I have been using MotoChello products and currently have a MC-200 system I use with my 2002 R1150GSA. My objective is to move the MC-200 to my new R1200RTW and take advantage of the RTW's satellite radio, RTW speakers and GPS/Nav interface.

A group I ride with uses CBs (yes, I agree, not my first choice either). I would prefer the CB output not to be directly in my ears through the headset. Based on numerous threads in the BMW Luxury Touring Community, the information on where and how to tap into the RTW's audio output and GPS/Nav connectors is generally documented. In probing around the RTW it became apparent that it would be easy to tap into the GPS/Nav interface for the transceiver output or use the Aux port through the cable in the right glove box. The transceivers microphone and PTT inputs would come from the MC-200 system.

To avoid ground, polarity and potential warranty issues both the speakers and GPS/Nav are connected through1:1 audio isolation transformers and Posi-Taps. If the Posi-Taps and devices are removed, the RTW will default back to its stock condition with no physically altered wires or connectors.

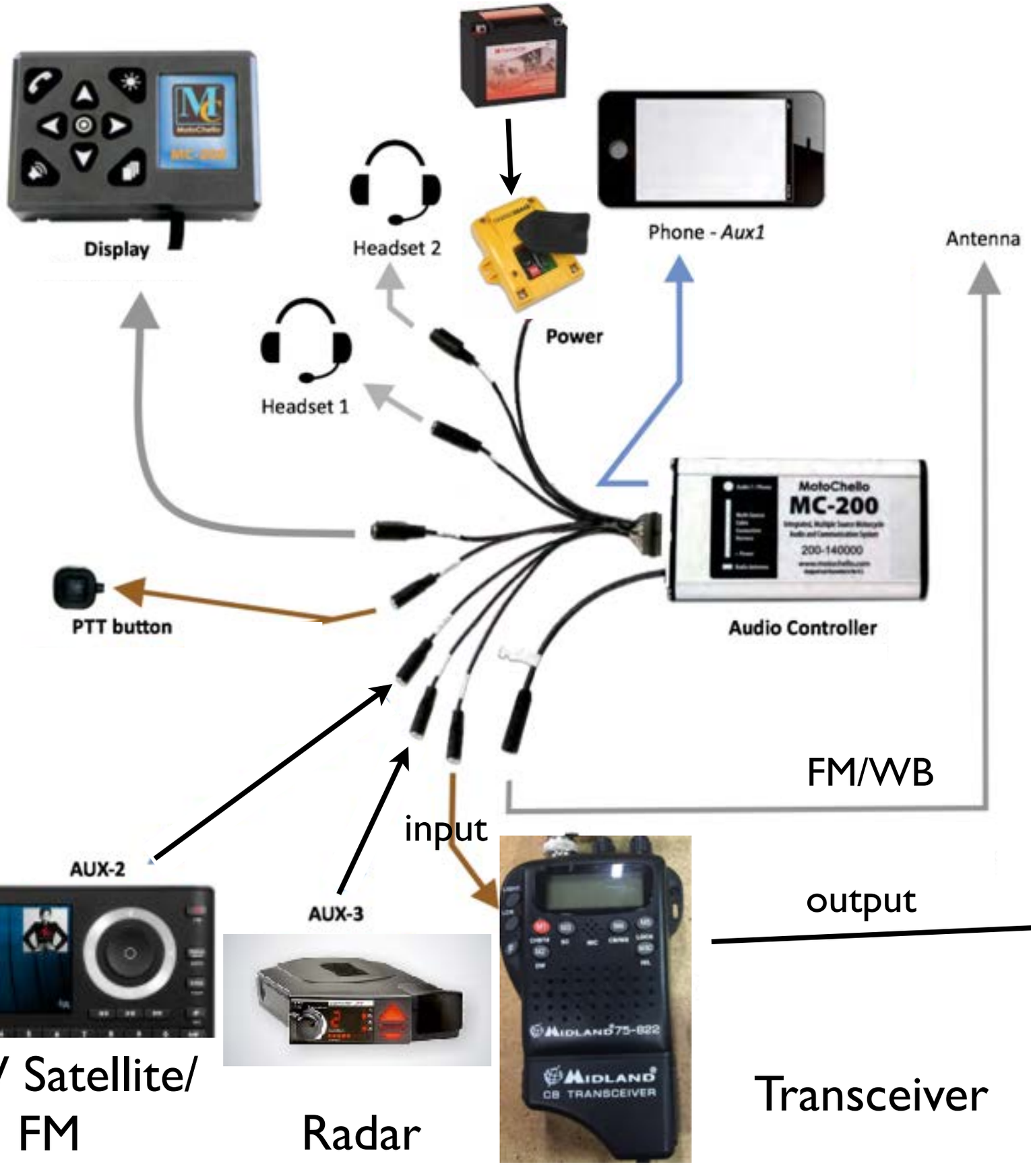
I have chosen not to use a switch to disable the RTW speakers when the RTW audio source is directed to the MC-200 and the headset for 2 reasons. 1, to not cut any wires and potentially cause warranty related issues and 2, the level to the MC-200 Aux2 port will be low and generally not audible at the RTW speakers under typical riding conditions.

