AIM & THURLBY THANDAR INSTRUMENTS

PSA3605 & PSA6005

PSA Series 5 portable RF Spectrum Analyzers, 3.6GHz and 6.0GHz

Bench-top performance, handheld convenience

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Aim-TTi

Now with high resolution Scan Mode (see page 7)

PSA Series 5 RF Spectrum Analyzers

Bench-top performance handheld convenience

The PSA Series 5 is the latest and highest performance true handheld RF spectrum analyzer from Aim-TTi.

It complements the existing PSA Series 2 by offering a significantly expanded feature set similar to that found on analyzers costing several times as much, combined with a frequency capability up to 6 GHz.

Genuinely hand-held

The PSA Series 5 is sufficiently small and lightweight to fit comfortably into the hand - unlike most other so-called handheld spectrum analyzers.

A removable screen protector and sun-shield combines with rubberised buffers top and bottom to enhance its use in the field.

High resolution colour display

The 4.3" TFT display provides a wealth of detailed information. Colour is used to clearly distinguish between multiple traces, markers and limit lines.

The touch-screen uses a three row hierarchical menu system to provide fast and intuitive control of the many functions.

Battery operation of more than three hours

The PSA Series 5 operates from a Li-ion rechargeable battery that can provide more than three hours of continuous operation.

If switched off to conserve power, it returns to normal operation within a few seconds of switch-on with all data retained. It can also be set to switch off automatically after a set time from the last action.

For continuous bench top operation it can be powered from its AC adaptor which also recharges the batteries in less than 3 hours.

Unlimited data storage

With nearly 2GB of internal memory, the PSA Series 5 can store thousands of waveforms, instrument set-ups, or complete screen images.

With option U02 installed, it can also log tens of thousands of results and make use of compensation tables and limit patterns.

All files can be saved with either default file names or with user defined names using the alpha-numeric keypad.

USB Flash drives can be used to copy and backup data, or transfer it to a PC for analysis. Alternatively a USB device interface is included for direct connection to a PC for file transfer.

PSA3605 - 3.6GHz
PSA6005 - 6.0GHz

A big feature set in a small instrument

The PSA Series 5 incorporates bench-top level features within in a portable spectrum analyzer.

- 10MHz to 3600MHz or 6000MHz frequency range
- Resolution bandwidths from 300Hz to 10MHz (1:3:10)
- <-120dBm noise floor at -40dBm ref. level and 10kHz RBW (better than -160 dBm per Hz)
- Measurement in dBm or dBµV, mV or µW
- Zero span mode with AM and FM audio demodulation
- Trace modes of normal, peak hold and trace average
- Live, View and Reference traces in contrasting colours
- Twin markers with readout of absolute & difference values
- Smart marker movement with selectable peak tracking
- Frequency counter with down to 10Hz resolution
- Frequency presets and independent state storage
- Auto-find automatically sets sweep parameters for the highest signal found
- Unlimited storage for waveforms, set-ups and screens
- User assignable file names, file stamping from real-time clock
- USB interfaces for Flash drives and PC connection
- Comprehensive status and context sensitive help screens
- True handheld size with weight of just 560 grams (20oz)

Option U02 additional features include:

- Limit lines and limit patterns with limits comparator
- Data logging of peak values, complete traces or screen images from timer, external trigger or limits comparator
- Automatic Measurements for CP, ACPR and OBW
- Scan Mode - high resolution capture of up to 210,000 points
- Waveform demodulation for AM and FM/PM signals
- Compensation tables, fixed offsets and 75Ω compensation

The size a hand-held instrument should be !

Ruggedised casing

The casing of the PSA Series 5 includes rubberised buffers top and bottom to help resist knocks and scratches.

The tilt stand can be moved to the top of the instrument to act as a screen protector when in transit.

In this mode it can also act as a sun-shield when in the field.

Comfortable to hold

With a width of only 92mm (3.6”) and a weight of only 560 grams (20 oz) the PSA fits comfortably into the hand.

Touch-screen or hard-key control

The instrument is normally operated using its touch screen.

The three-row hierarchical menu system provides rapid intuitive access to all functions .

Additional hard keys are provided for marker movement and for shortcuts to major functions.

Alternatively, all of the functions can be operated with just the hard keys by using the five way navigator in a tab-enter-jog mode.

Instant On

On pressing the power button, the instrument comes to life almost instantly, with the first sweep available within just a few seconds.

Actual size*

* when printed without scaling

See more detail

The large TFT display of the PSA Series 5 shows a wealth of information.

It makes use of colour to clearly distinguish the traces (live, view and reference) from the markers, limit lines and graticule.

Detailed set-up information is shown above the graticule with marker readout and further status below.

Context-sensitive help

The PSA Series 5 incorporates extensive on-screen help information.

This can be automatically selected to relate to the current menu hierarchy.

Full status display

Instant access is provided to a multi-page status screen that shows the complete status of the instrument including detailed system information.

Connectivity

In addition to the RF input, the analyzer includes connectors for DC power, USB host, USB device, trigger in/out, and audio out.

Built-in loudspeaker

Audio de-modulation can be accessed via the built-in speaker or external phones.

Transfer files to PC

A USB host connector enables USB Flash drives to be connected for additional storage or for cable-less file transfers.

