DEFENSE INFORMATION SYSTEMS AGENCY

JOINT INTEROPERABILITY TEST COMMAND
FORT HUACHUCA, ARIZONA

AUTOMATED TEST CASE GENERATOR (ATC-GEN)

VERSION 3.6.2.3

WEB-SERVICE USER GUIDE

March 2013

RECORD OF CHANGES		
VERSION	DATE	COMMENTS
3.6.2.3	APRIL 11, 2014	FDO APPROVED FOR PUBLIC RELEASE

JOINT INTEROPERABILITY
TEST COMMAND (JITC)

AUTOMATIC TEST CASE GENERATOR
USER GUIDE

March 2014

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INTRODUCTION

The Automated Test Case Generator (ATC-Gen) simulates a Link-16 Joint Tactical Information Distribution System (JTIDS)/Multifunctional Information Distribution System (MIDS) Unit (JU) and interacts with other JUs on a SIMPLE J test network with sensor simulation data using Distributed Interactive Simulation (DIS) Protocol Data Units (PDUs) or Test and Training Enabling Architecture (TENA) simulation objects. Test cases stimulate behavioral sequences in accordance with Military Standard (MIL-STD) 6016 or the North Atlantic Treaty Organization (NATO) Standardization Agreement (STANAG), and assess the Link-16 System Under Test (SUT) for compliance to these standards. ATC-Gen provides a graphical user interface running in a web browser that enables users to quickly select and configure test cases.

This user guide includes an introduction and the step-by-step process necessary to configure and run ATC-Gen test cases, as well as the detailed test procedures for each test case. For system information, Help Desk Requests, and to schedule a test events, visit the UNCLASSIFIED ATC-Gen website at http://jitc.fhu.disa.mil/cgi/atcgen/index.aspx.

EVENT SCHEDULING

Please contact the ATC-GEN Help team via email at ATC-GEN Help Desk or via telephone at (520) 538-5301 (DSN) 879-5301 or Dennis DeStefano at (520) 533-4829 (DSN) 821-4829 and they will schedule your system.

ACCESSING THE ATC-GEN INTERFACE

Open a browser window (Mozilla Firefox, Internet Explorer 9.0 or newer and point towards the ATC-GEN web server (IP provided in the confirmation of schedule email. When the ATC-Gen Opening Page is displayed (figure 1), select the "Log In" link in the upper right corner and enter your username and password (figure 2).
Note: Internet Explorer 8.0 has been known to cause display issues that may hinder the user's ability to correctly see screen outputs. It is highly encouraged that users attempt to upgrade to Internet Explorer 9.0 or higher or use Mozilla Firefox as their interface to the ATC-GEN.

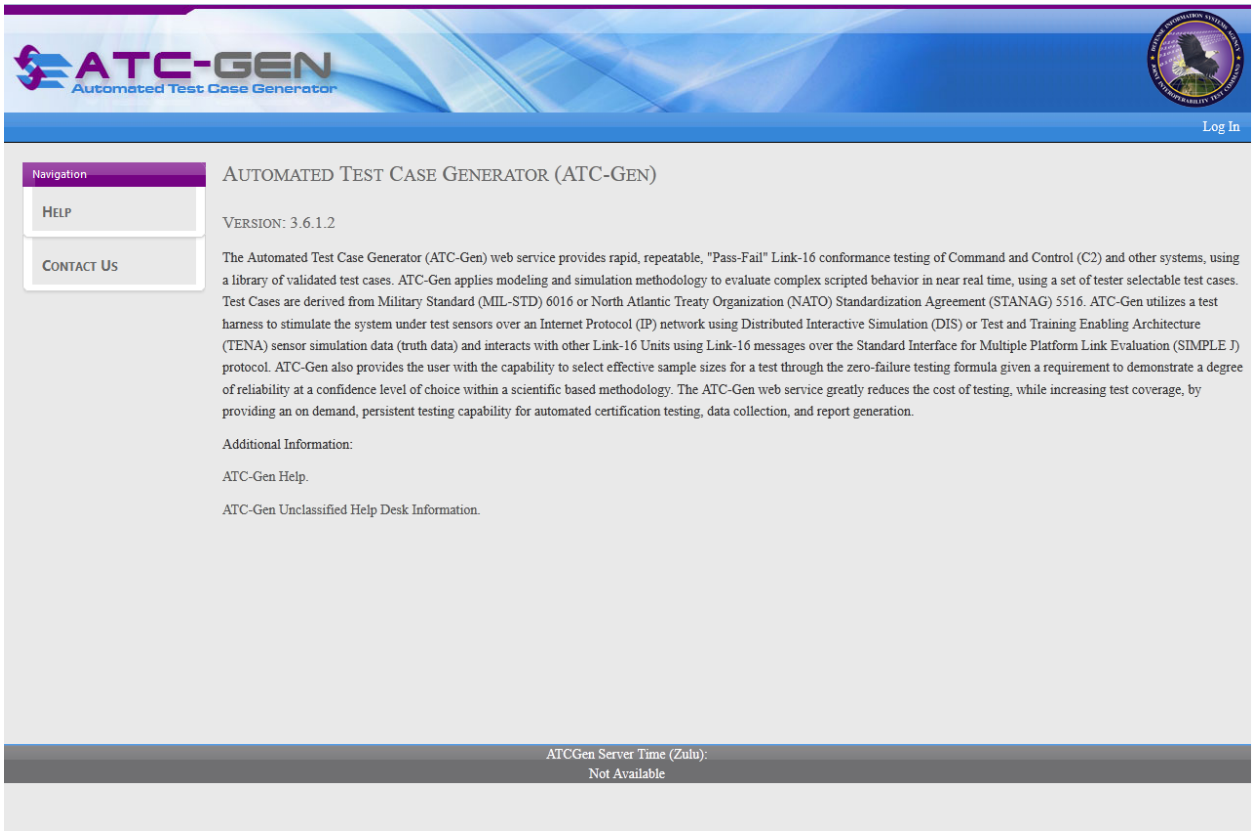

Figure 1. ATC-Gen Opening Page

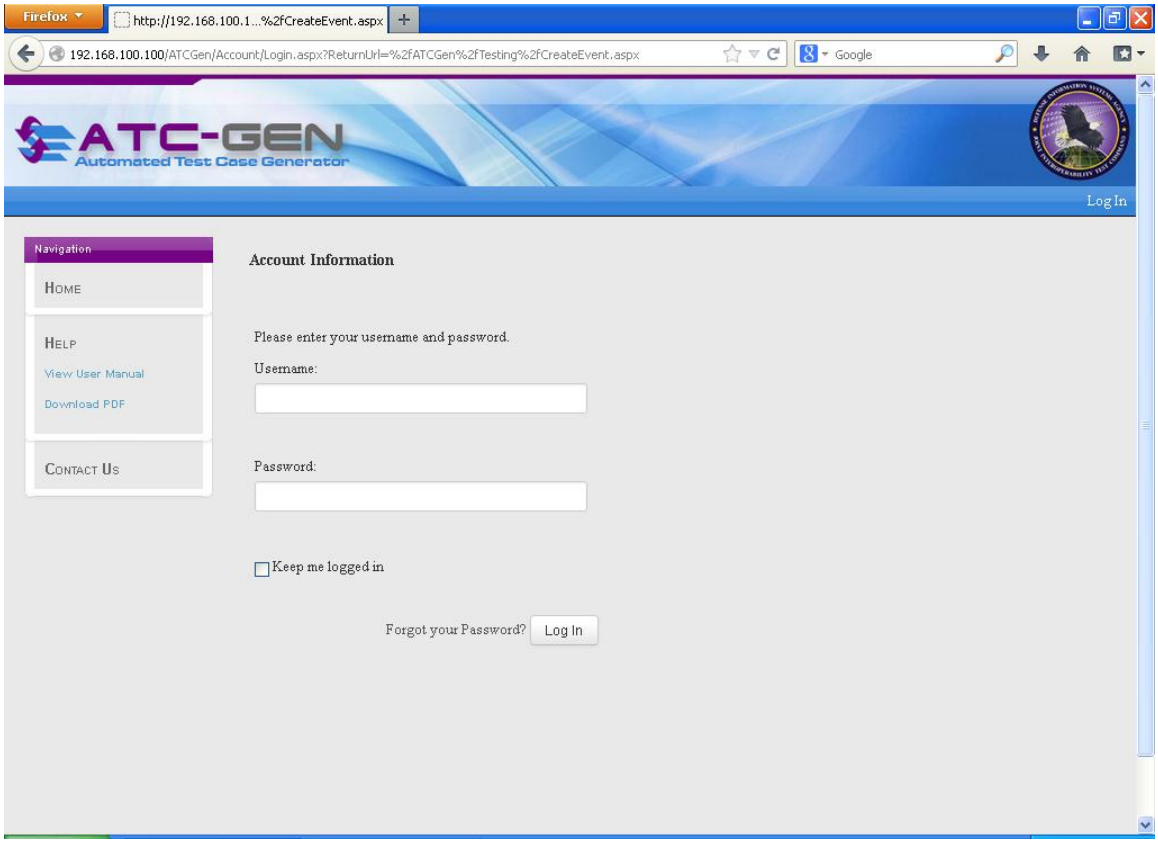

Figure 2. ATC-Gen Login Page

Once logged in, the "Home Page" (Figure 3) will be displayed providing a brief synopsis of the tool and links to the User Manual, Help Desk Support, and the Navigation Menu (left side).

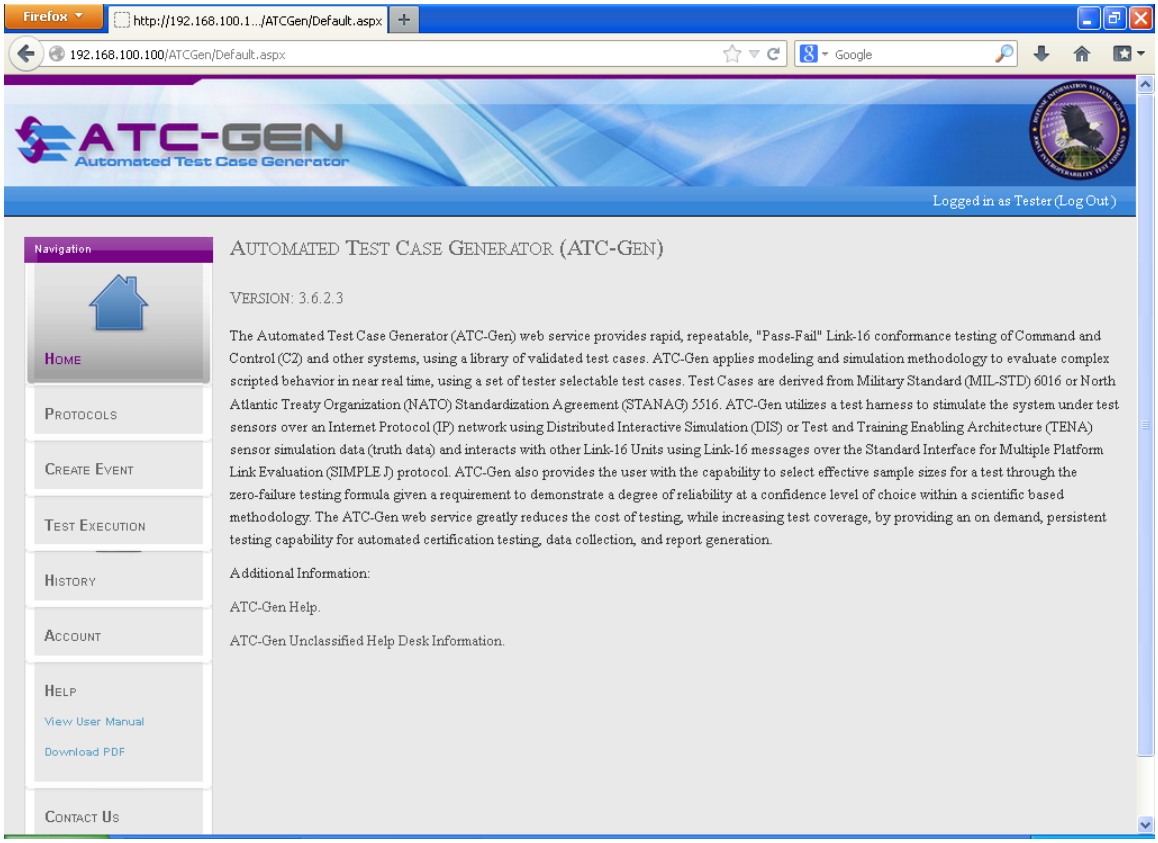

Figure 3. ATC-Gen Launchpad

Navigation icons for the ATC-GEN Configuration screens:
Each menu will include a navigation menu with New, Open, Save, Load capabilities at the top (figure 4)

New: Allows the operator to start a new configuration
Open: Allows the operator to open a previously saved configuration file.
Save: Allows the operator to save the current configuration file for reuse.
Load: Allows the operator to load previously saved configurations to simplify setup.

Figure 4. Navigation Menu

Configuring ATC-Gen PPLI, Link-16 Protocol, and Truth Protocol:

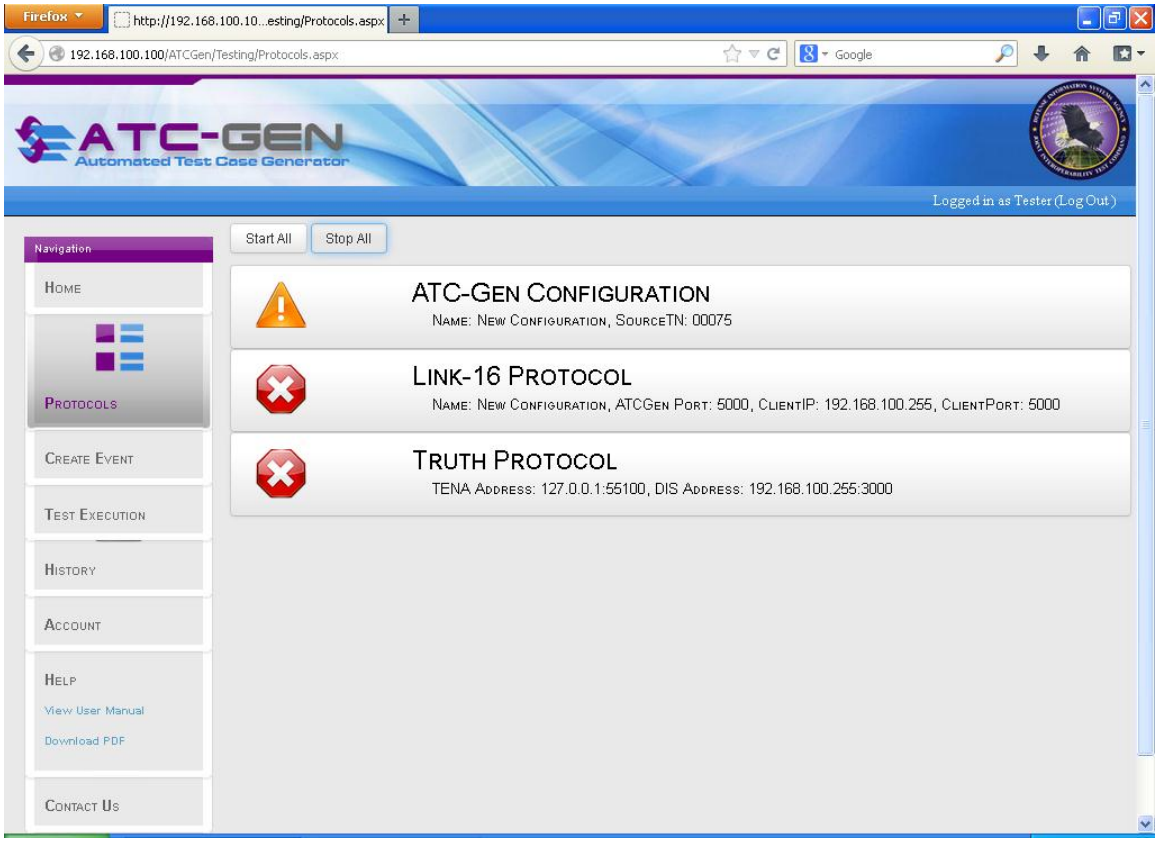

Figure 5. ATC-GEN Setup

Note: Prior to each test event there is a set of default configurations built and the user can select these or choose to manually fill in the data. If the user manually fills in or modifies any of the data fields, the users should click on the "Update" button (lower right corner) to ensure the data is stored in the database.

The ATC-GEN Configuration screen (figure 6) establishes ATC-Gen as a Command and Control (C2) Unit with the ability to generate tracks and perform the functions of a C2 unit.

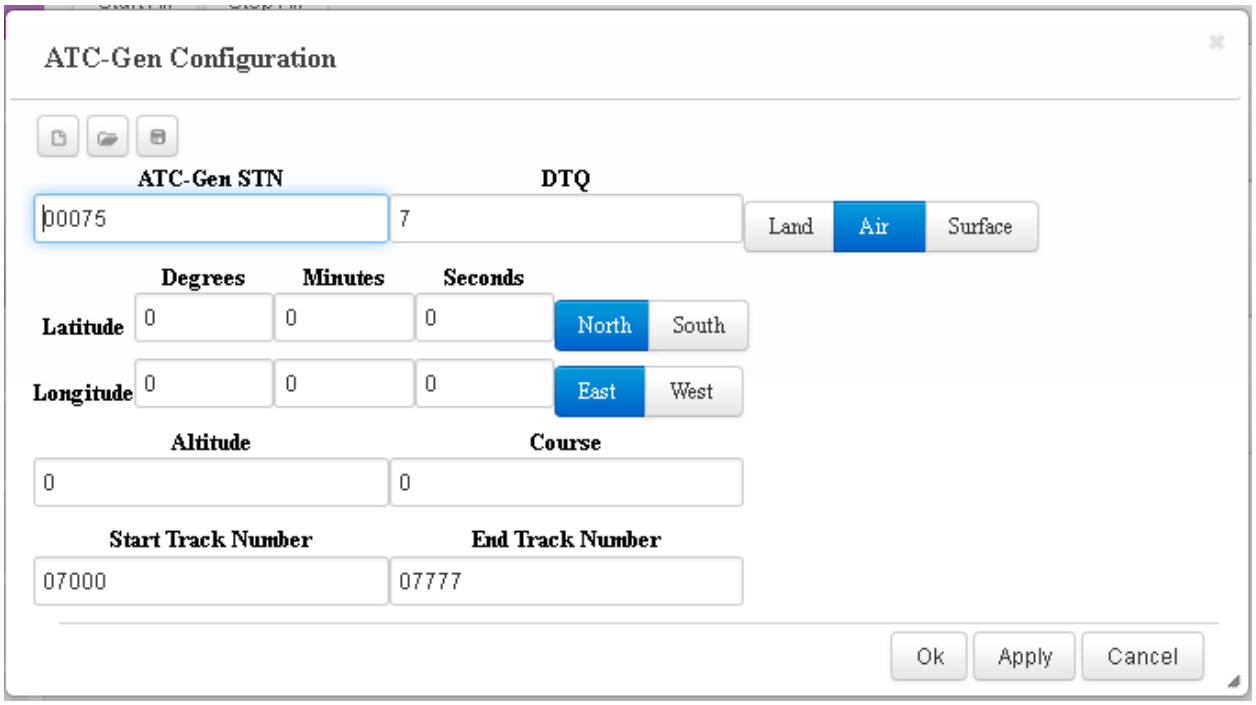

Figure 6. ATC-Gen PPLI Configuration

While it is highly encouraged that the user, load a pre-built configuration file, they may also do so manually and need to Enter the ATC-GEN JU, Dial a Track Quality (DTQ), Lat/Long of Exercise Center, Environment Type, Altitude, and Course, and the TN Block for ATC-GEN JU. Click on the Apply or OK button. Then the user may choose to save it as a default configuration by clicking the save button located at the top left of the window and entering a unique filename.