For the MC-200 FM/WB feature I ran a 3' piece of 3.5mm audio cable for the antenna (one is provided that is small enough to fit inside the antenna connector). I use the MC-200's internal radio set to the regions weather band.

I had been using the Valentine One audio add-on unit. After a bit of researching on the web, I removed the add-on unit and tapped into the audio on the RJ cable (4-wires). This removed one wire from the MC-200 to the bars/radar and cleaned up a bit of noise from the radar add-on unit. The pin to the outside of the ground pin carries the audio and the pin to the outside of the power pin carries a digital signal. Identify the power and ground using the cigarette adaptor. CAUTION - not all RJ cable are not create equal!

This installation is not final. I plan on refinements that will generally evolve from this base. Following are the details of the current installation.

2014 R1200RTW interfacing with MotoChello MC-200



RTW Speakers

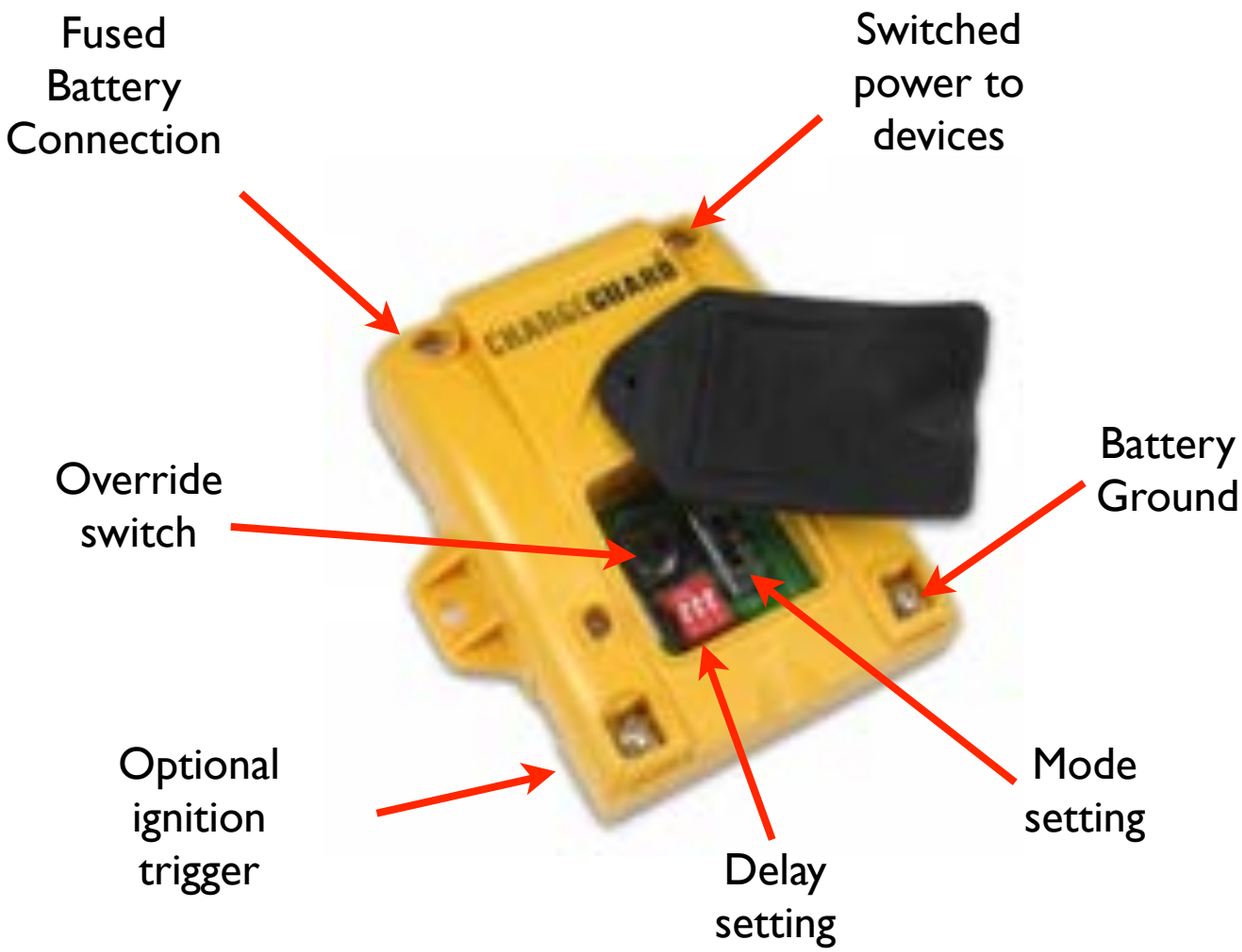
Device Locations

All devices are mounted with RAM components. The RTW is new and therefore limited RAM mounts are available. I used RAM's Brake/ Clutch Clamp mount over the existing brake/clutch mounts. On the left with 1 ball for the MC-200 Display and on the right with 2 balls for the iPhone and Radar. The radar is extended out for both front and rear detection. In the center I have the Transceiver on a suction mount - only used occasionally.

Power