A USB device connector is also provided which enables direct connection to a PC for bi-directional file transfer.

True portability

A genuinely hand-held instrument

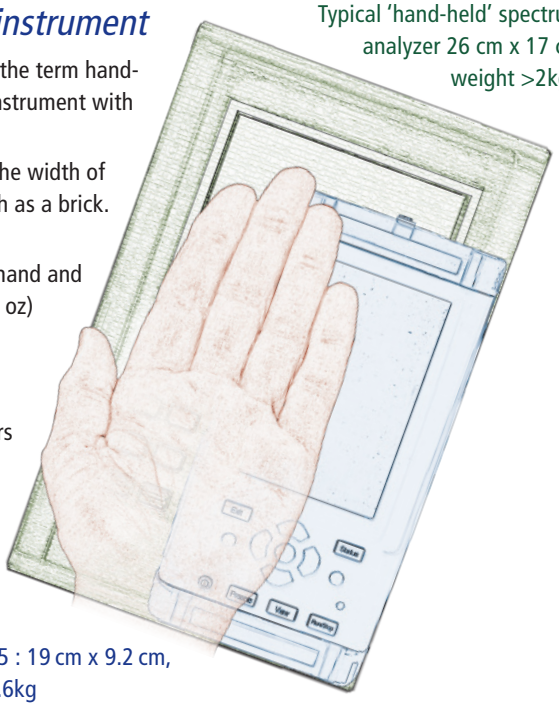
Some manufacturers have stretched the term hand-held to cover any battery powered instrument with a 'flat' format.

Some of these are more than twice the width of an average hand, and weigh as much as a brick. Not so the PSA Series 5.

The small size fits perfectly into the hand and the low weight of only 560 grms (20 oz) allows it to be carried anywhere.

Typical 'hand-held' spectrum analyzer 26 cm x 17 cm, weight >2kg

Around one third of the size and one quarter of the weight !



PSA Series 5 : 19 cm x 9.2 cm, weight < 0.6kg

Instant availability

Unlike some other spectrum analyzers which can take up to a minute to initialise, the PSA Series 5 starts instantly, with the first sweep available within a few seconds of switching on.

Screen Protector and Sun Shield

When on the move and operating out of doors, the tilt stand can be un-clipped from the back of the instrument and attached at the front.

This protects the screen during transport, and can act as a sun shield when viewing conditions are difficult.

When no longer required it can be re-attached to the rear where it stows out of the way until needed.

Equally at home on the bench

The PSA Series 5 will find plenty of applications on the bench as well as in the field.

It's low cost enables every engineer to have access to a spectrum analyzer whenever they need one.

For continuous bench-top operation, the supplied AC line adaptor powers the instrument as well as charging it.

The rigid tilt stand angles the instrument at about 40 degrees to the horizontal.

The PSA Series 5 can be used vertically, as well as horizontally or on its tilt stand.

Packed with features

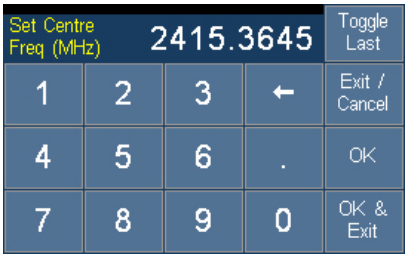
Intuitive menu system

Ease of use was a major consideration in the design of the PSA Series 5.

Freq / Span	Sweep / BW	Level / Limits	Traces / Markers	Setup / Functions
Centre	Span	Start / Stop	Step Size	Freq Presets
Set Step	Auto Span/10	Set to MΔ	Set to Centre	Set to M1

The menu system provides rapid access to five menu groups, each of which has up to five sub menus, each with their own function keys.

Function keys perform direct actions or create pop-up menus or dialogue boxes. Frequencies can be set by direct numeric entry, or by a digit increment system.

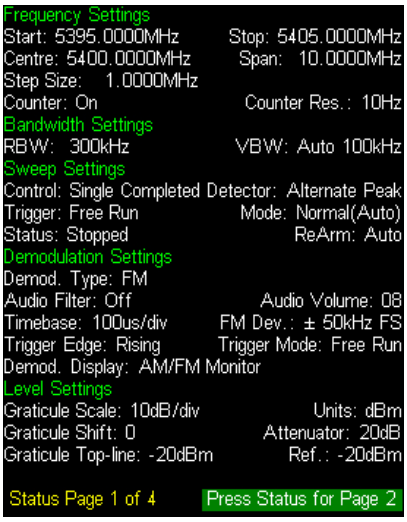


Centre, Start and Stop can be stepped by any chosen increment. Span can be zoomed in a 1-2-5 sequence.

Single key shortcuts include Set to Peak, Set to Marker and Set between Markers (Start=M1, Stop=M2).

Frequency presets enable fast changes between frequently used sweep ranges.

Full status display

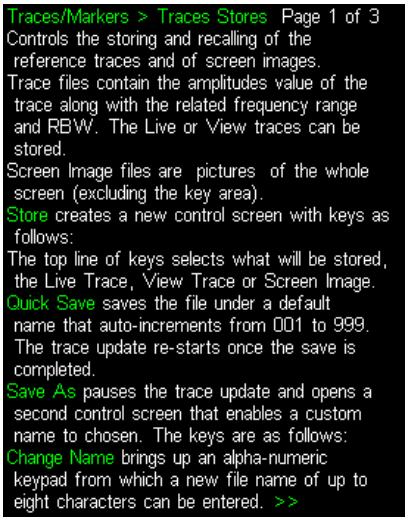


In addition to the extensive on-screen status information, a single button press reveals the complete set-up of the instrument as a screen listing.

