IADS Training
Syllabus

May 21, 2020
Curtiss-Wright Document SSD-IADS-015

IADS Basic Module

Length: 8 Hours

Prerequisite: None

Introduction

- IADS Real-Time
- IADS Real-Time Station

Post-Test Data Server

- The Configuration File
- Choosing a Configuration File
- Post-Test Data Server User Interface
- Importing Data Sets
- Post-Test Global Time
- The Z Ball

IADS Client Playback

Logging on and Off

The Desktop

- Changing Desktops and the IADS Dashboard
- Desktop Properties

IADS Display Builder

- Adding ActiveX Displays

IADS Parameter Tool

Message Log

System Performance and the Configuration Tool

- Configuration Tool Save Options

- Configuration Toolbar Buttons
- Table Filter
- Import/Export Desktops and Analysis Windows
- Configuration Tool Envelopes
- Configuration Tool Reference Envelopes
- The Config Tool - The Parameter Defaults Table
- Global Parameter Replace and Drag Fill
- Parameter Selection
- More Configuration Tool Tables
- Planned Test Points
- System Folder
- Validating Parameters and Desktops

Creating Windows and Displays

- Viewing Analysis Windows from other Desktops
- Analysis Window Security
- Renaming Analysis Windows
- Setting the Analysis Window to Full Screen
- Analysis Window Scrollbar
- Creating Displays
- Analysis Window Toolbar
- Creating Multiple Displays
- Analysis Window Advanced Scrollbar Features
- Changing Analysis Window
- Assigning a Window to a Secondary Monitor
- Creating a New Desktop

- Aligning IADS Displays
- Copying a Parameter Display to Display

Screen Operations

- Selecting Displays
- Moving a Display
- Copying Displays
- Resizing Displays
- IADS Parameter Tool
- Adding a Parameter to a Display
- Missing Data Indicator
- Zooming Data and Saving Displays
- Deleting a Parameter from a Display
- Setting the Order of Displays
- Setting a Displays Viewable Area

Label Display, Tabbed Display, and Display Panels

Filtering

Stripcharts

- Fill Intersection/Wrap Data
- Load Limit
- Show Time and Load Limit on Stripchart Hints
- Point Selection
- Point Selection on Multiple Displays
- Logging Point Selections
- Slope/Time/Load Limit Selection

Event Markers

Adding Predefined Comments to Event Markers

The IADS Logs

Customizing Displays

Help System

IADS Intermediate Module

Length: 8 Hours

Prerequisite: Basic module

Introduction

Defining Parameters and Editing Functions

- Importing Configuration Information
- Desktop Summary Report
- Advanced Import of Desktops and Analysis Windows
- Derived Parameters
- Importing Derived Equations
- Sample Derived Parameters and Troubleshooting Derived Parameters
- Derived Functions and Operators
  - Bitwise Operation
  - Byte Swap
  - Equation Functions

Customizing Displays

- Property Sheet Gray States
- Stripchart with Threshold Set

Frequency Plots

- Recalculate Frequency Data on a Scrolled Back Frequency Plot
- Frequency Plot Toolbar Buttons
- Color Schemes in Frequency Plots

- Cross Plots
  - Adding Parameters to a Cross Plot
  - Load Limit Algorithms
  - Adding an 80% Envelope & Data History Color
  - Setting an Event Marker in a Cross Plot
  - Changing Cross Plot Envelopes on the Fly
  - Dynamic Envelopes
- Annunciators
- Slider
- Alphanumeric
  - Dynamic Wizard
- Alphanumeric Table
- ActiveX Displays
  - Model Displays
  - Using Model Displays
  - Active X Property Sheets
  - Active X Audio and Video Player
  - IADS Drawing Package
  - Setting the Default Size of a Active X Control
  - Polygon and Line Function Keys
  - Right Click Menu Options
  - IADS Drawing Package Properties Dialog Interface
  - Adding Parameters to Drawing Package Components
  - Defining Drawing Package Primitives
  - Dynamics Example

- Using the Dynamic Wizard on Components
- Primitive Help Topics

IADS Moving Map

- 2D
- 3D
- Radar Settings

ICAW Display

Function Keys

- Hot Keys

Logging Data

Exporting Data

The IADS Logs

Defining Event Marker Groups and Subgroups

The Query Builder

IADS Advanced Module

Length: 8 Hours

Prerequisite: Basic and Intermediate modules

Introduction

Client Application Properties

Setting Test Points

- Pushing Event Markers to the Test Point Log
- Exporting Multiple Time Slices Simultaneously
- Test Data Request (TDR)

Web Pages

Input Objects

- Text Input Objects
- Button Input Objects
- Other Input Objects
- Distributing User Input Objects
- Action Objects
- Overlay Objects

Edit Toolbox

- Edit Toolbox - Layers
- Edit Toolbox - Edit
- Edit Toolbox - Library

Primitives Driven by Test Point State

- Go to Definition
- Derived Parameters
  - If Then Else Statements
  - Null Corrections
  - Derived Functions and Operators
  - Operator Precedence
  - Parameter Analysis Tool
  - Displaying Decom Status
  - Sync Lock Processing
  - TPP Rate Selection Dialog
  - Time in Derived Equations
  - Derived Equations FAQ
- Interpolation
  - 2D
  - 3D
- Data Editing and Derived Parameters
- Wild Point Editing
- Selective Area RMS (Root Mean Squared) and Selective Area Peak
- Data Search Tool
- Defining the Parameter Tool
  - Parameter Tool Options
  - Identify Displays
- Data Stitching in a Stripchart
  - Stripchart Toolbox
- Stripchart Data Grid Setup