With help from the BMW Luxury Touring Community I was able to find a simple device that solved my desire to not have my devices power cycle twice when starting the RTW. The ChargeGuard is doing the job...

I am using DC mode which monitors the RTW for the alternator to kick-in at which time it will turn on the power thereby avoiding powering on the devices with the key in the ON position. There is an option to monitor an ignition source, like the headlight low beam on the RTW (powers on only after engine is running) and trigger the power to the devices - an alternative if needed. I set the power off delay to 5 seconds (there are 8 possible settings). Bought for $23 on eBay (new ~$90+)



When using something like a Battery-Tender, the ChargeGuard in DC mode might trigger. Therefore I added a simple on/off SPST switch between the battery and the ChargeGuard. When I use a Battery-Tender, I switch the system off, otherwise it is on...

MC-200 Location and Wire Routing

After an attempt at a homemade tank bag location and an attempt at a installation into the left glove box, the final location is under the drivers seat. The driver seat offered the best location for all the devices and wire routing (keeping the transceiver associated wires from the others). The wires are run down the top of the tank on each side of the filler cap.

RTW Left side wires
MC-200 Aux1-3 & Display

under lip

RTW Right side wires
MC-200 RF-IF, & PTT
Radar power*

under lip

Exiting at the top
of the tank

Under Drivers seat
it all fits!

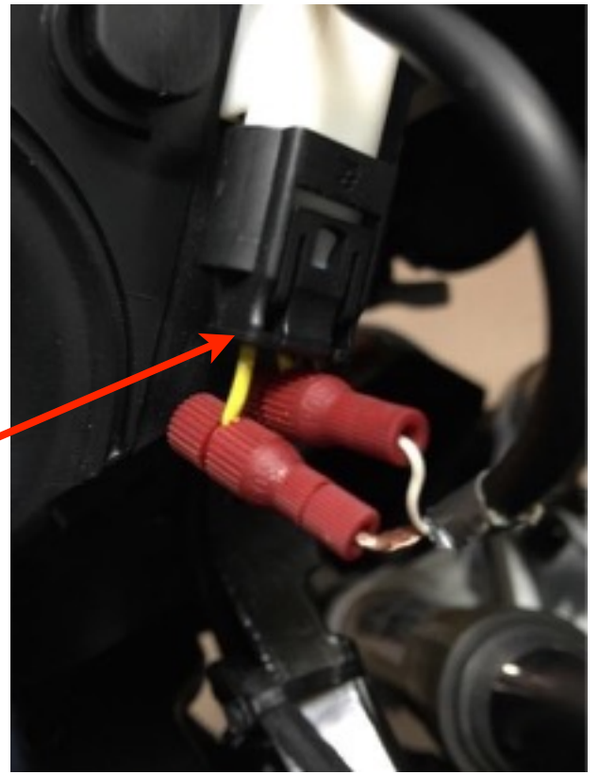
* Next time I have the plastic off, I will route the radar line on the left side