Context sensitive Help

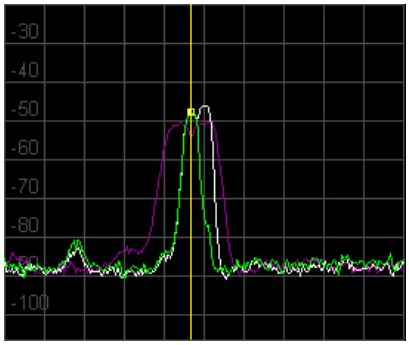
Context based Help is instantly available for each menu function from the Status/Help hard key.

Alternatively help for any function can be selected from a topics list.



Live, View and Reference traces

A view trace and reference trace can be displayed in addition to the live trace using contrasting colours for clarity.



Any number of traces can be saved to memory and rapidly recalled to the screen.

Trace states are saved in addition to the traces and can be recalled separately.

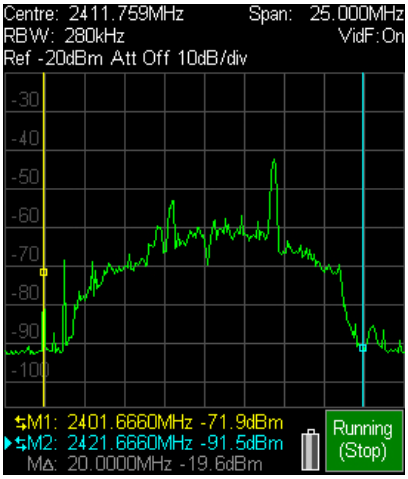
Smart marker movement

Dual markers provide an on-screen readout of frequency and level including difference values.

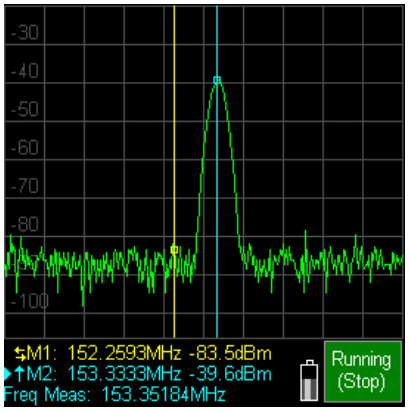
The markers can be set to specified frequency values, scrolled across the screen, or set to automatically find peaks.

A peak tracking mode is also provided which will track the highest peak in the sweep despite changing frequency.

Marker amplitude readout can be in graticule units (dBm or dBµV) or in linear units (mV or µW).



Frequency counter



A marker position frequency counter is incorporated for accurate measurement of signal frequencies.

The counter can be applied to either marker

Resolution is adjustable down to 10Hz.

Fully variable RBW and VBW

Resolution bandwidth is manually variable between 300Hz and 10MHz in a 1:3:10 sequence. Alternatively Auto RBW can be selected to match the RBW to the span.

Video bandwidth is also variable over the same range, or can be set to track to the RBW with a useable selectable offset if required.

Vertical expansion

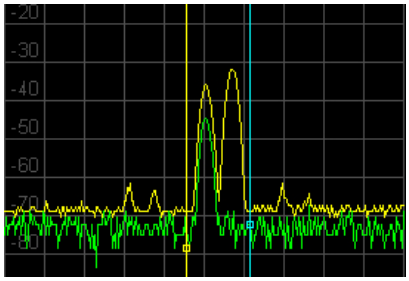
The vertical resolution of 10dB per division can be expanded to 5dB, 2dB or 1dB with panning over the full dynamic range.

1dB step attenuator

Reference level can be set in 1dB steps between -40dBm and +20dBm (67dBµV to 127dBµV).

Trace write modes

In addition to the normal mode, the trace can be set to display Peak-hold, or a Multi-sweep Average.



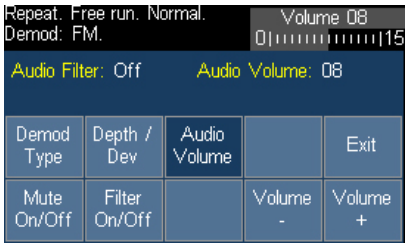
When in Peak-hold or Average modes, dual display traces can be selected enabling the processed and unprocessed traces to be seen simultaneously.

The screen illustration shows the Peak Hold trace in yellow along with the current sweep in green.

Zero span audio demodulation

The PSA Series 5 includes a zero span mode with both AM or FM audio demodulation.

The audio signal, with variable volume and selectable low-pass filter, is available from the built-in loudspeaker or from a standard 3.5mm jack socket.

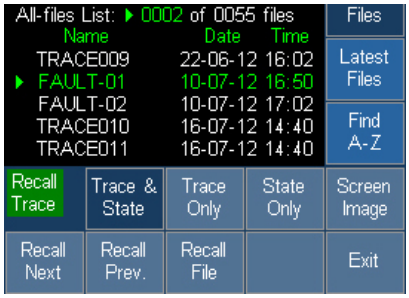


With Option U02 installed, waveform demodulation can also be selected.

