TEST SYSTEMS, Inc.

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MIL-STD-1553 SEMINAR ● 2-DAY FORMAT

FIRST DAY

I. Introduction to Multiplexing & MIL-STD-1553
Integration and multiplexing, evolution and history of MIL-STD-1553, applications of MIL-STD-1553, overview of MIL-STD-1553.

II. MIL-STD-1553: Definitions, Encoding & Formats
Definitions of basic 1553 terms, data bus operation, data encoding, word sync, word formats, message formats, intermessage gap, response time.

Lunch / LAB SESSION 1 (1 hour)
Decoding Manchester encoded words and identifying message formats.

III. MIL-STD-1553: Protocol
Command word, mode codes, mode command formats, data word, status word, message error bit.

IV. MIL-STD-1553: Terminal Operation
Common operation, Bus Controller operation, Remote Terminal operation, Bus Monitor operation.

V. MIL-STD-1553: Hardware Characteristics
Data bus cable, data bus coupling, terminal input/output characteristics, redundant data bus requirements.

VI. Hardware Design
Terminal design-functional elements, Bus Controller/Remote Terminal/Bus Monitor requirements, data bus network considerations, overview of available vendor products.

SECOND DAY

VII. System Design
Data bus topology (single & multiple levels), data bus control, partitioning & redundancy, bus loading.

VIII. Software Design
Bus Controller/Remote Terminal/Bus Monitor S/W, data transfer, data grouping, system control & requirements, errors & failures, message headers, message sequences, synchronous message timing.

IX. Philosophy of Testing & Phases of Testing
Evaluation of testing, development tests, design verification, production tests, system tests, field testing, system self-test.

Lunch / LAB SESSION 2 (1 hour)
Practice in trouble-shooting Remote Terminal problems.

X. Test Requirements
Electrical interface, noise rejection, Remote Terminal protocol, Bus Controllers, Bus Monitors, system.

XI. Test Equipment: Requirements & Overview
Test equipment functional requirements, common interface requirements, Remote Terminal tester, Bus Controller tester, Bus Monitor, bus activity simulator, overview of available test equipment.

Supporting **MIL-STD-1553** *since 1979*