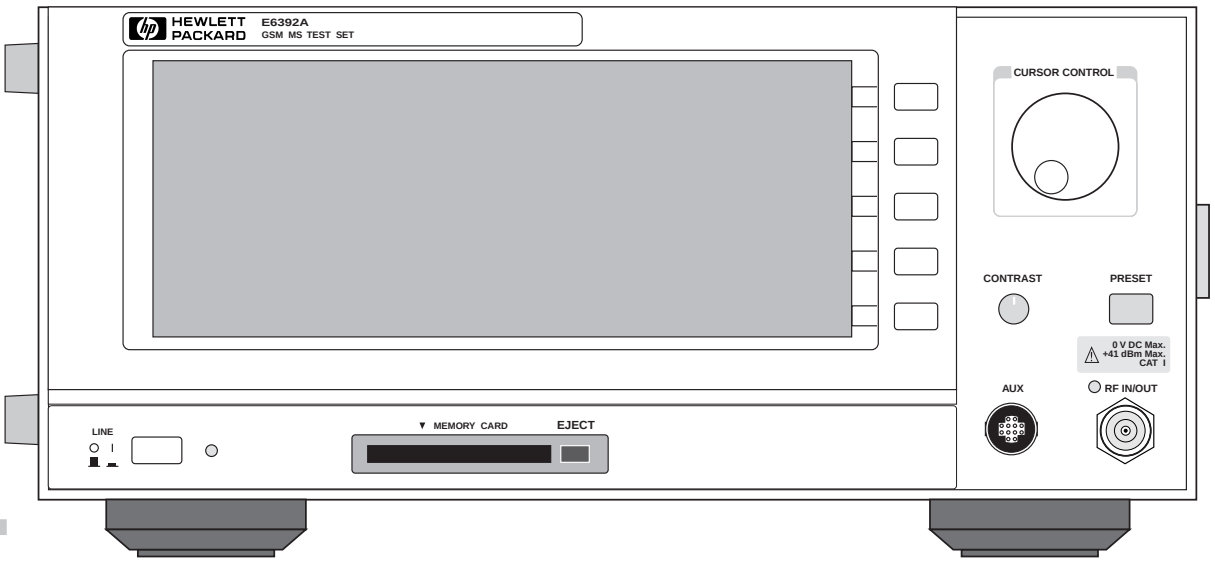
Specifications

HP E6392A GSM Mobile Station Test Set

HEWLETT PACKARD
Expanding Possibilities

GSM, E-GSM, DCS1800 Frequency Bands



The HP E6392A GSM Mobile Station Test Set

The best-value solution for servicing GSM and DCS1800 mobile phones—from inspection through module-level repair

GSM service providers and mobile phone repair organizations face the challenge of servicing a rapidly growing industry. Worldwide, the number of GSM mobile phones in use has increased dramatically—and so has the need for mobile phone service and repair. To accommodate this need, more repair tasks are being delegated to local service centers. A key part of this new repair strategy is equipping remote service centers with test sets that are **accurate, versatile, easy-to-use, *and* affordable**.

Hewlett-Packard provides a solution designed expressly for distributed servicing of GSM mobile phones. The HP E6392A GSM mobile station test set combines just the right amount of functionality with good performance and a low price. With this new test set, service technicians have the ability not only to check the overall functionality of a mobile phone, but also to make mechanical and module-level repairs. Mobile phone repair organizations can decrease equipment spending while increasing the repair capability and effectiveness of their service networks.

The HP E6392A offers the following advantages:

- Complete tool sets for measuring power consumption, RF spectrum, and more
- Flexibility for performing MS service tasks, from simple auto test for go/no-go inspection to manual test for detail troubleshooting
- Accurate, reliable troubleshooting
- Adjustment capabilities after repair
- Load and store test plans quickly on PCMCIA cards
- Firmware easily upgradable from the web or PCMCIA card
- Accessories, including cables and fixtures
- Complementary solution to HP's high-end MS repair test set
- Versatility and performance at a great low price!

The test set covers both GSM and DCS1800 frequencies. It offers a complete solution for inspecting, measuring, troubleshooting, and adjusting faulty mobile phones. In addition, it complements the high-end HP 8922S test set for component-level testing, so that mobile phone repair organizations can pursue a cost-effective "spoke and hub" test strategy.

HP E6392A GSM MS Test Set Specifications

Specifications describe the test set's warranted performance and are valid over the entire operation and environmental ranges unless otherwise noted. All specifications are valid after a 30-minute warm up period of continuous operation, and within the frequency ranges defined below.

Supplemental characteristics are intended to provide additional information useful in applying the instrument by giving typical, but non-warranted performance parameters. These characteristics are shown in Italics and labeled as "nominal", "typical", or "supplemental."

