HSA-Q1

Handheld RF Spectrum Analyser

Frequency Range:

1Mhz -13.44 Ghz

Sweep time:

0.5 seconds

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PRODUCT FEATURES

- Frequency Range 1 MHz to 13.44 GHz
- Sweep time of just 0.5 seconds (Full Range)
- Spectrogram Waterfall Function for detected signal analysis
- Tune & Listen demodulation function - AM/WFM/NFM
- Data Logging to USB Stick with Time & Date stamp
- Background Memory Function to compare previous sweeps
- Very High RF Sensitivity (-80 dBm Sweep, -100 dBm Direct Tune)
- 6" TFT Display Screen - Outdoor Readable
- Audio through Internal Speaker or Earphones
- Multi-element custom antenna supplied
- Internal Lithium Polymer Battery - 4 Hours Battery Life
- Weight just 1.3kg
- Machined Aluminium Enclosure
- Supplied in Compact Military Standard Carry Case

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The **HSA-Q1** is a fully integrated portable **RF Spectrum Analyser** designed specifically for professional countermeasures use (TSCM). It has been designed with the highest possible technical specification to ensure maximum detection capability and has a range of invaluable features to aid countermeasures RF detection or 'Sweeps'. Despite its technical capability the **HSA-Q1** remains easy to operate with an intuitive user friendly interface.

The HSA-Q1 features a wide 1 MHz to 13.44GHz frequency range with a sweep time of just 0.5 seconds (faster in shorter spans) to ensure detection of all types of RF signals especially modern pulsed burst signals that can be missed by slower sweeping units.

Frequency spans can be set anywhere from the whole 13.44 GHz frequency range down to just 25 Mhz when detailed signal analysis is required. Simply move the cursor onto any detected signal and press the 'Zoom' button to view the signal in more detail.

The Waterfall (Spectrogram) function shows a real time full colour graphical display of any

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detected signal to allow the user further analysis. This is especially useful in analysing modern pulsed digital signals (or frequency hopping signals) such as those from Cellular, Wifi, Burst and GPS based devices.

RF Sensitivity can be adjusted over 5 levels: Maximum (-80 dBm), for example, to detect all signals including those in other adjacent rooms or even outside the building, down to Minimum for when location of a specific nearby signal source is required.

The HSA-Q1 features a Tune-Listen function where at the press of a button the user can direct tune into any signal detected, view the signal pattern and see the signal strength live (down to -100dBm). If required the user can also select Wide FM, Narrow FM or AM demodulation and listen to the detected signal through the built in loudspeaker or earphones. This can be especially useful in identifying conventional bugs with microphones or eliminating other innocent detected signals such as broadcast radio.

If required the HSA-Q1 can perform a 'Background' scan where it will learn and store the current RF environment. This can be stored and recalled at any time in the future for comparison to see if any new suspect signals have appeared in the RF environment since last checked. New signals will be highlighted on the display for closer inspection.

Persistence mode offers further analysis of any detected signal. The more 'persistent' the signal is (the longer it remains detected) its colour will change from blue through the colour spectrum to red for the longest present signals. This can be used

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to identity persistent signals that might otherwise be hidden in a noisy RF environment.

The Memory Log function means sweep data can be stored by simply connecting a USB stick. Sweep data will be stored in time and date format and displayed graphically to be recalled at any time for further graphical analysis.

For maximum flexibility the HSA-Q1 is supplied with two antennae: a Multi-Element Antenna for general use and a telescopic whip antenna for low frequency use.

The HSA-Q1 is genuinely portable for handheld use and is also fitted with a retractable stand for desktop use. The unit weighs just 1.3 Kg and is encased in a machined aluminium enclosure for ultimate durability. The internal Lithium Polymer battery pack gives up to 4 hours of use from one charge. The unit can also be operated continuously with the charger connected. The whole package is supplied in a compact military standard carry case for ultimate protection and portability.

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The **HSA-Q1 Handheld RF Spectrum Analyser** is designed, manufactured and tested in England to highest technical standards.

Supplied in Package:

- HSA-Q1 Handheld Spectrum Analyser
- Multi-Element Concentric Antenna (23 cm)
- Telescopic Whip Antenna
- Charger - 110V to 240V AC input (Auto Switching) with International Adaptors
- Earphones
- High Protection Military Standard Carry Case 5V DC