The Link-16 Protocol screen (figure 7) is used to configure the SIMPLE J Server IP Address and Port number and Node ID assigned to the ATC-GEN server. The Protocol Address/Port Number is SUT IP Address. **Click Save, then Create to continue**.

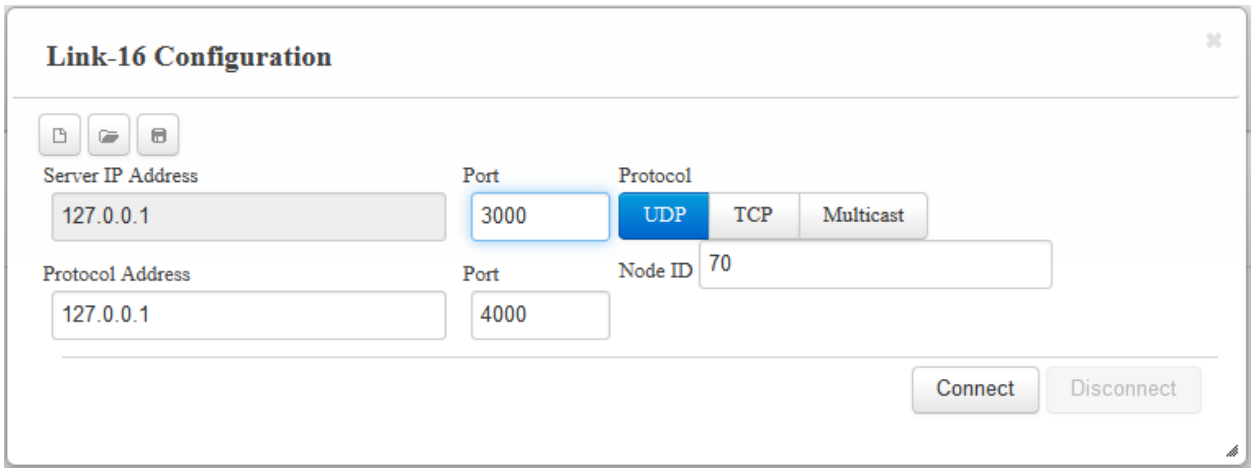

Figure 7. ATC-Gen Link-16 Configuration

The ATC-GEN is capable of transmitting truth data via DIS or TENA (figure 8 depicts the configurable items). The Server IP is for the ATC-GEN

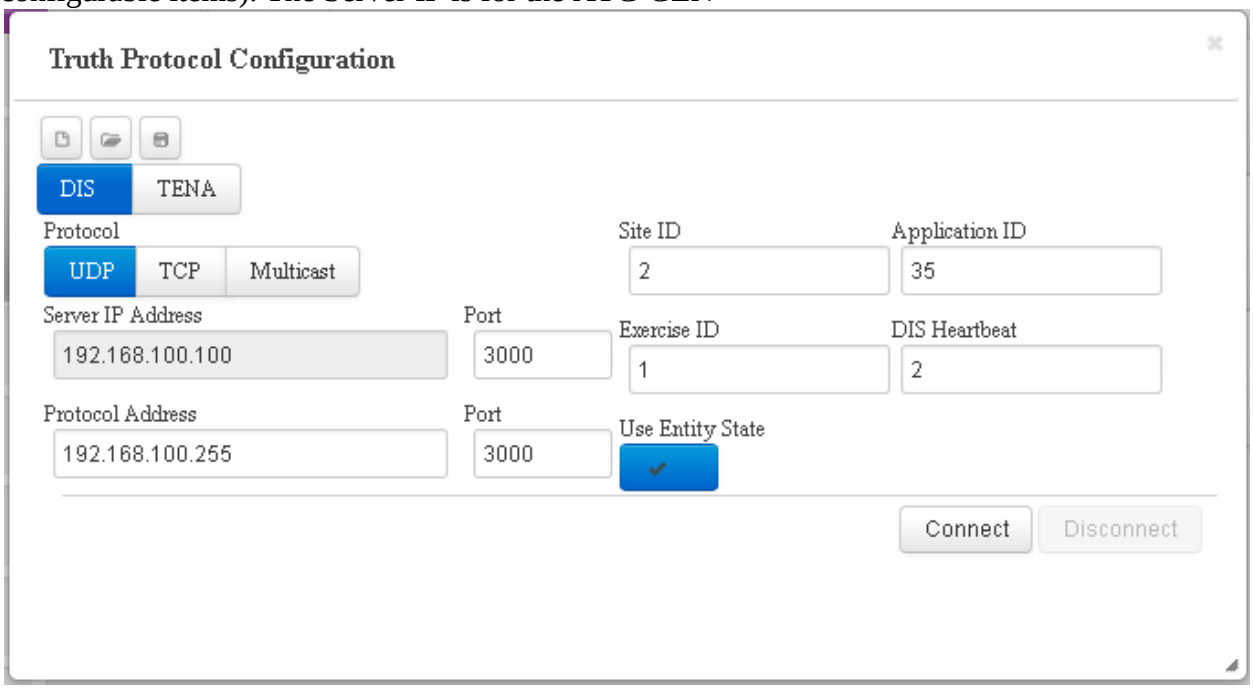

Figure 8. DIS Truth Protocol Configuration

Verify the DIS Heartbeat value of 1 second is entered. Verify the Entity ID, Site ID, Exercise ID, and Application ID for the ATC-Gen DIS Simulator are entered corrected.

There are pre-built configuration files for all configurations the user should when applicable select Open from the menu and click on the desired configuration, then click on the load button and the parameters will populate the fields.

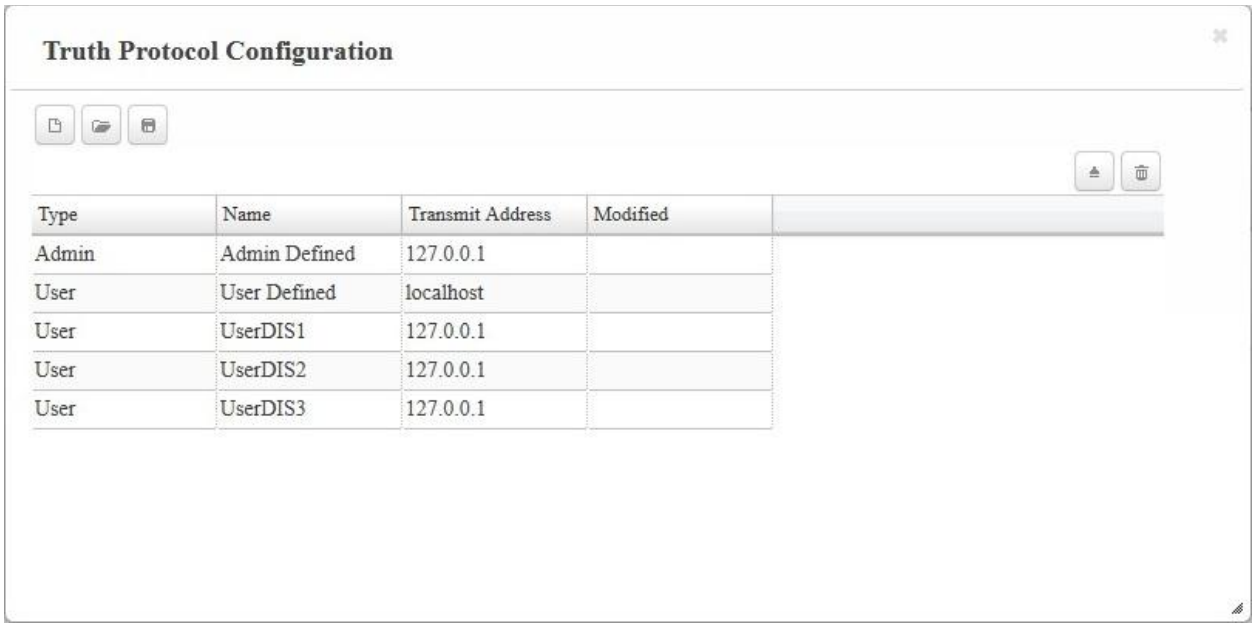

Figure 9. Open and Load DIS Truth Protocol Configuration

Configuring the TENA Protocol (figure 10) is dependent on whether the SUT is using the ATC-Gen Execution Manager or an Execution Manager co-located at SUT location. When building a new TENA Configuration the default values for the Site ID, Application ID, New File Time, Log Delay, TTL, Callback Wait Time and Timeout are displayed below. The Best Effort and Log Brief are also checked off as a default.

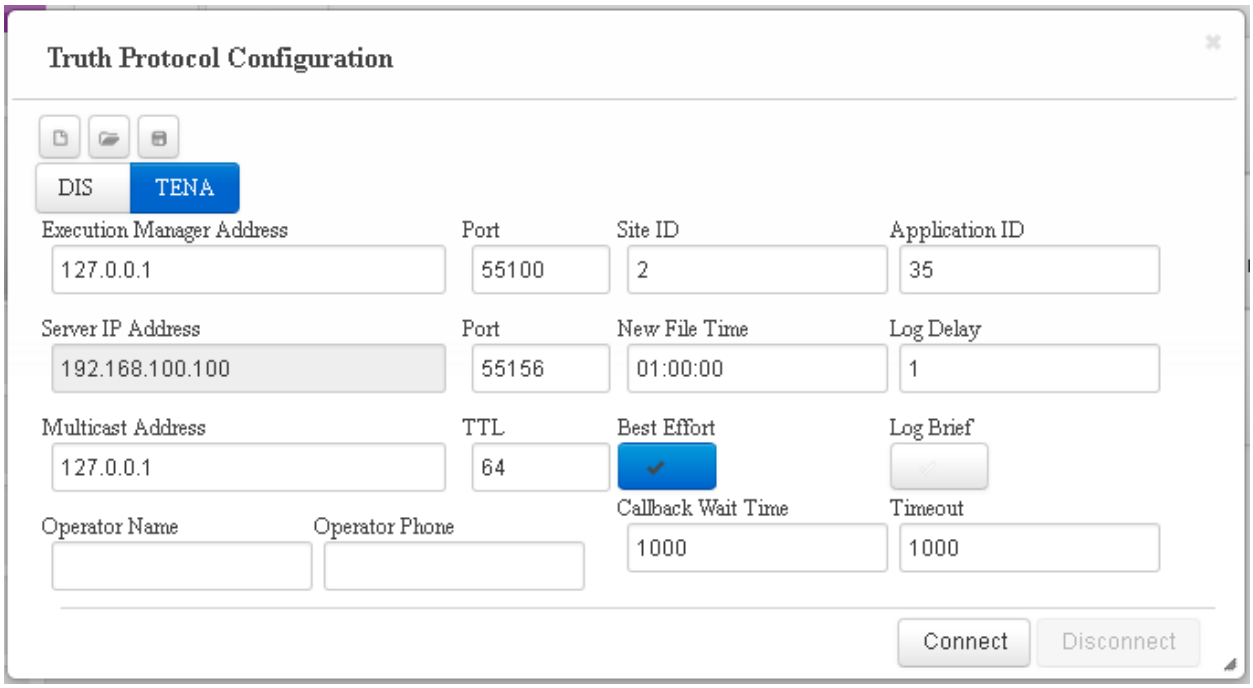

Figure 10. TENA Truth Protocol Configuration

The Open Folder allows the Operator to open saved TENA Truth Protocol Configuration. After highlighting the desired configuration select the Load button and the parameters will populate the fields.

Figure 11. Open and Load TENA Truth Protocol Configuration

Create Event: System Under Test, Correlation Window, and Test Cases

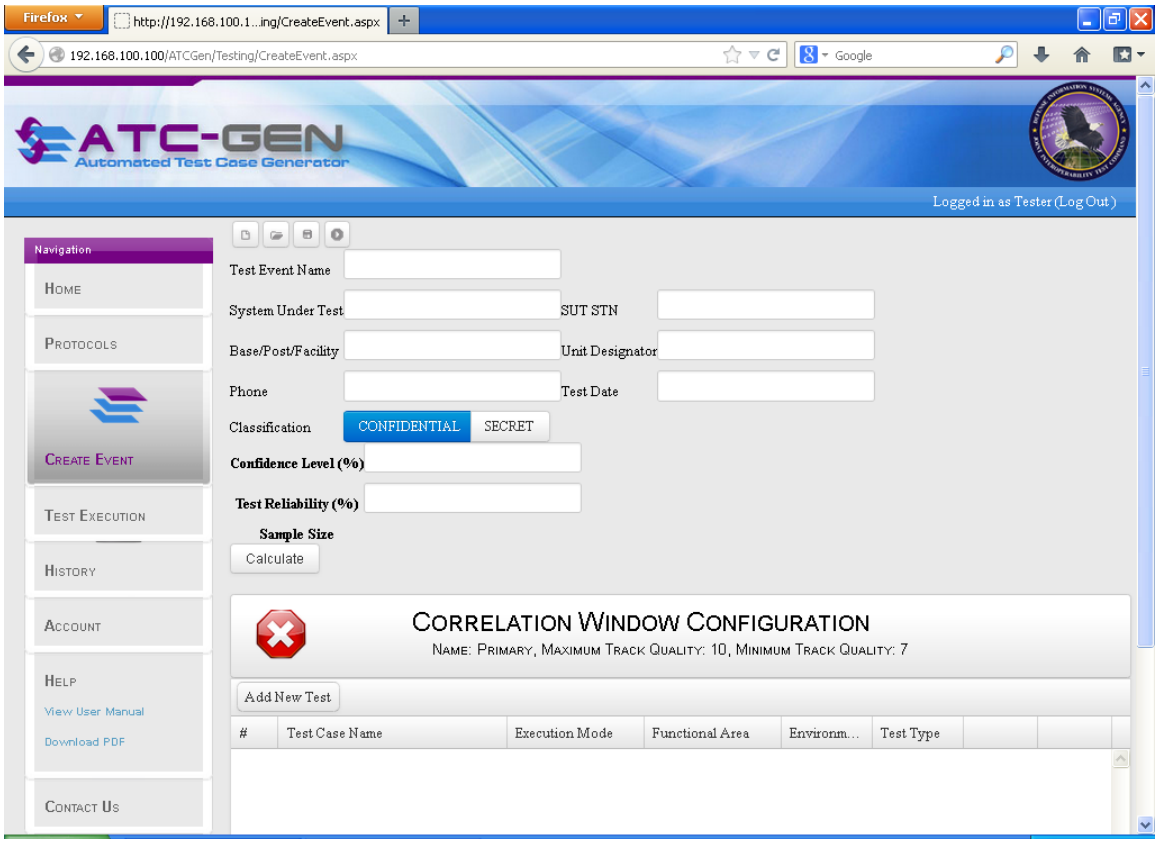

Figure 12. ATC-Gen Create Event Page

When creating a NEW Test Event (Figure 12) the Operator should enter a unique test event name (i.e. JIT 14-01_Day1_Run1), a name of the SUT (i.e. "BCS-F, MCE, Aegis, etc."), the installation where SUT resides, DSN or Commercial contact number, **SUT STN**[1], the Unit Designator (i.e. 30/35 or 40/45, CG, SSDS etc), and Test Date. The Operator enters the desired Confidence Level and Test Reliability percentages and selects the Calculate button. Based on the percentiles entered a Sample Size[2] is calculated, providing the minimum quantity of test scenarios to execute in order to meet the desired results. Before proceeding to the Correlation Window Configuration the User must save the test event data by clicking on the save icon in the upper left corner of the window.

Confidence Level and Reliability allow for the test organization to input values above 80 that their guidance requires. When the Calculation button is clicked on, it will determine the appropriate number of test runs for each test case based on the User Entered Confidence and Reliability.

NOTE: [1] To properly execute any test event the SUT STN MUST be entered. The ATC-GEN only initiates tracks that are from that STN and without it WILL NOT build a track to cause correlation testing or any other test event. [2] We determined that the ID Conflict tests ran quick

enough and would be of sufficient impact to a tactical picture that we programmed these tests to be run as a full factorial or 100%. The tables are located in this user guide and can be referenced as the test cases are run.

