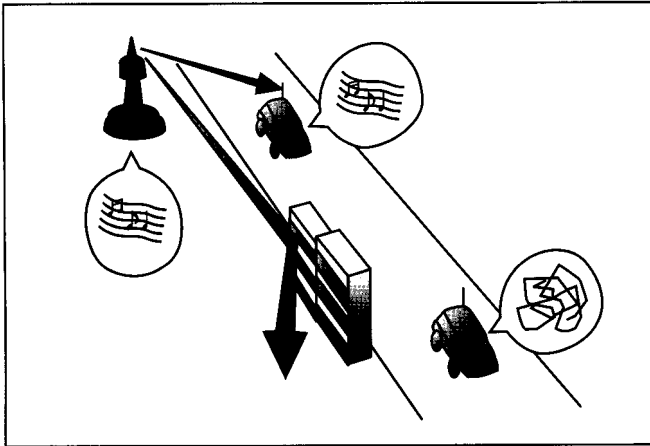
## MULTIPATH NOISE

Since FM signals can be reflected by obstructions, it's possible to receive both the direct signal and the reflected signal at the same time. This causes a slight delay in reception and may be heard as broken sound or distortion. This problem may also be encountered when in close proximity to the transmitter.



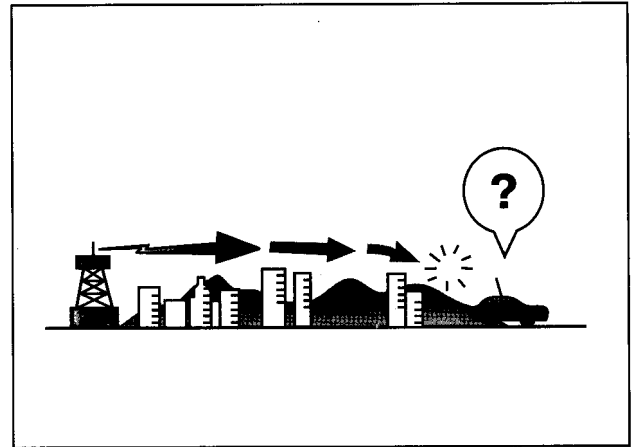
## FLUTTER/SKIP NOISE

Signals from a FM transmitter move in straight lines and become weak in valleys, between tall buildings, in mountains, and around other obstacles. When a vehicle passes through an area like this, the reception conditions may change suddenly, resulting in Flutter / Skip Noise.



## WEAK SIGNAL NOISE

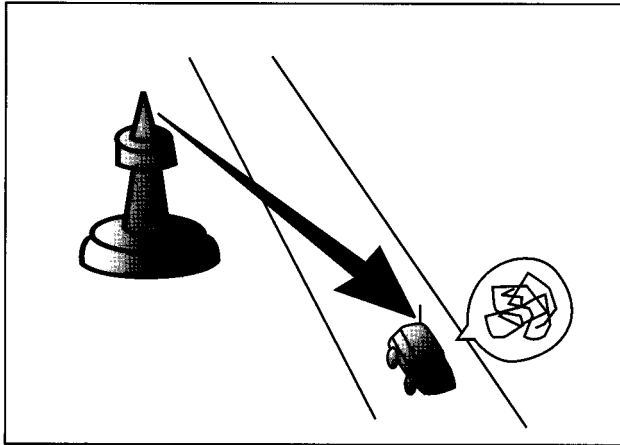
In remote areas, broadcast signals become weak due to the distance of the transmitter. Reception in such areas may experience Weak Signal Noise and sound break-up.



# Radio Reception

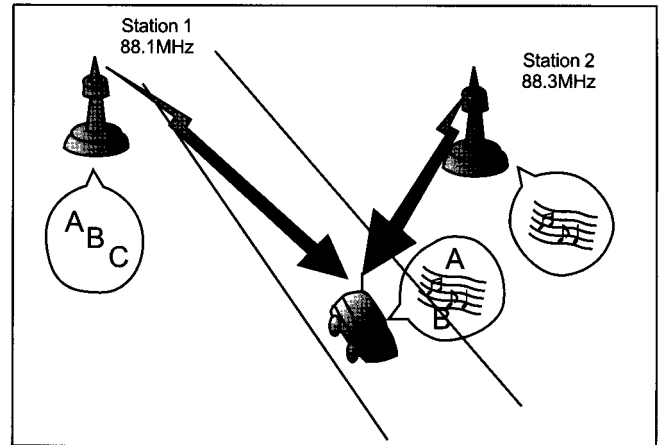
## STRONG SIGNAL NOISE

Strong Signal Noise may occur when you are very close to a Transmitter Tower. The broadcast signals are extremely strong which causes noise and sound break-up at the radio receiver.



## STATION DRIFT NOISE

When a vehicle reaches an area where there are two strong stations broadcasting at similar frequencies, the original station may lose its reception and the second station will be broadcasted. At this time, there will be some noise present which we call Station Drift Noise.



TUNER UNIT		
FM	Reception Frequency	87.5 ~ 107.9MHz
	Effective Sensitivity (MONO) (30dB S/N)	Below 10dBu
	S/N Ratio	Above 52dB
	Stereo Separation (1KHz)	Above 30dB
AM	Reception Frequency	530 ~ 1710KHz
	Effective Sensitivity (20dB S/N)	Below 35dBu
	S/N Ratio	Above 45dB

POWER UNIT AND SPECIFICATIONS	
Power Supply Voltage	13.8V (10.8 ~ 15.8V) available
Speaker Impedance	4 ohms
Chassis Dimensions (WxHxD)	178 x 50 x 151.7 mm 7.00 x 1.97 x 5.97"
Panel Dimensions (WxHxD)	180 x 50 x 18.5 mm 7.09 x 1.97 x 0.73"
Commercial Fuse Spec.	250V 10A
Weight	Below 2kgs

AUDIO UNIT	
Maximum Output Power	35W x4CH
Frequency Characteristics (-30dB)	30Hz ~ 10KHz
Bass Control	10dB ± 3dB
Treble Control	10dB ± 3dB

**Caution: Any changes modifications to this audio unit will void its Warranty.**