Extensive data storage

The PSA Series 5 can store almost unlimited amounts of data using its 1.8GB of internal memory supplemented, if necessary, by USB Flash drives.

The filing system can store trace and state files, screen images, set-up files, logging files*, limit patterns* and compensation tables*.



Files are stored under either default file names, or user-chosen file names entered from an alpha-numeric keypad.

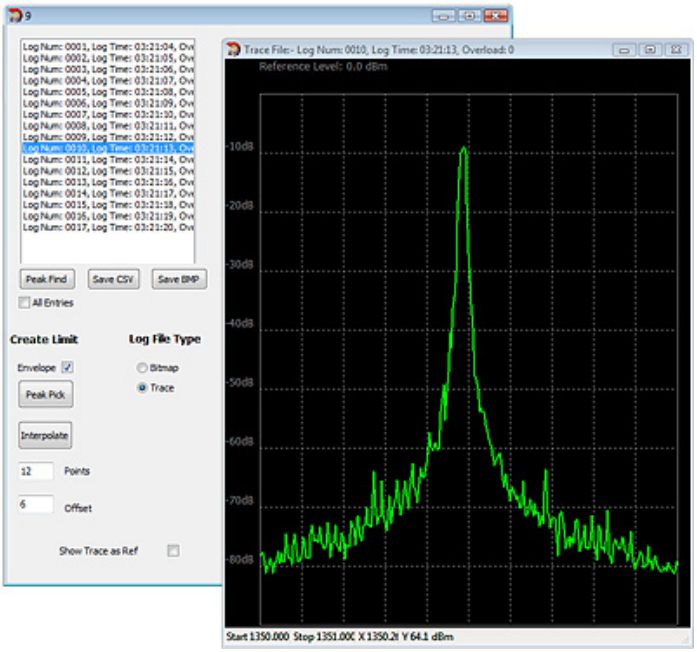
Files are time-stamped from the real-time clock, and can be listed by date or name.

The illustration is a truncated version of the real screen image which can list 20 files simultaneously. Each directory can contain up to 999 files..

*Logging files, limit patterns and compensation tables are only available with Option U02 - see next page.

PSA-Manager Software

PSA Manager is a Windows* based program that provides additional capabilities for the PSA Series 5. It is available free of charge.



It can display trace files, and can be used to back up and manage set-up files and other parameters.

However, its more sophisticated capabilities are apparent when Option U02 is installed within the instrument (see next page).

It can then be used to create limit patterns, channel markers and compensation table files, using numeric editing, import from .csv files, or via its graphical editor.

Scan-mode files and Log files created within the instrument can be viewed and analyzed.

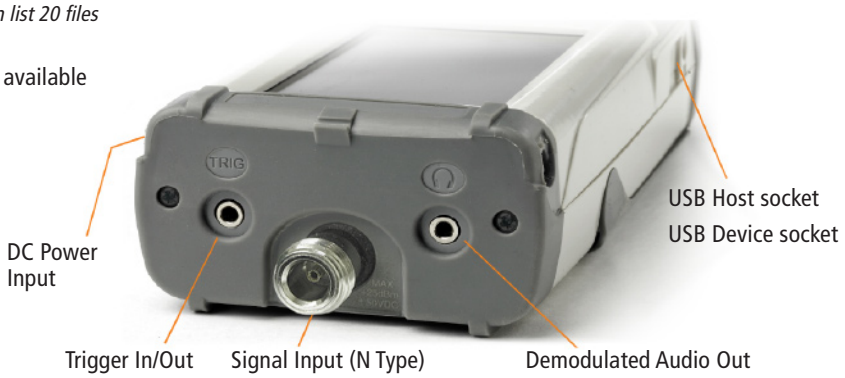
** Windows is a trademark of Microsoft inc. PSA-Manager is compatible with all versions of Windows (32 bit and 64 bit) from Windows XP upwards.*

Data export and transfer

USB device and host connectors are provided enabling the PSA Series 5 to be linked directly to a PC for file transfer, and for the connection of USB Flash drives for data transfer or storage.

Trace files have a standard comma separated value (.csv) format which can be imported into other applications such as Excel or MathCad.

Screen images are stored as standard bit-maps that can be manipulated and printed using a PC as well as being recalled to the PSA screen.



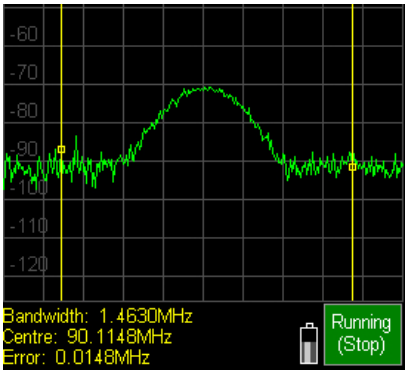
Further features with option U02

Option U02 is a firmware upgrade that increases the capabilities of the PSA3605 or PSA6005 to include the following features (marked with *).

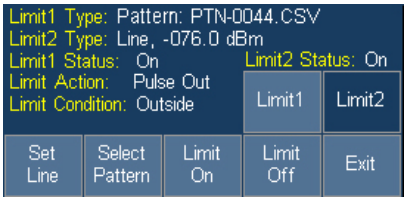
Automatic Measurements*

Automatic measurements of Channel Power (CP), Adjacent Channel Power Ratio (ACR) and Occupied Bandwidth (OBW) can be performed.

