

# Wireless

## 2935 GPRS Test Option 01



**AEROFLEX**  
A passion for performance.

Low cost field upgradeable GPRS test option for the 2935

- Higher throughput using GPRS Test Modes
- GPRS Attach
- CS1 and CS4 Channel Coding Schemes
- GPRS BER and BLER Test Functions
- Easy to use Phonetest user interface
- Pre-defined and user programmable GPRS test scripts
- Compatible with the 2935 workshop management options
- Simple upgrade via the Internet

### Update Today For Tomorrow's Technology

With GPRS handset sales escalating rapidly, engineers and service technicians need the expanded capabilities provided by the 2935 with the GPRS test option 01. Building upon the established performance and speed advantages of the 2935 GSM Test Head this option provides additional signaling and test capability to quickly characterize Tx and Rx performance of GPRS mobiles operating in the GSM 850, GSM 900, GSM 1800 and GSM 1900 bands.

### GPRS Call Processing and BLER/BER Test Modes

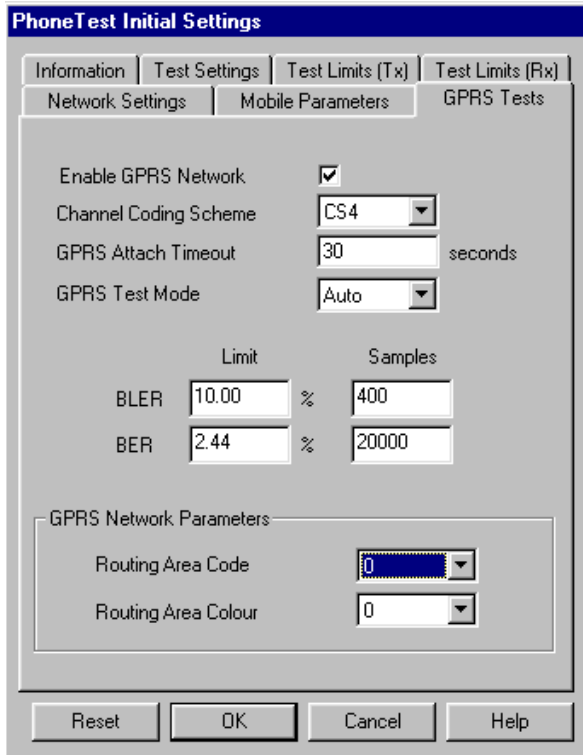
The 2935 GPRS test option 01 provides the necessary signaling and measurement features to test GPRS terminals including BCCH network parameter configuration, GPRS attach sequence and handoff control of PDTCH, TA (timing advance)

and PL (power level).

The 2935 GPRS option 01 provides fast Bit Error Rate (BER) testing using GPRS Test Mode B (Loopback) with user defined failure percentage and sample size, as well as user configurable Block Error Rate (BLER) tests.

The 2935 GPRS option 01 can measure receiver sensitivity by testing either BER or BLER using two different channel coding schemes - CS1 (which has forward error correction for robust communication) or CS4 (with no forward error correction for maximum data rate).

For the very latest specifications visit [www.aeroflex.com](http://www.aeroflex.com)



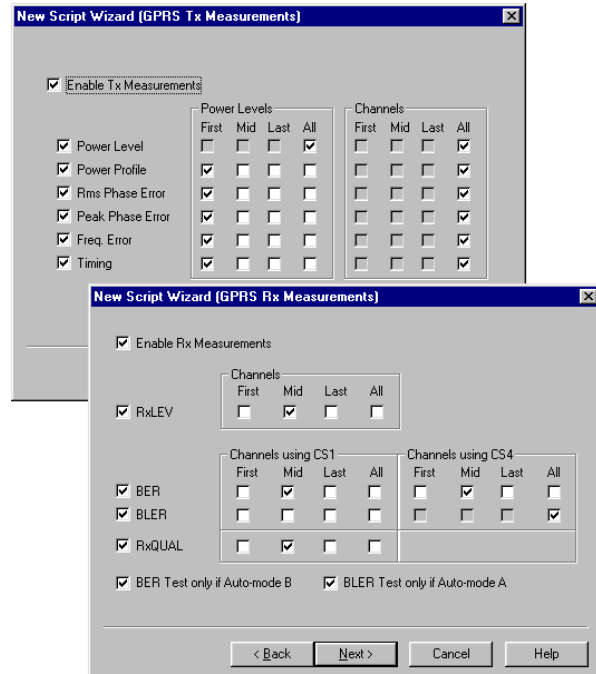
Full Configuration Capabilities with CS1 and CS4 Channel Coding Schemes

### Test Features Speed GSM/GPRS Tests

By using the GPRS mode, terminal testing can be simplified and made faster. To test a terminal in GPRS mode merely requires the user to connect it to the test set, select the appropriate test script and run the sequence. Unlike circuit switched mode, testing using a GPRS only test script requires no manual key pressing on the mobile phone itself saving valuable time. On completion of registration and GPRS attach, test mode activation is initiated allowing measurements to be made without any delay.

