

HP E6392A

NEW

- A module-level MS tester for a go/no go price
- Versatility, performance, and low cost
- Accurate, reliable troubleshooting
- Flexibility for performing MS service tasks
- Firmware easily upgradable from the web or PCMCIA card
- Easy operation and intuitive interface



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### Lower the cost of repairing GSM mobile phones

To help service technicians cope with the growing number of mobile phones coming into repair shops, the HP E6392A GSM mobile station test set provides module-level repair capability for the price of an entry-level “go/no go” tester.

With the new HP test set, GSM service-provider and mobile-phone-repair organizations can increase the repair capability and effectiveness of their entire service network, extending troubleshooting and repair coverage to local shops while keeping equipment costs in line. They can also reduce the number of “no trouble found” phones that are sent back to the manufacturer.

#### Versatile Measurement Tools

The HP E6392A offers a combination of just-enough functionality, good performance, and a low price. Comprehensive, automatic GSM measurements speed incoming inspection of mobile phones. With full test capabilities for GSM900, E-GSM, and DCS1800 technicians can check most GSM phones with this single instrument. They can also troubleshoot a problem to the mechanical or module level and make necessary module replacements.

Measurement tools include a direct current (dc) power consumption check, spectrum monitoring capability, and various transmitter and receiver measurements. The test set’s built-in functionality includes a dc power supply (standard) and optional spectrum monitor and signal generator. Measurement results are accurate and repeatable. For example, the test set provides a peak power measurement accuracy of  $\pm 0.6$  dB for transmitter measurements.

#### Easy to Use and Maintain

Service technicians can learn how to use the GSM test set in about 30 minutes. An intuitive user interface and a PC memory card reader help make the test set easy to set up and operate. Different test conditions can be stored on PC cards for easy uploading into the instrument. Also, HP will supply firmware upgrades for the GSM test set on PC cards.

A variety of optional accessories for the GSM test set includes RF cables, RF and dc power adapters, couplers, GSM test SIMs, and a shielded box for testing in open, spectrally noisy environments.

#### 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:**  $\pm 1.0$  dB

**Modulation:** 0.3 GMSK

**Phase Error:**  $< 5^\circ$  rms typical

**Peak Phase Error:**  $< 15^\circ$  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 Measurements

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

##### Accuracy

- $\pm 1.0$  dB ( $\pm 0.6$  dB typical at  $25^\circ\text{C} \pm 5^\circ\text{C}$ ) at  $> 0$  dBm
- $\pm 2.0$  dB ( $\pm 1.6$  dB typical at  $25^\circ\text{C} \pm 5^\circ\text{C}$ ) at  $< 0$  dBm

**Resolution:** 0.2 dB

#### Power Ramp Measurement

**Range:**  $-11$  dBm to  $+39$  dBm (0.3 GMSK at burst)

##### Accuracy

- $\pm 0.6$  dB typical at  $25^\circ\text{C} \pm 5^\circ\text{C}$  at  $> 0$  dBm
- $\pm 1.6$  dB typical at  $25^\circ\text{C} \pm 5^\circ\text{C}$  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:**  $0^\circ$  to  $20^\circ$  (0.3 GMSK at burst)

#### Phase Error Measurement Accuracy

- $< 1.5^\circ$  rms at phase error  $> 2.5^\circ$
- $< 6.0^\circ$  peak at phase error  $> 2.5^\circ$

**Frequency Error Measurement Range:**  $\pm 9$  kHz (0.3 GMSK at burst/continuous or CW)

#### Frequency Error Measurement Accuracy (average of 10 measurements)

- $\pm (10$  Hz plus frequency reference accuracy) at GSM/EGSM
- $\pm (25$  Hz plus frequency reference accuracy) at DCS 1800

#### 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:**  $\pm (3$  mA  $+ 2\%)$

#### Frequency Reference

**Frequency:** 13 MHz

**Aging:**  $\pm 0.1$  ppm/year

**Temperature Stability:**  $\pm 0.1$  ppm ( $20^\circ\text{C}$  to  $30^\circ\text{C}$ )

**Reference Input:** 13 MHz, 0 to  $+10$  dBm typical,  $50\Omega$  nominal

**Reference Output:** 13 MHz,  $> +3$  dBm typical,  $50\Omega$  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

#### 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:**  $50\Omega$  (nominal)

**SWR:**  $< 1.5:1$

**Connector:** N type, female

#### General Specifications

**Size:** 350 mm (W) x 150 mm (H) x 350 mm (D)

**Weight:** 10 kg

**Power Voltage:** 88 V to 264 V

**Power Frequency:** 47 Hz to 63 Hz

**Power Consumption:**  $< VA$

**Operating Temperature:**  $0^\circ\text{C}$  to  $+40^\circ\text{C}$

**Storage Temperature:**  $-20^\circ\text{C}$  to  $+60^\circ\text{C}$