

G4APL 2Metre FT8800 Mobile Radio Watson WM-S-FT Upgrade Experience.

Updated 30 January 2008

Background

Paul G4APL has had an Amateur Radio Transmitter, Receiver (Transceiver) in a Car when travelling since the early days of his transmitting Licence.

In the Early 1970's installed in his father's car when on long family journeys, or travelling to or from Amateur Radio Rally's. A Heathkit HW17A (valve transmitter and semiconductor solid state receiver) radio was used with G Whip 2metre aerial. That looked just like a standard broadcast radio aerial. This was also used with a Halo aerial.

In January 1973 Paul had purchased Belcom Liner2 2metre SSB transceiver and this was used with a Magnetic Mounted 5/8 wave 2metre aerial. Mounted on the roof of the car. A lot of excellent car to car SSB (Single Side Band) contacts were had over the next few years as well as /portable working with the Liner2 and 4 element 2metre yagi beam on top of a 20 foot yagi beam portable mast..

This was replaced with a second hand Yaesu FT290R with mutec front-end. The aerial was replaced with a 1/2 wave 2metre aerial mounted on the car and was in use for over twenty years until August 2007.

The Upgrade

August 2007 Paul decided it was time to upgrade to some modern equipment as problems were starting to crop up with the mobile equipment after all these years..

Paul attended the South Dorset Mobile Radio rally. Succumbed and purchased a new Yaesu FT8800 and as it was to be installed in the car. Also got a Yaesu 8900 separation kit.

It was also time to replace the current 1/2 wave 2Metre aerial, that appeared to have gone open circuit after all these years of service.

Paul looked for the most rugged dual band 2Metre, 70CM's mobile aerial that was just under 1 metre in length. So that we could enter these multi story car parks without hitting the lights and the roof of each car park level.

Paul also purchase a Diamond SG9600 2M, 70CM and 6M aerial as would also renew the aerial feeder in the car.

The Bad Experience

Paul also Purchased a MyDel MLS-8900 (Watson WM-S-FT) hands Free Mobile Microphone from a West London dealer. The original mobile microphone that was used in the car with the FT290R, was found to be incompatible with the multi switch function of the FT 8800.

Installing the FT8800 and the YSK 8900 equipment in the car.
Adjusted the FT8800 Mic setting to MH-42 to be compatible with the Mobile Microphone.
One would have thought that purchasing 'compatible' accessories that it would all work out of the box.

These are turning out to be the worse Amateur Radio equipment that Paul has purchase in the past thirty years. Read on to find out why.

Using the Watson WM-S-FT remote goose neck microphone. The Audio reports were very poor. Reports of LOW DEVIATION. Other stations having to have their Volume controls on full to just about to hear Paul.

The Diamond Super Gainer SG9600 aerial was excellent on receive for both 2metres and 70cms.

Paul was still getting VERY POOR "I CAN NOT HEAR YOU" Signal reports back. "Your Audio is very Low".

Despite the microphone gain on the WM-S-FT being adjusted to maximum made no difference. So using the F1st Mic MH-48 directly connected and the mobile microphone we end up with the same report. DUFF AUDIO. low deviation with the Deviation set to NARROW.

There appears to be NO WAY of adjusting the audio on the FT8800. At least on Paul's HF Kenwood Transceivers the audio levels can be adjusted. But not on the FT8800's.

After about 700KM driving along motorways the Diamond SG9600 broke in the middle of the plastic matching section.

On investigation, it would appear that the two halves of the plastic section containing the matching circuitry, was being held together by a capacitor across the matching coil soldered to contacts on both halves.



SG9600 point of failure

There was only sign of one drop of glue to hold the two parts together. What a waste of 60 Pounds Sterling.

Paul wrote to the Dealer that the equipment was purchase from, showing photographs of the aerial in situ on the car.

In the meantime Paul constructed an emergency 2 Metre ¼ wave aerial made up of a PL259 plug and 19 1/2 inches of coat hanger wire. This is now installed on the car.

