



INSTRUMENT CONTROLS

- A Test terminals. Use a balun if you are making measurements on a balanced system such as a dipole.
- B Frequency Range Selection
- C Coarse frequency adjustment
- D Fine frequency adjustment – gives around 4KHz of variation at 1.3MHz and around 500KHz variation at 31 MHz
- E Liquid Crystal Display – This will “flash” each time the display is updated with information either every 100ms or 1sec depending on the frequency resolution selected by F.
- F Frequency Resolution Switch - This switch selects the frequency counter gating interval and hence the number of digits actively displayed. In the four digit position the last digit of the frequency display is permanently set to zero and the resolution is 10KHz. The display is updated every 100ms and this allows the user to rapidly set the operating frequency. In the five digit position all frequency digits operate, the gating interval is 1second, and the display resolution is 1KHz.

G Power Switch – Instrument draws about 100milliamps, giving a battery life of at least 4 hours when cheap 400 milliamp hour zinc carbon cells are used.

OPERATING INSTRUCTIONS

1. Insert 8 AA size batteries in the holders provided inside the unit. See comments in the body of the kit instructions if you wish to use rechargeable cells.
2. Turn on the power switch and the display will come up with the initial screen showing the battery voltage for 1.5 seconds. The main measuring screen then comes up showing the frequency in the top line followed by the resistive part of the load. The second line displays the load reactance, and the SWR based on a 50 ohm system.
3. Select either a 4 or 5 digit frequency display. 4 digit resolution should almost always be used unless measurements are being made on a very narrow band HF antenna.
4. Adjust the operating frequency so that the reactance shown is as near zero as possible. A reactance of zero occurs at the natural frequency of resonance of your antenna and the analyser will then show the feed resistance and SWR of your antenna system.

OTHER NOTES

1. 4mm connectors have been deliberately selected so that the stray capacitance is minimised in the test circuit, and so components or wire antennas can be conveniently connected to the instrument. See the VK5JST home page for adaptors for baluns and coaxial cable.
2. The Picaxe used in the Aerial Analyser can be easily re-programmed by downloading the Programming Editor (called BAS805.exe) from the Revolution Education website – <http://www.picaxe.co.uk>. The VK5JST website has a lot of alternative software written by other amateurs. A popular option is to include your call sign in the start up screen on the instrument.
3. Experimenters may wish to try extending the analyser frequency range upwards and downwards. Extra positions are provided for this on the frequency range switch. See VK5JST site for details.