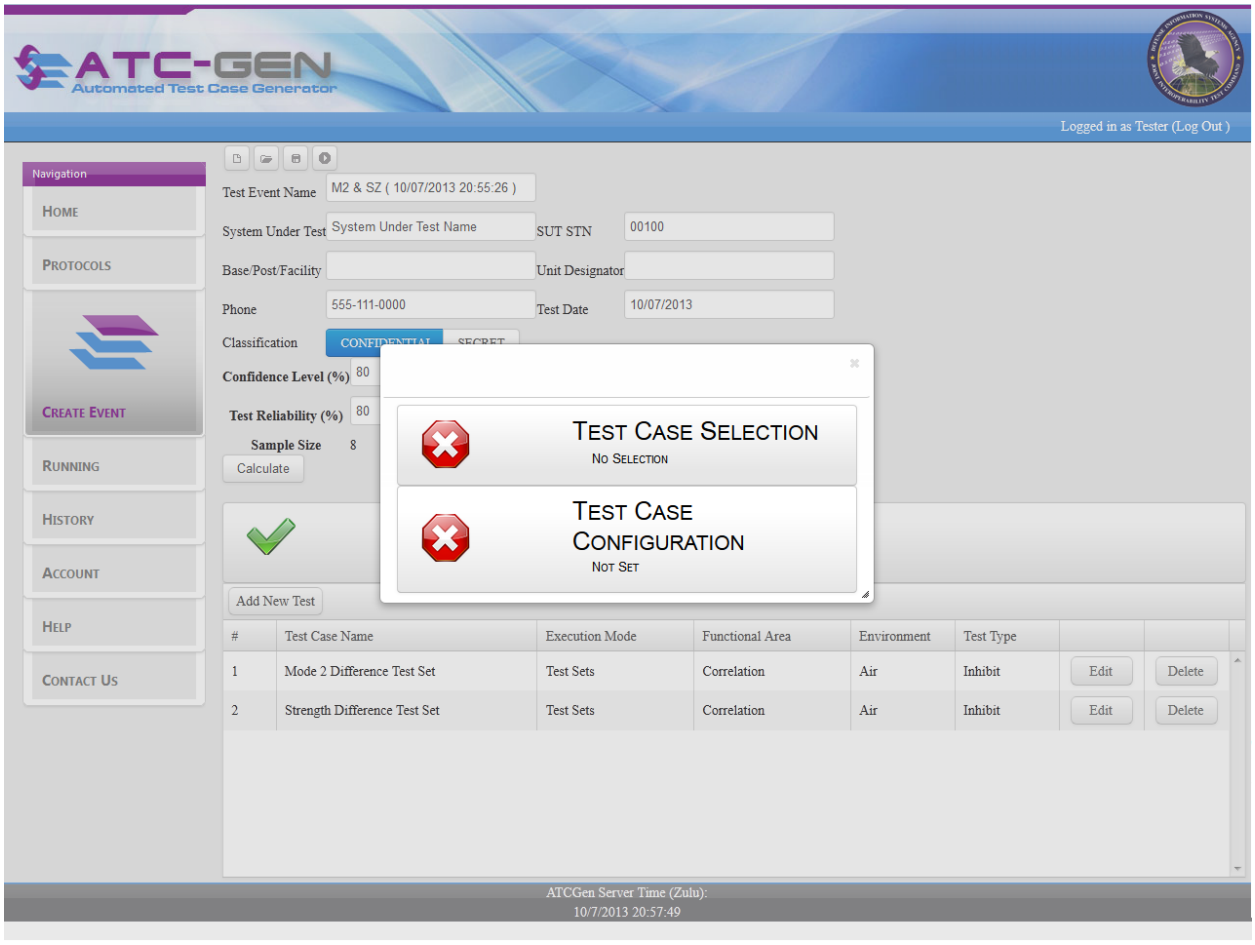

Figure 13. Test Case Event Page

After entering the applicable information select the Save button. Open previously configured Event files using the Open Folder and each saved file contains all the Event parameters. This allows flexibility and simplification when testing. The Operator will have the ability to change values in the respective sections as desired after opening the selected Event file.

Add New Test: when clicking on the Add New Test button the Test Case Selection/Configuration screen (Figure 13) is presented. The User selects the test case to be ran and then configures them. Version 3.6.1.2 now offers batch test case configurations, meaning the ATC-GEN test cases can be ran in a single event, but the user has to individually select the cases and configure them. Once that is completed they all will be ran with as many passes as required during the calculation of Confidence Level and Reliability.
NOTE: If for some reason the user determines a re-run is required for one case, he must delete those before and after as ATC-GEN will start executing them from the first test in the queue. Users can save this configuration for recall at any time thus eliminating the need to rebuild and reconfigure after a case has been deleted from the list.

When completed the user would access the history menu (left side) and select the test set they want for the report. There is a small icon above the window which will generate the report and load it in a browser window.

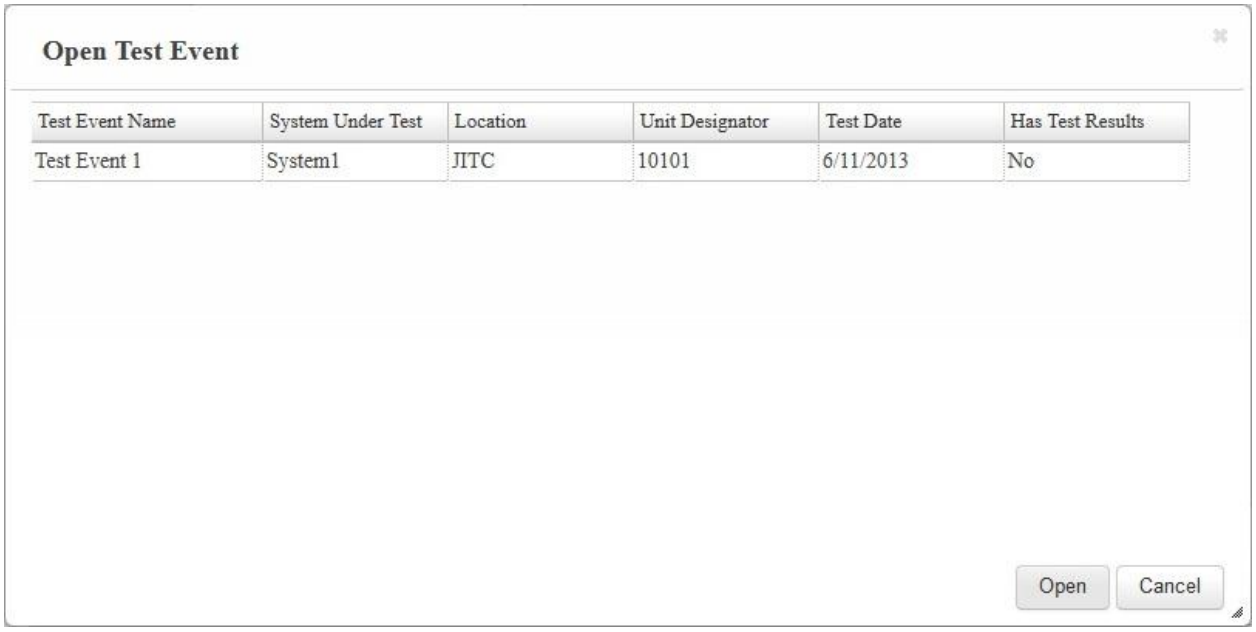

Figure 14. Open Test Event

Correlation Window Configuration

The Correlation Window Configuration for ATC-Gen shall be identical to that of SUT's Correlation Window. The Operator has the option to stay within the default parameters annotated in MIL-STD-6016, Section 4, Paragraph 4.11.13.7b, "Variable Parameters". If the SUT has an OPTASK Link that defines Correlation Window parameters outside of the default they can input them into the ATC-GEN, save them and recall as needed for testing. By default the ATC-GEN will load the MIL-STD default values. The Update button updates the configuration without saving to file.

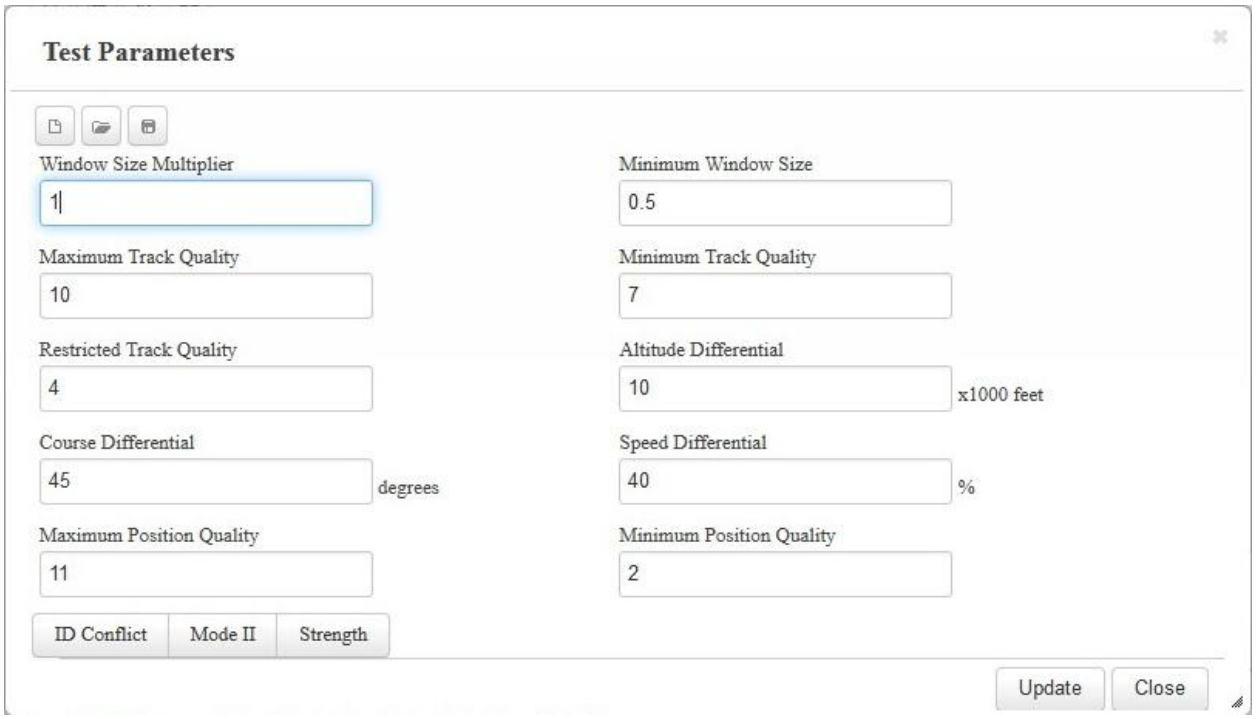

Figure 15. Test Parameters, Correlation Window

The Operator can open previously saved Correlation Window Configurations. After highlighting the desired configuration select the Load button and the parameters will populate the fields.

NOTE: The ID Conflict, Mode II, and Strength buttons are available to enforce these variables within the Correlation Window settings.

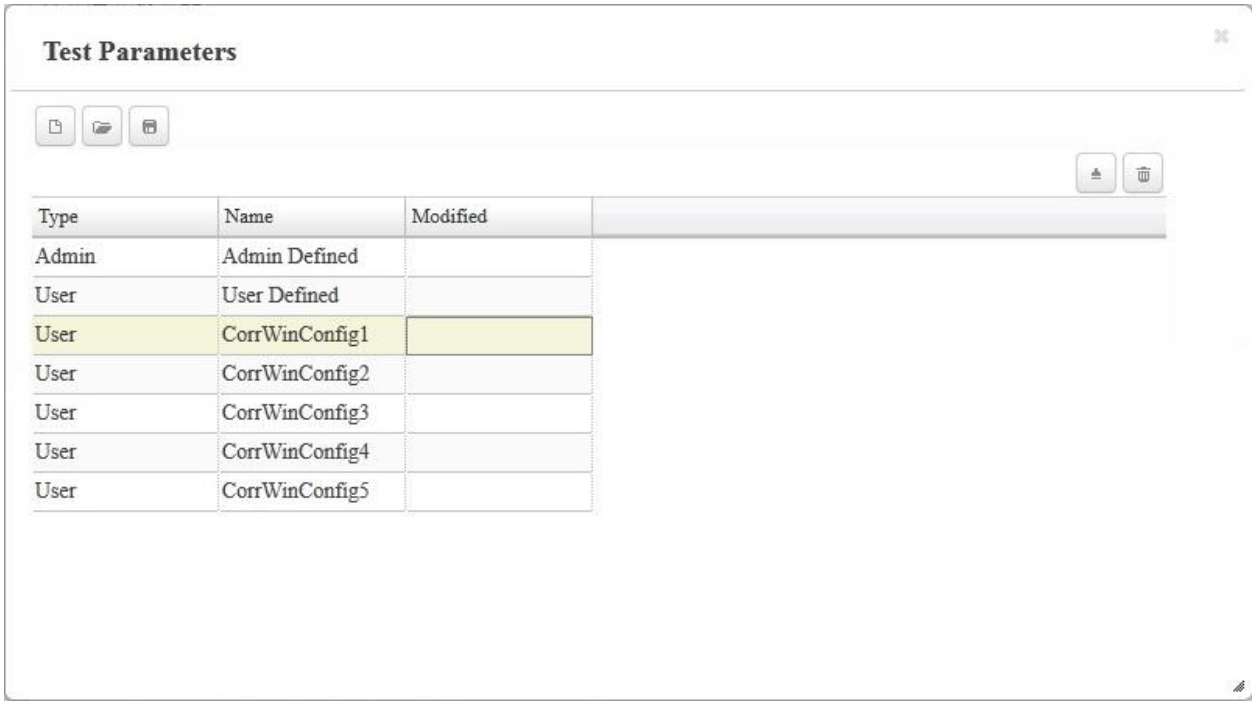

Figure 16. Open Saved Test Parameters

To save a configuration click the Save button in the main menu. A field will drop below the menu for the Operator to assign a specific name and then save the file.

Test Case Selection

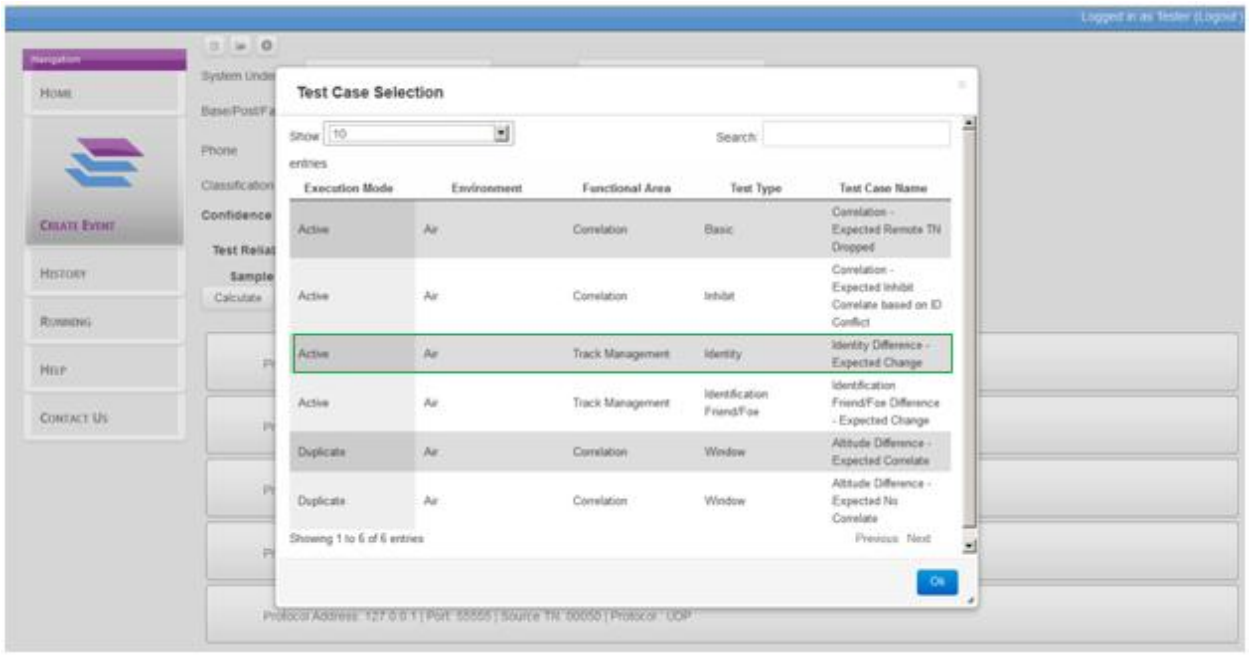

Figure 17. Test Case Selection

TEST CASE CONFIGURATION

After selecting the Test Case the Operator has the ability to create a new or open a previously saved Test Case. The Update button updates the configuration without saving to file. All Test Cases have a set of basic parameters that must be set before the Test Case will execute correctly.

Track Location Configuration: Determines the starting location and straight line trajectory for the given track to be simulated.

Latitude: Enter Degrees, Minutes and Seconds with a selection of North or South.

Longitude: Enter Degrees, Minutes and Seconds with a selection of East or West.

Altitude: Measured in Feet (MSL)

Course: Measured in Degrees (0-359)

Speed: Measured in Data Miles per Hour (DM/h)

Track Specifics: Select the Identity, Environment, Platform, Specific Type, Activity and Nationality of the track to be generated. The IFF configuration describes the Identification, Friend or Foe (IFF) values and must be entered in Octal representation

Mode 1: Octal representation, two digits, first 0-7, second 0-3

Mode 2: Octal representation, four digits, all 0-7

Mode 3: Octal representation, four digits, all 0-7

Mode 4: Octal representation, one digit, 0-3

NOTE: when configuring the Surface Test Cases, the user should load the predefined Surface Test case configuration. This removes the Altitude window and stops the Sensor Simulation from having a default value above 0ft.