Paul found an Email Contact for the Diamond Antenna Corporation in Japan, and sent an email explain the above experience on the 23 September 2007 and Got a helpful reply. Suggesting Paul contact their UK Dealer

Note: This aerial was replaced by another new one from the dealer in December 2007.

Further investigations into the Audio Problem

Between September to December 2007 further investigation were carried out with the car installation. The cable WYL-6M Yeasu RJ-11 between the MyDel MLS-8900 (Watson WM-S-FT) connection the remote switch unit to the FT8800 head unit was replaced. In case there was a problem with the original cable.

Tests were carried out using a handheld tuned to 2 metres while the audio levels were checked out, With the FT8800 set to Narrow deviation.

Received signals were improved by about 6db on those stations that were using narrow deviation. Though the Transmit Deviation was VERY LOW, hence why I was still getting reports of nice carrier no audio or very very low audio. This is still using the MyDel MLS-8900 (Watson WM-S-FT) goose neck microphone with the microphone gain set to maximum.

Further Google searches on the Internet located the hidden set-up instructions on how to increase the System base level deviation to maximum.

Before Paul made any change. The current default settings were documented.

This made a slight improvement, though the deviation was still too low in NARROW deviation mode. Setting the Deviation to WIDE gave a increase in the Transmitted audio. Took Paul 45 minutes to reprogram the memory containing all the 2metre 12.5Khz channels to use the WIDE deviation.

Tests were carried out with a remote station displaying the deviation on a Oscilloscope. If Paul shouting into the Goose Neck Microphone, could reach 3.5KHz deviation in WIDE deviation mode.

Not very good with the Remote controller microphone 'amplifier' and deviation set to maximum
So it would appear at this time that the WM-S-FT compatibility only refers to the cabling and not the electronics. So far have not been able to locate a circuit diagram or taken the Remote control unit apart.

In December further searches on the Internet were carried out to see if anyone else was experiencing the same problem. As Paul did not get much feedback on this exact problem via Amateur Packet Radio Bulletins. Though did get some useful feedback on accessing the set-up menu
The following feedback from found on the Internet. (December 2007)

Mon Dec 18, 2006 2:12 pm

Would appreciate recommendations for a hands free kit for ft7800. I have bought a kit when I purchased the rig but the audio out is very low even with the gain on the hands free turned right up.

Have checked the settings on the rig and all seems correct

it operates fine with the original fist mike , I suspect that the h/f kit is not up to snuff... got the run-around at the shop but they have said they will refund if i want... recommendations would be appreciated on kit others have used successfully
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Re: hands free kit

wrote:

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> Would appreciate recommendations for a hands free kit for ft7800
> I have bought a kit when I purchased the rig but the audio out is very
> low even with the gain on the hands free turned right up.

>

Fri Dec 29, 2006 8:40 pm

There are 4 units in the UK market place

1st is the MLS8900/Watson/mfj all identical noise cancelling cheap Chinese mikes.

They are quiet on the 7800 unless you have the mike almost next to your mouth.

I use on on the FT-857 and it is ok and people have got used to my lower audio. On the odd occasion I use the hand mike they tell me to stop shouting.

2nd is the Adonis Hands FX-10 but you will need to make up your own lead or buy the MEK-2 Lots of gain but too much road noise for me

3rd is the Linear amp uk Hands free kit works well looks like you made it as a weekend project.

Lastly the best is the Adonis HX7100 but at £100 is too rich for most people.

They are all on the web at various retailers so have a look.

The Mike audio can be increased on the FT-7800 (Dealer adjustment really) but if you do that then it will not be too hot on the stock mic.
e idea of what you guys in the states.

You pays your money you takes your choice

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So looks like a common problem. I would disagree that £40.00 was a cheap microphone.
Now need to get the circuit diagram and the specification of the microphone element in the Goose Net and how to get at the electronics inside the remote control unit.

Looks like a rebuild require as the product is limited in use for the Yeasu FT8800.

This saga to continue. Watch this space.