

Ham Radio on a Motorcycle – Getting Started John, N6JCB

So – You have a motorcycle and/or Ham License – and you're thinking about putting the two together. Or you have neither – but the idea sounds interesting. But how to do that? I'll throw out some ideas and thoughts and solutions to think about and maybe get you started. Then, hit the MARC listserv and find out what others have done – or how you can implement your ideas.

First the motorcycle – What do you have? Does it matter? Not really! We've had members on about everything you can imagine – from full dressers all the way down to scooters. With Sport bikes, cruisers and about everything in between? Brand? Who cares – We've had Honda, BMW, Harley Davidson, Yamaha and so on. Of course, the bike will have a lot to do with what and how you can install a radio, but they're all doable.

How about the radio – Mobile? Handheld? VHF/UHF Only? HF? No problem – it's been done!

As a bare minimum starting point – many of us have started with nothing more than a basic setup - hang a handheld (HT) on the handlebar. Then, you can run in-ear headphones up under your helmet and hang the hand mic somewhere handy. With this you can hear what's going on. If you're called, you pull the bike over and grab the mic and you're on the air. Bare minimum setup, but it works.

The next good step would be to improve range by adding an antenna somewhere. This usually means some sort of custom mount to a solid point somewhere - the frame etc. Then run a cable up to the radio. Often, it's best to also run a ground cable from the mount to the frame somewhere to give you better propagation, but also depends on the antenna you choose. Some do fine without a solid ground plane, but most will do better with one. Then, if you use BNC connectors and adapters - it's easy to pull the radio off and swap antennas to your HT antenna for walking around.

Another step up would be to put a true headset in your helmet – if you don't already have one. There are many resources out there for headset options. If your HT has Bluetooth built in (e.g. Yaesu FT3DR) – you may even be able to get a headset that will talk to the radio directly. We've found that some of the Yaesu and ICOM mobile radios will do that – but it is a bit hit and miss. Depends on both the headset and the radio. There are also wired options available. Sena has an adapter (SR-10 - <https://www.sena.com/product/sr10-sr10i/faq>) that connects to radios and allows you to connect to their Bluetooth headsets. Pryme also has some Bluetooth adapters that plug into HT's and you can use almost any Bluetooth headset (they say.) https://www.pryme.com/index.php?l=product_list&c=166
Again, it's been done (even indirectly to hearing aids....:-)

For the next big step up – a full-on Mobile radio. This gives you much more power. Needless to say, there are many out there, but the ideal is one with a removable control head. It's not practical in most cases to mount a full mobile radio anywhere within reach. But mounting the body somewhere out of sight and the control head up front – handlebars, fairing etc. – now you've got a pretty good setup.

You'll need power to the radio, direct from the battery is preferred. And a few folks have needed a filter to take out some existing hum. You'll need to run a control cable from the body to the head. And an antenna to the body. Then, get audio (speakers and microphone) to your helmet.

If you already have an intercom system on your bike, then take a look at how you can connect to what you already have. There is at least one source that builds electronics for connecting a ham radio to an existing intercom system (<http://www.cellset.com>). But other helmet systems can be found to connect to the radio with either wires or wireless. (J&M, Sena and others.) This just takes research as to the best option and starts to add \$\$ to the project - but, again, doable.

The mic is a tricky part. You can just use the hand mic, but, hopefully, only when the bike is stopped. The folks at Cellset (above) have that worked out for existing intercom systems. But even if you have an existing system – many folks install a separate set of speakers and mic in their helmet just for the ham

radio. The latter is simpler but requires more “stuff” – and many have gone down this road. Others have used the integrated concept. Both work well. Again, the mic can be tricky, but doable. For a mobile radio maybe the biggest challenge is the PTT. Over the years Yaesu has used various combinations of resistors to install an external PTT. Other brands are simpler. And mounting the PTT has its own challenges. MARC actually has a few mounts for Goldwings and possibly a few others. But there are many ways to mount a PTT – it’s just a matter of figuring out which works best. And you’ll need to identify the appropriate wiring to get this done.

I’ve briefly taken you from simple to fully integrated solutions for adding a ham radio to a motorcycle. Obviously, there are many variables depending on your desires, your radio and your bike. Regardless – it’s doable – and probably already been done by someone in MARC. So, take the leap and ask questions. MARC is here to help.

73’s and keep the shiny side up and rubber side down.
John, N6JCB