

# Q-MAC ELECTRONICS



MAC

HF TRANSCEIVERS &  
ANTENNA SYSTEMS



ANTENNA CURRENT

# HF HELP FILES



# Q-MAC Electronics Pty Ltd

## HF HELP FILES

### ANTENNA CURRENT

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# 1 Introduction

## 1.1 Q-MAC Antenna Current Meter

The Q-MAC Radiofrequency Antenna Current meter is used to measure RF current in Manpack whip antennas.

It comprises a Current Transformer Head which is slipped over the whip antenna and a meter unit which displays antenna current in the range 0.2ampere to 0.9ampere.

The unit is immune to RF disturbance and will give accurate readings in high RF fields. This is due to the use of the optical coupling principal which removes any metal wires from the areas of high field. RF current is converted to light intensity which is sent down a fibre optic cable and a meter displays received light intensity which correlates with antenna current.

To measure RF current on a Manpack, slip the sensor head over the whip antenna to the bottom of the whip, then plug in the optical cable and switch on the meter.

When the tune button is pressed on the Manpack, antenna current can be observed. Using the calibration curve, the exact value can be recorded.

**NOTE THAT ANTENNA CURRENT CORRELATES EXACTLY WITH RADIATED POWER.**

**VSWR MINIMUM GIVES NO INDICATION OF RADIATED POWER AND MAY NOT CORRESPOND EXACTLY TO THE PEAK OUTPUT!!!**

Using this instrument, different manufacturer's products can accurately be compared.

Q-MAC internal testing has shown the HF-90 performs exceptionally well compared to competing Manpack transceiver configurations.

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## 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;

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