Tapping RTW speakers

RTW Left Speaker

connector

RTW Right Speaker



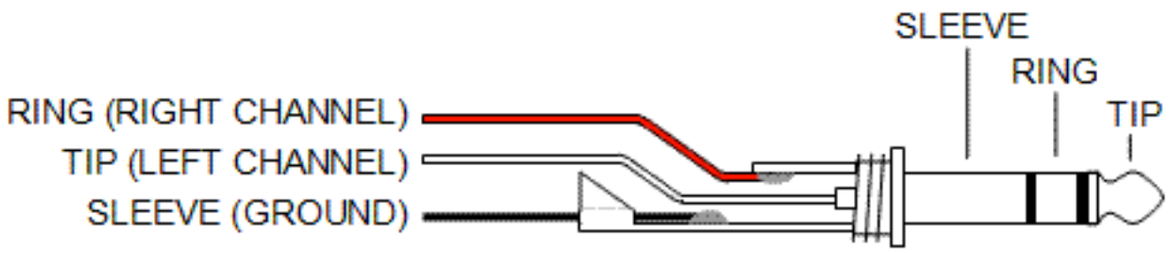
Posi-Tap source side

I used Posi-Taps for all the connections. Here is a source where you can purchase just those you need.
http://www.lonestarswitches.com/Posi-Products-Connectors_c2.htm
The wire color codes below hold true to the tapped side of the connector shown above. I Posi-Tapped on the source side of the speaker connectors. More on how the cables are wired next…

Color codes for the wires coming out of the Alpine unit:
Left spkr + =yellow w/ red stripe. Connect to black wire of audio cable
Left spkr - = yellow w/ brown stripe. Connect to white gnd of audio cable
Right spkr + =blue w/ red stripe. Connect to red wire of audio cable
Right spkr - = blue w/ brown stripe. Connect to white gnd of audio cable

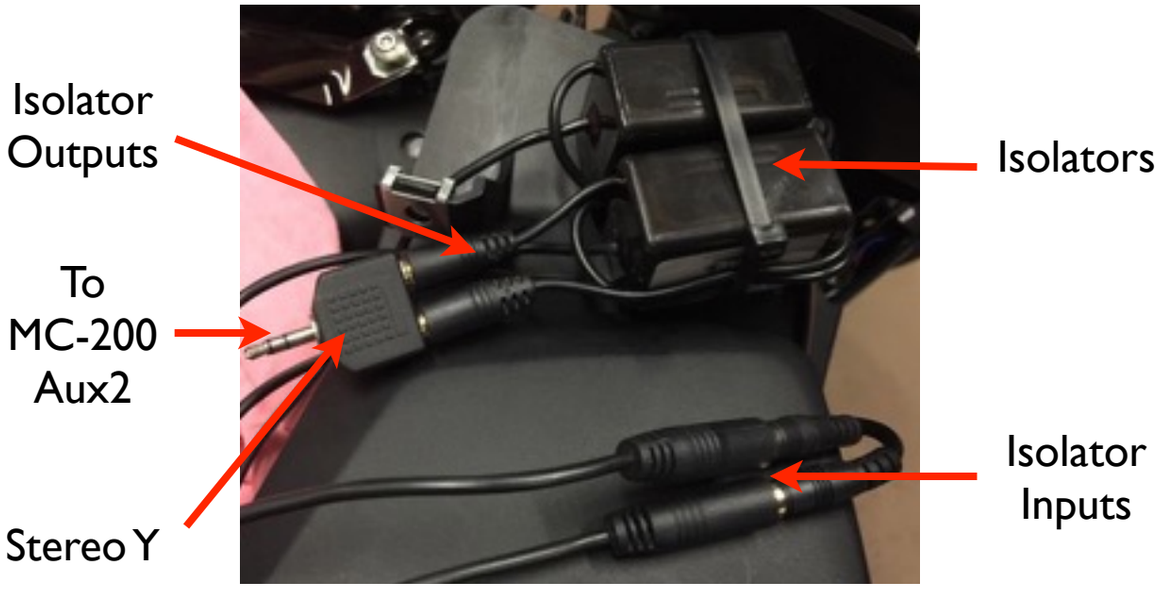
RTW Speaker Audio Isolators

PAC SNI-1/3.5 3.5-mm Ground Loop Noise Isolator
Amazon ~$12, used 2. These are stereo with a common ground therefore one was used per line...



I used a 3.5mm male to male audio cable cut such that both male ends would reach the right glove box.

The left cable was Posi-Tapped with no connection to the Ring. The right cable was Posi-Tapped with no connection to the Tip. Therefore, independent of which isolator input (3.5mm female) is used, left is left and right is right (plus this leaves the other channel of the isolator available for use if it becomes necessary). The output of the isolators (3.5 male) are joined at a stereo Y. The output of the stereo Y (3.5mm male) connects to the MC-200 Aux2 input (3.5mm female) via a 3.5mm extension cable (male and female ends).



