

Fax Technology Training

Practical Fax Protocol Training

Get the most out of your QualityLogic Facsimile Test Tools — learn the basics of fax technology and protocols with our knowledgeable and experienced instructors.

The class is designed for QA and engineering communities who create and service carrier and terminal equipment that conveys facsimile transmissions, and anyone who must make design decisions about facsimile terminals or carrier equipment.

Your engineering and test personnel will learn the fax protocol and the testing issues surrounding it in a fraction of the time it would take them using traditional methods. Attendees tell us we have shaved months off their learning curves, allowing them to do real work much more quickly than they expected.

If you work in Engineering or QA on MFP terminal or telecom/VoIP products that have a fax component, or if you troubleshoot fax calls, don't miss our Fax Technology Class. The class includes coverage of T.38 and V.34 issues, as well as in-depth practical discussion of the T.30 protocol.

This class is predicated on the expectation of a minimal level of T.30 knowledge and experience from participants. The two-day training is followed by an interactive question and answer session.

Course Outline

Traditional Facsimile Devices

Session A: Introduction to Group 3 Facsimile

- Characteristics
- Architecture
- Fax Protocol
- Phone Network Interactions
- Simple Fax Call Example
- Demonstration: Send fax Session and Introduction to QualityLogic Fax Test Tools

Session B: Group 3 Fax In Depth

- Fax Modems
- HDLC – High level Data Link Control
- Fax Modulation Concepts
- T.4 Fax Image Coding
- Modified Huffman
- Modified Read
- Demonstration: Send Fax Session

Session C: Group 3 Fax Call Phases

- T.30 Protocol - Traditional
- V.29 Modulation
- Non-ECM
- Fax Call Phases A-E
- Demonstration: Advanced Fax Session

Session D: Group 3 Error Correction Mode

- T.6 Encoding - Modified READ
- Group 3 Error Correction Mode Concepts

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- Partial Pages
- ECM Fax Session Example
- ECM-Specific T.30 Signals
- T.30 Timeouts
- Demonstration: ECM Session Examples

Extended Facsimile

Session E: 1993/2005 Extensions to G3 Facsimile

- Summary of 1992-3 Revisions
- New Fax Signals
- Document Transport Modes
- Higher Resolutions
- Summary of 1994-1997 Revisions
- Color Fax
- New Compression Methods
- Group 3 Digital Fax
- Summary of 1997-2000 Revisions
- New Resolutions
- Internet Fax

Session F: V.34 Fax

- Introduction to V.34 and V.8
- V.34 Fax vs. Traditional Fax
- Introduction - V.34 Features
- Half Duplex Fax Session Example
- Half Duplex Fax Summary
- Full Duplex Fax Summary
- V.34 Fax Summary

Session G: Facsimile Device Testing and Troubleshooting

- Test program planning
- Test process insights
- Troubleshooting
- Designing Robust Fax Devices

Session H: T.38 Internet Fax Introduction

- G3 fax --> Real Time IP Fax
- T.38 Standards Overview
- T.38 Protocol and Structures
- UDP Error Correction Methods
- Practical Issues: UDP vs. TCP
- T.38 Summary

About the Instructor

John Lunsford is QualityLogic's Chief Test Engineer and brings a strong, diverse background in software, peripherals and quality assurance to QualityLogic's TestLabs. John has accumulated 40 years of experience in the computer industry, including 10 years each in software development, software quality assurance and automated systems implementation. John is QualityLogic's resident fax expert and has conducted



dozens of training classes in the U.S., Europe and Asia.

For More Information

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