

Q-MAC ELECTRONICS

HF TRANSCEIVERS &
ANTENNA SYSTEMS

MEASURING HF SSB POWER

HF HELP FILES



Q-MAC Electronics Pty Ltd

HF HELP FILES

Measuring HF SSB Power

1	MEASURING HF SSB POWER ON THE Q-MAC HF-90 AND HF-90M.....	3
2	OTHER INFORMATION.....	4
2.1	AUTHOR.....	4
2.2	ABOUT Q-MAC ELECTRONICS	4
2.3	CONTACT DETAILS	4

© Copyright 1994-2003 Q-MAC Electronics Pty Ltd

Q-MAC Electronics Pty Ltd

HEAD OFFICE

142 Hasler Road, Osborne Park WA 6017. Australia
Telephone: +618 9242 2900, Facsimile: +618 9242 3900

Page 2 of 4
Email: info@qmac.com
Web: www.qmac.com



1 Measuring HF SSB Power on the Q-MAC HF-90 and HF-90M

SSB manpack radios achieve efficient transmission of speech by arranging the ALC system to obtain high peak power. They have a declared peak envelope power, which is measured by the following method;

- A two-tone audio generator is connected to the mike socket with the generator set to give 600Hz and 1700Hz both at 200mv peak to peak.
- The output power is then measured using a peak reading meter.
- This will show 50 watts

If an average reading meter is used, this will read 25 watts, which is the average power.

A single tone (such as a whistle) will always produce a 25 watt reading even on a peak reading meter.

However on a peak reading power meter a complex speech waveform such as the sound "Waaaaaaaaah" will show 25 watt or more.

In this way the efficiency for speech transmission is optimised while the heating effect is minimised for non-speech use.

A similar effect will be apparent on low power settings.



2 Other Information

2.1 Author

Mr Rod Macduff BSc, BA, MIEEE, MIEE, FIEAust

Rod Macduff is Managing Director of Q-MAC Electronics which is a specialist supplier of HF Communications to the Humanitarian, Aid & Relief and Military organisations. Rod Macduff worked with Racal BCC for 10 years on the Jaguar V tactical hopping radio and travelled extensively consulting with armies on their secure communication issues. The Q-MAC HF-90 hopping radio is in service in 75 nations and has been adopted by Humanitarian, Aid & Relief, Army, Police and Intelligence organisations.

2.2 About Q-MAC Electronics

Q-MAC Electronics is specialist designer and manufacturer of HF Transceivers. The flagship product the HF-90 is the world's smallest high performance HF SSB Transceiver. The HF-90 and Q-MAC Electronics have been awarded many accolades and is currently used by thousands of users in over 80 countries worldwide. The HF-90 is one of the most versatile HF transceivers available and is suited to military, paramilitary and humanitarian aid and relief applications.

Q-MAC offers the HF-90 in a variety of configurations suited to manpack, vehicle and base station applications. A full complement of accessories is also offered for use with the HF-90; including antennas, field battery charging accessories, carry packs/cases and more. All Q-MAC products are backed by the company's strong commitment to after sales service, support and certified ISO9001 quality standards.

2.3 Contact Details

For Further Information Contact;

Q-MAC Electronics Pty Ltd

142 Hasler Road

Osborne Park, WA

Australia 6017

Phone + 618 9242 2900

Fax + 618 9242 3900

Email: info@qmac.com

Web: www.qmac.com

Q-MAC Electronics Pty Ltd

HEAD OFFICE

142 Hasler Road, Osborne Park WA 6017. Australia
Telephone: +618 9242 2900, Facsimile: +618 9242 3900

Page 4 of 4
Email: info@qmac.com
Web: www.qmac.com