RF Signal Generator

Frequency Range:
935 MHz to 960 MHz (GSM downlink)
925 MHz to 960 MHz (E-GSM downlink)
1805 MHz to 1880 MHz (DCS1800 downlink)

Frequency Resolution: 200 kHz, at channel frequency

Frequency Accuracy: Same as reference

Output Level Range: –110 dBm to –50 dBm

Output Level Accuracy: ±1.0 dB

Modulation: 0.3 GMSK

Phase Error: *<5° rms typical*

Peak Phase Error: *<15° peak typical*

RF Analyzer

Frequency Range:
890 MHz to 915 MHz (GSM uplink)
880 MHz to 915 MHz (E-GSM uplink)
1710 MHz to 1785 MHz (DCS1800 uplink)

Transmitter Carrier Peak Power Measurement

Range: –20 dBm to +39 dBm (0.3 GMSK at burst/continuous or CW)

Accuracy:
±1.0 dB *(±0.6 dB typical at 25 °C ±5 °C)* at ≥0 dBm
±2.0 dB *(±1.6 dB typical at 25 °C ±5 °C)* at <0 dBm

Resolution: 0.2 dB

Power Ramp Measurement

Range: –11 dBm to +39 dBm (0.3 GMSK at burst)

Accuracy:
±0.6 dB typical at 25 °C ±5 °C at ≥0 dBm
±1.6 dB typical at 25 °C ±5 °C at <0 dBm

Resolution: 0.2 dB

Dynamic Range: *≥40 dB typical*

Phase and Frequency Error Measurement

Input Level Range: –11 dBm to +39 dBm

Input Phase Error Range: 0 to 20° (0.3 GMSK at burst)

Phase Error Measurement Accuracy:
≤1.5° rms at phase error ≥2.5°
≤6.0° peak at phase error ≥2.5°

Frequency Error Measurement Range: ±9 kHz
(0.3 GMSK at burst/continuous or CW)

Frequency Error Measurement Accuracy
(average of 10 measurements)**:**
±(10 Hz + frequency reference accuracy) at GSM/EGSM
±(25 Hz + frequency reference accuracy) at DCS1800

DC Power Supply

Range: 3 Vdc to 9 Vdc

Resolution: 0.1 V

Accuracy: 0.1 V at 100 mA load

Maximum Current: 1 A, peak 2 A

Ripple Noise: *100 mV p-p typical*

DC Current Measurement

Range: 3 mA to 1000 mA

Accuracy: ±(3 mA +2%)

Memory Card

Type: PCMCIA (U.S.)

Memory Size: SRAM 512 KB

RF Input/Output

Maximum Safe Reverse Power *(peak): +41 dBm (12.6 W; CW; supplemental characteristic)*

Impedance: *50 Ω nominal*

SWR: ≤1.5:1

Connector: N-type, female

Asynchronous Test (Option 002)

In-Band Spectrum Measurement (Option 002)

Frequency Range:
890 MHz to 915 MHz (GSM uplink)
880 MHz to 915 MHz (E-GSM uplink)
1710 MHz to 1785 MHz (DCS1800 uplink)

Input Level Range:
Range 1: –1 dBm to +39 dBm
Range 2: –11 dBm to +29 dBm

Frequency Span (from channel frequency): 0 Hz to +400 kHz or ±100 kHz

Amplitude Accuracy: *±2.0 dB typical*

Amplitude Resolution: *0.4 dB typical*

Dynamic Range: *≥40 dB typical at input ≥0 dBm*

RF Signal Generator (Option 002)

Frequency Range:
935 MHz to 960 MHz (GSM downlink)
925 MHz to 960 MHz (E-GSM downlink)
1805 MHz to 1880 MHz (DCS1800 downlink)

