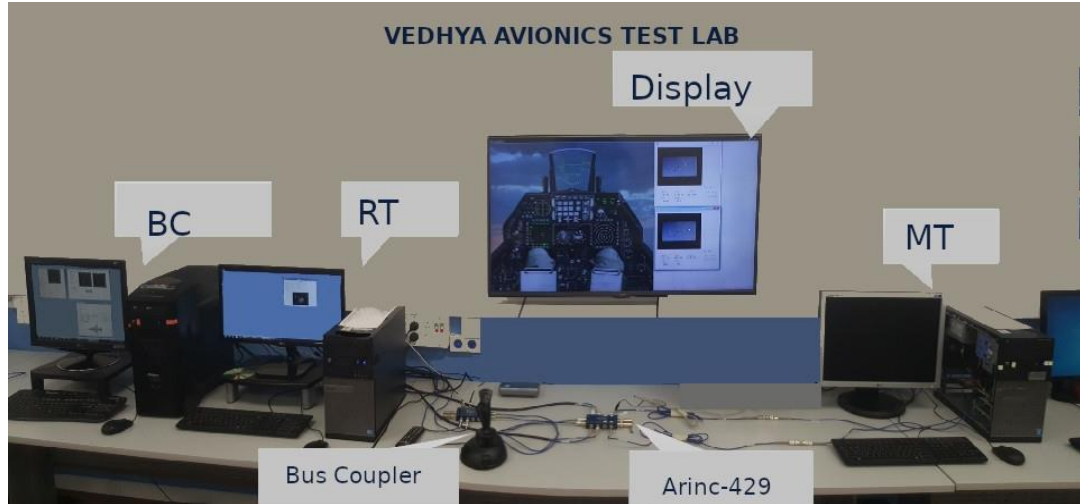


Avionics Data Bus Testbed



Vedhyatech Avionics Testbed allows multiple aircraft systems to be integrated for various analysis in order to observe their aggregate behavior and identify their potential impact on flight safety. This Avionics Data Bus Testbed provides a facility for prototyping, simulation and verification of on-board bus protocols and services of the civilian and military aircraft protocols such as MIL-STD-1553 and ARINC 429.

This complete system that includes hardware and software components is entirely software reconfigurable and all sorts of configuration can be done at software level without physical access to components. The Testbed is equipped with all necessary accessories such as transformer bus couplers, terminators, loop back arrangements etc. so that the system facilitates the user to perform any sort of verification or validation test.

Benefits to Aerospace Students of using Avionics Lab

1. The programming of MIL-STD Data bus would aid the students to have an idea on Aircraft systems where an Aerospace system designer must have the capability to work with sensors & interpret the data from a real time environment
2. The experiment related to Avionics data bus aids the student to have an understanding of how a data bus carries data to different subunits (Mission Computer-MC to Line Replaceable Unit - LRU) in an Aircraft system.
3. In short this laboratory helps the student to have a basic understanding in the design and development of Military / Commercial Aircraft Communication Data Bus system.

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- The Playce, Marathon Maxima, Lal Bahadur Shastri Marg, Mulund (W), Mumbai, Maharashtra 400080

Avionics Data Bus Testbed

General Features

- Supports multiple protocols in one card
- MIL-STD-1553 databuses
- ARINC 429 databuses
- Avionics discrete I/O
- Supports Graphical Programming
- Protocols are defined through Labview/NodeRED Editor
- 16 bidirectional TTL level discrete I

ARINC 429 Testbed Features

- Configuration of Rx, Tx and Monitor Terminals
- 2 Rx with Single Tx and Different Labels
- Frame Encoding and Decoding with 19 & 21 Bit
- Multiple Data Integration with 429 Frame
- Rate-based Schedule – Tx and Rx
- Scheduled and Dynamic Data Transmission
- IRIG Time based Data Transceiver
- Source Destination Identifier (SDI) Filter
- Receiving data using Interrupts

MIL-STD 1553 Testbed Features

- Configuration of Bus Controller
- Configuration of BM and Remote Terminal
- Configuration of RT Address
- Broadcasting & Specific Data Transfers
- Transfers : BC to RT, RT to BCBC, BC to Broad cast and other transfers
- Sequential /Cyclic based Data Transmission

Avionics Test Software (ATS) Features

The Avionics Test Software can be used to configure, test and verify each and every features of ARINC 429 & MIL-STD 1553 which are mentioned above. Application/LRU specific features also can be incorporated in ATS on request basis.

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