

CONGRATULATIONS! You have one of the most unique and sophisticated radios ever built! It is designed for a long trouble free life and quality sound. Our objective is to preserve all of the original functions and appearance of your radio while providing superior sound using the best of the latest digital technology.

Everything that you can see functions, feels and looks like the original! The more modern features that were not available when your car was new are cleverly disguised so that they are functional and easily accessible, but not visible.

Although this radio is considerably smaller than the original, it will fit in the dash without any alterations. The radio is designed to work well with the original antenna.

Before you begin installation: Be Safe! Disconnect one battery terminal and leave it disconnected until installation is complete. Make sure you are familiar with the options and features programmed into this radio. Locate the antenna jack and the Aux inputs before you mount the radio. If you want to "bench test" the radio use a fully charged battery. DO NOT operate this radio directly from a battery charger. Serious damage may result!

Be sure your radio voltage and polarity matches your car. This radio is built for 12 volt negative ground systems only! The radio has several protection circuits to help prevent serious damage from wiring errors and power faults in the car electrical system. Never use a fuse rated for more than 10 Amps!

This radio can be programmed for European channel spacing

A major consideration will be speakers. . If you only have room for one speaker, use one full range speaker instead of the "dual" speakers made to fit one opening. Because those dual speakers have small cones, they can't produce any bass, and you won't be able to hear stereo separation because they are mounted so close together. See pages 3 and 4 for wiring diagrams.

Use one 4 ohm speaker for each channel you want to connect. Make sure it can handle the wattage! Unless you crank it all the way up regularly. 30 or 40 watt RMS ratings should be sufficient. The higher the SPL rating of the speaker, the better it is. Look for an SPL of 88 or better. A good full range speaker should have a frequency range from less than 40 Hz to better than 20 kHz.

Pay attention to polarity! Speaker terminals will be marked with a + and - , or a red dot on the + terminal. If all speakers are connected to the proper polarity, they will operate in harmony. If they are not properly phased, you will not hear the full (next page)

fidelity of the radio. Note: - does not mean ground! This is a high power radio in which both speaker lines are driven with high currents! **Never** allow any speaker lead to become grounded when the radio is on!

Pages 3 and 4 show several possibilities for speaker arrangements. You will have to decide what will work best for your application. Will it matter if the speakers show? You may want to put one or two speakers in the package shelf. You might consider kick panel or door speakers.

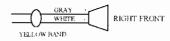
Your radio has a 12 pin connector for the speakers, power, and options. There is one red (fused) wire. This is for power input. It should be connected to the 12 volt Accessory circuit. There is also a green wire that is used for the dial light. It should be wired to the dash light circuit so that the radio lights come on when the other dash lights are turned on. The orange wire is a switched 12 volt output that can be used to control power antennas or provide power to options like CD players, satellite receivers, or MP3 players when the radio is switched on. *Caution!* The orange wire is a 12 volt output line that is powered directly from the main switch in the radio. The maximum current it can safely source is 5 Amps continuous. If the orange wire is shorted to ground serious damage may occur! The wiring for the front speakers includes a blue and violet pair for the left front speaker and a gray and white pair for the right front speaker. Each front pair will have a yellow band around it. The rear speaker wiring also has a blue and violet pair for the left rear speaker and a gray and white pair for the right rear speaker. Each rear pair will have a green band around it.

Setting pushbuttons: Your radio has 5 presets for FM, and 5 presets for AM. A major difference between the original radio and this one is the way the pushbuttons are set. Never pull out on the buttons! When you push a button, the radio will start playing the selected station, and the dial pointer will move to the selected location. To set a button to a different station (1) Tune to the desired station. (2) Press and hold the button you want to set. The tuner will move to the previous setting (3) After about 2 seconds, the radio will begin piaying the newly selected station. The dial pointer may cycle a few times to locate the correct position. This is a normal procedure. The dial pointer will stop at the new station. (4) Release the button. Be aware it takes about 10 seconds to write the new pushbutton data to permanent memory. You can continue to set other buttons or tune other stations, but if the radio is turned off before the write cycle is completed, the new stations may not be saved.

Note: The pushbuttons and/or tuning knob will not function unless power is applied

ONE SPEAKER

(Mono System)



Use a 4 ohm speaker capable of handling 45 watts.

Recommended when you don't want to add any speakers

Make sure any unused speaker wires won't contact metal!

Set the fader control to the front.

Set balance control to the right channel. This will put the receiver in the "Mono" mode.

If you install a CD player or XM receiver, the information from both the left and right channels will be heard in the speaker.

TWO SPEAKERS



Use two 4 ohm speakers capable of handling 45 watts.

Typically, this configuration is used where the stereo effect is desired, but there is little room for extra speakers. Speakers may be installed one in front and one in rear, in the doors, kick panels, under the dash or behind the seat.

Make sure any unused speaker wires won't contact metal!

Set the fader control to the front.

Use the balance control to adjust the two channels.

THREE SPEAKERS



Use three 4 ohm speakers capable of handling 45 watts each.

This configuration can be used with a speaker in the original front location and 2 door, rear deck or kick panel speakers.

Make sure any unused speaker wires won't contact metal!

Use the fader control to adjust between the front and rear speakers.

Use the balance control to adjust left to right.

(3)

FOUR SPEAKERS



Use four 4 ohm speakers capable of handling 45 watts each.

Make sure any unused speaker wires won't contact metal!

Use the fader control to adjust between the front and rear speakers.

Use the balance control to adjust left to right

(4)

Operating Your Radio

Band selection: In order to keep from adding switches that weren't provided originally, your radio will power up in the FM stereo mode the first time it is turned on. To switch to AM, turn the radio off, and then back on again. To switch back to FM, turn the radio off, wait 5 seconds, then turn the radio back on.