Frequency Resolution: 200 kHz at channel frequency

Frequency Accuracy: Same as frequency reference

Output Level Range: –110 dBm to –50 dBm

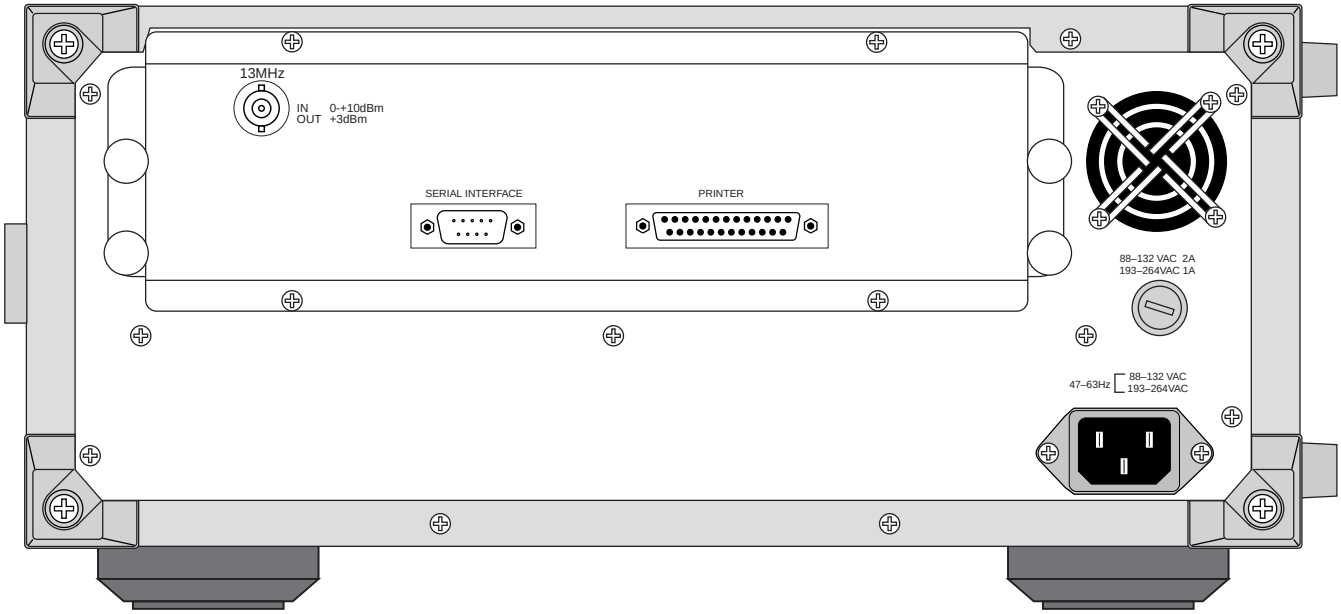
Output Level Accuracy: ±1.0 dB

0.3 GMSK Modulation: PN9 (with training sequence), all 0, Off (CW sinewave)

Phase Error: *<5° rms typical*

Peak Phase Error: *<15° peak typical*

Rear Panel



Frequency Reference

Frequency: 13 MHz

Aging: ±0.1 ppm/year

Temperature Stability: ±0.1 ppm (20 °C to 30 °C)

Reference Input: *13 MHz, 0 to +10 dBm typical, 50 Ω nominal*

Reference Output: *13 MHz, >+3 dBm typical, 50 Ω nominal*

Serial Interface

Interface: EIA RS-232C

Baud Rate: 9600

Connector: D-Sub 9-pin male

Printer Interface

Interface: Centronics

Connector: D-Sub 25-pin female

General Specifications

Size: 350 mm (W) × 150 mm (H) × 350 mm (D)

Weight: 10 kg

Power Voltage: 88 V to 264 V

Power Frequency: 47 Hz to 63 Hz

Power Consumption: ≤135 VA

Operating Temperature: 0 °C to +40 °C

Storage Temperature: –20 °C to +60 °C

For more product information visit our web site at:
http://www.hp.com/go/wireless

Available literature includes:

HP E6392A Preview Flyer

HP E6392A Product Overview

Warranty Information

This Hewlett-Packard instrument product is warranted against defects in material and workmanship for a period of one year from date of shipment. During the warranty period, Hewlett-Packard Company will at its option, either repair or replace products which prove to be defective.

For warranty service or repair, this product must be returned to a service facility designated by HP. Buyer shall prepay shipping charges to HP and HP shall pay shipping charges, duties, and taxes for products returned to HP from another country.

HP warrants that its software and firmware designated by HP for use with an instrument will execute its programming instructions when properly installed on that instrument. HP does not warrant that the operation of the instrument, or software, or firmware will be uninterrupted or error free.

Limitation Of Warranty

The foregoing warranty shall not apply to defects resulting from improper or inadequate maintenance by buyer, buyer-supplied software or interfacing, unauthorized modification or misuse, operation outside of the environmental specifications for the product, or improper site preparation or maintenance. No other warranty is expressed or implied. Hewlett-Packard specifically disclaims the implied warranties of merchantability and fitness for a particular purpose.

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For more information about Hewlett-Packard test and measurement products, applications, services, and a current sales office listing, visit our web site at:

http://www.hp.com/go/tmdir

You can also contact one of the following centers and ask for a test and measurement sales representative.

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Test and Measurement Call Center
P.O. Box 4026
Englewood, CO 80155-4026
(tel) 1 800 452 4844

Canada:
Hewlett-Packard Canada Ltd.
5150 Spectrum Way
Mississauga, Ontario
L4W 5G1
(tel) (905) 206 4725

Europe:
Hewlett-Packard Company
European Marketing Organisation
P.O. Box 999
1180 AZ Amstelveen
The Netherlands
(tel) (31 20) 547 9999

Japan:
Hewlett-Packard Japan Ltd.
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Technical data subject to change
Printed in U.S.A. 2/99
5968-1879E