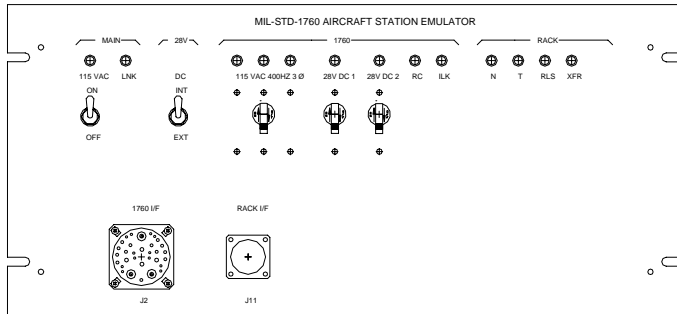


MIL-STD-1760 ACFT STATION EMULATOR (MASE) MAE10010



MASE Test Interface Adaptor (MTIA)

Overview

The MIL-STD-1760 Aircraft Station Emulator (MASE) is a generic test set developed for emulation of the MIL-STD-1760 Aircraft Station Interface (ASI) of a simulated aircraft (e.g. F-15, F-16). A MASE Test Set consists of a MASE Control Station (MCS), a MASE Test Interface Adaptor (MTIA), and associated power and interface cabling. Included with this test set is a MIL-STD-1760 Class-II umbilical cable used to interconnect the MASE Test Set to the Unit Under Test.

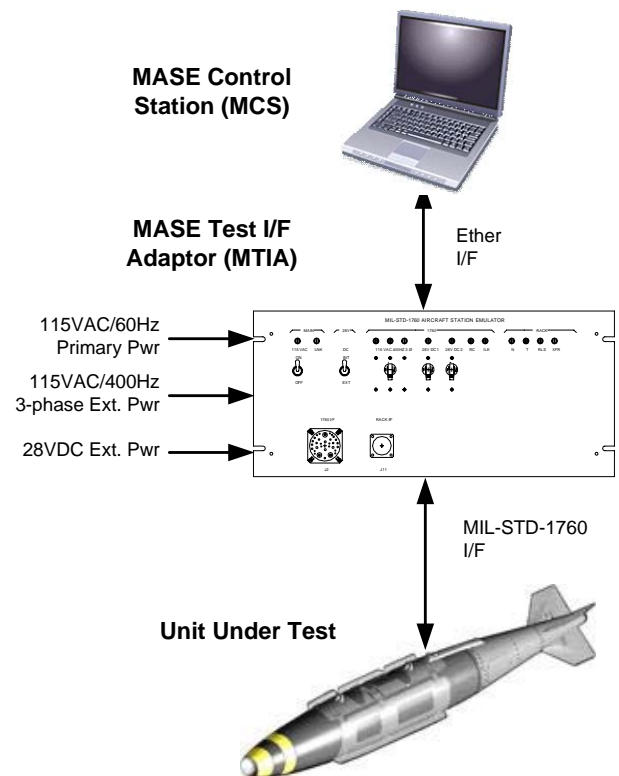
The MTIA provides for embedded real-time simulation of the aircraft side of the MIL-STD-1760 platform/store interface. This module contains a PC/104 based embedded processor stack to include a single board computer (SBC), MIL-STD-1553 I/F board, Discrete I/O board, and special interface circuitry for emulating the platform side electrical signals of the 1760 interface. Embedded software running in the MTIA provides for aircraft side simulation and data collection. The MTIA interconnects to the MCS via an ethernet cable. Front panel indicators provide for quick status monitoring of primary and 1760 power while circuit breakers provide for overcurrent protection.

The MCS provides the user interface for the test set and can be either a desktop or notebook computer. Application software running on the MCS is an intuitive Windows based Graphical User Interface (GUI) that allows for test set configuration, control, and status monitoring of the real time aircraft simulation executing in the MTIA. Test configurations can be created, saved, loaded, and executed from this interface. The MCS GUI provides for user configuration and control 1760 fault insertion and data logging of all 1553 message traffic.