All stuffed into the right glove box small hole on the fork side of the box for cables.

RTW GPS/Nav Tap and Audio Isolators

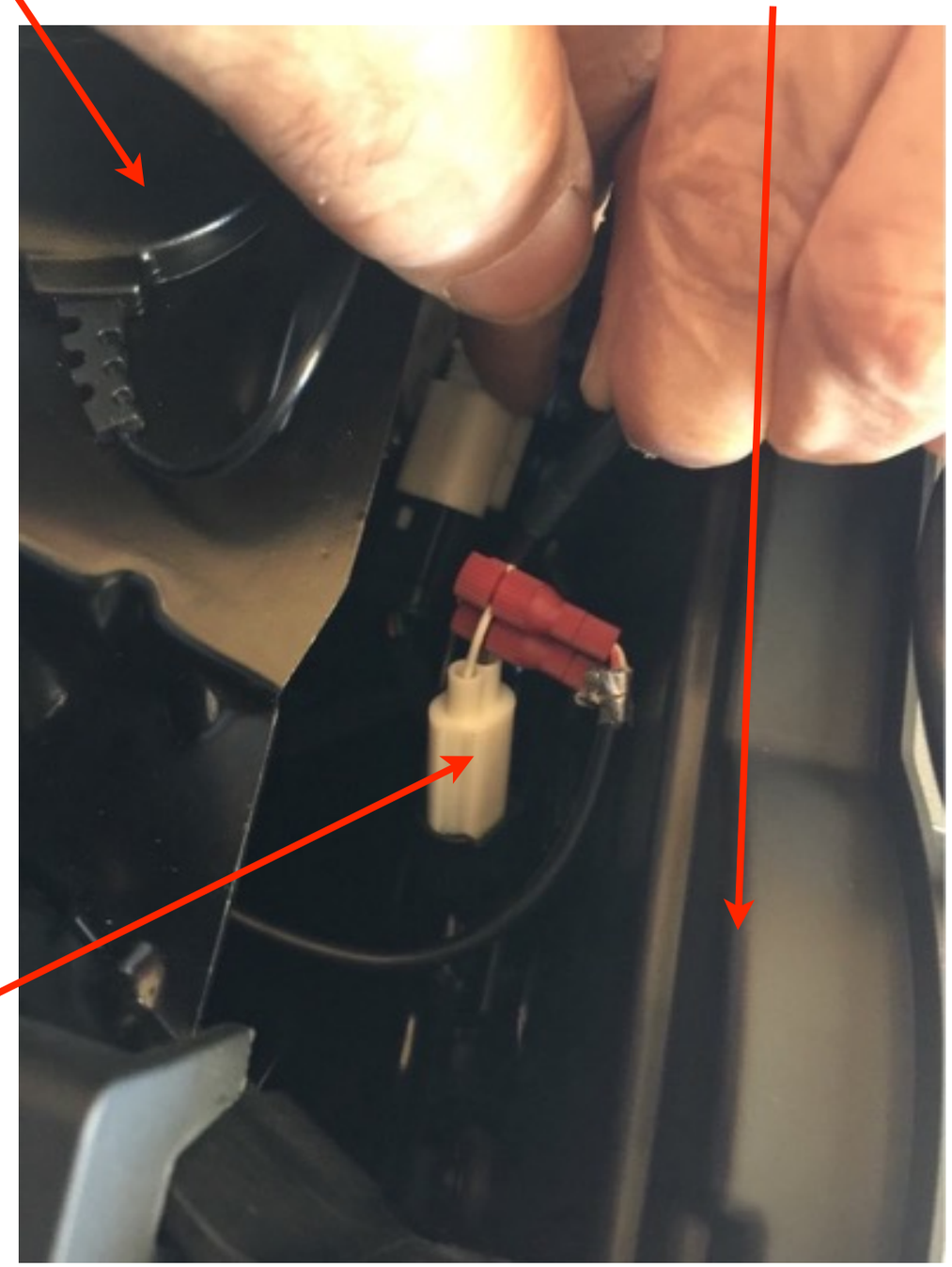
I use navigation on my iPhone and therefore do not foresee using a GPS/Nav unit.

The GPS/Nav interface is located behind the instrument cluster. Access is via the instrument cluster cover below the windscreen.

I used a 3.5mm stereo extension cable cut such that a female end would reach the left glove box.

