

IN BOTH EARS

A Little More Traveling Music

To a car radio receiver, any signal on its antenna is welcome. This creates a problem. The trouble is that the antenna cannot differentiate between signals produced by AM and FM broadcasting stations and the electrical signals generated by the ignition system in your car, by the ignition systems in passing cars and trucks, by machinery in buildings, by advertising signs, and by your turn indicator signals. In the invisible world of electric waves there is no segregation.

The most notorious offender is the ignition system in your own car engine. And, to add violence to mayhem, the auto antenna is generally mounted — you guessed it — as close to this noisome nuisance as possible. So if you can, put your antenna at the rear if the engine is in the front, and vice versa. It does mean that you'll need a longer connecting cable between the antenna and the receiver and it'll be more troublesome installing this cable.

One of the advantages of having an AM/FM receiver instead of AM only is that if the noise is too aggravating on one broadcast band you can always shift to the other. FM is touted as containing noise reduction circuitry and that's quite true, but it isn't the whole story. AM stations broadcast a stronger signal and you'll be able to pick up AM over much longer distances than FM. So neither band, AM or FM, has a clear-cut noise victory over the other.

There's no point in being stoical about noise, and unlike death and taxes it doesn't always have to be with us. You can fight back.

Park your car and listen to the radio. If you get good reception on AM and FM, but the sound is accompanied by noise when you turn on the ignition switch, then the noise is due to your engine. If the sound is noise free until there is a passing truck or

car, then you are picking it up from other motorists and there isn't much you can do about that. Fortunately, most cars are equipped with various noise suppression devices, so you won't have much trouble here. Some trucks are rather bad offenders, though.

Spark plugs like nothing better than to act as miniature transmitting stations, with noise as the main source of entertainment. You can suppress this tendency by installing spark plugs with built-in noise resistor suppressors. Or, if you prefer, you can use resistor cables. Alternatively, you can try shielded ignition wiring. Spark plugs produce a noise all their own, a sort of popping effect that becomes faster and stronger as the car accelerates.

Another offender is the distributor. You can handle this by connecting a distributor suppressor to the center terminal. The noise suppressor isn't an exotic part and is just a resistor. Before you try it, check to make sure your car doesn't already have a noise suppressor built in, either in the distributor cap or in the ignition leads. Putting in more suppressors if you already have them will only reduce the operating performance of the car.

Newer cars have alternators; older ones have generators. Either can be noise producers. Both have rotating armatures with carbon or copper brushes designed to bring current in from the battery. These brushes tend to spark and generate electrical interference. Connect a bypass capacitor between the armature terminal and the car frame. Noise produced by the generator or alternator has a whining sound which changes pitch as you vary the speed of the car.

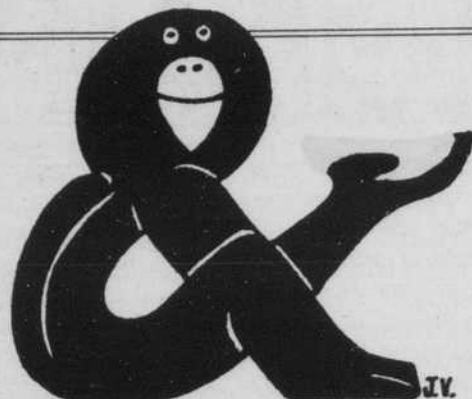
Ideally, the hood of the car should shield the antenna from the electrical noise produced by the ignition system, but it will only do that if the hood makes good metal-to-metal contact with the car frame. Since the interior of the hood is painted, the shielding effect can be quite poor since the hood and car frame do not make good electrical contact. A way around this is to connect the hood to the firewall by means of metal braid. Try metal braid on both sides near the firewall and allow enough slack so that the hood can open and close easily. When using the braid, scrape the connecting areas around the hood and firewall so that the braid makes good electrical contact with both.

There are a few other things you can do to improve radio reception. The newer cars come with a fixed length antenna. The telescoping type can usually extend to a greater length, permitting more signal pickup. Antennas are inexpensive and substituting one for another is no great job. You can also get an antenna that has a built-in signal amplifier in its base. This unit is actually a two-channel amplifier with one made for FM and the other for AM. Since it amplifies the signal at its source, that is, right at the antenna, it improves the signal-to-noise ratio. This doesn't mean that noise is eliminated, but the signals you want to hear are made so much stronger that the noise is masked and isn't noticeable.

If convenience is your thing, you can get a motorized antenna. The antenna hides in a well in your fender until you turn on the radio and then automatically raises itself to its full height. In other types this happens when you use the ignition key. Still others require a separate switch. The advantage of having an antenna that recesses is that it is more vandal-proof than the others.

Martin Clifford

This is the second of three columns on car stereo.



Ampersand of the Month

This month's winner of \$25.00 and our enduring admiration is Joseph J. Vissers, a sophomore majoring in Asian Studies at the University of Texas at Austin. He calls his creation "Monkey with Banana," and rightly so. And yes, we know that all three Ampersands of the Month have come from Texas, and no, we don't know why. They're just better at making crooked little squiggles.

Take one

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