www.wvara.org February 2012

The Heterodyne

Newsletter of the West Valley Amateur Radio Association

NEXT MONTHLY MEETING
Wednesday February 8

February 8 Meeting at 7pm

"Field Day Bainstorming" by Jim Peterson, K6EI

What was your biggest surprise at last year's Field Day?

What new cool thing did you learn during Field Day weekend?

What ways could we make this year's operation even more fun, even more welcoming to visitors, and less work?

Any cool technology that you'd like to suggest for inclusion this year?

We will share our favorite experiences from last June and brainstorm about ways to make this year's Field Day even better. Be there or be square!

Visitors are welcome.

Meeting Location:
American Red Cross
Silicon Valley Chapter
2731 N. First Street at Plumeria Drive
(southwest corner) in San Jose.

Map at http://www.wvara.org/meetings.html

WVARA Repeaters (W6PIY)			
Band	**Frequency**	**PL**	**Status**
6 Meters	52.580- MHz	151.4 Hz	Operating
2 Meters	147.39+ MHz	151.4 Hz	Operating
1.25 Meters	223.96- MHz	156.7 Hz	Operating
0.70 Meter	441.35+ MHz	88.5 Hz	Operating
0.23 Meter	1286.2- MHz	100 Hz	Operating

Club Net

WVARA's club net is on the W6PIY repeaters each Tuesday at 8:30 pm. All repeaters are linked together during the net. The net script can be found at www.wvara.org/net.html .

2-Meter Repeater Back In Service

Due to a few of our members going above and beyond the call of duty, the two-meter repeater is back in service again.

The duplexer was picked up around 3 p.m. and was reinstalled around 9 p.m. on Feb 6, and as of this morning, things appear to be back to normal.

Thank you Chuck AD6CL, Svend KF6EMB, and Kevin KK6VF!

Dave WB6KHP
Director, WVARA

Installing a Real Radio in a Mazda Miata - by Bill Frantz, AE6JV

My wife Peri (KI6SLX) and I had been discussing how to install an amateur radio in our Mazda Miata. We agreed that it should not take up any of the already minimal storage available in the cockpit or trunk. We also wanted it to look like it belonged in the car and wasn't just an add-on. We had looked at possible radios, and so had some handle on what the project would cost.

One morning she asked me, "When are you going to put that radio in the Miata?" Before the echo of these words could die away, we were down at Ham Radio Outlet where Jon (K6WV) smiled and sold us a Yaseu FTM-10R motorcycle radio, a Larson NMO-TLP low profile trunk mount, and a Diamond SBB-5NMO 2 meter/70 centimeter antenna. The brains of the radio would be installed in the trunk, in front of the spare tire in what is otherwise unusable space. The control head would replace the stock entertainment radio, the car speakers would be connected to the FTM-10, and a audio jack near the control head would allow an iPod to replace the cassette tape player. At least that was the plan.

After getting all the pieces home, the first job was building a new mounting panel to replace the stock radio. It turns out the FTM-10R has buttons on top of the control head as well as the front. Some of these are frequently used buttons, like the power on/off button for example, so they have to be easily accessible. As a result, the control head needs to stick out a little.

Another early discovery was finding that the microphone cord was too short to use the connector in the main unit. A trip back to HRO resulted in a control-head-mounted microphone connector for the FTM-10R. The original panel design put the microphone connector in the middle, where it seriously interfered with using the car's gear shift lever. Flipping the panel over moved the connector to the far right, where it is only an annoyance while shifting.

The separation cable was the next issue. It very nicely connects to the control head through a waterproof connection. However, there is no way to separate the control head from the separation cable short of the system unit. I can just see the annoyance on the face of my mechanic when he needs to remove the radio. In an aha moment, I noticed the connection to the system unit was a RJ-45 style connector. I could use the short cable that came with the radio, and just build an extension cord. A jack box from Jameco Electronics, some CAT-5 cable, and a plug did the deed.

The audio connections were straight forward. Radio Shack audio cables ran to the trunk and and extra jack and plug permitted easy removal of the radio by the mechanic. A major kludge connected the car speakers with their jack in the front. There was one problem. The stereo wasn't right. A session of debugging revealed the jacket for the plugs going into the system unit were too large, and the plugs weren't seating properly. Carving them down with a pocket knife fixed the problem.

Every thing was working well except AM broadcast reception. We weren't getting any. Now Peri's immediate response to a backup in traffic is to switch to KCBS and she was frustrated. Substituting a wire, or even just touching the center of the NMO mount demonstrated that the problem was with the antenna. The FTM-10R manual says, "NOTE: An antenna designed with a matching device that forms a low DC resistance to ground may have poor reception on the AM

broadcast band." The SBB-5NMO antenna seemed to pass this test, but no AM.

So I spent considerable time diving down a rat hole. I built a diplexer to allow a separate AM antenna, but I couldn't find any "invisible" place to put an AM antenna which would actually receive KCBS. I finally returned to HRO and started testing antennas. After going through 5 or 6 different antennas, we found that a Larson NMO-2/70 SH antenna would receive AM and work on all the rest of the bands. In addition, it is quite small and doesn't overwhelm the car. We had a working installation.