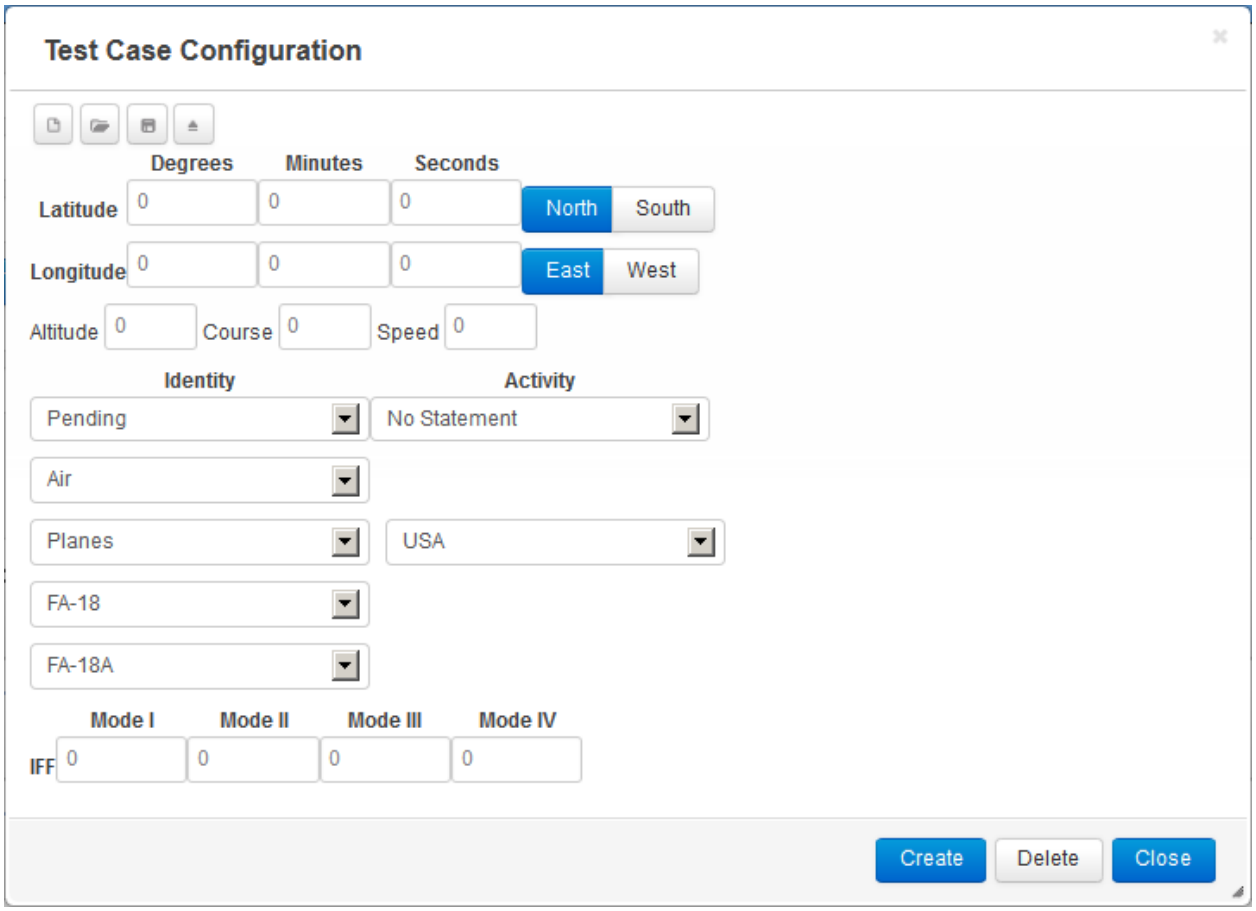

Figure 18. Test Case Configuration

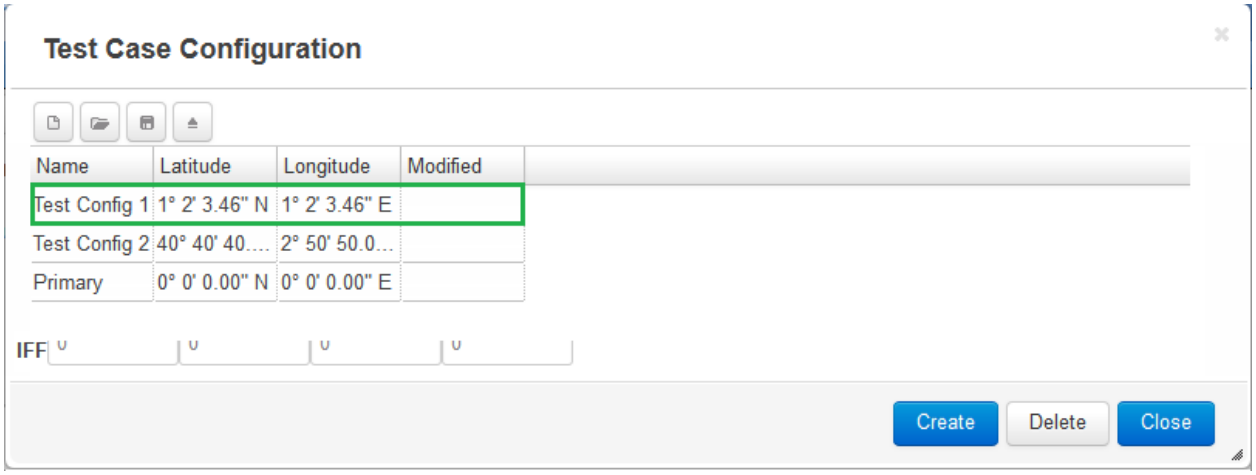

Figure 19 Open Test Case Configuration

To save a configuration click the Save button in the main menu and a pop-up window will be displayed to name the file accordingly.

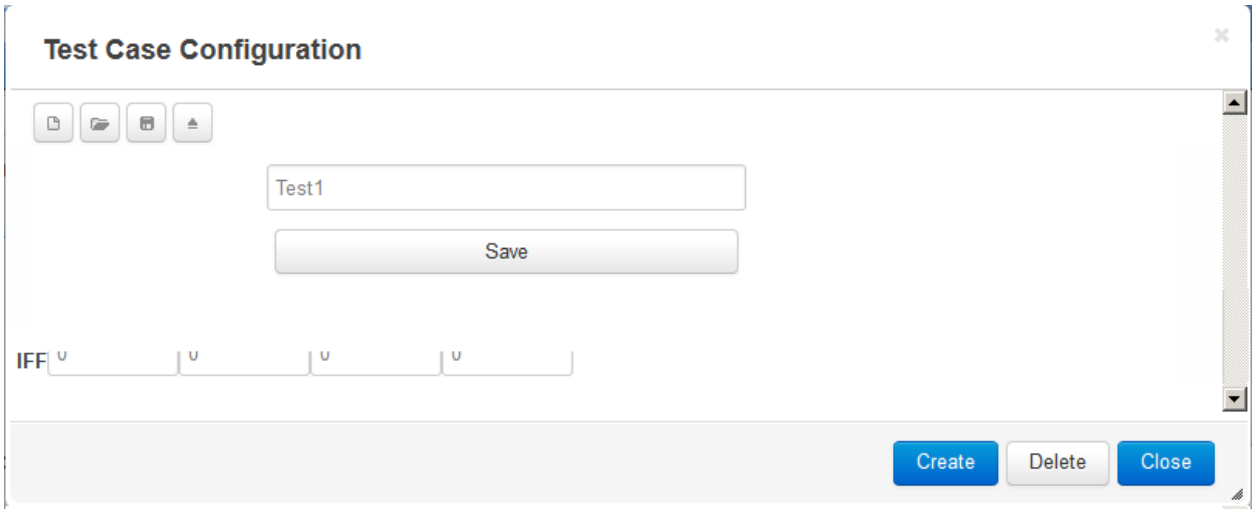

Figure 20. Save Test Case Configuration

After the Test Case Configuration has been completed to run the Test Case select the Run Test button in the master menu at the Create Test Event page.

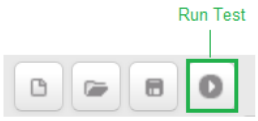

Figure 21 provides the running status of the test case(s) as well as immediate feedback on pass/fail and the MIL-STD reference expected to be tested.

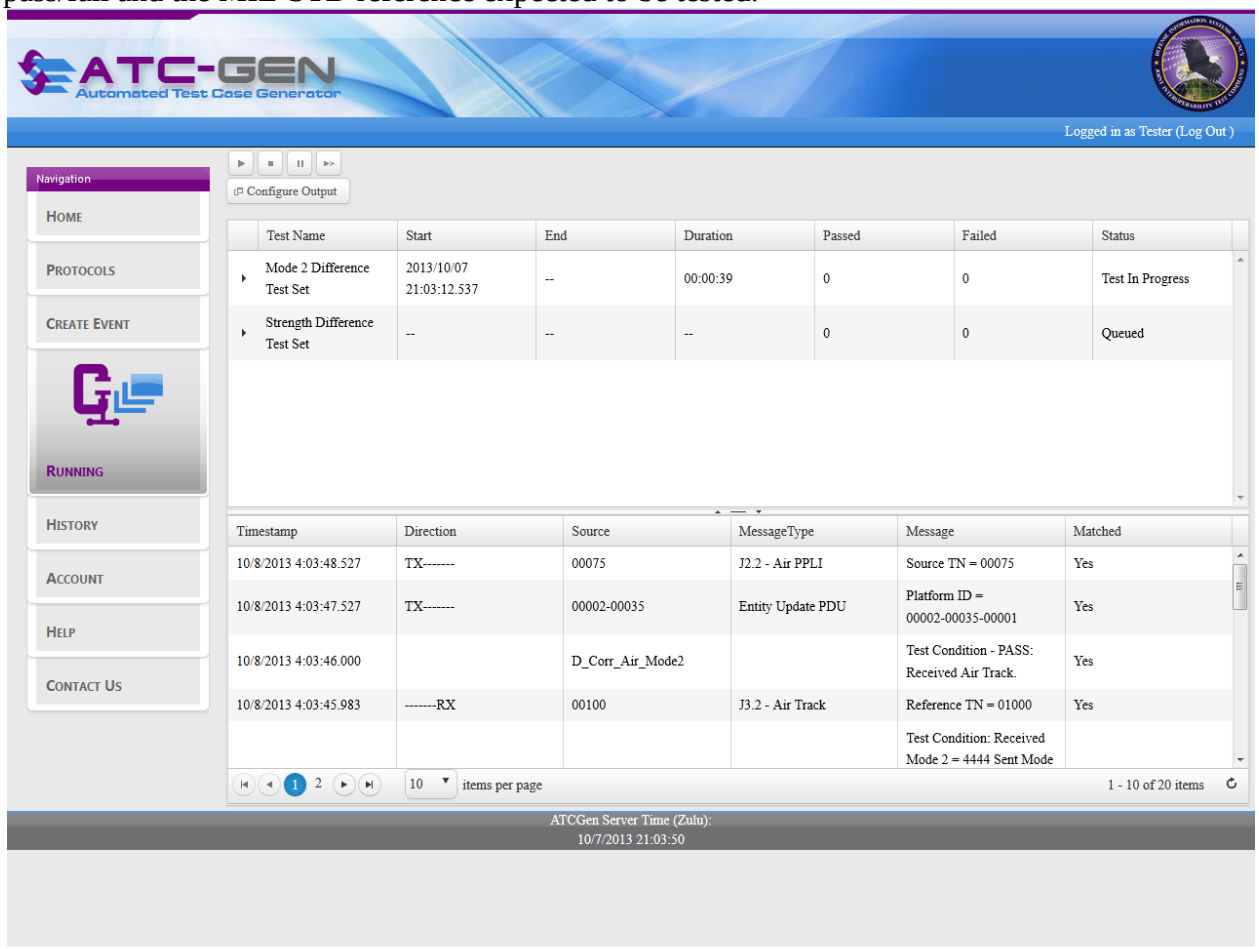

Figure 21 Test Case in Progress

TEST HISTORY

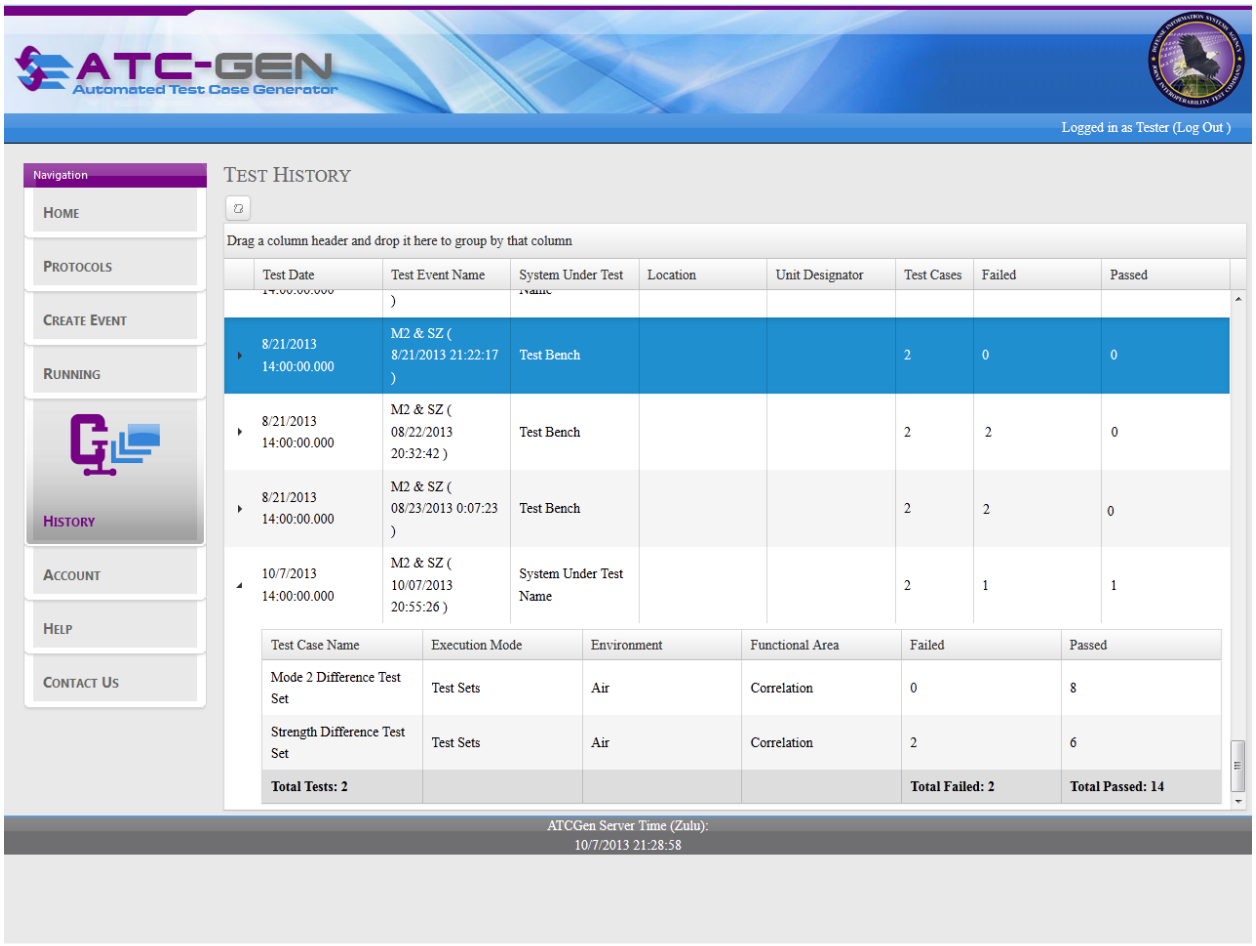

Figure 22. Test Case History

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ACRONYMS

ATC-Gen	Automated Test Case Generator
BCS-F	Battle Control Station-Fixed
C2 Unit	Command and Control Unit
CAT	Category of Alert
DEVS	Discrete Event Simulation
DIS	Distributed Interactive Simulation
DM/H	Data Miles per Hour
DMS	Degrees Minutes Seconds
DSN	Defense Switched Network (formerly Autovon)
E/C	Environment Category
GTE	Gateway Terminal Emulator
ID	Identity
IFF	Identification Friend or Foe
IP	Internet Protocol
JITC	Joint Interoperability Test Command
JMETC	Joint Mission Environment Test Capability
JTIDS	Joint Tactical Information Distribution System
JU	JTIDS Unit Number
LAN	Local Area Network
MCE	Modular Control Equipment
MIDS	Multifunctional Information Distribution System
M&S	Modeling and Simulation
MIL-STD or MS	Military Standard

MSL	Mean Sea Level
NATO	North American Treaty Organization
OCC	Operational Contingency Constraint
OPTASK	Operational Tasking
PDU	Protocol Data Unit
POA&M	Plan of Action and Milestones
PPLI	Precise Participant Location and Identification
Qpg	Geodetic Position Quality
RR or R2 or R2	Reporting Responsibility
SDREN	Secure Defense Research and Engineering Network
SIMPLE	Standard Interface for Multiple Platform Link Evaluation
SIPR	Secure Internet Protocol Router
SME	Subject Matter Expert
STANAG	Standardization Agreement
STN	Source Track Number
SUT	System Under Test
TCP	Transmission Control Protocol
TDL	Tactical Data Link
TENA	Test and Training Enabling Architecture
TN	Track Number
TQ	Track Quality
TTL	Time To Live
UDP	User Datagram Protocol

REFERENCES

Software Development Plan, JITC Fort Huachuca, December 2005

ATC-Gen Test Case Forms (TCFs), Supporting Documents with Traceability to MIL-STD 6016 for all Test Cases provided in this User Guide

Military Standard 6016E, Tactical Data Link (TDL) 16 Message Standard

Discrete Event Systems (DEVS) Formalism, Arizona Center for Integrative Modeling and Simulation (ACIMS)

DEVS Component-Based M&S Framework: An Introduction, 2002

Introduction to DEVS Modeling & Simulation with Java: Developing Component-based Simulation Models, August 2003

Discrete Event Simulation Java, DEVSJAVA 3.0, January 2004

iBuild Requirements, VTC High-Level Architecture (HLA)

ATC-Gen Software Configuration Management Plan (SCMP), JITC Fort Huachuca

ATC-Gen High-Level Overview, JITC Fort Huachuca

ATC-Gen Software Difference Document, JITC Fort Huachuca

ATC-Gen Software Version Description, JITC Fort Huachuca

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PARAMETER QUICK REFERENCE GUIDE

Tables C-1 to C-3 provides a quick reference of valid values for Identifications (IDs), Mode VI indicators, and defined Platform States; Tables C-4 to C-7 provide a quick reference to the ID Conflict test cases.