Measurements can be performed continuously or in single-shot mode.

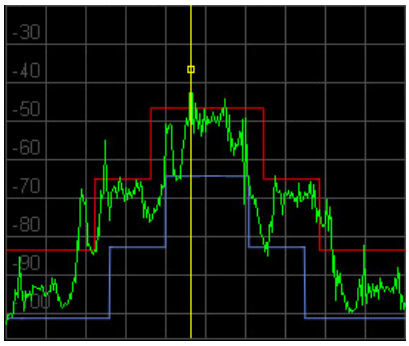


Limit patterns and limits comparator*



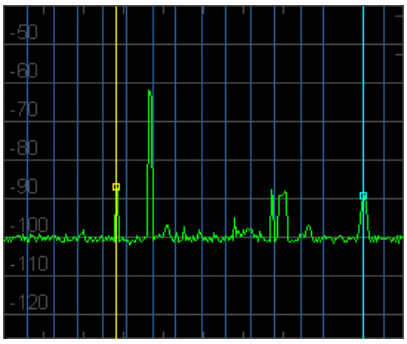
Limit lines and patterns can be defined which can be simply visual aids or create automatic actions. Zone restriction can be applied.

A single or dual line limits comparator can be used to generate audible warnings, output signals, or to freeze or log the trace.



Channel Markers *

Channel Marker List files are a special type of limit pattern file that contain only vertical lines. They can be particularly useful for showing channel position frequencies.



PSA-Manager provides an editor that enables them to be created by simply entering a list of frequencies. Each file can contain up to 50 marker lines.

Triggered sweep*

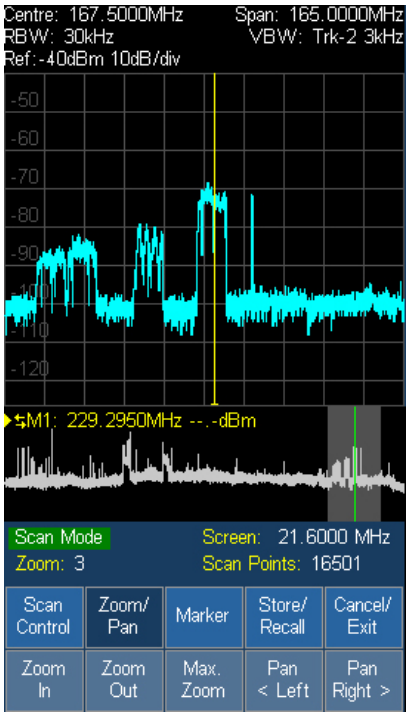
The standard sweep modes of continuous repeat and single shot can be extended to include triggered sweeps from an external signal or internal limits comparison.

High resolution Scan Mode*

The normal sweep mode of the analyzer collects and displays 271 points of data across the span.

In Auto RBW mode the resolution bandwidth will be set to be appropriate for this number of points, and can not be significantly improved upon by setting a narrow RBW. Instead, the span must be reduced until the desired resolution is obtained.

There are circumstances where it may be useful to observe a span at much higher resolution than is possible using a normal sweep



Scan Mode is an entirely different mode of operation in which a narrow RBW can be set resulting in a much higher number of data points being collected - up to 210,000 points.

This data is written to a file, the contents of which are displayed in a compressed form. Pan and zoom functions allow any part of the scan to be analyzed in detail right down to one pixel per point.

Once the scan is completed, the data is written to the display in both the graticule window and an overview area below as a data envelope.

When the display is zoomed, the overview continues to show the whole scan whilst indicating the section being shown within the graticule window.

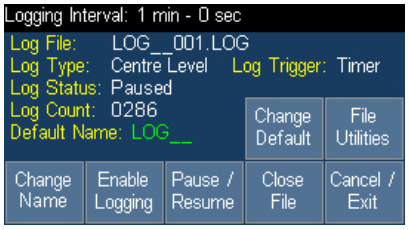
The marker can be used to rapidly pan the display to a new area.

At maximum zoom (271 points shown) the display returns to showing a single data point per pixel, and the marker provides an amplitude readout in addition to frequency.

Scan files can be saved in a similar way to trace files, and exported as CSV data for use with PSA Manager or other third party analysis programs.

Data Logging*

The PSA Series 5 can log results in response to a variety of stimuli. Data is stored as files that can be transferred to a PC for analysis using PSA-Manager software.



The data stored can be the peak level, centre frequency level, the whole trace, or a bitmap screen image. Each file can contain up to 25,000 entries.

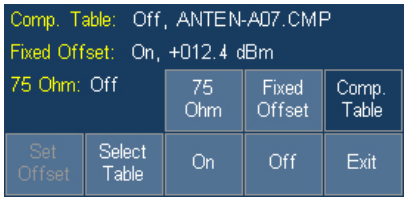
The 1.8GB of internal memory enables vast amounts of data to be stored.

Logging entries can be created by an internal timer (adjustable from seconds up to hours), the manual trigger key, the external trigger input, or the limits comparator.

Features with option U02 (continued)

*Offsets and Compensation Tables**

The reference level, graticule and marker readouts can be set to compensate for external attenuation or gain to a resolution of 0.1dB.



