

G4APL 2Metre FT8800 Mobile Radio Watson WM-S-FT Upgrade To Interface with RPF Bluetooth System.

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Background

As detailed in the previous article G4APL [2Metre FT8800 Mobile Radio Upgrade Experience](#) Paul was not happy with the poor low audio reports he was getting.

It was time to upgrade and Paul decided that the RPF Communications TALKSAFE Bluetooth system was the answer, and that he could interface the WATSON WM-S-FT remote control to work with the system.

This could use the current remote control of the FT8800 head unit and be modified to produce the External PTT function.

Please note; If you modify your own equipment. You do it at your own risk. Paul G4APL cannot be held responsible for your actions if you follow this article.

The units purchased from [RPF Communications http://www.rpf-comms.com/](http://www.rpf-comms.com/)
1 of TALKSAFE Model TS-062-801
1 of TALKSAFE Microphone Splitter Model TMS-YMS for YAESU Modular plugs

Paul will use the PLANTRONICS Voyager 510 Bluetooth headset.

Objectives

Hands free system to operate the FT8800 Mobile from the car based on Bluetooth.

The Watson WM-S-FT remote control unit mounted on the gear column as this was a natural position.

PTT (Press To Talk) External Override over the Bluetooth headset control.

To be able to connect in a fist microphone that would be use by the passenger and override the Bluetooth headset.

Use the Bluetooth headset to control Transmit and Receive.

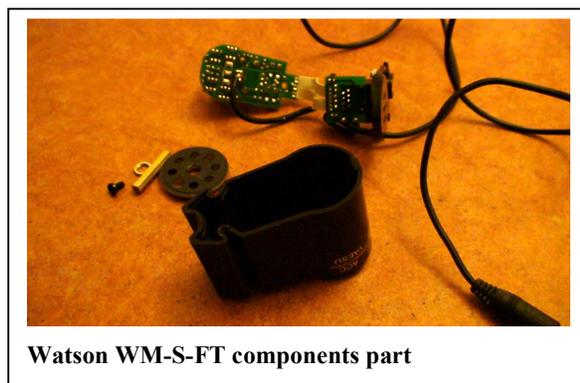
To be able to select Audio via Speaker or via Bluetooth.

Modifications to WM-S-FT

Note: You do the following at your own risk

We need to isolate the PTT switch and disconnect the unwanted microphone cable. We will use this cable for the TALKSAFE External Remote PTT.

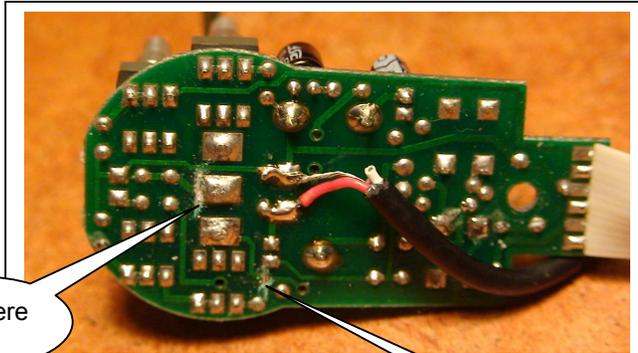
First take apart the unit into is component modules.



Watson WM-S-FT components part

Next step is to cut the two tracks to isolate the PTT (Press To Talk) switch change over. We do not want this remote unit to operate as a normal Microphone. We have disconnected this as it did not produce enough audio.

This switch will be used as the External PTT Bluetooth changeover. In place of the Bluetooth Headset call button change over.



Cut here

Cut the Two Tracks

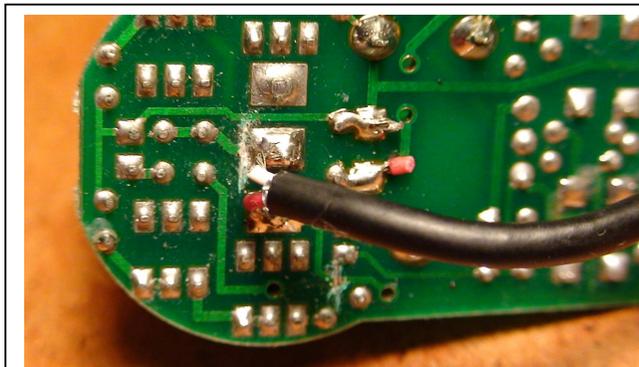
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Next Step is to Cut the Microphone Cable and solder it to the PTT Switch connections solder pads.

Remove the 3.5mm Inline connector connected at the other end of this cable and replace with a 2.5mm plug.

This will connect to the TALKSAFE Microphone Splitter Model TMS-YMS External PTT Socket.

Re-assemble the Watson WM-S-FT remote control unit.



Re-solder Cable to PTT solder Pads

Connect the modified WM-s-FT to the FT8800. Change the Microphone settings from MH-48 to MH-42

Test that the up, down, scanning, power level, Switch bands controls still work. All worked correctly as expected.

Now connect up the TALKSAFE Bluetooth System

Connect the WM-S-FT RJ45 cable and the other end RJ11 cable to the TALKSAFE Microphone Splitter Microphone socket

Connect the WM-S-FT New External PTT lead to the TALKSAFE Microphone Splitter External PTT Socket.



Top Right FT8800 Mic Splitter, Talksafe Unit WM-S-FT, Headset

Connect the TALKSAFE Microphone Splitter Microphone lead to the FT8800 Microphone socket.

Now the Main TALKSAFE unit.

Connect the Speaker lead to the External FT8800 audio socket and the other lead to an external Speaker.

Connect the Power to the Main TALKSAFE unit
Pair up the headset to the TALKSAFE unit.
Test the External PTT
Call Button PTT

Remote controls. Only one issued encountered so far.

Is that the UP button causes the transmitter to TX instead of moving the frequency up one channel and scanning.

The Down button works correctly, Steps down or scans down the frequencies (Channels)..
The Main TALKSAFE unit stay's in receive.

A this stage do not know if there is something in the TALKSAFE Microphone Splitter, will not function with the MH-42 (WM-S-FT emulated Microphone).

So nearly 100 percent. Can overcome the above limitation by scanning down the memory channels and round to the top channel in memory.

Up Down button works correctly if the MH-48 microphone is connected to the TALKSAFE Microphone Splitter.

Does not work if configure as MH-42. All other controls behave correctly

Initial testing on the bench all looks good. Next step is to test it from the car before wiring it in permanently

Hope the above has been of interest

Paul G4APL