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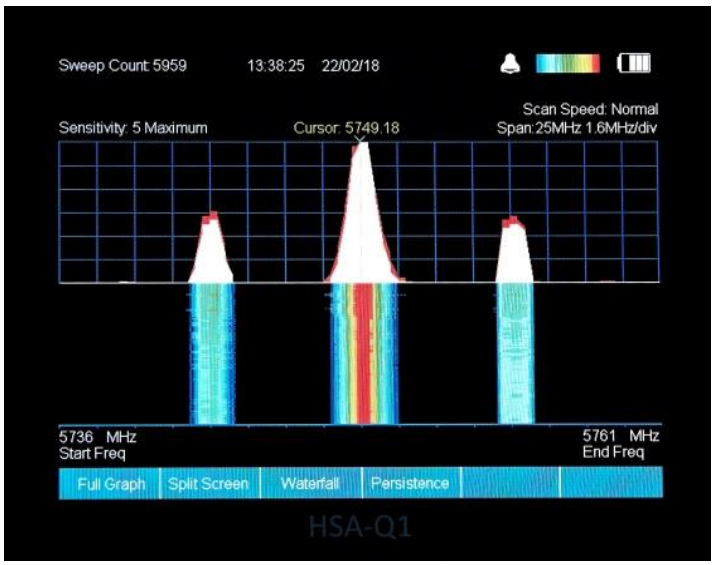
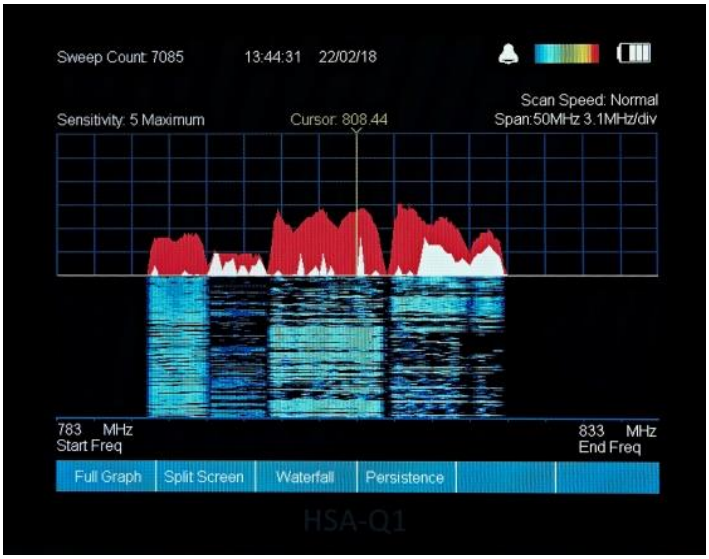
SCREEN IMAGES

Main Screen showing full 13.44 GHz Span (1000 MHz per division)



Split Screen (Half Waterfall) – Zoomed in to 25 MHz Span showing detected signal at 5.750 GHz



Split Screen (Half Waterfall) – Zoomed in to 50 MHz Span showing 4G Cellular Activity at 800 MHz

Full Screen Waterfall of 2400 MHz WiFi Router

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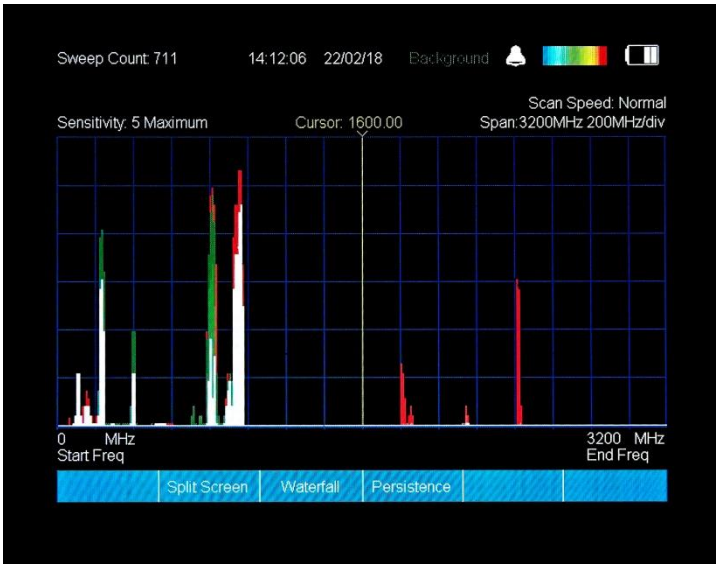
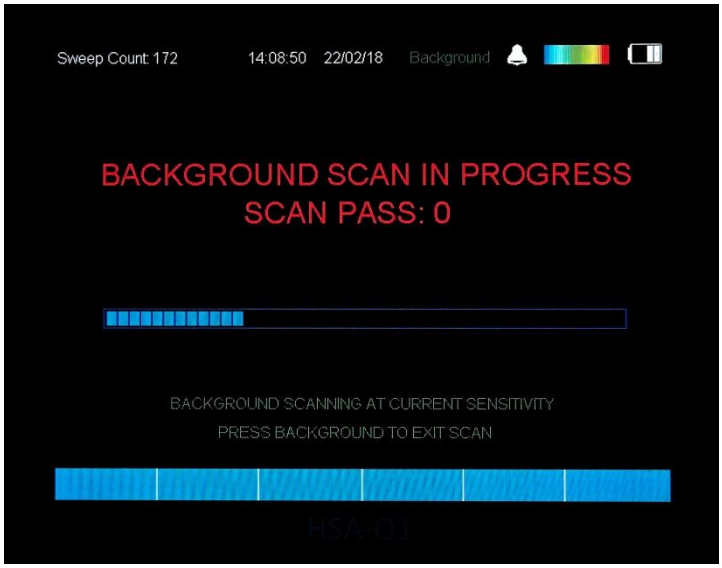
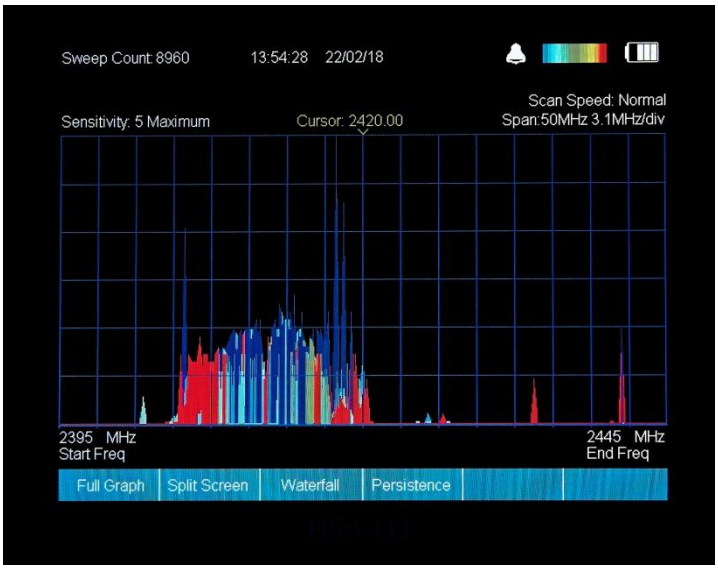