- Time lag
- Data Stitching in a Frequency Plot
- Data Export Options
- Mission Attributes
- Unit Conversion
- File Search Path
- TMATS

IADS Advanced Structures

Length: 8-10 hours

Prerequisite: Basic and Intermediate modules

Introduction

Client Application Properties

Setting Test Points

- Pushing Event Markers to the Test Point Log
- Exporting Multiple Time Slices Simultaneously
- Test Data Request (TDR)

Web Pages

Input Objects

- Text Input Objects
- Button Input Objects
- Other Input Objects
- Distributing User Input Objects
- Action Objects
- Overlay Objects

Edit Toolbox

- Edit Toolbox - Layers
- Edit Toolbox - Edit
- Edit Toolbox - Library

Primitives Driven by Test Point State

- Go to Definition
- Derived Parameters
  - If Then Else Statements
  - Null Corrections
  - Derived Functions and Operators
  - Operator Precedence
  - Parameter Analysis Tool
  - Displaying Decom Status
  - Sync Lock Processing
  - TPP Rate Selection Dialog
  - Time in Derived Equations
  - Derived Equations FAQ
- Interpolation
  - 2D
  - 3D
- Data Editing and Derived Parameters
- Wild Point Editing
- Selective Area RMS (Root Mean Squared) and Selective Area Peak
- Data Search Tool
- Defining the Parameter Tool
  - Parameter Tool Options
  - Identify Displays
- Data Stitching in a Stripchart
  - Stripchart Toolbox
- Stripchart Data Grid Setup

- Time lag
- Data Stitching in a Frequency Plot
- Data Export Options
- Mission Attributes
- Unit Conversion
- File Search Path
- TMATS
- Configuration File Tables
  - The Configuration File (FES Parameters)
  - FES Parameters Defined
  - Planned Test Points
  - Planned Flutter Test Points
  - Modal Definitions Table
  - Automated Analysis and Derived Parameters
- Octave Band
- Nyquist Plots
- Frequency Response Plots
  - Phase Wrap Options
  - Creating Frequency Plot Reference Envelopes
  - Calculating Phase and Gain Margins
  - Calculating Frequency and Damping Using RFP Curve Fit
- Flutter Sweep Processing (F-35 Only)
- Removing Noise from Data
  - Randomdec
  - Real Time Randomdec

- Auto Correlation
- Pseudo Randomdec

Analysis Methods

- Log Decrement Results
- Log Amplitude Picking Results
- Time History Curve Fit
- Half Power Damping
- Analysis via the Right Click Menu
- Chirp Z Transform

Automated Analysis

- Automated Analysis Overview
- Plotting Flutter Results
- Deleting Data Overlays
- Analysis Log
- Flutter Summary Log
- Modal Definitions Log
- Flutter Test Point Log
- Summarizing Data

Flutter Summary Plots

- Summary Plot Right Click Menu

Loads Analysis

- Loads Summary Plot

IADS Instrumentation, Data Management, Post Test Processing Training

Length: 8 hours

Prerequisite: None

Introduction

IADS Real Time

- IADS Real Time Station

Post Test Data Server

- The Configuration File
- Post Test vs. Playback Client
- The Z Ball
- Starting Post Test IADS
- Post Test Data Server User Interface
- IADS Playback Client

Logging On and Off

Desktops and Desktop Properties

- The Desktop
- IADS Display Builder
- IADS Display Builder Active X Control Tab
- Adding Active X Displays

Creating Windows and Displays

- Security

- Creating Displays
- Adding a Parameter to a Display
- Deleting a Parameter from a Display

Changing the Name of an Analysis Window

- Analysis Window Features
- Missing Data Indicator
- Customizing Displays – Property Sheets
- Stripchart Property Sheet
- Active X Controls for IADS Native Displays
- Active X Property Sheets
- Active X Control Names
- Setting an Analysis Window to Full Screen
- Assigning a Window to a Second Monitor
- Analysis Window Scrollbar
- Changing Desktops and the Dashboard
- Viewing Analysis Windows from other Desktops
- ADS Message Log

System Performance and the Configuration Tool

- Save Options
- Configuration Toolbar Buttons
- Table Filter Dialog
- Import/Export Desktops and Analysis Windows
- Advanced Import/Export Desktops and Analysis Windows
- Importing Configuration Information
- The Parameter Defaults Table

- Defining Parameters and Editing Functions
  - Derived Parameters
  - Importing Derived Equations
  - Troubleshooting Derived Parameters
  - Validating the Desktop
  - Validating the Parameter Defaults Table
  - Derived Functions and Operators
  - IfThenElse Statements
  - Identify Displays
- Parameter Analysis Tool
- More Configuration Tables
  - Data Groups
  - Mission Attributes
  - Unit Conversion
  - Classification
  - File Search Path
- Desktop Summary Reports
- Parameter Usage Report
- Derived Function Lookup Tool
- ICAW Display
- Tab Display
- Hot Keys
- Logging Point Selections
- Logging Data
  - Test Data Request Form

- The IADS Logs
- The Event Marker Log
- Defining Event Marker Groups and Subgroups
- Exporting Multiple Time Slices Simultaneously
- Exporting Data
- Data Export Wizard

Displaying Decom Status

Help System

TMATS

IADS Display Client Properties

IADS Operator Console Training

Length: 8 hours

Prerequisite: None, however the class is limited to 4 students

Using the Operator Console to manage the IADS Real-Time system

Configuration Management

Catastrophes scenarios