The GPS/Nav input is mono therefore, the audio cable was Posi-Tapped with the Ring and Tip together and routed to the left glove box where it is connected to the output (3.5mm male) of the audio isolator. The input of the isolator (3.5mm male) is routed back out the side of the left glove box to the tank area for connection to the Transceiver mono output (3.5 female) which is covered in detail later.

PAC SNI-1, used 1

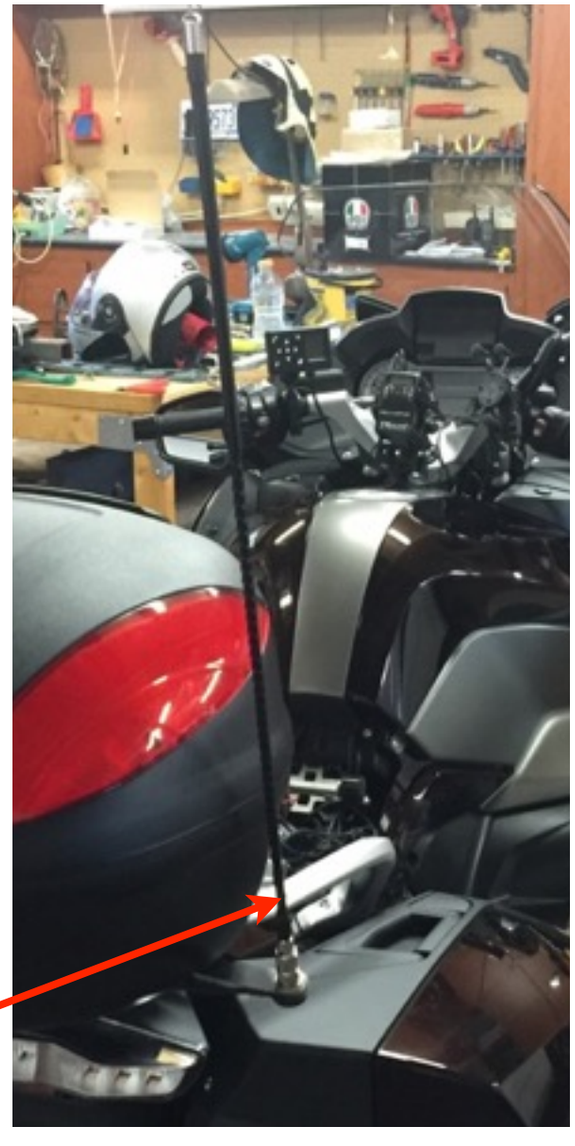


Transceiver and Antenna

I removed the bulky antenna/power connector at the bottom and replaced it with a power-lite connector (I removed the old and attached the new directly at the circuit board) . I made a 90-degree connector to the top antenna port for better routing over the bars, down through the forks to the right side of the RTW, over the cooling, along the tank groove then along the frame to the right rear external antenna.

I clean us the antenna with a 90 BNC to BNC and a BNC to PL-259

tank groove



tunable antenna

Transceiver Audio

If I am using anything other than a CB transceiver, I connect directly to the MC-200. To avoid the squelch related issues of CBs, I would rather the output be directed away from my my headset The RTW offered the ability to use the GPS/Nav interface (or Aux port) and faring speakers. I fabricated a 2.5mm mono male to 3.5mm female stereo cable to interface to the RF-IF port on the MC-200 (Mic and PTT). A standard 3.5mm stereo male to male cable can be used to connect the Transceiver output to the isolated GPS/Nav interface (or Aux). When using this feature, I set the Aux2 port on the MC-200 to off.

2.5mm to 3.5mm wiring

2.5mm mono on left in picture		3.5mm stereo on right in picture
		Tip (Speaker output)
Tip	———	Ring (mic input)
Sleeve	———	Sleeve (ground)

I clean us the antenna with a 90 BNC to BNC and a BNC to PL-259

If i want the RTW FM/ Satellite source going to the headset with the CB transceiver in use, I could connect the CB output to the RTW Aux port.
Typically, I leave the the CB connected to the GPS/Nav interface. As the system is setup now, the CB output to the RTW Aux port will only feed the left channel. I plan on making a cable the ties the 2.5mm tip to both the 3.5mm tip and ring (sleeve to sleeve) for both right and left channels.

The PPT location is behind/below the cruse switch and above the high bean switch next to the wheel.

As a future project I might replace the PTT switch with something smaller mounted in the space on top of the left switch housing…or…