ID Name	ID Value
Pending	0
Unknown	1
Assume Friend	2
Friend	3
Neutral	4
Suspect	5
Hostile	6

Table C-1. IDs

Mode IV Indicator Name	Mode IV Indicator Value
Not Interrogated/No Statement	0
Interrogate, No Response	1
Interrogate, Invalid Response	2
Interrogate, Valid Response	3

Table C-2. Mode IV Indicators

Platform State Code	Specific Platform
0	Default Air Platform
1	F/A-18 Hornet
2	F-14 Tomcat
3	B-52
4	F-117 Nighthawk
5	E-2 Hawkeye
6	C-130 Hercules
7	AH-64 Apache
8	UH-60 Black Hawk
9	AIM-9 Sidewinder

Platform State Code	Specific Platform
10	MIM-104 Patriot
11	Default Surface Platform

Table C-3. Defined Platform State Data (Air/Surface)

Friend Transitions			
Start ID	ATC-Gen ID	End ID	Test Case
Pending	Unknown	Unknown	D_Corr_Air_IDConflictAccept
Unknown	Pending	Unknown	D_Corr_Air_IDConflictReject
Unknown	Assumed Friend	Assumed Friend	D_Corr_Air_IDConflictAccept
Assumed Friend	Pending	Assumed Friend	D_Corr_Air_IDConflictReject
Assumed Friend	Unknown	Assumed Friend	D_Corr_Air_IDConflictReject
Assumed Friend	Suspect	Assumed Friend	D_Corr_Air_InhCorr_IDConflict
Assumed Friend	Hostile	Assumed Friend	D_Corr_Air_InhCorr_IDConflict
Assumed Friend	Friend	Friend	D_Corr_Air_IDConflictAccept
Friend	Pending	Friend	D_Corr_Air_IDConflictReject
Friend	Unknown	Friend	D_Corr_Air_IDConflictReject
Friend	Assumed Friend	Friend	D_Corr_Air_IDConflictReject
Friend	Neutral	Friend	D_Corr_Air_InhCorr_IDConflict
Friend	Suspect	Friend	D_Corr_Air_InhCorr_IDConflict
Friend	Hostile	Friend	D_Corr_Air_InhCorr_IDConflict
Take R2 and Drop			D_RR_Air_Drop
Pending	Unknown	Unknown	D_Corr_Air_IDConflictAccept
Unknown	Friend	Friend	D_Corr_Air_IDConflictAccept
Take R2 and Drop			D_RR_Air_Drop
Pending	Friend	Friend	D_Corr_Air_IDConflictAccept

Table C-4. Identity Conflict (Friend) (Air/Surface)

Neutral Transitions			
Start ID	ATC-Gen ID	End ID	Test Case
Pending	Assumed Friend	Assumed Friend	D_Corr_Air_IDConflictAccept
Assumed Friend	Neutral	Neutral	D_Corr_Air_IDConflictAccept
Neutral	Pending	Neutral	D_Corr_Air_IDConflictReject
Neutral	Unknown	Neutral	D_Corr_Air_IDConflictReject
Neutral	Assumed Friend	Neutral	D_Corr_Air_IDConflictReject
Neutral	Friend	Neutral	D_Corr_Air_InhCorr_IDConflict
Neutral	Suspect	Neutral	D_Corr_Air_InhCorr_IDConflict
Neutral	Hostile	Neutral	D_Corr_Air_InhCorr_IDConflict
	Take R2 and Drop		D_RR_Air_Drop
Pending	Unknown	Unknown	D_Corr_Air_IDConflictAccept
Unknown	Neutral	Neutral	D_Corr_Air_IDConflictAccept
	Take R2 and Drop		D_RR_Air_Drop
Pending	Neutral	Neutral	D_Corr_Air_IDConflictAccept

Table C-5. Identity Conflict (Neutral) (Air/Surface)

Suspect Transitions			
Start ID	ATC-Gen ID	End ID	Test Case
Pending	Suspect	Suspect	D_Corr_Air_IDConflictAccept
Suspect	Pending	Suspect	D_Corr_Air_IDConflictReject
Suspect	Unknown	Suspect	D_Corr_Air_IDConflictReject
Suspect	Assumed Friend	Suspect	D_Corr_Air_InhCorr_IDConflict
Suspect	Friend	Suspect	D_Corr_Air_InhCorr_IDConflict
Suspect	Neutral	Suspect	D_Corr_Air_InhCorr_IDConflict
Suspect	Hostile	Suspect	D_Corr_Air_InhCorr_IDConflict
	Take R2 and Drop		D_RR_Air_Drop
Pending	Unknown	Unknown	D_Corr_Air_IDConflictAccept
Unknown	Suspect	Suspect	D_Corr_Air_IDConflictAccept

Table C-6. Identity Conflict (Suspect) (Air/Surface)

Hostile Transitions			
Start ID	ATC-Gen ID	End ID	Test Case
Pending	Hostile	Hostile	D_Corr_Air_IDConflictAccept
Hostile	Pending	Hostile	D_Corr_Air_InhCorr_IDConflict
Hostile	Unknown	Hostile	D_Corr_Air_InhCorr_IDConflict
Hostile	Assumed Friend	Hostile	D_Corr_Air_InhCorr_IDConflict
Hostile	Friend	Hostile	D_Corr_Air_InhCorr_IDConflict
Hostile	Neutral	Hostile	D_Corr_Air_InhCorr_IDConflict
Hostile	Suspect	Hostile	D_Corr_Air_InhCorr_IDConflict
Take R2 and Drop			D_RR_Air_Drop
Pending	Unknown	Unknown	D_Corr_Air_IDConflictAccept
Unknown	Hostile	Unknown	D_Corr_Air_InhCorr_IDConflict

Table C-7. Identity Conflict (Hostile) (Air/Surface)

TEST CASES AND PROCEDURES

AVAILABLE AIR TEST CASES

Table D-1, displays a list and a description of the Air Test Cases that are currently available.

Section	Active Mode Test Case Name	Description
E.1	Air Correlation – Altitude (Expected Correlation and Correlation Not Expected)	ATC-Gen reports a Link track at the same Lat/Long, but lower altitude, as a Truth track. Expecting SUT to create a track on the Truth track and not correlate the ATC-Gen Link track until it moves closer in altitude to SUT track.
E.2	Air – ID Difference Accepted/Reject/Alert	ATC-Gen stimulates SUT to report on a track, then sends a Data Difference Report to change the reported Identity. Identities to be tested can be selected from the Identity Difference Resolution matrix.
E.3	Air Inhibit Correlation - ID Conflict	Induces correlation and changes the identity (ID) to verify that SUT properly tests that correlation restriction.
E.4	Air Inhibit Correlation – IFF/SIF Mode 2	ATC-gen stimulates SUT to report on a track, and then reports a Link track at the same position with a conflicting Mode 2 IFF code. Expects that SUT will not correlate, since a restriction is held on Mode 2 conflicts.
E.7	Air Correlation – PPLI and Local Track	ATC-gen stimulates SUT to report on a track, then reports a Link PPLI at the same position, attempting to induce correlation. Expects that SUT will drop its track, since PPLIs are unable to drop.

Table D-1. List of Available Air Test Cases

2. SETTING UP AND RUNNING TEST CASES

Each Test Case requires a unique setup and test procedures to run. Those specific steps can be found in the applicable Test Procedures in Sections E (E/C=Air) and Section F (E/C=Surface). Paragraphs 2.1-2.4 are the standard procedures for setting up and running any Test Case. Section 2.1, Setting up Protocols need to be completed before setting up any Test Case. Section 2.2, Running the Test Case, gives the standard procedures on how to run a test case.

UNCLASSIFIED	
Messaging Protocol	
File	
Protocol	
UDP/TCP/Multicast Address	
UDP/TCP/Multicast Port	
Server IP Address	
Server Port	
Source TN	
Node ID	
Track Number Blocks	

Table D-2 Messaging Protocol

UNCLASSIFIED	
DIS Configuration (Truth Protocol)	
File	
Protocol	
UDP/TCP/Multicast Address	
UDP/TCP/Multicast Port	
Server IP Address	
Server Port	
DIS Header	
Entity ID	
Site ID	
Exercise ID	
Application ID	

Table D-3 DIS Configuration Truth Protocol

UNCLASSIFIED	
TENA Configuration (Truth Protocol)	
Name	
EMHost	
EMPort	
LocalHost	
LocalPort	
SiteID	
ApplicationID	
LogFileName	
LogNewFileTime	
LogDelay	
MulticastAddress	
MulticastTTL	

Table D-4 TENA Configuration Truth Protocol

TEST CASE – ENVIRONMENTAL CATEGORY = AIR

E: AIR TEST CASES AND PROCEDURES

1. AVAILABLE AIR TEST CASES

Table E-1, displays a list and a description of the Air Test Cases that are currently available in ATC-GEN.

Section	Test Case Name	Description
E.1	Correlation - Altitude	ATC-Gen reports a Link track at the same Lat/Long, but lower altitude, as a Truth track. Expecting Own Unit to create a track on the Truth track and not correlate the ATC-Gen Link track until it moves closer in altitude to Own Unit track.
E.2	Correlation - Course	
E.3	Correlation – ID Friend (Auto Accept/Reject/Alert)	ATC-Gen stimulates OWN UNIT to report on a track, then sends a Data Difference Report to change the reported Identity. Identities to be tested can be selected from the Identity Difference Resolution matrix.
E.4	Correlation – ID Hostile (Auto Accept/Reject/Alert)	ATC-Gen stimulates OWN UNIT to report on a track, then sends a Data Difference Report to change the reported Identity. Identities to be tested can be selected from the Identity Difference Resolution matrix.
E.5	Correlation – ID Neutral (Auto Accept/Reject/Alert)	ATC-Gen stimulates OWN UNIT to report on a track, then sends a Data Difference Report to change the reported Identity. Identities to be tested can be selected from the Identity Difference Resolution matrix.

Section	Test Case Name	Description
E.6	Correlation – ID Suspect (Auto Accept/Reject/Alert)	ATC-Gen stimulates OWN UNIT to report on a track, then sends a Data Difference Report to change the reported Identity. Identities to be tested can be selected from the Identity Difference Resolution matrix.
E.7	Correlation - Mode II	ATC-gen stimulates OWN UNIT to report on a track, and then reports a Link track at the same position with a conflicting Mode 2 IFF code. Expects that OWN UNIT will not correlate, since a restriction is held on Mode 2 conflicts.
E.8	Correlation – Position	
E.9	Correlation – PPLI	ATC-gen stimulates SUT to report on a track, then reports a Link PPLI at the same position, attempting correlation. Expects that SUT will drop its track, since PPLIs are unable to drop.
E.10	Correlation – Speed	
E.11	Correlation – Strength	

Table E-1. List of Available E/C=Air Test Cases

2. SETTING UP AND RUNNING A TEST CASE FOR E/C=AIR

Each Air Test Case requires its own specific setup and test procedures to run. Those specific steps can be found in the applicable Air Test Procedures in Sections E.1 through E.11.

E.1: AIR CORRELATION – ALTITUDE WITHIN/OUTSIDE CORRELATION PARAMETERS

A. (U) Test Case Description: This test case will test the SUTs ability to properly conduct Correlation tests based on Altitude using the values for Altitude in the Correlation Window and when the test criteria has been met, transmits the J7.2 Correlation message, and when the criteria is NOT met continues to transmit their local track in accordance with the Link-16 rule-set.

B. (U) OBJECTIVE: To verify that the SUT conducts the proper correlation tests based on Altitude and when required transmits the J7.2 correlation message.

C. (U) Test Criteria: The following must occur for a successful test:

ATC-Gen starts to transmit DIS truth data to SUT every 1 second.
SUT receives DIS truth data and generates a local Air Track with an Altitude on Link 16. ATC-Gen confirms TN A matches the truth data.
ATC-Gen generates a remote Air Track with Altitude with a position on top of SRN-201 track. SUT confirms TN B matches the truth data and TN A.
SUT will conduct the Correlation tests based on Altitude and determine whether correlation should occur.

Or;

ATC-Gen starts to transmit DIS truth data to SUT every 1 second.
SUT receives DIS truth data and generates a local Air Track with an Altitude on Link 16. ATC-Gen confirms TN A matches the truth data.
ATC-Gen generates a remote Air Track with Altitude with a position on top of SRN-201 track. SUT confirms TN B matches the truth data and TN A.
SUT will conduct the Correlation tests based on Altitude and determine whether correlation should occur.

D. (U) NOTE: The following will inhibit an Auto Correlation:

TN-A AND TN-B's altitude as reported in J3.2 messages fall outside of the allowed Altitude in kft as entered in the Correlation Window.

E. (U) Testing Variables:

Altitudes within the parameters in the Correlation Window.
Two separate tracks viewable between ATC-Gen and SUT.
Altitudes outside of the parameters in the Correlation Window.

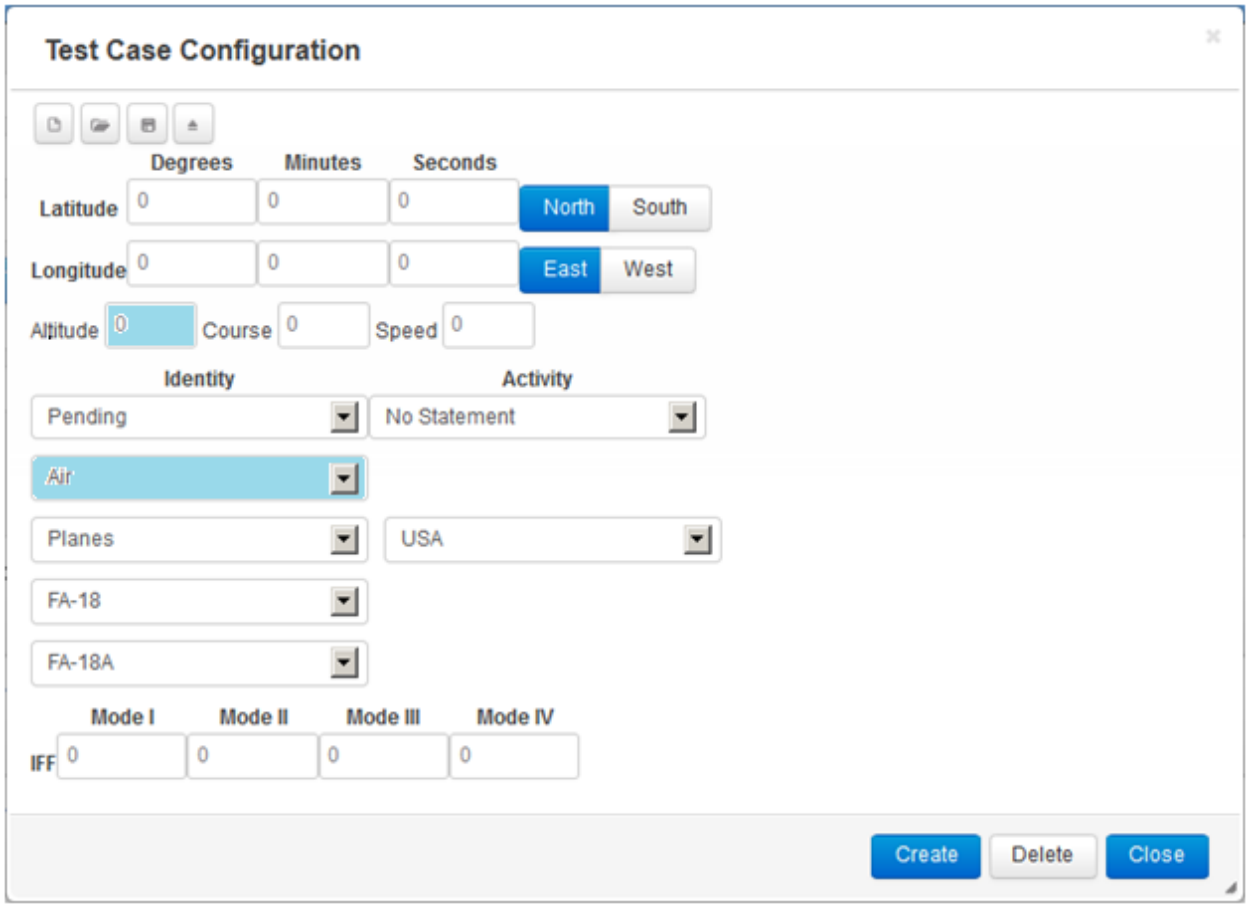

Figure E.1-1. E/C=Air Correlation based on Altitude

F. E/C=Air Correlation Altitude Test Case Set-Up Instructions

(U) MS-6016E, Section 4, Paragraph 4.11.3.4
(U) MS-6016E, Section 4, Paragraph 4.11.13.8.b, Correlation Restrictions

SUT MESSAGE SUMMARY		
J2.X	T/R	PPLI - PPLI and System Status based on system environmental category
J3.2	T/R	Air Track - The surveillance function includes those capabilities a Command and Control JTIDS/MIDS Unit (C2 JU) shall have in order to exchange surveillance information with other compatibly equipped platforms.

SUT MESSAGE SUMMARY		
J7.0	T/R	Drop Track - The J7.0 Track Management Message is used to transmit information necessary to effect management actions on tracks being reported within the interface. Management actions include dropping tracks, reporting environment and identity conflicts, changing environment and identity, changing alert status, and changing strength.
J7.2	T/R	Correlation Message -

(U) ESTIMATED TIME TO COMPLETE: 10.0 Min.

G. (U) AUTOMATIC CORRELATION – ALTITUDE (WITHIN/OUTSIDE OF CORRELATION PARAMETERS)

(U) MS-6016E, Section 4, Paragraph 4.11.3.4
(U) MS-6016E, Section 4, Paragraph 4.11.13.8.b, Correlation Restrictions

1. (U) ATC-Gen (JUYY): Disclose SRN-201 to SUT (JUXX).

UNCLASSIFIED		
SRN-201		
ALTITUDE		
COURSE		
SPEED		
TQ		
LATITUDE		
LONGITUDE		
MODE 1		
MODE 2		
MODE 3		
MODE 4		
Link 16		
Pass	Fail	

2. (U) SUT (JUXX): Report an Air track at SRN-201 position as specified below.

(U) MS-6016E, App. D: D.1.1.1.1 (Stimulus); D.1.2.3.3.6A (Initial TX); D.1.1.1.19a (Periodic TX)

UNCLASSIFIED		
SRN-201 TN-A_____		
J3.2I		
EXER IND	NON-EX TRK	0
FT IND	NS	0
EMER IND	NS	0
SPI IND	NOT REQUIRED	
SIM IND	REAL TRACK	1
TN REF	SRN-201	
STRENGTH	1 UNIT	1
SPEC TYPE	NS	0
TQ		
IDENTITY		
ALTITUDE		
J3.2E0		
LATITUDE		
LONGITUDE		
Course		
Speed		
J3.2C1		
MODE 1		
MODE 2		
MODE 3		
MODE 4		
PPLI IFF/SIF		
PLATFORM		
ACTIVITY		
Link 16		
Pass	Fail	

3. ALL: Verify receipt of data as specified. TN-A _____
4. (U) ATC-Gen (JUYY): Report an Air Track with a position on top of SRN-201 track with same/different Altitude than SUT (JUXX) Air Track.
   NOTE: The ACT-Gen Script calculates the altitude difference, whether to increase or decrease accordingly.

(U) MS-6016E, App. D: D.1.1.1.1 (Stimulus); D.1.2.3.3.6A (Initial TX); D.1.1.1.19a (Periodic TX)

UNCLASSIFIED		
SRN-201 TN-B_____		
J3.2I		
EXER IND	NON-EX TRK	0
FT IND	NS	0
EMER IND	NS	0
SPI IND	NOT REQUIRED	
SIM IND	REAL TRACK	1
TN REF	SRN-201	
STRENGTH	1 UNIT	1
SPEC TYPE	NS	0
TQ		
IDENTITY		
ALTITUDE		
J3.2E0		
LATITUDE		
LONGITUDE		
Course		
Speed		
J3.2C1		
MODE 1		
MODE 2		
MODE 3		
MODE 4		
PPLI IFF/SIF		
PLATFORM		
ACTIVITY		
Link 16		
Pass	Fail	

5. ALL: Verify receipt of data as specified. TN-B _____
6. (U) ATC-Gen (JUYY): Continue reporting track with a position on top of track SRN-201 track.
7. (U) SUT (JUXX): If Correlation tests meet the requirements for correlation, transmit the J7.2 Correlation Message, if Correlation tests fail continue to report TN-A.
8. (U) ALL: Verify correlation tests passed successfully, and if appropriate, suppress DIS to all. Drop all tracks. Verify all tracks dropped.

