

## **MSA SAFETY & MEDICAL FREQUENCY TECHNICAL GUIDANCE & ADVICE NOTES**

This is an information document intended to answer some of the questions that may be posed regarding the supply and use of radio equipment on the MSA safety and Medical frequency. It should be read in conjunction with MSA radio transceiver verl.01. This document takes the form of questions and answers.

**Q. Where can I go to obtain new or second hand equipment?**

A. You can source equipment from where you like, however you should ensure that it is what is required to do the job and of legal origin. Most PMR/PBR dealers can assist. If you do acquire equipment from a source other than a registered PBR supplier it must be certified as in the following Q and A.

**Q. What sort of documentation do I require once I know that I can use the frequency?**

A. Before the frequency can be used you will need a certificate of conformity from the dealer stating that the equipment conforms to the specifications laid down and has been programmed with the correct CTCSS tones and identity number. This certificate should include make, model and serial number of the equipment, it should also include the dealers name and full registered address and their current PBR suppliers licence number issued by the Radio Communications Agency. Once this documentation has been accepted by the MSA you will be issued with a letter of authority to use the frequency. If you are buying new equipment you will need a copy of the sales invoice.

**Q. Why are you recommending a minimum of four channels?**

A. To plan for the future, it may be that we add to the number of channels available to us. It also allows us to use more than one ctcss tone per frequency channel.

**Q. Can I/we use the channel when not on an event?**

A. No. The licence is issued to the MSA for safety & medical use on MSA recognised events and for training purposes only. It would be an offence to use it for any other purposes under The Wireless Telegraphy Act; the penalties for misuse can be high.

**Q. I have an old 86 set. Can this be converted for use on the new system?**

A. In general - no - we do not think there are any radios that would meet the specification or approval necessary. Also bear in mind that most 86 sets are in excess of 12 years old.

**Q. I have a licence for 86.375 (red) can I convert to FM and have this as a second channel in the new set?**

A. Yes, this should not be a problem. Just speak to the RA to inform them of your intention to switch to FM modulation. Your equipment supplier or engineer will require a copy of your licence schedule. It is always a good idea to carry a copy of the schedule and any letter of authority you may have with you when you intend using your radio.

**Q. What do the abbreviations in the specification mean?**

A. To take them in order as they appear on the specification.

MHz is shorthand for Megahertz, hertz being a measure of frequency equal to one cycle - one megahertz = 1 million cycles per second.

FM = frequency modulation, the method of modulating the carrier frequency - in our case 81.57500 MHz

ERP = effective radiated power, this is the maximum permitted transmitted power from the aerial.

KHz is an abbreviation for Kilohertz, 1 KHz = 1000 cycles. In our system the channel spacing is 12.5 KHz. All this means is that the next channel up or down is 12.5 kHz away.

CTCSS is a short way of writing continuous tone controlled squelch system. This is a system for controlling the audio section in the radio receiver. Basically it turns the audio on or off depending whether or not there is a valid tone present on the receive audio. The tone is of a relatively low frequency and is filtered out by the receiver so that the user does not hear it.

Selcall is short for selective calling. A selcall system is basically a way of signalling using a series of short tones. EEA is merely one of several tone sets that can be used. Revertive selcall is an automatic feature. Simply when a radio receives a call with its identity it will automatically retransmit its identity back hence Answer Back. This should help to reduce airtime by reducing repetitive calling.

ANI - automatic number indication - an automatically transmitted string of tones to indicate the calling radio.

**Q. I have a spare 86 MHz set as a back up can I have a back up 81 MHz set ?**

A. Yes you can but it must be registered as an additional set as no two radios can have the same Identity number on the system.

**Q. Isn't all this documentation a bit heavy ?**

A. Not really, the general idea is to put and keep in place a good modern and reliable radio system using newer proven technology to handle Safety and Medical matters with the possibility to expand and make future improvements.

**Q. Who do I contact if I have any further queries or problems regarding the MSA frequency ?**

A. You need to address all enquiries to the licensee as under the data protection act even the RA cannot discuss details with any other party even if they do hold a letter of permission to use the frequency. The licensee in this case is the MSA. Initially questions should be in writing to Tony Newsum at the MSA.