



The **AE-966** and **AE-967** spectrum analysers cover a frequency band from **9 kHz** to **3 GHz** and allow a stable operation with span of **2 kHz/div** to **3 GHz/div**.

The **AE-966** is the basic model whereas the **AE-967** includes a **Tracking Generator**, which turns the **AE-967** into a highly useful tool for the response measurement of filters, amplifiers, attenuators and, generally speaking, any kind of radio frequency system.

The plentiful measurement functions like markers, traces, power measurement, limit line, dual display and trigger make measurement more easily and quickly. The exit direct VGA is ideal to realize presentations.

The **Tracking Generator** available in model **AE-967** offers the frequency response test with the same frequency band. The **RS232 interface** and **USB** allows the connection between the unit and PC. Users can develop their own applications software. **DC 12V power supply** (optional) allows user to carry this unit to drive around for frequency monitoring. With the carrying case, this unit is easy to carry and operate in the field service. **9k** and **120k EMI filter** and **quasi-peak detector** (optional) can perform the EMC test.

#### Characteristics:

- Low noise floor: -117dBm to 600MHz, 3k RBW.
- Fast sweep: 50ms ~ 25.6s.
- Tracking generator (only AE-967).
- Autoset.
- 5 markers with Delta Marker and Peak functions.
- 3 traces
- Power measurements: ACPR, OCBW, N-dB, Phase Jitter.
- Pass/Fail test with Limit Line editing.
- Split windows with separate settings.
- Sequence programming (user-defined macro).
- 6.4" TFT color LCD, 640 x 480 resolution.
- Phone output (available in optional Demodulator).
- AC/DC/Battery multi-mode power operation.
- Compact size: 330(W) x 170(H) x 340(D) mm.
- Light weight: 5.8kg (without options).

#### Interface

- USB host for storage device connection and display image printout
- USB slave/RS232/GPIB(optional) for PC software connection and remote control.
- Direct VGA display image output.
- Reference signal input/output for synchronization
- External trigger signal input.

#### Options

- EMI filter with 9kHz/120kHz RBW and 6-dB bandwidth.
- Battery pack.
- AM/FM Demodulator.
- 300Hz/10kHz/100kHz RBW.
- GPIB interface.

**GENERAL****FREQUENCY**

<b>Range</b>	From 9 kHz to 3.0 GHz
<b>Accuracy</b>	To see base of times.
<b>Span Accuracy</b>	To see base of times.
<b>Span Range</b>	2 kHz to 3.0 GHz in 1/2/5 sequence, full span, zero span.
<b>Phase Noise</b>	-80 dBc/Hz 1 GHz 20 KHz Offset typ.
<b>Base of Times</b>	±10 ppm, of 0 to 50 °C, 5 ppm/yr

**BANDWIDTH**

<b>RBW Range</b>	3 kHz, 30 kHz, 300 kHz, 4 MHz
<b>RBW Accuracy</b>	± 15%
<b>VBW Range</b>	100 Hz to 1 MHz in 1-3 steps.
<b>Sweep Time Range</b>	50 ms a 25,6 s

**INPUT**

<b>RF Input</b>	
<b>Overload Protection</b>	+30 dBm Continuous.
<b>Impedance</b>	50 Ω nominal
<b>TG Output VSWR</b>	<2:1, ref level. 0 dBm
<b>Connector</b>	Type N Female
<b>Ext. Reference Clock</b>	1 MHz, 1,544 MHz, 2,048 MHz, 5 MHz, 10 MHz, 10,24 MHz, 13 MHz, 15,36 MHz, 15,4 MHz, 19,2 MHz

<b>Display</b>	640 x 480 high-res color TFT LCD.
<b>Markers</b>	10 markers for peaks: 5 normal-delta marker pairs. Functions: Delta, Peak, Marker Track
<b>Autoset Function</b>	Auto tuning the measurement result for observation.
<b>Sequence</b>	Automated test by user defined macros without any remote control.