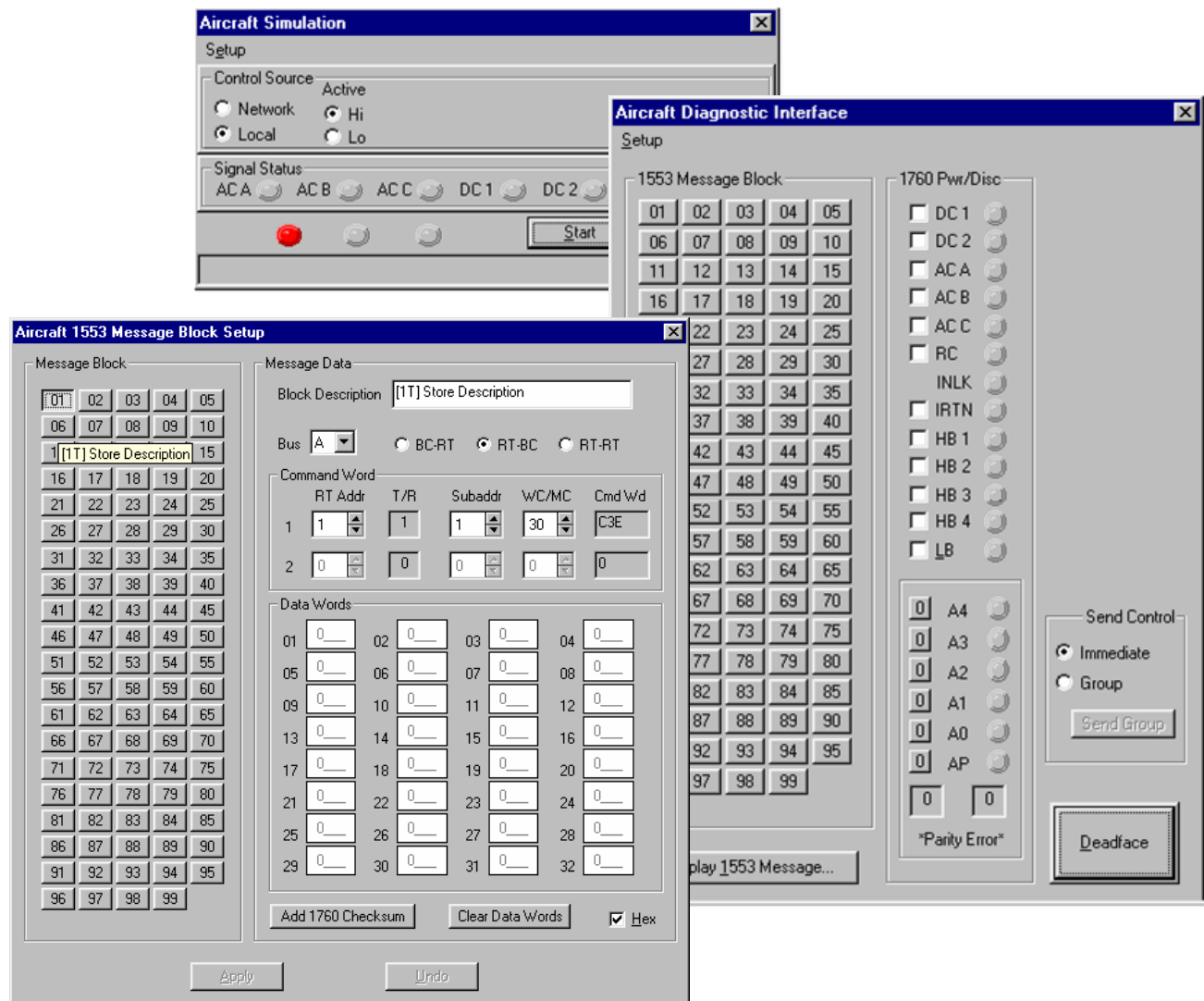
The MASE provides for two basic modes of operation: Diagnostic Mode and Aircraft Simulation Mode. In Diagnostic mode the operator can discretely send/receive 1553 messages while individually controlling the On/Off state of simulated interface power (i.e. 115VAC/400Hz 3-phase, 28V DC-1 and DC-2, etc.) and discretely (i.e. Release Consent and Interlock). In Simulation Mode the MASE will execute a predefined simulation script.