### User Programmable Test Scripting

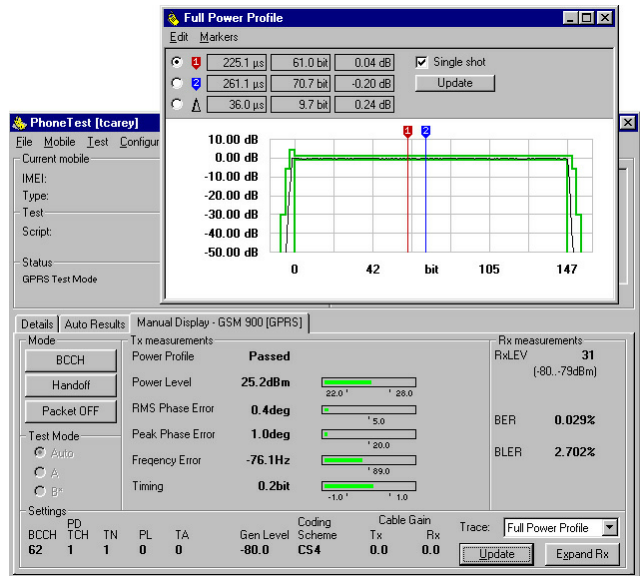
Specific GPRS BER and BLER test parameters can be incorporated along with other test parameters into fully user programmable test scripts using the scripting wizard function of the 2935 PhoneTest software. GPRS test cases can be programmed independently of voice call test cases thus maximizing the degree of flexibility available and enabling GPRS only test scripts to be utilized to save time and effort. Where applicable GPRS test cases are performed following completion of normal voice call tests. This minimizes the change to any previously written script. A variety of standard GPRS test scripts prepared by IFR are supplied. These range from simple GPRS only single band RF tests to multi-band GSM and GPRS fully comprehensive sequences.



GPRS Script Wizard

### Manual Mode

During manual mode testing, graphical displays including Tx power and phase error information can be selected and overlaid with the GPRS Tx and Rx measurements. At all times the user retains the ability to modify TX power level, timeslot number and PDTCH ARFCN from the same display screen.



GPRS Manual Test mode operation

## SPECIFICATION

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### 2935 GPRS Option 01 Specification

For details of the full measurement and feature capability of the 2935 please also refer to the 2935 data sheet.

#### Supported Features

##### Controllable Parameters - GPRS

BCCH ARFCN; PDTCH ARFCN; PDTCH TN & PL;  
RAC (Routing Area Code); RA Color (Routing Area Color); MIN LEVEL FOR ACCESS; MS TIMING ADVANCE; RF GENERATOR LEVEL;  
PROTOCOL TIMEOUT PERIODS;  
BER/BLER MEASUREMENT SAMPLES;  
POWER, FREQUENCY ERROR AND PHASE ERROR MEASUREMENT SAMPLES  
Coding scheme CS1 and CS4

##### PROTOCOL FUNCTIONS

GPRS Attach  
GPRS Test mode activation and loop-back mode selection

##### TX MEASUREMENTS

POWER LEVEL  
POWER PROFILE  
RMS PHASE ERROR  
PEAK PHASE ERROR  
FREQUENCY ERROR  
TIMING ADVANCE

##### RX MEASUREMENTS

BLER and Test Mode B BER  
RX QUAL (CS1 only)  
RX LEV (CS1 and CS4)

##### BLER/BER METER

###### Types

BER - Test Mode B  
Range 0 to 100%  
Resolution 0.001%  
Adjustable sample size to 10,000,000  
Duration and % settled indication

BLER  
Range 0 to 100%  
Resolution 0.001%  
Adjustable sample size to 30,000  
Duration and % settled indication

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## VERSIONS AND ACCESSORIES

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When ordering please quote the full ordering number information.

#### New instrument sales

Order as: 2935 with GPRS option 01

#### Upgrades to existing instruments:-

Existing units can be upgraded in the field or at an authorized IFR service facility dependent upon the instrument serial number.

Instruments with serial number from 293503/000<sup>note 2</sup> can be upgraded in the field.

Instruments with serial numbers below 293503/000<sup>note 1 & 2</sup> must be returned to IFR service for upgrade.

**Field Upgrade:** RTROPT01A/2935

**Return to Service Upgrade:** RTROPT01B/2935  
plus service option MODFTG01/2935

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#### Notes

Note 1 : Customers who have already taken advantage of having the RAM upgrade can have these units updated in the field by ordering RTROP-TO1A/2935 instead. At the time of ordering you will need to provide the instrument serial number and request credit against the RAM upgrade.

Note 2 : GPRS option 01 requires 2935 firmware version 2.0 (or greater) and PhoneTest application version 2.0 (or greater), both of which are supplied with the upgrade options and are available for download from the IFR website [www.ifrsys.com](http://www.ifrsys.com).

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