SEC	P/F / P/W	Completed Mission (Yes/No)	Repeatable (Yes/No)
E.X			

P = Pass F= Fail PW= Pass with work around

E.2: AIR CORRELATION – COURSE WITHIN/OUTSIDE OF CORRELATION PARAMETERS

A. (U) Test Case Description: This test case will test the SUTs ability to properly conduct Correlation tests based on Course using the values for Course in the Correlation Window and when the test criteria has been met, transmits the J7.2 Correlation message, and when the criteria is NOT met continues to transmit their local track in accordance with the Link-16 rule-set.

B. (U) OBJECTIVE: To verify that the SUT conducts the proper correlation tests based on Course and when required transmits the J7.2 correlation message.

C. (U) Test Criteria: The following must occur for a successful test:

ATC-Gen starts to transmit DIS truth data to SUT every 1 second.
SUT receives DIS truth data and generates a local Air Track with a Course≠NS on Link 16. ATC-Gen confirms TN A matches the truth data.
ATC-Gen generates a remote Air Track with random Course with a position on top of SRN-201 track. SUT confirms TN B matches the truth data and TN A.
SUT will conduct the Correlation tests based on Course and determine whether correlation should occur.

Or;

ATC-Gen starts to transmit DIS truth data to SUT every 1 second.
SUT receives DIS truth data and generates a local Air Track with a Course on Link 16.
ATC-Gen confirms TN A matches the truth data.
ATC-Gen generates a remote Air Track with Course with a position on top of SRN-201 track. SUT confirms TN B matches the truth data and TN A.
SUT will conduct the Correlation tests based on Course and determine whether correlation should occur.

D. (U) NOTE: The following will inhibit an Auto Correlation:

Both ATC-Gen and SUT tracks fall outside of the Correlation Parameters for Course

E. (U) Testing Variables:

Same Courses between ATC-Gen and SUT.
Two separate tracks viewable between ATC-Gen and SUT.
Different Courses between ATC-GEN and SUT.

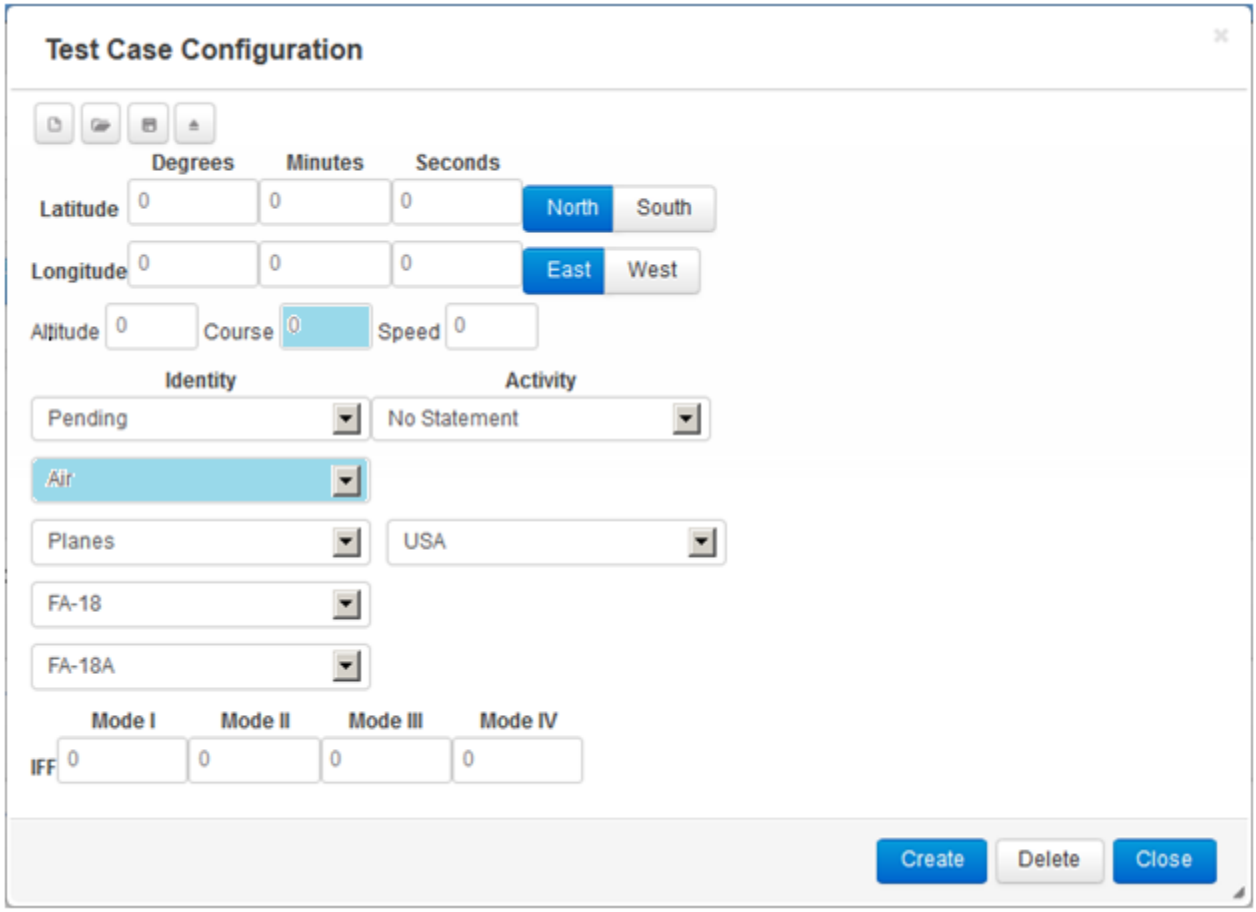

Figure E.2-1. E/C=Air Correlation based on Course

F. E/C=Air Correlation Course Test Case Set-Up Instructions

(U) MS-6016E, Section 4, Paragraph 4.11.3.4
(U) MS-6016E, Section 4, Paragraph 4.11.13.8.b, Correlation Restrictions

SUT MESSAGE SUMMARY		
J2.X	T/R	PPLI - PPLI and System Status based on system environmental category
J3.2	T/R	Air Track - The surveillance function includes those capabilities a Command and Control JTIDS/MIDS Unit (C2 JU) shall have in order to exchange surveillance information with other compatibly equipped platforms.

SUT MESSAGE SUMMARY		
J7.0	T/R	Drop Track - The J7.0 Track Management Message is used to transmit information necessary to effect management actions on tracks being reported within the interface. Management actions include dropping tracks, reporting environment and identity conflicts, changing environment and identity, changing alert status, and changing strength.
J7.2	T/R	Correlation Message -

(U) ESTIMATED TIME TO COMPLETE: 10.0 Min.

G. (U) AUTOMATIC CORRELATION – SAME/DIFFERENT COURSE

(U) MS-6016E, Section 4, Paragraph 4.11.3.4
(U) MS-6016E, Section 4, Paragraph 4.11.13.8.b, Correlation Restrictions

1. (U) ATC-Gen (JUYY): Disclose SRN-201 to SUT (JUXX).

UNCLASSIFIED		
SRN-201		
ALTITUDE		
COURSE		
SPEED		
TQ		
LATITUDE		
LONGITUDE		
MODE 1		
MODE 2		
MODE 3		
MODE 4		
Link 16		
Pass	Fail	

2. (U) SUT (JUXX): Report an Air track at SRN-201 position as specified below.

(U) MS-6016E, App. D: D.1.1.1.1 (Stimulus); D.1.2.3.3.6A (Initial TX); D.1.1.1.19a (Periodic TX)

UNCLASSIFIED
SRN-201 TN-A_____
J3.2I

EXER IND	NON-EX TRK	0
FT IND	NS	0
EMER IND	NS	0
SPI IND	NOT REQUIRED	
SIM IND	REAL TRACK	1
TN REF	SRN-201	
STRENGTH	1 UNIT	1
SPEC TYPE	NS	0
TQ		
IDENTITY		
ALTITUDE		
J3.2E0		
LATITUDE		
LONGITUDE		
Course		
Speed		
J3.2C1		
MODE 1		
MODE 2		
MODE 3		
MODE 4		
PPLI IFF/SIF		
PLATFORM		
ACTIVITY		
Link 16		
Pass	Fail	

3. ALL: Verify receipt of data as specified. TN-A _____
4. (U) ATC-Gen (JUYY): Report an Air Track with a position on top of SRN-201 track with same/different Course than SUT (JUXX) Air Track.
   NOTE: The ACT-Gen Script calculates the Course difference, whether to increase or decrease accordingly.

(U) MS-6016E, App. D: D.1.1.1.1 (Stimulus); D.1.2.3.3.6A (Initial TX); D.1.1.1.19a (Periodic TX)

UNCLASSIFIED		
SRN-201 TN-B_____		
J3.2I		
EXER IND	NON-EX TRK	0
FT IND	NS	0

EMER IND	NS	0
SPI IND	NOT REQUIRED	
SIM IND	REAL TRACK	1
TN REF	SRN-201	
STRENGTH	1 UNIT	1
SPEC TYPE	NS	0
TQ		
IDENTITY		
ALTITUDE		
J3.2E0		
LATITUDE		
LONGITUDE		
Course		
Speed		
J3.2C1		
MODE 1		
MODE 2		
MODE 3		
MODE 4		
PPLI IFF/SIF		
PLATFORM		
ACTIVITY		
Link 16		
Pass	Fail	

5. ALL: Verify receipt of data as specified. TN-B _____
6. (U) ATC-Gen (JUYY): Continue reporting track with a position on top of track SRN-201 track.
7. (U) SUT (JUXX): If Correlation tests meet the requirements for correlation, transmit the J7.2 Correlation Message, if Correlation tests fail continue to report TN-A.
8. (U) ALL: Verify correlation tests passed successfully, and if appropriate, suppress DIS to all. Drop all tracks. Verify all tracks dropped.

SEC	P/F / P/W	Completed Mission (Yes/No)	Repeatable (Yes/No)
E.X			

P = Pass F= Fail PW= Pass with work around

E.3: AIR CORRELATION – IDENTITY FRIEND AUTO ACCEPT/AUTO REJECT/OPERATOR ALERT.

A. (U) Test Case Description: This test case will test the SUTs ability to properly conduct Correlation tests based on Identity and when the test criteria has been met, transmits the J7.2

Correlation message, and when the criteria is NOT met continues to transmit their local track in accordance with the Link-16 rule-set.

B. (U) OBJECTIVE: To verify that the SUT conducts the proper correlation tests based on Identity and when required transmits the J7.2 correlation message.

C. (U) Test Criteria: The following must occur for a successful test:

ATC-Gen starts to transmit DIS truth data to SUT every 1 second.
SUT receives DIS truth data and generates a local Air Track with the DIS Identity on Link 16. ATC-Gen confirms TN A matches the truth data.
ATC-Gen generates a remote Air Track with Same/Different Identity with a position on top of SRN-201 track. SUT confirms TN B matches the truth data and TN A.
SUT will conduct the Correlation tests based on Identity and determine whether correlation should occur.

Or;

ATC-Gen starts to transmit DIS truth data to SUT every 1 second.
SUT receives DIS truth data and generates a local Air Track with the DIS Identity on Link 16. ATC-Gen confirms TN A matches the truth data.
ATC-Gen generates a remote Air Track with Same/Different Identity with a position on top of SRN-201 track. SUT confirms TN B matches the truth data and TN A.
SUT will conduct the Correlation tests based on Identity and determine whether correlation should occur.

D. (U) NOTE: The following will inhibit an Auto Correlation:

ATC-Gen and SUT tracks have prohibited Identities (See Table(s) C-5 through C-7)

E. (U) Testing Variables:

Same Identity between ATC-Gen and SUT.
Two separate tracks viewable between ATC-Gen and SUT.
Different Identity between ATC-GEN and SUT.

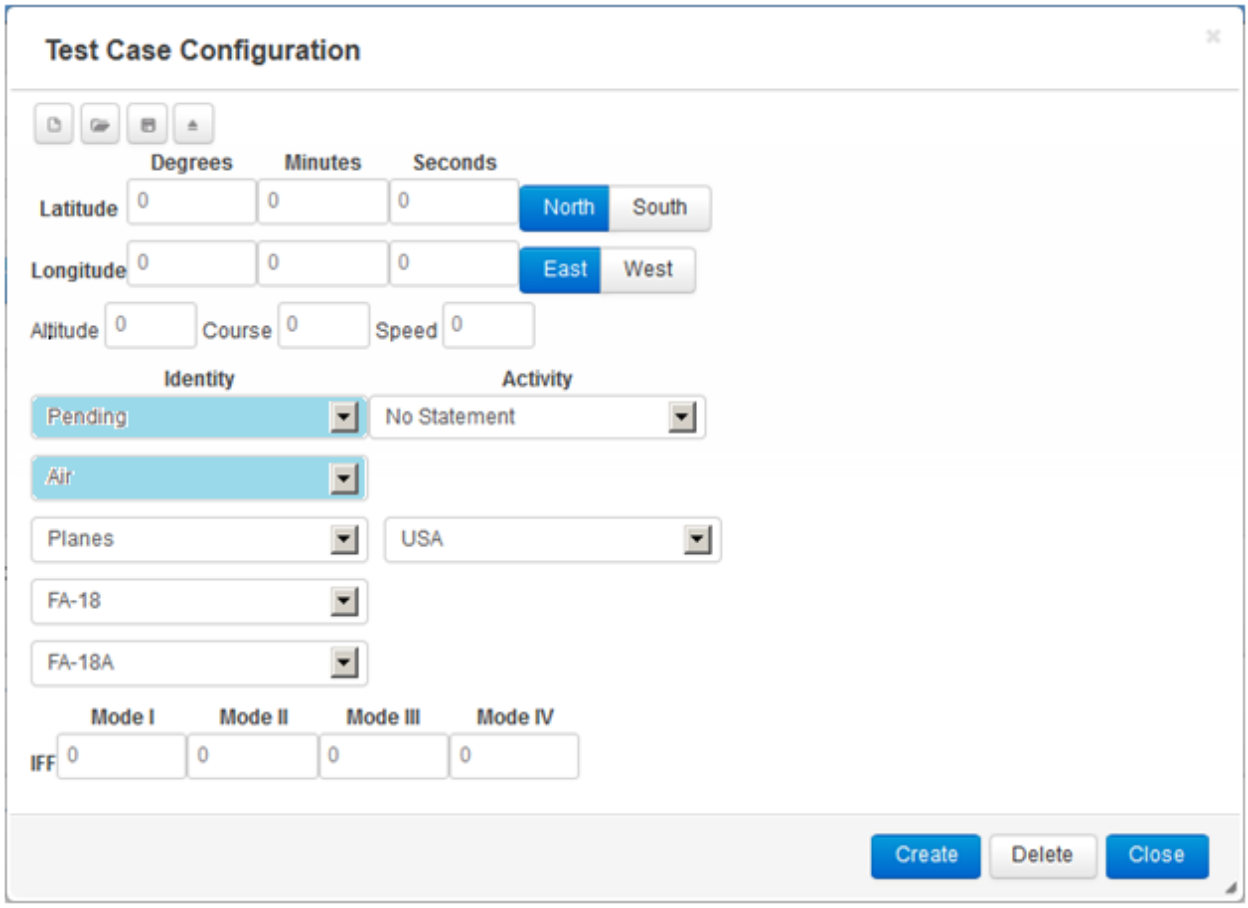

Figure E.3-1. E/C=Air Correlation based on Identity

F. E/C=Air Correlation Identity Test Case Set-Up Instructions

(U) MS-6016E, Section 4, Paragraph 4.11.3.4
(U) MS-6016E, Section 4, Paragraph 4.11.13.8.b, Correlation Restrictions

SUT MESSAGE SUMMARY		
J2.X	T/R	PPLI - PPLI and System Status based on system environmental category
J3.2	T/R	Air Track - The surveillance function includes those capabilities a Command and Control JTIDS/MIDS Unit (C2 JU) shall have in order to exchange surveillance information with other compatibly equipped platforms.

SUT MESSAGE SUMMARY		
J7.0	T/R	Drop Track - The J7.0 Track Management Message is used to transmit information necessary to effect management actions on tracks being reported within the interface. Management actions include dropping tracks, reporting environment and identity conflicts, changing environment and identity, changing alert status, and changing strength.
J7.2	T/R	Correlation Message -

(U) ESTIMATED TIME TO COMPLETE: 10.0 Min.

G. (U) AUTOMATIC CORRELATION – SAME/DIFFERENT IDENTITY (FRIEND)

(U) MS-6016E, Section 4, Paragraph 4.11.3.4
(U) MS-6016E, Section 4, Paragraph 4.11.13.8.b, Correlation Restrictions

1. (U) ATC-Gen (JUYY): Disclose SRN-201 to SUT (JUXX).

UNCLASSIFIED		
SRN-201		
IDENTITY	FRIEND	3
ALTITUDE		
COURSE		
SPEED		
TQ		
LATITUDE		
LONGITUDE		
MODE 1		
MODE 2		
MODE 3		
MODE 4		
Link 16		
Pass	Fail	

2. (U) SUT (JUXX): Report an Air track at SRN-201 position as specified below.

(U) MS-6016E, App. D: D.1.1.1.1 (Stimulus); D.1.2.3.3.6A (Initial TX); D.1.1.1.19a (Periodic TX)

UNCLASSIFIED
SRN-201 TN-A_____

J3.2I		
EXER IND	NON-EX TRK	0
FT IND	NS	0
EMER IND	NS	0
SPI IND	NOT REQUIRED	
SIM IND	REAL TRACK	1
TN REF	SRN-201	
STRENGTH	1 UNIT	1
SPEC TYPE	NS	0
TQ		
IDENTITY	**FRIEND**	**3**
ALTITUDE		
J3.2E0		
LATITUDE		
LONGITUDE		
Course		
Speed		
J3.2C1		
MODE 1		
MODE 2		
MODE 3		
MODE 4		
PPLI IFF/SIF		
PLATFORM		
ACTIVITY		
Link 16		
Pass	Fail	

3. ALL: Verify receipt of data as specified. TN-A _____
4. (U) ATC-Gen (JUYY): Report an Air Track with a position on top of SRN-201 track with same/different Identity than SUT (JUXX) Air Track.
   NOTE: The ACT-Gen Script calculates the identity difference, whether to increase or decrease accordingly.