Compensation can also be added for signals emanating from a 75Ω source.

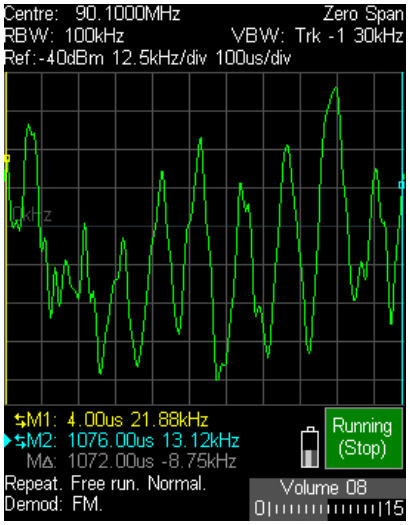
Tables can be loaded that compensate for variations of level with frequency for specific antennae or transducers. The tables can contain up to 100 points and are linearly interpolated between points.

*Custom Presets **

Custom Presets is an extended version of the User Preset from which multiple presets can be saved or recalled by entering just a number.

Applications for which Custom Presets might be used include frequency selection via channel numbers, or repetitive steps within a test environment.

*Waveform Demodulation**



In addition to audio demodulation of AM or FM signals, the modulating waveform can be displayed against a timebase settable between 5us/div and 20ms/div.

Markers can be used to measures modulating frequencies and depth or deviation.

*View on PC**

View on PC enables the screen of the spectrum analyzer to be sent to a PC by USB. The screen image can be set to a user definable size and is particularly useful for education and training purposes.

***NOTE:** All features marked with an asterisk * require Option U02 to be installed.*

FREQUENCY MEASUREMENT

Frequency Span

Frequency Range: 10 MHz to 3600 MHz (PSA3605)
10 MHz to 6000 MHz (PSA6005)
Setting Modes: Centre frequency plus Span, or Start plus Stop frequencies
Maximum Span: 5990 MHz (PSA6005)
3590 MHz (PSA3605)
Minimum Span: 27 kHz, or Zero Span with demodulation
Set. Resolution: 100 Hz at any frequency
Setting Accuracy: Reference Frequency Accuracy for Start, Stop & Centre (Zero-Span) frequencies

Reference Frequency Accuracy

Initial Accuracy: Better than ± 1 ppm at 20 °C
Stability: Better than ± 1 ppm over 10 °C to 30 °C
Ageing: Better than ± 1 ppm per year

Phase Noise (Typical)

Carrier at 1 GHz: -83 dBc/Hz at 30 kHz offset
-99 dBc/Hz at 100 kHz offset
-116 dBc/Hz at 1 MHz offset
Carrier at 3 GHz: -94 dBc/Hz at 30 kHz offset
-109 dBc/Hz at 100 kHz offset
-117 dBc/Hz at 1 MHz offset
Carrier at 6 GHz: (PSA6005 only) -83 dBc/Hz at 30 kHz offset
-97 dBc/Hz at 100 kHz offset
-114 dBc/Hz at 1 MHz offset

Resolution Bandwidth

RBW: Selectable between 10 MHz and 300 Hz selectable in 1:3:10 sequence, or Auto
Video Filtering: Selectable between 10 MHz and 300 Hz selectable in 1:3:10 sequence, or RBW Tracking

Markers

No. of Markers: One, Two (or None)
Resolution: 0.1 kHz at all frequencies
Marker Accuracy: 1/270th of Span ± 10Hz plus reference frequency accuracy.
Readout: The frequencies at the marker points and the frequency difference are displayed
Functions: Normal (Scroll Mode), Peak Find Mode, Peak Track Mode, Frequency Measurement

Marker Frequency Counter

Frequency counted at the current active marker (M1 or M2) in sweep or zero-span mode
Resolution: 10Hz, 100Hz or 1kHz
Accuracy: Reference frequency accuracy +/- 1 count for signal > noise level +25dB

Channel Markers (only with Option U02)

Channel markers are a special case of Limit Patterns (see Amplitude Limits within next section). Channel markers are vertical lines at frequency points defined within a file. Most commonly they will be used to mark channel centre frequencies or channel boundaries.
No. of Points: Up to two files, each containing up to 49 points, can be displayed in differing colours.
Marker Files: Files are created using PSA-Manager software. Up to 999 files can be stored.

AMPLITUDE MEASUREMENT

Amplitude Range

Units: Selectable as dBm or dBµV
Display Range: 84 dB from reference level
Magnification: x2, x5 or x10
Reference Level: Selectable between -40dBm and +20 dBm (67dBµV to 127dBµV) in 1dB steps

Amplitude Accuracy

Calibration Level
Accuracy: Better than ± 1 dB at 10dB below ref. level @ 2000MHz (20°C ± 5°C)
Flatness: Better than ± 1 dB relative to 2000MHz over the the full operating frequency range
Linearity: Better than ± 1 dB over 60dB range down from the reference level

Markers

No. of Markers: One, Two (or None)
Resolution: 0.1 dB
Readout: The level at the marker points and difference are displayed.
Displayed Units: dBm, dBuV, mV or uW
Functions: Normal (Scroll Mode), Peak Find Mode, Peak Track Mode, Frequency Measurement