<b>GPIB INTERFACE</b>	Optional
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**AMPLITUDE**

<b>Measurement Range</b>	1 MHz to 15 MHz 15 MHz to 600 MHz 600 MHz to 2.3 GHz 2.3 GHz to 3.0 GHz
<b>Reference Level Range</b>	-30 dBm to + 20 dBm, overload protection.
<b>Accuracy</b>	±1 dB it 100 MHz
<b>Frequency Flatness</b>	±1 dB
<b>Display Range Linearity</b>	±1 dB over 70 dB
<b>Overload Protection</b>	+30 dBm, ±25 VDC
<b>Average Noise Floor</b>	-135 dBm/Hz: 1 MHz to 15 MHz -152 ± 1dBm/Hz: 15 MHz to 600 MHz -149 ± 1dBm/Hz: 600 MHz to 2.3 GHz -147 ± 1dBm/Hz: 2.3 GHz to 3.0 GHz
<b>Harmonic Distortion</b>	<-60dBc RF Input < -40dBm.
<b>Non-Harmonic Spurious</b>	<-110 dBm to 3kHz RBW
<b>Third Intermodulation</b>	<-70 dBc Input -40 dBm
<b>Trace Detection</b>	3 traces with Peak, Maximum hold, Freeze, Average, and Trace Math

## OTHER FUNCTIONS

<b>Internal Memory</b>	10 Traces, 10 Setup Info, 10 Limit lines, 5 Corrections, 10 Sequences.
<b>Power Measurements</b>	ACPR, OCBW, Channel power, N dB BW y Phase Jitter.
<b>Ref. Clock Output</b>	10 MHz

## CONNECTORS

<b>RS-232</b>	For the overturned one of the screen to a PC (free software).
<b>External Trigger Input</b>	BNC, TTL +5V signal.
<b>USB Connector</b>	Front Panel: Type A. Rear Panel: Type B mini.
<b>DC Voltage Output</b>	SMB Male, +9V/100mA max output.

## TRACKING GENERATOR (only AE-967)

<b>Frequency Range</b>	9 kHz to 3,0 GHz
<b>Amplitude Range</b>	-50 dBm to 0 dBm
<b>Amplitude Accuracy</b>	±1 dB (0 dBm, 100 MHz)
<b>Amplitude Flatness</b>	±1 dB (0 dBm).
<b>Harmonics</b>	<-30 dBc typical.
<b>Reverse Power</b>	+30 dBm
<b>Impedance</b>	50 Ω nominal
<b>TG Output VSWR</b>	< 2:1

## EMI FILTER (optional)

<b>RBW Selections</b>	9 kHz and 120 kHz, 3dB bandwidth
<b>RBW Accuracy</b>	15 %

## AM/FM DEMODULATOR AND 10kHz & 100kHz RBW (optional)

<b>Demodulator</b>	AM, FM.
<b>Output</b>	Internal Speaker, 3.5mm stereo jack wired for mono.
<b>RBW Selections</b>	10 kHz and 100 kHz, 3dB bandwidth.
<b>RBW Accuracy</b>	15 %.

## POWER SUPPLY

<b>AC Input</b>	100 to 240 V AC, 50-60 Hz.
<b>Internal</b>	
<b>Battery (optional)</b>	Li-Ion rechargeable battery pack using the DC/AC dual power supply
<b>External</b>	
Dual mode DC/AC power supply	DC 12 V
<b>Consumption</b>	60 W

## OPERATION ENVIRONMENT CONDITIONS

<b>Indoor use</b>	
<b>Altitude</b>	Up to 2000 m
<b>Optimum operating temp.</b>	From 18 to 28 °C
<b>Relative humidity</b>	From 0 to 90

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**STORAGE ENVIRONMENT CONDITIONS**

Temperature range	From 0 to 40 °C
Relative Humidity	< 85%

**MECHANICAL CHARACTERISTICS**

Dimensions	W 330 x H 170 x D 340
Weight	6 kg without options.

**INCLUDED ACCESSORIES**

Power cord	CA-05
User's Manual	0 MI1486
CD – Software	0 DK0742
N-BNC adapter	2x AD059

**OPTIONS**

GPIB Interface	OP-966-A
Battery Pack	OP-966-CU
Resolution Filter 300Hz RBW	OP-966-E (*)
Resolution Filter 9KHz and 120KHz RBW	OP-966-D (*)
AM/FM demodulator and 10kHz & 100kHz RBW filter	OP-966-M (*)

(\*) Only one of these options can be installed. Installation in factory on having done the order of the equipment. It is not possible to realize the installation later.