**MASE Test Set
Controller + MTIA + Cabling**



MASE Test Configuration



Some of the MASE Graphical User Interfaces (GUIs)

Features

- MASE Test Set:
 - Provides for aircraft side simulation at a MIL-STD-1760 platform/store electrical interface with basic rack functionality
 - Operator interface hosted on desktop/notebook computer provides for networked operation and data logging from remote location
 - Simulation/Diagnostic software running on embedded SBC within MTIA provides for real-time aircraft side platform/store interface simulation, signal control, status monitoring, and data logging
- Diagnostic Mode Tool:
 - Up to 99 MIL-STD-1553 messages can be predefined
 - User On/Off control of interface powers (i.e. 115VAC/400Hz, DC-1, DC-2)
 - User On/Off control of discretes (i.e. Release Consent, Interlock)
 - User configurable 1553 address
 - Display of 1553 message traffic
 - Display of interface power and discrete signal interfaces

- Aircraft Interface Simulation:
 - Script based simulation of Aircraft Station platform/store Interface
 - User configurable scripts based on custom scripting language
 - Capability to predefine up to 99 MIL-STD-1553 messages
 - Ability to setup asynchronous and periodic 1553 messages
 - Capability to Save/Recall simulation configurations
 - Ability to inject 1760 logical faults
 - User Control of simulation state (e.g. Start/Stop)
 - Display of simulation status
 - Data logging of 1553 message traffic and power/discrete events
- MIL-STD-1760 Class-II Test Interface Adaptor:
 - SSRs for software On/Off control of external power (i.e. 115VAC/400Hz 3-phase, 28V DC-1 and DC-2)
 - Circuitry for software On/Off control of discretes (i.e. Release Consent and Interlock)
 - Front panel indicators for display of 1760 and rack power/discretes (i.e. On/Off)
 - Front panel circuit breakers for overcurrent protection of 1760 primary power interfaces
- Future growth capability to provide for other platform/store interface types (e.g. MMSI, IMM, etc.)
- Graphical, robust and user friendly Human Machine Interface (HMI)
- Ability to monitor and capture data to include 1553 messages
- Ability to induce errors and faults at the electrical interface
- MIL-STD-1760 In-Line Fault Module (Option)

SPECIFICATIONS

MASE CONTROL STATION (MCS)

Desktop or Notebook Computer
 Windows 2000 with Min. System Requirements
 128 MB RAM
 1.5 GB Hard Disk Space
 CD-ROM or DVD Drive
 Keyboard and Mouse or Pointing Device
 SXGA (1280x1024) or higher

MASE TEST INTERFACE ADAPTER (MTIA)

Interface Characteristics

115VAC / 60Hz Primary Input
 Ethernet I/F to MCS
 115VAC / 400Hz 3-Phase Ext. Input
 28VDC Ext. Input
 MIL-STD-1760 Class II Interface
 Rack Interface
 HB1, HB3, LB Test Connectors

Indicators

1760 I/F
 115VAC (Main)
 Link
 115VAC 400Hz Phase-A
 115VAC 400Hz Phase-B
 115VAC 400Hz Phase-C
 28V DC-1 and DC-2

Release Consent
 Interlock
 Rack I/F
 Nose Arm
 Tail Arm
 Release
 Transfer

Switches

115VAC (Main) On/Off
 DC Internal / External
 115VAC/400Hz 3-Phase Circuit Breaker
 28V DC-1 Circuit Breaker
 28V DC-2 Circuit Breaker

Physical

8 ¾" x 19" x 12.5" H x W x D
 20 lb