(U) MS-6016E, App. D: D.1.1.1.1 (Stimulus); D.1.2.3.3.6A (Initial TX); D.1.1.1.19a (Periodic TX)

UNCLASSIFIED		
SRN-201 TN-B_____		
J3.2I		
EXER IND	NON-EX TRK	0

FT IND	NS	0
EMER IND	NS	0
SPI IND	NOT REQUIRED	
SIM IND	REAL TRACK	1
TN REF	SRN-201	
STRENGTH	1 UNIT	1
SPEC TYPE	NS	0
TQ		
IDENTITY		
ALTITUDE		
J3.2E0		
LATITUDE		
LONGITUDE		
Course		
Speed		
J3.2C1		
MODE 1		
MODE 2		
MODE 3		
MODE 4		
PPLI IFF/SIF		
PLATFORM		
ACTIVITY		
Link 16		
Pass	Fail	

5. ALL: Verify receipt of data as specified. TN-B _____
6. (U) ATC-Gen (JUYY): Continue reporting track with a position on top of track SRN-201 track.
7. (U) SUT (JUXX): If Correlation tests meet the requirements for correlation, transmit the J7.2 Correlation Message, if Correlation tests fail continue to report TN-A.
8. (U) ALL: Verify correlation tests passed successfully, and if appropriate, suppress DIS to all. Drop all tracks. Verify all tracks dropped.

SEC	P/F / P/W	Completed Mission (Yes/No)	Repeatable (Yes/No)
E.X			

P = Pass F= Fail PW= Pass with work around

E.4: AIR CORRELATION – IDENTITY HOSTILE AUTO ACCEPT/AUTO REJECT/OPERATOR ALERT.

A. (U) Test Case Description: This test case will test the SUTs ability to properly conduct Correlation tests based on Identity and when the test criteria has been met, transmits the J7.2 Correlation message, and when the criteria is NOT met continues to transmit their local track in accordance with the Link-16 rule-set.

B. (U) OBJECTIVE: To verify that the SUT conducts the proper correlation tests based on Identity and when required transmits the J7.2 correlation message.

C. (U) Test Criteria: The following must occur for a successful test:

ATC-Gen starts to transmit DIS truth data to SUT every 1 second.
SUT receives DIS truth data and generates a local Air Track with the DIS Identity on Link 16. ATC-Gen confirms TN A matches the truth data.
ATC-Gen generates a remote Air Track with Same/Different Identity with a position on top of SRN-201 track. SUT confirms TN B matches the truth data and TN A.
SUT will conduct the Correlation tests based on Identity and determine whether correlation should occur.

Or;

ATC-Gen starts to transmit DIS truth data to SUT every 1 second.
SUT receives DIS truth data and generates a local Air Track with the DIS Identity on Link 16. ATC-Gen confirms TN A matches the truth data.
ATC-Gen generates a remote Air Track with Same/Different Identity with a position on top of SRN-201 track. SUT confirms TN B matches the truth data and TN A.
SUT will conduct the Correlation tests based on Identity and determine whether correlation should occur.

D. (U) NOTE: The following will inhibit an Auto Correlation:

ATC-Gen and SUT tracks have prohibited Identities (See Table(s) C-5 through C-7)

E. (U) Testing Variables:

Same Identity between ATC-Gen and SUT.
Two separate tracks viewable between ATC-Gen and SUT.
Different Identity between ATC-GEN and SUT.

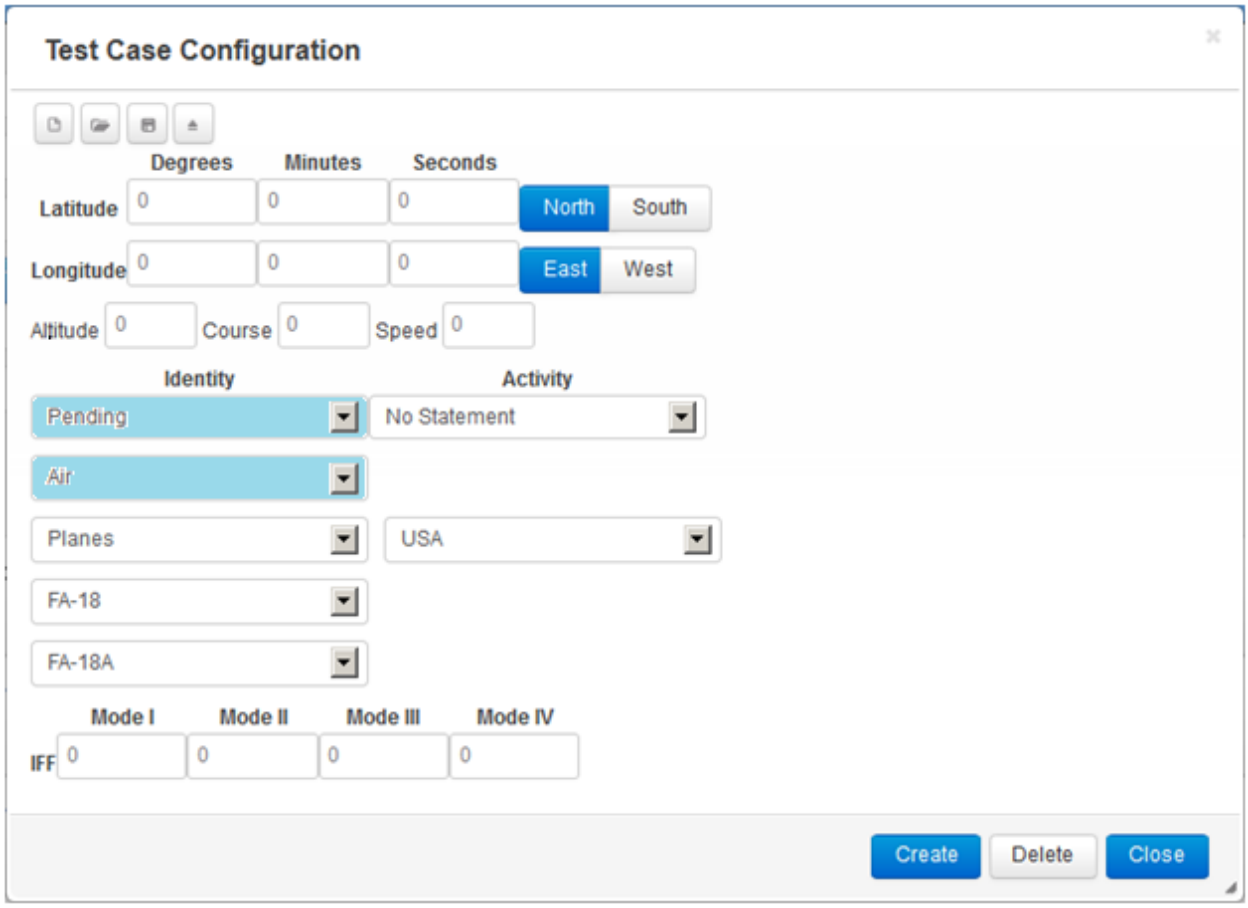

Figure E.4-1. E/C=Air Correlation based on Identity

F. E/C=Air Correlation Identity Test Case Set-Up Instructions

(U) MS-6016E, Section 4, Paragraph 4.11.3.4
(U) MS-6016E, Section 4, Paragraph 4.11.13.8.b, Correlation Restrictions

SUT MESSAGE SUMMARY		
J2.X	T/R	PPLI - PPLI and System Status based on system environmental category
J3.2	T/R	Air Track - The surveillance function includes those capabilities a Command and Control JTIDS/MIDS Unit (C2 JU) shall have in order to exchange surveillance information with other compatibly equipped platforms.

SUT MESSAGE SUMMARY		
J7.0	T/R	Drop Track - The J7.0 Track Management Message is used to transmit information necessary to effect management actions on tracks being reported within the interface. Management actions include dropping tracks, reporting environment and identity conflicts, changing environment and identity, changing alert status, and changing strength.
J7.2	T/R	Correlation Message -

(U) ESTIMATED TIME TO COMPLETE: 10.0 Min.

G. (U) AUTOMATIC CORRELATION – SAME/DIFFERENT IDENTITY (HOSTILE)

(U) MS-6016E, Section 4, Paragraph 4.11.3.4
(U) MS-6016E, Section 4, Paragraph 4.11.13.8.b, Correlation Restrictions

1. (U) ATC-Gen (JUYY): Disclose SRN-201 to SUT (JUXX).

UNCLASSIFIED		
SRN-201		
IDENTITY	**HOSTILE**	**6**
ALTITUDE		
COURSE		
SPEED		
TQ		
LATITUDE		
LONGITUDE		
MODE 1		
MODE 2		
MODE 3		
MODE 4		
Link 16		
Pass	Fail	

2. (U) SUT (JUXX): Report an Air track at SRN-201 position as specified below.

(U) MS-6016E, App. D: D.1.1.1.1 (Stimulus); D.1.2.3.3.6A (Initial TX); D.1.1.1.19a (Periodic TX)

UNCLASSIFIED
SRN-201 TN-A_____

J3.2I		
EXER IND	NON-EX TRK	0
FT IND	NS	0
EMER IND	NS	0
SPI IND	NOT REQUIRED	
SIM IND	REAL TRACK	1
TN REF	SRN-201	
STRENGTH	1 UNIT	1
SPEC TYPE	NS	0
TQ		
IDENTITY	**HOSTILE**	**6**
ALTITUDE		
J3.2E0		
LATITUDE		
LONGITUDE		
Course		
Speed		
J3.2C1		
MODE 1		
MODE 2		
MODE 3		
MODE 4		
PPLI IFF/SIF		
PLATFORM		
ACTIVITY		
Link 16		
Pass	Fail	

3. ALL: Verify receipt of data as specified. TN-A _____
4. (U) ATC-Gen (JUYY): Report an Air Track with a position on top of SRN-201 track with same/different Identity than SUT (JUXX) Air Track.
   NOTE: The ACT-Gen Script calculates the identity difference, whether to increase or decrease accordingly.

(U) MS-6016E, App. D: D.1.1.1.1 (Stimulus); D.1.2.3.3.6A (Initial TX); D.1.1.1.19a (Periodic TX)

UNCLASSIFIED		
SRN-201 TN-B_____		
J3.2I		
EXER IND	NON-EX TRK	0

FT IND	NS	0
EMER IND	NS	0
SPI IND	NOT REQUIRED	
SIM IND	REAL TRACK	1
TN REF	SRN-201	
STRENGTH	1 UNIT	1
SPEC TYPE	NS	0
TQ		
IDENTITY		
ALTITUDE		
J3.2E0		
LATITUDE		
LONGITUDE		
Course		
Speed		
J3.2C1		
MODE 1		
MODE 2		
MODE 3		
MODE 4		
PPLI IFF/SIF		
PLATFORM		
ACTIVITY		
Link 16		
Pass	Fail	

5. ALL: Verify receipt of data as specified. TN-B _____
6. (U) ATC-Gen (JUYY): Continue reporting track with a position on top of track SRN-201 track.
7. (U) SUT (JUXX): If Correlation tests meet the requirements for correlation, transmit the J7.2 Correlation Message, if Correlation tests fail continue to report TN-A.
8. (U) ALL: Verify correlation tests passed successfully, and if appropriate, suppress DIS to all. Drop all tracks. Verify all tracks dropped.

SEC	P/F / P/W	Completed Mission (Yes/No)	Repeatable (Yes/No)
E.X			

P = Pass F= Fail PW= Pass with work around

E.5: AIR CORRELATION – IDENTITY NEUTRAL AUTO ACCEPT/AUTO REJECT/OPERATOR ALERT.

A. (U) Test Case Description: This test case will test the SUTs ability to properly conduct Correlation tests based on Identity and when the test criteria has been met, transmits the J7.2 Correlation message, and when the criteria is NOT met continues to transmit their local track in accordance with the Link-16 rule-set.

B. (U) OBJECTIVE: To verify that the SUT conducts the proper correlation tests based on Identity and when required transmits the J7.2 correlation message.

C. (U) Test Criteria: The following must occur for a successful test:

ATC-Gen starts to transmit DIS truth data to SUT every 1 second.
SUT receives DIS truth data and generates a local Air Track with the DIS Identity on Link 16. ATC-Gen confirms TN A matches the truth data.
ATC-Gen generates a remote Air Track with Same/Different Identity with a position on top of SRN-201 track. SUT confirms TN B matches the truth data and TN A.
SUT will conduct the Correlation tests based on Identity and determine whether correlation should occur.

Or;

ATC-Gen starts to transmit DIS truth data to SUT every 1 second.
SUT receives DIS truth data and generates a local Air Track with the DIS Identity on Link 16. ATC-Gen confirms TN A matches the truth data.
ATC-Gen generates a remote Air Track with Same/Different Identity with a position on top of SRN-201 track. SUT confirms TN B matches the truth data and TN A.
SUT will conduct the Correlation tests based on Identity and determine whether correlation should occur.

D. (U) NOTE: The following will inhibit an Auto Correlation:

ATC-Gen and SUT tracks have prohibited Identities (See Table(s) C-5 through C-7)

E. (U) Testing Variables:

Same Identity between ATC-Gen and SUT.
Two separate tracks viewable between ATC-Gen and SUT.
Different Identity between ATC-GEN and SUT.

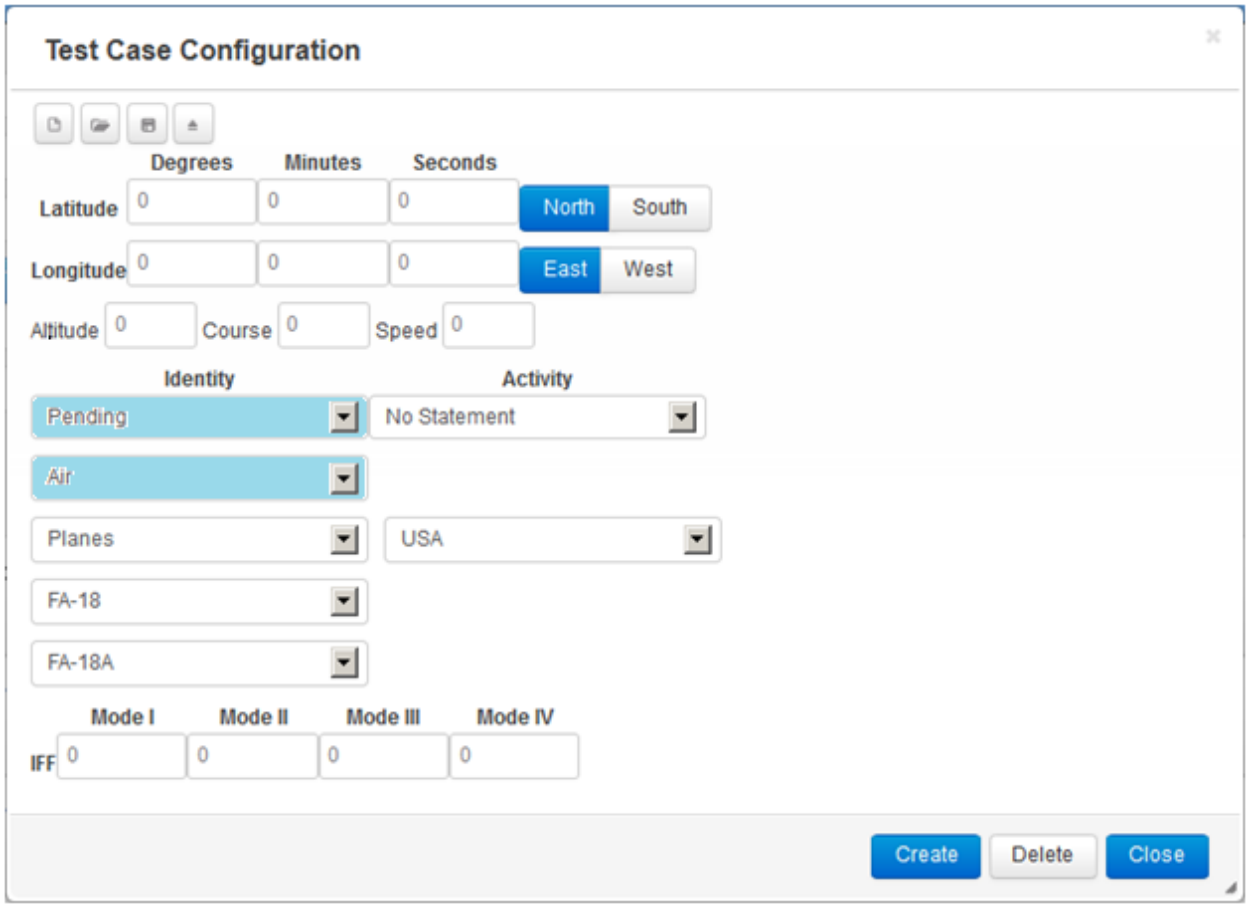

Figure E.5-1. E/C=Air Correlation based on Identity

F. E/C=Air Correlation Identity Test Case Set-Up Instructions

(U) MS-6016E, Section 4, Paragraph 4.11.3.4
(U) MS-6016E, Section 4, Paragraph 4.11.13.8.b, Correlation Restrictions

SUT MESSAGE SUMMARY		
J2.X	T/R	PPLI - PPLI and System Status based on system environmental category
J3.2	T/R	Air Track - The surveillance function includes those capabilities a Command and Control JTIDS/MIDS Unit (C2 JU) shall have in order to exchange surveillance information with other compatibly equipped platforms.

SUT MESSAGE SUMMARY		
J7.0	T/R	Drop Track - The J7.0 Track Management Message is used to transmit information necessary to effect management actions on tracks being reported within the interface. Management actions include dropping tracks, reporting environment and identity conflicts, changing environment and identity, changing alert status, and changing strength.
J7.2	T/R	Correlation Message -

(U) ESTIMATED TIME TO COMPLETE: 10.0 Min.

G. (U) AUTOMATIC CORRELATION – SAME/DIFFERENT IDENTITY (NEUTRAL)

(U) MS-6016E, Section 4, Paragraph 4.11.3.4
(U) MS-6016E, Section 4, Paragraph 4.11.13.8.b, Correlation Restrictions

1. (U) ATC-Gen (JUYY): Disclose SRN-201 to SUT (JUXX).