Displayed Average Noise Level (DANL)

DANL: Better than – 120 dBm (-13 dBuV) average displayed noise floor (ref. level = – 40 dBm RBW = 10 kHz, VBW = 1 kHz, span 1 MHz) for frequency range 10MHz to 5.5GHz
Noise per Hz Better than -160 dBm/Hz equivalent

Distortion and Spurii

3rd Order Intermodulation:
< –60dBc for two signals at 10dB below reference level, (500MHz and 502MHz) ; typically < -65dBc
Harmonic:
< –60dBc at 10dB below reference level (100MHz)
Signal Images:
<– 55dBc, typically <– 60dBc in 'Normal' image rejection mode for RBWs between 300Hz and 3MHz
Other Signal Related Spurii:
<-60 dBc for signals 10 dB below the reference level
Residual Spurii:
<-70 dB below the reference level

Amplitude Limits (only with Option U02)

Limit Types: Limit lines from numeric values, or limit patterns from files.
No. of Limits: Up to two limits can be displayed in differing colours.
Limit Patterns: Pattern files are created using PSA-Manager software. Patterns are linearly interpolated from up to 40 frequency/amplitude points. Up to 999 patterns can be stored.
Limits Comparator: Conditions of above, below, inside or outside of limits, creating actions of message, beep, stop sweep, log sweep and pulse out.

Amplitude Compensation (only with Option U02)

Offset: Amplitude can be offset by up to +/-50 dB to compensate for external attenuation or gain.
75 Ω Comp.: Compensation can be made for inputs from 75 Ω source impedance.
Tables: Linearly interpolated compensation tables of up to 40 frequency/amplitude points can be used. Up to 999 tables can be stored. Table files are created using PSA-Manager software.

SIGNAL INPUT

Input Connector: N Type, 50 Ω
VSWR: 1.5 : 1 typical
Maximum Level: + 25 dBm, (132 dBµV); +/-50V DC

SWEEP

Sweep Method:
Detection for 271 points per sweep. The amplitude value (as determined by the detection mode) from each sub-span is stored (sub-span = span/270)
Signal Detection Modes:
Alternate Peak (default), Positive Peak, Negative Peak, Sample, Linear Average, Log Average or RMS
Signal Image Rejection Modes:
Real-time rejection with automatic or manual re-alignment or Data Comparison based rejection.
Sweep Time:
Sweep time is a automatic function of Span and RBW/VBW. A speed-up function enables the time to be reduced by a factor of up to ten.
Sweep Modes:
Repeat (continuous) or Single Shot

Sweep Trigger (only with Option U02)

Trigger Source: External input or Limits Comparator.

Scan Mode (only with Option U02)

Scan Method:
High resolution capture of up to 210,000 points defined by span andRBW. Number of points = 3 x (Span/RBW) +1.
Scan Display:
Over-view display of whole scan with Zoom and Pan capability to magnify view up to 1 display point per capture point.
Marker:
Moveable marker with frequency readout. Pan/Zoom around marker point. Amplitude readout at maximum magnification.
File Storage:
Scan files can be saved under automatic or user defined names and recalled to the screen or exported to external programs.

DEMODULATION (Zero Span mode)

Audio Demodulation

Modes: AM or FM
Internal Audio: Internal loudspeaker with adjustable volume and mute.
Audio Out: 30 mW into 32 Ω mono or stereo headphones, adjustable volume, 3.5mm jack socket
Audio Filter: Switchable 3kHz Low Pass Filter.
Carrier Display Horizontal line at carrier level.

Waveform Demodulation (only with Option U02)

Display Modes: AM modulation waveform
FM modulation waveform
Carrier waveform (against timebase)
Carrier level (horizontal line)
Timebase: 5 us/div to 20 ms/div (1:2:5 sequence)
Trigger: Rising Edge / Falling Edge, Auto or Free Run
Markers: Twin markers with delta readout
Marker Readout: AM - absolute depth and difference depth
FM - absolute deviation and difference dev.
Carrier - absolute time and difference time
Marker Resolution: 0.01% AM, 10Hz FM
AM Measurement: Modulation rate - 35 Hz to 100 kHz
Modulation depth: - 5% to 100%
Scale - 5% to 100% full scale, 1:2:5 sequence
FM Measurement: Modulation rate - 35 Hz to 100 kHz
Deviation: - 1 kHz to 1 MHz
Scale - 1kHz to 1MHz full scale, 1:2:5 sequence

DISPLAY & TRACES

Display Type: 4.3 inch (10.9 cm) backlit TFT LCD, 480 x 272 pixels total, 16 colours, resistive touch screen.
Graticule: 8.5 x 10 divisions, light grey graticule.
Displayed Points: 271 points per sweep.
Live Trace: Dot-joined trace from current sweep.
Trace Modes: Normal (overwrite), Peak Hold, or Average (2 to 48 sweeps).
View Trace: Buffered "instance" of the live trace.
Reference Trace: Stored trace recalled from a trace file.
Dual Trace Mode: For Peak Hold and Average modes, processed and un-processed traces can be displayed simultaneously.

DATA LOGGING (only with Option U02)

Data Types: Peak level, Centre Level, Full Trace or Screen Image.
Data Entries: Up to 25,000 entries per file (2500 for Images).
Trigger Source: Entries can be made every sweep or in response to Manual Trigger key, External Trigger, Internal Timer or Limits Comparator.
Internal Timer: Adjustable from 2secs. to 100mins per entry.