Tuning: Your radio has an AM dial made to look like the original. In the dial background there is also an FM dial scale. Both are illuminated at night. There is a small LED hidden in the dial that will be red when the radio is set to the AM band, green when the radio is set to the FM band, and vellow when the receiver locks on to a stereo signal. Turning the tuning knob will move the dial pointer up or down the dial scale. The radio is digitally tuned for stability, but has the look and feel of an analog radio.

Tone: The tone control (behind the volume control) provides flat bass and treble near the center position. Turning the control clockwise boosts treble, and counter-clockwise

Balance: Your radio has a balance control behind the tuning control. Turning the balance knob will shift the audio between the left speaker(s) and the right speaker(s). There is a slight detent feel when the control is centered and the signal is approximately equal on both sides. In a stereo system, the audio information sent to the right channel is often different than the left channel. When you set the balance to the extreme left or right, the radio will automatically switch out of the stereo mode and all of the information for both channels will be present in the speaker that is selected (Mono mode).

Fader: In order to allow adjusting the front/rear speakers without adding visible controls, your radio has a software control that is shared with the balance control. To access the fader, tune to an FM station and set the balance control for the best sound. After you've listened for a few seconds, tune rapidly to the top of the dial. The LED in the dial will begin to flash, and the last station you were listening to will start playing again. Use the balance control to adjust the front/rear fader. When you tune away from the top of the dial, the radio will resume normal operation, and the balance control will no longer affect the fader function. The fader settings are permanently stored (until you change them). Every time you turn on the radio, the fader values you last set will be re-loaded. If you intend to use only the front speakers, make sure that the fader is set fully to the front.

Setting push buttons - see Page 2

TROUBLESHOOTING

No Sound: Check for good fuse with proper rating. When the radio is turned on, the orange wire should have 12 volts present. Radio will mute when no station is received. Make sure antenna is plugged in if all 4 speakers are not connected, make sure the balance and/or facer controls are set for the speakers that are connected. If an option is plugged in make sure it's not on.

Blows Fuses: Make sure you're using a 10 AMP fuse. Make sure the battery polarity is not reversed. Check to see if the orange wre is shorted. Make sure no speaker wires are grounded or pinched under a seat

Weak or No Reception: Make sure the antenna is plugged in to the proper jack. Check continuity between the center pin of the antenna plug and the antenna mast. It should read 0 ohms (like a short) Next, check continuity between the center pin of the antenna plug and the car body. It should not read like an open circuit). If you're in a metal building, reception may be limited. Try it outside

Engine Noise: Usually caused by an un-grounded anterna shield. The base of the antenna must make good contact with the car body. This problem often shows up after a good paint job! Make sure the engine grounding straps are in place clean and tightly bonded to the frame. Try running a heavy ground wire from the ground lug on the radio directly to the firewall.

Low Volume: If you're using 8 ohm speakers, you can't get full power. Make sure speakers are properly installed. Make sure the fader control is properly adjusted

Distortion: Check to see if your speakers can handle at least 45 watts RMS. Small speakers that can only reproduce high frequency will distort on bass notes. Make sure that no speaker is grounded. Every speaker lead should measure about 2-1/2 volts to ground with the radio on and volume low. Resistance in the DC power input wiring can cause the amplifiers to "starve". If distortion seems to increase with volume, measure the voltage on the orange wire. If the voltage drops when the volume is raised, it is an indication of resistance between the battery and the radio usually at the fuse block, but sometimes in the ignition switch.

Radio shuts off after a few minutes: The radio has thermal protection built in to prevent damage from excessive heat. Possible causes are shorted or grounded speaker wires. See if any un-used wires can touch anything. Make sure the heater or defroster duct isn't blowing directly on the radio.

Connecting Options to your radio

Your radio has two RCA input jacks installed to allow accessories such as MP3, IPOD, CD players or satellite receivers to be added to your system. To install a CD changer. XM receiver, or other accessory, simply plug the audio outputs into the female RCA jacks provided on the rear of the radio. That's all there is to it! When the accessory is put into the "play" mode, or the XM receiver is turned on, the radio will switch off, and the RCA inputs will become active. The LED status indicator will be off while the radio is in the auxiliary input mode. The volume, tone, and balance controls will be functional in this mode, but the alternate fader control will not be accessible in the auxiliary input mode.

If the accessory is powered by the orange wire, when the radio is turned off with the radio on/off switch, the accessory will automatically turn off. Switching between the radio and the auxiliary input is accomplished by monitoring the inputs for activity. When the auxiliary input becomes active, it is switched on, and the radio is turned off. If no activity can be detected on the auxiliary input for at least 10 seconds, the radio is turned on again. In order to prevent unwanted switching, you should adjust the accessory audio level to match the level of the radio. Check the instruction manual for your specific option for information about setting the "line in" level. For example, the audio output level from most XM receivers can be adjusted from the XM controller via the options menu. Some CD players have hardware level controls that must be set with a screwdriver. If the switching logic detects long periods of inactivity and unintentionally switches back to the radio, you can tune the radio "off station" so that it will remain muted during these brief periods.

Specifications: 11.5 – 16.0 Volts DC Negative Ground Input only Maximum power = 180 watts RMS (45 watts x 4 speakers 4Ω , 14.4v, 1kHz) Sensitivity (FM S/N 30dB) typ 5dB μ , (AM S/N 20dB) typ 29 dB μ . 10 presets (5 AM, 5FM). Digitally tuned receiver with analog display. All mounting hardware included. Auxiliary inputs (RCA jacks). Standard (Motorola) antenna jack. ½" D shafts on controls for mounting (same size and thread as original shafts). Memory retention (presets and other user settings) more than 40 years with power disconnected. If it looks and feels like an antique automobile radio – It must be! Made in the USA!

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