



HP 8921A

HP 8921A Cell Site Test Set

The HP 8921A cell site test set is a highly portable, integrated solution for the installation and maintenance of AMPS and TACS cell sites. The HP 8921A incorporates more than twenty powerful instruments into a compact, 35-pound package. The integral IBASIC controller in the HP 8921A runs the HP 11807B cell site test software to fully automate base station test and adjustment procedures. Automation combined with accurate measurements increases technician efficiency to speed installation and maintenance procedures.

HP 8921A Features Summary

- AM/FM signal generator
- AM/FM modulation analyzer
- Duplex offset generator
- RF power meter
- RF frequency counter/frequency error meter
- Audio frequency counter and power meter
- AC/DC voltmeter
- SINAD/SNR/distortion meter
- Two variable frequency AF generators
- Digital oscilloscope
- Built-in IBASIC controller
- Spectrum analyzer with tracking generator
- Adjacent channel power meter
- Signaling encoder and decoder
- High-stability timebase
- DC current meter
- HP-IB/RS-232/parallel remote interfaces
- Upgradability to TDMA or CDMA test capability
- Optional cellular base station test software
- Optional cellular phone test software
- Optional radio interface card
- Optional Ericsson PCM reference

Portability

The small size combined with a total weight of 35 pounds results in less technician fatigue when servicing remote cell sites. For TDMA and CDMA base station test, the digital cellular adapters add only 10 pounds for a total weight of 45 pounds.

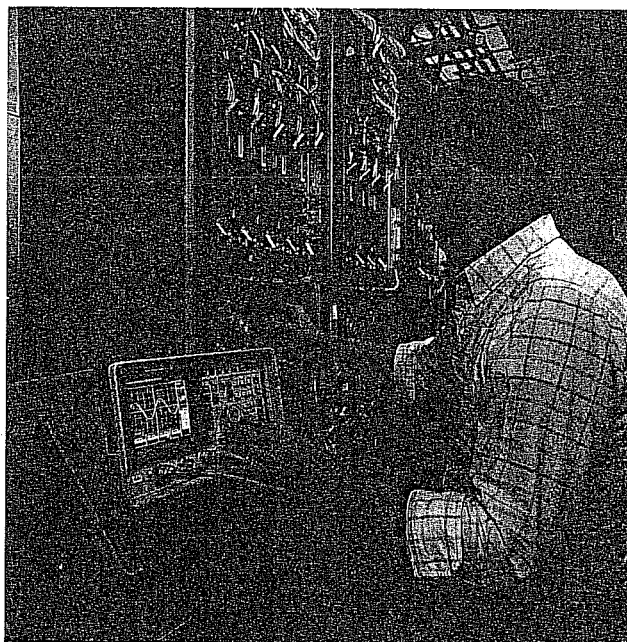
High-Performance Spectrum Analyzer

The spectrum analyzer of the HP 8921A has the wide dynamic range and synthesized frequency accuracy previously found only in expensive standalone spectrum analyzers. Wide dynamic range allows the HP 8921A/D to locate low level signals in the presence of high power transmitters. Synthesized frequency accuracy translates into high confidence that you've located the correct signals.

With frequency spans ranging from 1 GHz to as narrow as 5 kHz, the HP 8921A has the flexibility to look at the entire RF spectrum and then zoom in on the desired signals. The marker function displays the frequency and amplitude of any displayed signal. The marker-to-peak function displays the frequency and amplitude of the largest on-screen signal with a single keystroke.

Built-in Tracking Generator

The HP 8921A spectrum analyzer also includes a built-in tracking generator for tuning base station duplexers. With +13 dBm power output (over range), use the tracking generator as an input stimulus to the duplexer. The calibrated level of the spectrum analyzer ensures accurate adjustment of duplexers. Using the marker function of the spectrum analyzer, the rejection of the duplexer can be measured at any point of the filter response. Antenna return loss can be quickly and accurately measured on-site with the HP 8921A tracking generator. Using the tracking generator to drive the antenna through an external VSWR bridge, the reflected power can be measured on the HP 8921A spectrum analyzer. Other measurements performed with the tracking generator include insertion loss and frequency response of filters, cables, or attenuators. The tracking generator features calibrated output level from -137 to +7 dBm and variable frequency offset for IF to RF conversion measurements. Coupled with 1, 2, and 10 dB per division spectrum analyzer ranges, normalization, and marker capability, the tracking generator makes the HP 8921A ideal for all types of measurements and adjustments.



Automated Base Station Maintenance

For complex base station maintenance the HP 11807B cell site test software, running on the HP 8921A's internal controller, guides the user through each step of the procedure. Graphical displays show connection diagrams and highlight key adjustment points when required. Technicians spend less time learning and more time testing with the HP 8921A/D cell site test set.

Another software package, the HP 11807B Option 120, provides AMPS system information. The software uses the HP 8921A to scan for and decode local control channels, display system data, and measure key transmitter characteristics.

Key Literature

HP 8921A/D Product Overview, p/n 5963-6835E.
HP 8921A/D Price List, p/n 5963-7270EUS.

