~ *Assembly Manual* ~

Micro908 *Antenna Analyst*

*The Micro908 is a flexible and re-usable control platform for ham radio projects. The Micro908 platform is designed to be easily operated on the bench as well as in the field. It is comprised of a single 5" x 5" printed circuit board containing all components, connectors, controls, LCD, and two daughtercards. The plastic enclosure contains an 8-cell AA battery back enabling convenient field use. A number of standard ham radio peripherals may be connected to the Micro908: antenna, paddles, a PC-style keyboard, headphones, an audio line to drive an SSB transceiver, a keyline to drive a transmitter, your rig's audio in/out signals, and custom control lines via an auxiliary jack. The first major software available for the Micro908 platform is the **Antenna Analyst** – an instrument that automatically determines SWR and complex impedance characteristics of an HF antenna system. Advanced features of DDS frequency control, LCD tuning, PC data collection and plotting, numerous operating modes and easy software upgradability make this instrument attractive for homebrewers and antenna enthusiasts.*

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Section 1: Introduction

Welcome to the Micro908 Antenna Analyst Kit, a reprogrammable and multi-use microcontrolled instrument that will provide years of reliable service in both the shack and the field when constructed according to this assembly guide.

This project involves the soldering of small surface mount technology (SMT) parts and other delicate components to a printed circuit card, and it will take about six hours to assemble – perhaps several evenings or over a weekend. Once the kit is assembled, the pre-programmed controller (the HC908 Daughtercard) may be inserted into place and immediate indication of product operation will be seen.

This Assembly Manual provides detailed, step-by-step instructions on preparation of the components, installation of them to the printed circuit board and enclosure, and basic calibration and operation of the instrument. Other documents provided on the enclosed CDROM describe the technical overview and more detailed usage. Several useful software programs are also contained on this Micro908 Resource CDROM, such as a software loader application and a terminal program. Additionally, the CD contains information and full software source code that will be useful for those wishing to develop custom software for the Micro908 platform.

Please regularly visit the Micro908 project website (**www.amqrp.org/kits/micro908**) to download updated versions of the software, manuals and schematics. We are also maintaining a list of frequently asked questions (and answers) that will surely be of help to you in building and using this kit. An even more complete and up to date Assembly Manual, with additional photos (all in color) may be found at the Micro908 online site.

We've made every effort possible within reason to make construction and use of the Micro908 Antenna Analyst a success for the builder. Please let us know how it works out for you or if you have any questions along the way. We thank you for purchasing the Micro908 Kit from the AmQRP Club and we wish you good luck in building and using it!

Sincerely yours,
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