The 3600D combines previous experience and future vision in proven features and expandable platform. All TIA formats are covered, including AMPS, NAMPS, TDMA (IS-54B and IS-136), and extensive test coverage of CDMA (IS-95A/98). All these digital formats are available at PCS frequencies using a self-contained frequency extension module (FEX). Japanese and Korean frequency band specifications are also covered.

Up to four optional modules can be simply installed. Using flash memory and the on-board floppy disk drive, straightforward field upgrades can be made. Modules can be purchased as technology develops and customers’ needs change, as the 3600D’s easy upgrade path preserves your investment in equipment, programs, and training.

Quick, Repeatable Testing With AUTORUNs

The 3600D’s comprehensive MS-DOS based programming capability means that any test which can be performed manually can be included in an AUTORUN. AUTORUNs can be helpful for specific phones which may require unique tests and for carriers who require specific tests for phones within the system.

Custom AUTORUNs are supplied by the carrier or phone manufacturer, or written to user specification. Each 3600D comes with five AUTORUNs in memory and additional examples on a 3.5” diskette. The 3600D stores five AUTORUN tests internally and accepts 3.5” diskettes for more.

Large Comprehensive Display

The 3600D’s large LCD screen can be viewed at up to 45˚ angle, allowing key parameters to be viewed without squinting or constant adjustment — ideal for a busy service bench. Comprehensive displays of parameters are included on the summary screens.

Channel, base power level, mobile power level, and system parameter set-up readings are always displayed at the bottom of the screen.
Upgrading the 3600D is easy. With the new CDMA module, technicians can perform call processing, transmitter tests, and receiver tests. Built-in AMPS and NAMPS protocols are standard, while PCS coverage is provided with an optional FEX module. Based upon requirements of IS-95A and J-STD-008, the 3600D’s extensive call processing capabilities include registration, authentication, and softer and hard handoffs.

In the critical area of power control, closed loop and open loop power control are supported. Speech coding can use pre-recorded, loopback, or an optional 8K/13K Vocoder to check voice quality.

CDMA Capabilities for Cellular and PCS

The 3600D’s signal generator provides pilot, sync, paging, and selectable traffic channels. An Additive White Gaussian Noise source with 30 dB troubleshooting range allows real world receiver testing. The constellation display shows the symmetry of the modulator and checks for skew and origin offset. Residual $p$ is better than 0.97 for confidence in receiver testing.

Highly accurate, the transmitter analyzer provides power measurements of $\pm 0.65 \text{ dB} + 0.003 \text{ dB/dB}$ (below $+40 \text{ dBm}$) over temperature. The high $p$ accuracy is $\pm 0.003$ is ideal for phone troubleshooting non-linearity or amplifier defects.

TDMA Testing, IS-136, and Voice Codecs

Testing digital phones is simple and effective with the 3600D. Authentication, Call Waiting, SMS, and Calling Number ID test capabilities allow phone features to be thoroughly checked. The standard VSELP Codec allows technicians to check voice quality end-to-end, while the new ACELP Voice Codec option
Productivity Enhancing Features

Accurate and repeatable measurement performance provides confidence in phone testing. A ‘C’ message filter, together with 50 Hz to 300 Hz highpass and 3, 15, and 30 kHz lowpass filters, provides flexibility in evaluating new phones.

Remote Control Options
Fast operation using the optional GPIB remote control ensures rapid assessment of phones in factory installed, fully automatic test systems. Comprehensive capabilities allow factory QC systems to be used at repair depots to check performance. RS-232 control is also provided for PC control in service shops.

Cable Loss Calibrator
Power accuracy via cable connection is enhanced using the built-in cable calibrator. With this feature, cables used for automobile installation can be calibrated and intermittent or faulty RF cables located.

Soft Keys Give Easy Access
All manual screens have soft keys to help technicians maneuver through comprehensive test screens. Operating an extensive test or improving response time is enhanced using the soft keys.

Automatically Exit And Return To Manual Operation
During an AUTORUN, the technician can pause on a failure, use manual mode to adjust a particular parameter, and easily return to the AUTORUN.

Affordable, Easy Custom Programming
To avoid expensive programming costs, test routines can be simply customized using a standard MS-DOS based text editor and PC. Up to five AUTORUN routines can be internally stored, while a 3.5” diskette holds additional programs. For example, AUTORUNs can simplify:
- 30-second inspection tests for verifying general operation
- Custom tests for phone repair
- Intermittent fault finding tests

One Button Access Simplifies Operation
One push of the ID button provides ESN, MIN and SCM data to verify correct phone programming.
Model 3600D

Logical Ease of Use

- Large, easy-to-read display
- Eight soft keys enhance ease-of-use
- Function keys enhance operations
- Data entry keys identify test names and provide numeric functions
- HELP key provides context sensitive technical assistance
- PC compatible 3.5" floppy disk drive
- QUICK key activates customized, quick AUTOTEST function
- Mobile power provides current, voltage, and power consumption
- Two internal generators provide flexible 'Audio Out' signals
- Internal calibrator improves measurement accuracy and isolates faulty cables
General Specifications

Physical Specifications
Height x Width x Depth: 7” x 19.5” x 16.5”
Weight: 37 lbs.
Temperature Range
Operating: 10° to 40°C
Storage: -20° to 70°C
Power Requirements
Voltage: 85 to 264 VAC
Current: 5A maximum
Frequency: 47 to 440 Hz
External Interfaces
Printer: Centronics, Parallel
Control: RS-232
GPIB: IEEE Standard 488

Standard Modes
AMPS
NAMPS

Optional Modes
TDMA IS-54B
TDMA IS-136 Basic
TDMA IS-136 Custom
CDMA IS-95, IS-95A
CDMA J-STD-008 (PCS CDMA)
J-CDMA Japan Cellular (832-870 MHz)

Voice Coders
VSELP (standard for TDMA mode)
ACELP (optional for TDMA mode)
QCELP (optional for CDMA mode)

Frequency Extension (FEX)
US PCS Base TX 1930-1989.96 MHz
Base RX 1850.04-1909.98 MHz

Korean PCS Base TX 1805-1870 MHz
Base RX 1715-1780 MHz

Bypass Mode Base TX 869.04-893.97 MHz
Base RX 824.04-848.97 MHz

Model 3600D

Ordering Information

Basic Unit
3600D Cellular Test Set 1010-00-0315
Includes:
AMPS/NAMPS
tnc to TNC Cable
TNC to Mini-UHF and SMA Adapters
Parallel Printer Cable
RS-232 Cable
D99 to DB25 Cable
Operator’s Manual

Test Options
CDMA Option 1019-00-0563
Frequency Extension Option 1019-00-0562
TDMA Option 1019-00-0421
ACELP Option 1019-00-0582
IS-136 Basic Option 1019-00-0535
IS-136 Custom Option 1019-00-0534

Accessories
OSC1 Oven Controlled Oscillator 1019-00-0436
GPIB Communication Port 1019-00-0434
PRN-1 Portable Printer 1010-00-0329
External 10 MHz Reference 1019-00-0459

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Versatility in Cellular and PCS Testing

Comprehensive Testing for CDMA, TDMA, IS-136, AMPS and NAMPS Mobile Phones

Model 3600D