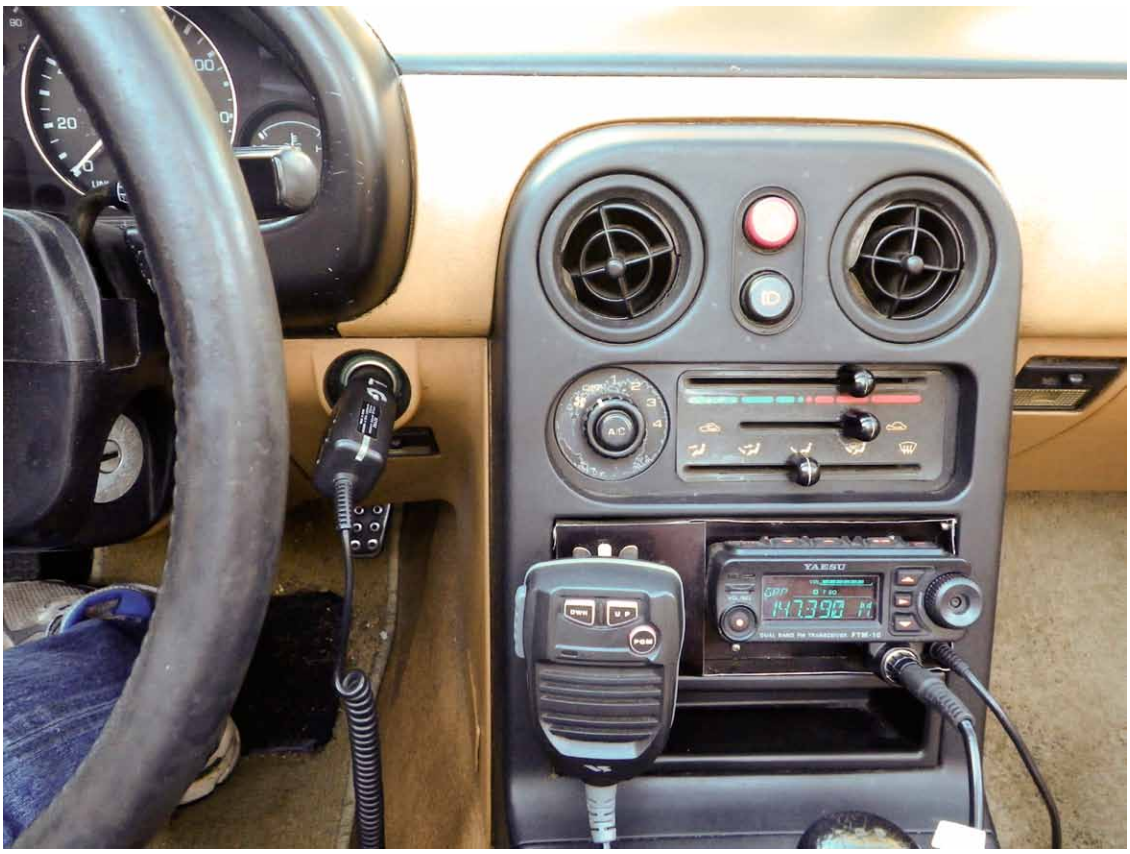
If I was a professional, the story would end here. However, as an amateur, there are always improvements to make and these projects never actually finish. There are still a few little annoyances, many stemming from the design of the radio's user interface.

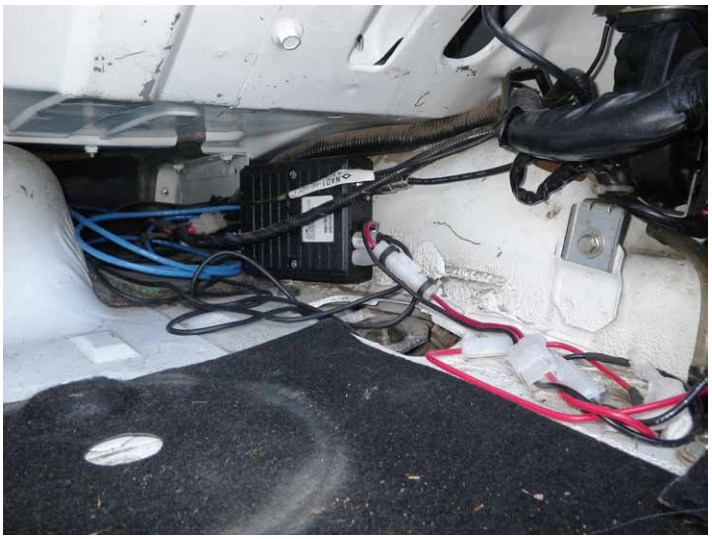
Unlike the stock radio, the FTM-10R won't display the time of day unless it is on. It also won't let you change the volume with the time displayed, an annoyance. So adding a separate clock is on the project list.

The microphone plug still bumps the hand when shifting into fifth gear. A right angle plug, or an extension cord running back to the system unit would cure this issue.

There is some noise induced in the audio when an iPod is charging from the cigarette lighter socket and playing at the same time. Eliminating the noise is another project on the list.

The radio is also offers a remarkable level of driver distraction. The display is hard to see in daylight. Polarizing sunglasses make it even harder. It is hard to change frequencies without looking at the display, as the one control knob serves at least three functions, and it takes a glance or sometimes even a stare to find out which mode it is currently in.





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The Heterodyne is published monthly by the West Valley Amateur Radio Association and sent to all club members via the web.

See You At The Meeting!