

## Facsimile Compatibility Test System

### FaxLab Features and Benefits

#### ► Features

Emulates 130 V.17 and 15 V.34 fax machines, multifunction devices, fax modems and PC-based fax software

Uses ITU Figure of Merit recommendations to classify fax image quality and call success

Runs under Windows 98, 2000, Me, NT 4.0 and XP

End-to-end capabilities automate testing of communication networks and facilitate T.38 testing

New emulations support V.34 (Super G3), MH, MR, MMR and JBIG encoding, and both color and monochrome JPEG

Real-world fax traffic generation

Multiple channel fax traffic generation

Automates communication network testing

#### ► Benefits

Automated, comprehensive compatibility testing saves time and money

Replaces a room full of fax devices

Helps you deliver a high quality product to market in less time

Automates communication network testing

Quickly identifies and analyzes problems

Reduces test time while increasing thoroughness

Reduces support costs

Testing compatibility is an essential step in bringing new fax devices or technologies to market, regardless of whether the facsimile protocol code was developed in-house or obtained from a third party. In the past, the only way to perform this testing was to locate or purchase large numbers of fax devices, and manually test dozens of devices and hundreds of feature combinations.

### ► Automated Compatibility Testing

FaxLab from QualityLogic has been used by device manufacturers, network equipment providers and carriers for the past 10 years to simplify the process of fax device compatibility testing. Using highly-detailed statistical profiles and a comprehensive set of test calls, FaxLab plays back the behavior of real-world devices, allowing developers and integrators to replace a room full of facsimile devices with software. FaxLab saves time, reduces costs and helps you get your product to market faster, and the level of testing provided by FaxLab is significantly deeper than can be accomplished manually.

FaxLab uses QualityLogic's ChannelTrap, an external hardware device that generates and receives facsimile traffic.

Using additional ChannelTraps, FaxLab executes up to 32 fax calls simultaneously, reducing the time required for testing and providing the capability to generate traffic conditions from many different device emulations.



### ► Quality of Image

FaxLab incorporates the metrics and "figures of merit" defined in the ITU E-450 Series Recommendation to report on the quality of the image transmitted and the fax call's success. Its expanded statistical report incorporates the ITU recommendations to make statistical summaries of user-selected test call groups. FaxLab can also measure post-dial delay parameters.

## Emulation Development

During profiling, FaxLab initiates an extensive collection of calls as sender and receiver, directing the device through the widest possible variety of call paths and conditions, and measuring hundreds of distinct call parameters. Most parameters are recorded multiple times for variations in data modulation, data rate, image encoding and resolution. FaxLab also presents the device being profiled with illegal T.30 conditions to determine its reaction. From this data, a profile is created, which is then tested to ensure that it accurately represents that device's performance.

## Compatibility Testing

FaxLab sends fax calls to and receives calls from the device under test, using the profiles you select. You may use actual sampled values, including best- and worst-case behavior, or synthesize a statistically valid value based on the sampled data. No other method more completely and accurately represents a device's performance.

## Protocol Testing

FaxLab performs extensive facsimile protocol analysis, identifying protocol errors quickly with pass/fail analysis and providing guidance on their severity.

## End-to-End and T.38 Testing

As a result of timing delays, dropped packets or other network anomalies, facsimile calls can be corrupted as they move through a complex communications network. FaxLab can automate testing for these types of transmission errors.

You can create an end-to-end test system that plays both the originator and the answering party in a fax call using FaxLab and multiple ChannelTraps. This system identifies fax message degradation caused by the network transport, as well as fax protocol violations. Because ChannelTraps can be operated over a network or via modem, the system can diagnose problems at remote locations, reducing support costs.



## Ordering Information

**T4006-5.0 KIT:** FaxLab 5.0 Kit  
 FaxLab Kit contains the following:  
**T4006-5.0 S:** FaxLab Software  
**T4006-5.0 KEY:** FaxLab Key  
**F2008-T:** ChannelTrap Hardware

## FaxLab Specifications

- Comprehensive compatibility testing using facsimile device emulations
- V.17 emulations support data rates of 2400, 4800, 7200, 9600, 12,000, 14,400 bps
- V.34 emulations support data rates up to 33,600 bps
- MH, MR, MMR, JPEG (full color & grayscale), T.85 bi-level JBIG encoding
- On-screen display of all image encodings
- Easily configurable for testing networks
- V.8 or non-V.8, V.21 start-up in any combination at either end of set-up
- Detailed modem status in call timeline
- Selectable send and receive test modes
- Call progress indicator
- Pass/fail based on transmission success
- Warnings based on T.30 limits
- Runs under Windows 98/Me, NT4/2000, XP
- Supports V.17, V.33, V.29, and V.27ter, V.8, V.34
- Fax protocol analysis and diagnostics

### Minimum System Requirements

- Pentium 133MHz processor (min. for operation with one ChannelTrap)
- 64 MB RAM
- 200 MB free disk space
- Windows 98, Me, NT 4.0, 2000, XP

### Key Emulation Parameters

- DIS capability bits
- INFO0 capability bits
- Non-compliant DIS and DCS signal construction
- MPh capability bits
- Duration of inter-signal silent periods
- Predefined test calls for each device
- ECM (Error Correction Mode) support
- Support for all T.30 image resolutions
- T.2 and T.4 timeouts



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and Test Tools

Contact QualityLogic for more information or a proposal:

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