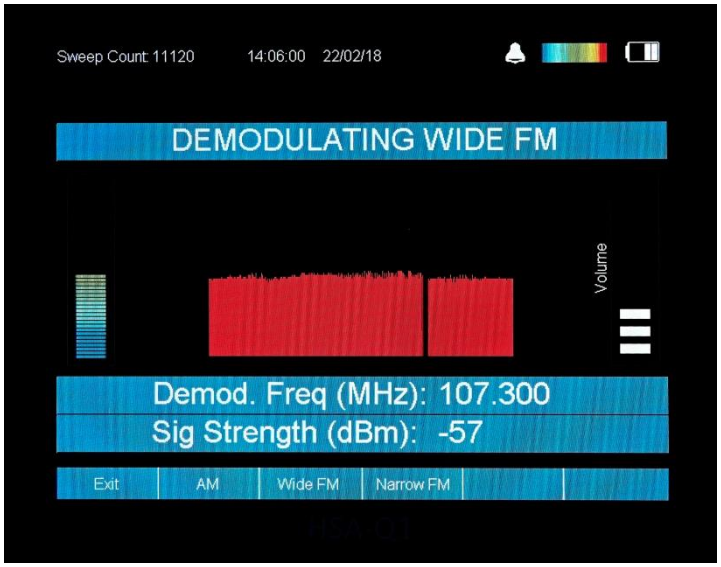
Main Screen - Live signals (white), Historical signals (red) and Background recorded signals (green).



Background Mode selected and scan of the current RF environment being recorded for later comparison.



Persistence Mode – Blue signals are the least persistent, running through to Red for the most persistent.



Tune Listen Mode – Signal at 107.3 MHz (-57 dBm signal strength) - Demodulated Audio in Wideband FM

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TECHNICAL SPECIFICATIONS Typical Performance Characteristics - at 20 degrees C

Detected Frequency Range:	1 MHz to 13.44 GHz
Sweep time:	500 ms (Full Range) down to 200ms (Lower Range)
Waterfall Function:	Real Time Colour Spectrogram
Tune & Listen Function:	Direct Tune to any frequency (1 KHz Resolution)
	AM/WFM/NFM Demodulation via Speaker or Earphones
Background Memory Function:	Record RF environment and store for later comparison
RF Sensitivity in Sweep Mode:	-80 dBm Max
RF Sensitivity in Tune & Listen Mode:	-100 dBm Max
Display:	6" TFT Display Screen - Outdoor Readable
Data Logging interface:	to USB Stick – Time and Date Stamped
Audio Output:	Internal Speaker or Headphone Socket
RF Connector:	TNC Jack
Antenna 1:	Multi-Element 13.44GHz - Length 220mm x Dia. 17mm
Antenna 2:	Telescopic Whip Antenna (Low Frequency use)
Power:	Internal Lithium Polymer Battery – up to 4 Hours Battery Life
DC Charge:	Micro USB
Charger:	110/220V Auto-switching with International Adaptors
Enclosure	Machined Aluminium Enclosure
Weight:	1.3Kg (Main unit)
Dimensions:	Height 223mm x Width 158 mm x Depth 45mm
Carry Case:	Compact Military Standard -L363mm x W282mm x H120mm

MADE IN ENGLAND CE

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