Also available are videos showing automated testing of cell site equipment:

Optimize Motorola Cell Sites Fast	p/n 1000-1300
Install and Maintain Ericsson Cell Sites Fast	p/n 1000-1297
Install and Maintain AT&T Cell Sites Fast	p/n 1000-1304

Compliments of

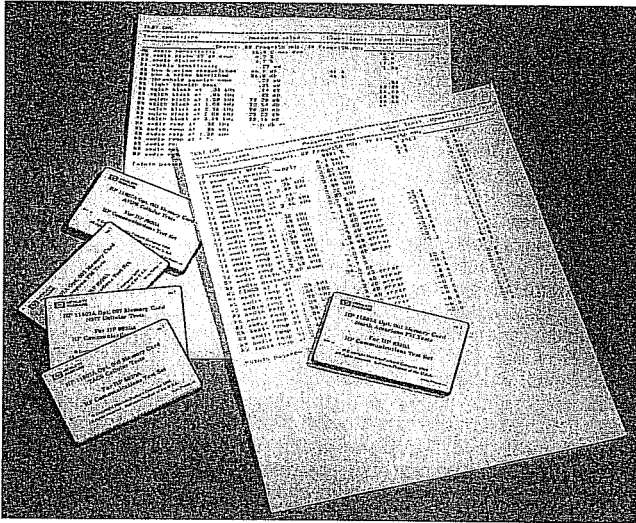
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HP 11807B Software for Automated Base Station Maintenance

Developed from manufacturers' recommended maintenance procedures, the HP 11807B cell site test software ensures complete test and adjustment of cell sites. Standardizing system maintenance with the HP 8921A/D and HP 11807B software increases system integrity. The fast measurement speed of the HP 8921A/D and HP 11807B software results in less off-line time for each transceiver during maintenance work. Since all cells are uniformly tested using the same test procedure, problems are detected earlier.



Hewlett-Packard has automated testing solutions for the following manufacturers' equipment:

- Motorola HDII, HDII/NAMPS, and LD series
- GE standard, extended frequency, and compact RCU series
- Ericsson 882 and 882M analog, microcell, and 882D DTRM
- AT&T Autoplex Series II analog, LMT microcell, and TDMA
- Northern Telecom DRU and P-series

In addition to the automated maintenance procedures, the HP 11807B Option 120 provides detailed analysis of AMPS cellular networks. An automated application using the HP 8921A's receiver and decoder, the package displays a wealth of AMPS system data. The system can find local AMPS control channels and display decoded forward control channel data. Other modes decode reverse control channel data, follow calls, and perform measurements on sites or mobiles (See product overview, p/n 5963-6891 EUS.)

HP 83202A Interface Kits

Order the HP 83202A base station connection kit to receive the necessary cables, connectors, and adapters to connect the HP 8921A/D to a specific type of base station. Available options include connection kits for Motorola, General Electric/Northern Telecom, Ericsson, and AT&T base stations. The 83202A provides everything needed to test base stations with the HP 8921A/D. Some connection kits also include an interface/switch box to more fully automate the testing process.

HP 83202A Base Station Connection Kits

- Option 040 Motorola Connection Kit
- Option 042 Ericsson Connection Kit
- Option 043 AT&T Connection Kit
- Option 044 GE & Northern Telecom Connection Kit

Total HP Support for Your Cell Site Test Needs

HP offers a variety of options to support cell site testing and keep your solution up to date with the latest technology. The HP 11807B software Option +36H Start-Up Assistance provides one day of on-site training for up to five people. Additional HP consulting/training is also available as needed. Option +SAJ Software Update Subscription keeps your software current by ensuring you get all software enhancements/updates sent to you automatically.

Key Literature

HP 8921A/D Product Overview, p/n 5963-6835E.
Also available are videos showing automated testing of cell site equipment:

Optimize Motorola Cell Sites Fast	p/n 1000-1300
Install and Maintain Ericsson Cell Sites Fast	p/n 1000-1297
Install and Maintain AT&T Cell Sites Fast	p/n 1000-1304

Ordering Information

	Price
AMPS/TACS and CDMA Cell Site Test	
HP 8921A Cell Site Test Set	\$19,900
Opt 011 CCITT Filter	\$0
Opt 020 Radio Interface Adapter	\$2,040
Opt 042 Ericsson PCM Reference	\$610
Opt 600 CDMA Cell Site Test System	\$18,000
Opt W30 Three Year Warranty	\$475
TDMA Dual-Mode Cell Site Test	
HP 8921D Dual-Mode Cell Site Test System	\$31,100
Opt 011 CCITT Filter	\$0
Opt 020 Radio Interface Adapter	\$2,040
Opt 042 Ericsson PCM Reference	\$610
Opt 915 Assembly Level Repair Manual	\$255
Opt W30 Three Year Warranty	\$1180
Digital Adapters for the HP 8921A	
HP 83201A Dual-Mode Cellular Adapter (TDMA)	\$11,200
Opt W30 Three Year Warranty	\$275
HP 83203B CDMA Cellular Adapter ¹	\$18,000
Opt W30 Three Year Warranty	\$450

Software for Automated Base Station Maintenance

HP 11807B Cell Site Test Software	\$0
Opt 040 Motorola AMPS/NAMPS Test Software	\$2,550
Opt 041 General Electric AMPS Test Software	\$2,550
Opt 042 Ericsson AMPS/TDMA Test Software	\$2,550
Opt 043 AT&T AMPS/TDMA Test Software	\$2,550
Opt 044 Northern Telecom AMPS/TDMA Test Software	\$2,550
Opt 050 Motorola TACS/ETACS/UTACS Test Software	\$2,550
Opt 052 Ericsson TACS Test Software	\$2,550
Opt 120 AMPS Call Analysis, Logging and Monitoring Software	\$2,650

Base Station Connection Kits

HP 83202A Base Station Connection Kit	\$0
Opt 040 Motorola Connection Kit	\$5,610
Opt 042 Ericsson Connection Kit	\$1,530
Opt 043 AT&T Connection Kit	\$610
Opt 044 GE & Northern Telecom Connection Kit	\$765

¹ For CDMA average power measurements on HP 8921As with a serial prefix less than or equal to "3501A", order the HP 8921A Option G21 upgrade.

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