

Spectrum Analyser - SA97

- Over 60% of the major cable franchise operators in the UK are using spectrum analysers from the Swires' range. The SA97 is the latest in the range and offers:

- An increased frequency range between 10 and 2150 MHz to include the extended satellite IF.

- Accuracies of ± 0.6 dB between 10 and 1000 MHz and ± 1.0 dB between 1000 and 2150 MHz.

- A new padded nylon case.

- The SA97 Spectrum Analyser is the result of a careful study of the features needed in a spectrum analyser for use by cable operators, CATV and large MATV systems engineers.

- Many spectrum analysers have been designed as transportable, rather than portable, instruments for the lab or workshop; leading to heavy instruments, which were not rugged enough for regular field use. Power consumption is also a major consideration, reducing their effectiveness.

- The SA97 has been designed to overcome these problems. By using a back-lit liquid crystal display (LCD) to replace the cathode ray tubes found in other machines, battery life is greatly extended and the weight of the machine reduced. Internally surface mount components, offer less weight with increased ruggedness. To ensure their durability each instrument is temperature cycled and vibration tested at 2G in tests to military specifications.



- Erasable programmable memory (EPROM) is used to remove any internal variations in individual machines - This advanced software correction and careful design of the internal components, gives the instrument, accuracies of ± 0.6 dB for frequencies below 1 GHz and ± 1.0 dB above, between -10 and $+50$ °C.

- In striving to provide the best instrument for the job, several useful features have been included;

- A peak hold facility, which allows the engineer to detect low duty cycle signals, such as radar emissions.

- A second cursor set relative to the gain cursor, to allow deviation between peaks to be quickly quantified.

- A calibration check to ensure the measured frequency and gain of the instrument are always correct.

- Internally recharged lead acid batteries offer up to 10 hours continuous use. The instrument can also be run and recharged from a car cigarette lighter.

- The instrument is controlled solely from the front panel. To provide good reliability and weather proofing an optical rotary encoder is the only moving part.

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- Screen shots can be saved to a PC to produce hard copies using the *Virtual 2.0* software package from Swires Research. The same software also allows the analyser to be remotely controlled via a telephone network, to enable the return path to be established or constant network monitoring.
- The SA97 was designed and is manufactured exclusively at the Swires factory in Basildon.

- Accuracy: ± 0.6 dB from 10 to 1000 MHz,
 ± 1.0 dB from 1000 to 2150 MHz, RMS of peak carrier.
- Frequency Accuracy: $< \pm 0.01$ MHz..
- Input Level Range: -30 to +52 dBmV.
- Temperature Range: -10 °C to +45 °C.
- Sweep Range: Horizontal: 10 MHz to 2150 MHz.
Vertical: 19 dB or 38 dB, user selectable.
- Screen Sweep Width: Changeable between 0 and 1400 MHz.
- Gain: Full dynamic range in 0.3 dB steps.
- Display Units: dBmV or dB μ V, user selectable.
- IF Bandwidth: < 200 MHz sweep width 280 kHz.
 > 200 MHz sweep width 1 MHz. (Automatically switched)
- Calibration Check: 50 MHz @ +14 dBmV ± 0.3 dB, between -10 and +45 °C.
- Power Source: Internally recharged, sealed lead acid batteries.
- Connectors: 75 Ω BNC type and 9 pin, 'D' type RS232 socket.
- Weight: 5.2 kg, including batteries and case.
- Dimensions: 320 mm \times 240 mm \times 95 mm, including nylon case.
- Accessories Included: Nylon case, battery charger and car charger lead.
- Optional Extras: 20 dB precision attenuator, *Virtual 2.0* software.