MEMORY STORAGE

Internal Disk:
1.8GB of internal memory.
External Storage:
USB host interface for removable USB Flash drives.
Store Trace:
Up to 999 traces can be stored under either default file names or user entered file names. Traces are stored as tables of amplitude versus frequency and can be imported into other programs, as well as being recalled to the screen.
Recall Trace:
Recalls any stored trace to the reference trace of the display.
Store Set-up:
Up to 999 instrument set-ups can be stored under either default file names or user entered file names. All settings of the instrument are saved.
Recall Set-up:
Recalls any stored set-up, overwriting the existing settings of the instrument.
Store Screen:
This function copies the whole screen area to memory as a bit-map. Up to 999 screens can be stored under either default file names or user entered file names.
Recall Screen:
Recalls any stored screen as an image.

CONNECTORS

RF Input: Standard N Type connector.
DC Power: 1.3 mm power socket for external power supply/charger
USB Host: Standard USB type A connector for connection of USB Flash drives.
USB Device: Mini USB connector for connection to a PC.
Audio Out: 3.5 mm jack socket for demodulated audio out (accepts mono or stereo plugs).
Trigger In/Out: For use with option U02 only.

POWER SOURCES

Battery

Battery Type: Li-ion 3.7V 3000mA-hr
Battery Life: Greater than 3 hours continuous
Recharge Time: < 3 hours from fully discharged
Auto Off Mode:
To conserve battery life, the system can be set to automatically switch off after a defined time from the last key press. This can be set between 5 mins and 60 mins (or never).
Battery Status: Multi-segment battery status indicator.

AC Line Operation/Charging

The instruments can be operated continuously from mains power using the AC line adaptor provided. This powers and recharges the instrument simultaneously.
Voltage Range: 100V to 240V nominal 50Hz/60Hz

MECHANICAL, ENVIRONMENTAL & SAFETY

See Last Page.

Option & Accessories | Ordering Information

MECHANICAL

Size:	192mm high x 92mm wide x 49mm deep (height excludes RF input connector)
Weight:	580 grms.
Tilt Stand:	Built-in tilt stand for bench use which angles the unit at 40 degrees to the horizontal.
Stylus:	Casing incorporates plug-in stylus.

ENVIRONMENTAL AND SAFETY

Operating Range:	+5°C to + 40°C, 20% to 80% RH.
Storage Range:	-10°C to +50°C
Environmental:	Indoor use at altitudes to 2000m, Pollution Degree 2.
Electrical Safety:	Complies with EN61010-1.
EMC:	Complies with EN61326.

Options & Accessories

A number of options and accessories are available. Further items may be added in future, check the web site for up to date information.

Firmware Upgrade U02

Option U02 is a firmware upgrade that can be purchased and installed by the user at any time. It increases the capabilities of the PSA3605 or PSA6005 to include those marked * on page 7 and detailed within the technical specifications.

Order code: PSA-U02

Note: Option U02 is pre-installed within the PSA3605USC and PSA6005USC products.

Telescopic Antenna

This wideband antenna is intended for general purpose applications where absolute measurements of field strength are not required.

The antenna is a high quality unit with a knuckle joint hinge terminating with a BNC connector. An N to BNC adaptor is provided for direct connection to the instrument.

The length is adjustable between 12cm and 55cm. The useful bandwidth is specified by the manufacturer as 30MHz to 2GHz.

Order Code: PSA-ANT2

Note: The antenna is included within the PSA3605USC and PSA6005USC products.

Vehicle Charger

A vehicle charger operating from either 12V or 24V supplies is available. It is capable of both recharging and operating the spectrum analyzer.

Order Code : PSA-VC

Note: The charger is included within the PSA3605USC and PSA6005USC products.

Travel Case

This soft fitted case is strongly made and offers high impact resilience. It provides protection for the PSA3605 or PSA6005 when in transit, and has storage space for the power adaptor, cables, and other accessories.

Order code: PSA-SC2

Note: The case is included within the PSA3605USC and PSA6005USC products - see illustration below.

Connection Kit

The connection kit comprises a high quality SMA terminated cable along with SMA to N type adaptors for connection to the PSA and to a generator. The cable has low losses up to 6GHz.

A BNC to N type adaptor is also included enabling standard BNC cables to be used for lower frequency applications.

Order Code : PSA-CK

USC versions

The PSA3605USC and PSA6005USC are extended versions of the product that include the firmware upgrade (U02), the travel case, telescopic antenna and car charger.

The firmware upgrade is pre-installed and all of the accessories, including the antenna and car charger, are supplied within the fitted case.

Supplied Items

Standard Product

PSA3605 or PSA6005 spectrum analyzer.
Universal voltage mains adaptor/charger.
USB connection lead.
Spare stylus.
BNC converter for trigger input.
Multi-language Short Guide.
Full users manual (English only).
Support CD containing PDF versions of manuals and support software.

USC Product

All of the 'standard product' items are supplied plus the following:

Firmware Upgrade U02 (installed)
Telescopic Antenna PSA-ANT2
Vehicle Charger PSA-VC
Travel Case PSA-SC2

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