UNCLASSIFIED		
SRN-201		
IDENTITY	**NEUTRAL**	**4**
ALTITUDE		
COURSE		
SPEED		
TQ		
LATITUDE		
LONGITUDE		
MODE 1		
MODE 2		
MODE 3		
MODE 4		
Link 16		
Pass	Fail	

2. (U) SUT (JUXX): Report an Air track at SRN-201 position as specified below.

(U) MS-6016E, App. D: D.1.1.1.1 (Stimulus); D.1.2.3.3.6A (Initial TX); D.1.1.1.19a (Periodic TX)

UNCLASSIFIED
SRN-201 TN-A_____

J3.2I		
EXER IND	NON-EX TRK	0
FT IND	NS	0
EMER IND	NS	0
SPI IND	NOT REQUIRED	
SIM IND	REAL TRACK	1
TN REF	SRN-201	
STRENGTH	1 UNIT	1
SPEC TYPE	NS	0
TQ		
IDENTITY	**NEUTRAL**	**4**
ALTITUDE		
J3.2E0		
LATITUDE		
LONGITUDE		
Course		
Speed		
J3.2C1		
MODE 1		
MODE 2		
MODE 3		
MODE 4		
PPLI IFF/SIF		
PLATFORM		
ACTIVITY		
Link 16		
Pass	Fail	

3. ALL: Verify receipt of data as specified. TN-A _____
4. (U) ATC-Gen (JUYY): Report an Air Track with a position on top of SRN-201 track with same/different Identity than SUT (JUXX) Air Track.
   NOTE: The ACT-Gen Script calculates the identity difference, whether to increase or decrease accordingly.

(U) MS-6016E, App. D: D.1.1.1.1 (Stimulus); D.1.2.3.3.6A (Initial TX); D.1.1.1.19a (Periodic TX)

UNCLASSIFIED		
SRN-201 TN-B_____		
J3.2I		
EXER IND	NON-EX TRK	0

FT IND	NS	0
EMER IND	NS	0
SPI IND	NOT REQUIRED	
SIM IND	REAL TRACK	1
TN REF	SRN-201	
STRENGTH	1 UNIT	1
SPEC TYPE	NS	0
TQ		
IDENTITY		
ALTITUDE		
J3.2E0		
LATITUDE		
LONGITUDE		
Course		
Speed		
J3.2C1		
MODE 1		
MODE 2		
MODE 3		
MODE 4		
PPLI IFF/SIF		
PLATFORM		
ACTIVITY		
Link 16		
Pass	Fail	

5. ALL: Verify receipt of data as specified. TN-B _____
6. (U) ATC-Gen (JUYY): Continue reporting track with a position on top of track SRN-201 track.
7. (U) SUT (JUXX): If Correlation tests meet the requirements for correlation, transmit the J7.2 Correlation Message, if Correlation tests fail continue to report TN-A.
8. (U) ALL: Verify correlation tests passed successfully, and if appropriate, suppress DIS to all. Drop all tracks. Verify all tracks dropped.

SEC	P/F / P/W	Completed Mission (Yes/No)	Repeatable (Yes/No)
E.X			

P = Pass F= Fail PW= Pass with work around

E.6: AIR CORRELATION – IDENTITY SUSPECT AUTO ACCEPT/AUTO REJECT/OPERATOR ALERT.

H. (U) Test Case Description: This test case will test the SUTs ability to properly conduct Correlation tests based on Identity and when the test criteria has been met, transmits the J7.2 Correlation message, and when the criteria is NOT met continues to transmit their local track in accordance with the Link-16 rule-set.

I. (U) OBJECTIVE: To verify that the SUT conducts the proper correlation tests based on Identity and when required transmits the J7.2 correlation message.

J. (U) Test Criteria: The following must occur for a successful test:

ATC-Gen starts to transmit DIS truth data to SUT every 1 second.
SUT receives DIS truth data and generates a local Air Track with the DIS Identity on Link 16. ATC-Gen confirms TN A matches the truth data.
ATC-Gen generates a remote Air Track with Same/Different Identity with a position on top of SRN-201 track. SUT confirms TN B matches the truth data and TN A.
SUT will conduct the Correlation tests based on Identity and determine whether correlation should occur.

Or;

ATC-Gen starts to transmit DIS truth data to SUT every 1 second.
SUT receives DIS truth data and generates a local Air Track with the DIS Identity on Link 16. ATC-Gen confirms TN A matches the truth data.
ATC-Gen generates a remote Air Track with Same/Different Identity with a position on top of SRN-201 track. SUT confirms TN B matches the truth data and TN A.
SUT will conduct the Correlation tests based on Identity and determine whether correlation should occur.

K. (U) NOTE: The following will inhibit an Auto Correlation:

ATC-Gen and SUT tracks have prohibited Identities (See Table(s) C-5 through C-7)

L. (U) Testing Variables:

Same Identity between ATC-Gen and SUT.
Two separate tracks viewable between ATC-Gen and SUT.
Different Identity between ATC-GEN and SUT.

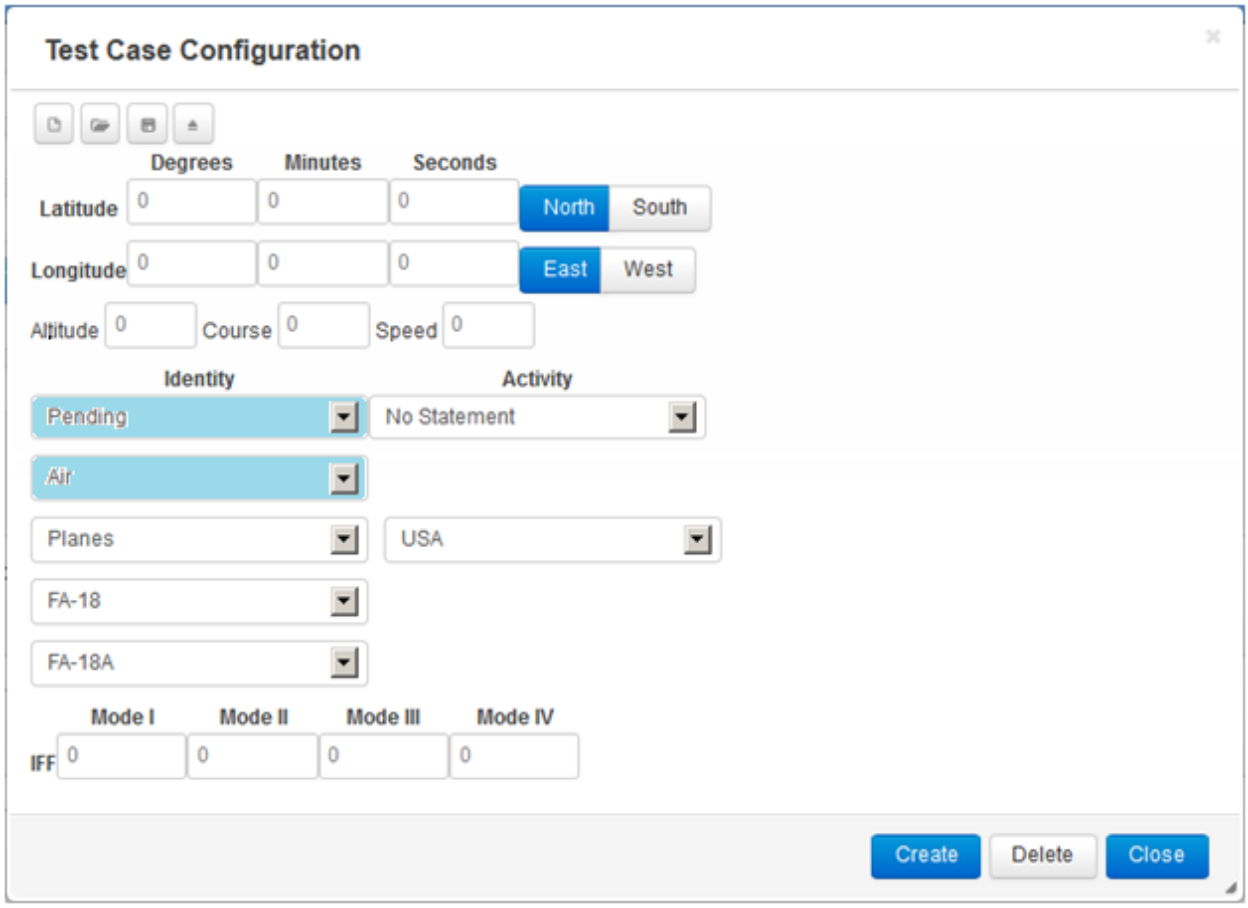

Figure E.6-1. E/C=Air Correlation based on Identity

M. E/C=Air Correlation Identity Test Case Set-Up Instructions

(U) MS-6016E, Section 4, Paragraph 4.11.3.4
(U) MS-6016E, Section 4, Paragraph 4.11.13.8.b, Correlation Restrictions

SUT MESSAGE SUMMARY		
J2.X	T/R	PPLI - PPLI and System Status based on system environmental category
J3.2	T/R	Air Track - The surveillance function includes those capabilities a Command and Control JTIDS/MIDS Unit (C2 JU) shall have in order to exchange surveillance information with other compatibly equipped platforms.

SUT MESSAGE SUMMARY		
J7.0	T/R	Drop Track - The J7.0 Track Management Message is used to transmit information necessary to effect management actions on tracks being reported within the interface. Management actions include dropping tracks, reporting environment and identity conflicts, changing environment and identity, changing alert status, and changing strength.
J7.2	T/R	Correlation Message -

(U) ESTIMATED TIME TO COMPLETE: 10.0 Min.

N. (U) AUTOMATIC CORRELATION – SAME/DIFFERENT IDENTITY (SUSPECT)

(U) MS-6016E, Section 4, Paragraph 4.11.3.4
(U) MS-6016E, Section 4, Paragraph 4.11.13.8.b, Correlation Restrictions

9. (U) ATC-Gen (JUYY): Disclose SRN-201 to SUT (JUXX).

UNCLASSIFIED		
SRN-201		
IDENTITY	**SUSPECT**	**5**
ALTITUDE		
COURSE		
SPEED		
TQ		
LATITUDE		
LONGITUDE		
MODE 1		
MODE 2		
MODE 3		
MODE 4		
Link 16		
Pass	Fail	

10. (U) SUT (JUXX): Report an Air track at SRN-201 position as specified below.

(U) MS-6016E, App. D: D.1.1.1.1 (Stimulus); D.1.2.3.3.6A (Initial TX); D.1.1.1.19a (Periodic TX)

UNCLASSIFIED
SRN-201 TN-A_____

J3.2I		
EXER IND	NON-EX TRK	0
FT IND	NS	0
EMER IND	NS	0
SPI IND	NOT REQUIRED	
SIM IND	REAL TRACK	1
TN REF	SRN-201	
STRENGTH	1 UNIT	1
SPEC TYPE	NS	0
TQ		
IDENTITY	**SUSPECT**	**5**
ALTITUDE		
J3.2E0		
LATITUDE		
LONGITUDE		
Course		
Speed		
J3.2C1		
MODE 1		
MODE 2		
MODE 3		
MODE 4		
PPLI IFF/SIF		
PLATFORM		
ACTIVITY		
Link 16		
Pass	Fail	

11. ALL: Verify receipt of data as specified. TN-A _____
12. (U) ATC-Gen (JUYY): Report an Air Track with a position on top of SRN-201 track with same/different Identity than SUT (JUXX) Air Track.
    NOTE: The ACT-Gen Script calculates the identity difference, whether to increase or decrease accordingly.

(U) MS-6016E, App. D: D.1.1.1.1 (Stimulus); D.1.2.3.3.6A (Initial TX); D.1.1.1.19a (Periodic TX)

UNCLASSIFIED		
SRN-201 TN-B_____		
J3.2I		
EXER IND	NON-EX TRK	0

FT IND	NS	0
EMER IND	NS	0
SPI IND	NOT REQUIRED	
SIM IND	REAL TRACK	1
TN REF	SRN-201	
STRENGTH	1 UNIT	1
SPEC TYPE	NS	0
TQ		
IDENTITY		
ALTITUDE		
J3.2E0		
LATITUDE		
LONGITUDE		
Course		
Speed		
J3.2C1		
MODE 1		
MODE 2		
MODE 3		
MODE 4		
PPLI IFF/SIF		
PLATFORM		
ACTIVITY		
Link 16		
Pass	Fail	

13. ALL: Verify receipt of data as specified. TN-B _____
14. (U) ATC-Gen (JUYY): Continue reporting track with a position on top of track SRN-201 track.
15. (U) SUT (JUXX): If Correlation tests meet the requirements for correlation, transmit the J7.2 Correlation Message, if Correlation tests fail continue to report TN-A.
16. (U) ALL: Verify correlation tests passed successfully, and if appropriate, suppress DIS to all. Drop all tracks. Verify all tracks dropped.

SEC	P/F / P/W	Completed Mission (Yes/No)	Repeatable (Yes/No)
E.X			

P = Pass F= Fail PW= Pass with work around

E.7: AIR CORRELATION – IFF/SIF MODE II SAME/DIFFERENT

A. (U) Test Case Description: This test case will test the SUTs ability to properly conduct Correlation tests based on IFF/SIF MODE II using the values for IFF/SIF MODE II in the

Correlation Window and when the test criteria has been met, transmits the J7.2 Correlation message, and when the criteria is NOT met continues to transmit their local track in accordance with the Link-16 rule-set.

B. (U) OBJECTIVE: To verify that the SUT conducts the proper correlation tests based on IFF/SIF MODE II and when required transmits the J7.2 correlation message.

C. (U) Test Criteria: The following must occur for a successful test:

ATC-Gen starts to transmit DIS truth data with MODE II to SUT every 1 second.
SUT receives DIS truth data and generates a local Air Track with a MODE II on Link 16. ATC-Gen confirms TN A matches the truth data.
ATC-Gen generates a remote Air Track with Different Mode II and with a position on top of SRN-201 track. SUT confirms TN B does not match the truth data or TN A.
SUT will conduct the Correlation tests based on MODE II and determine whether correlation should occur.

Or;

ATC-Gen starts to transmit DIS truth data with MODE II to SUT every 1 second.
SUT receives DIS truth data and generates a local Air Track with a MODE II on Link 16. ATC-Gen confirms TN A matches the truth data.
ATC-Gen generates a remote Air Track with the same MODE II and with a position on top of SRN-201 track. SUT confirms TN B matches the truth data and TN A.
SUT will conduct the Correlation tests based on STRENGTH and determine whether correlation should occur.

D. (U) NOTE: The following will inhibit an Auto Correlation:

Both ATC-Gen and SUT tracks have different Strength

E. (U) Testing Variables:

Same Strength between ATC-Gen and SUT.
Two separate tracks viewable between ATC-Gen and SUT.
Different Strength between ATC-GEN and SUT.

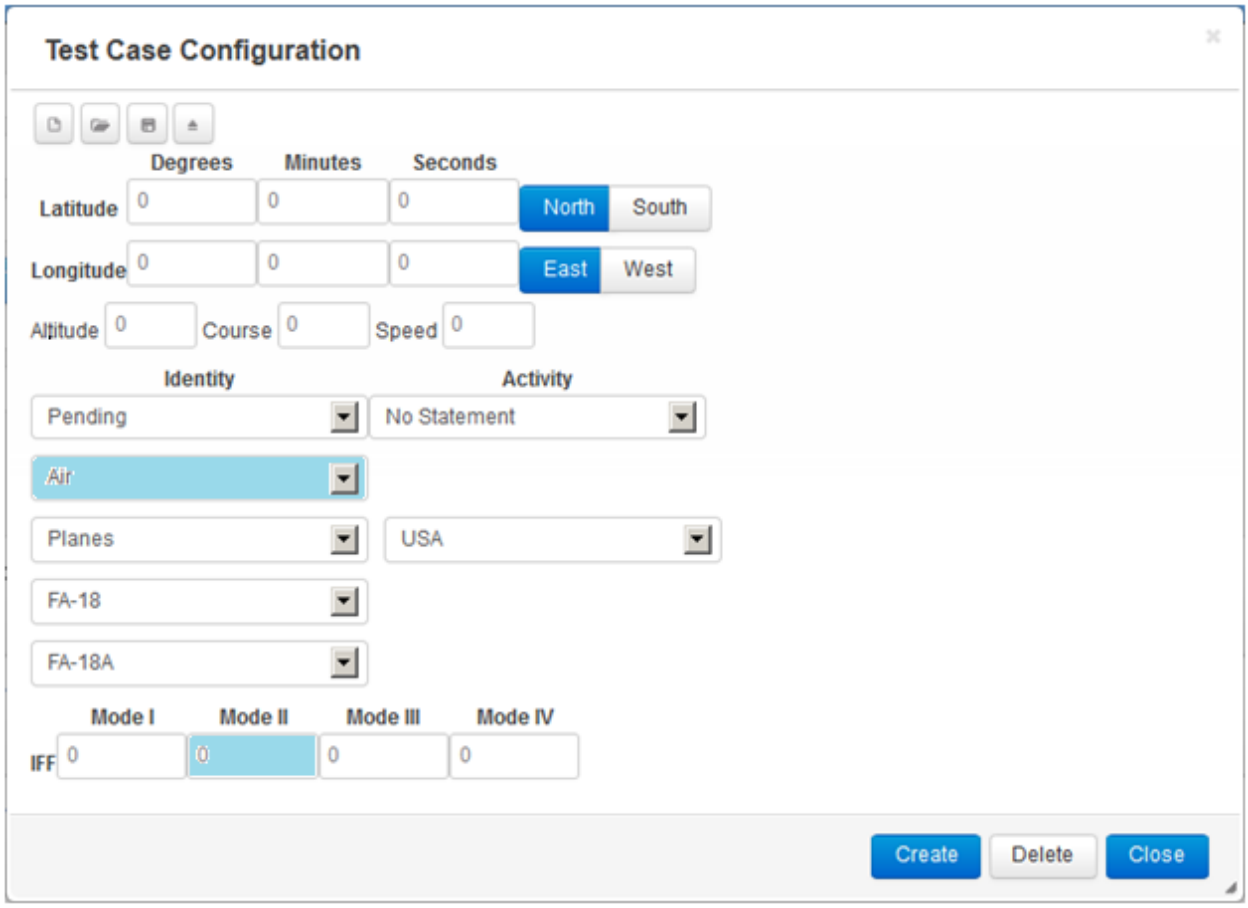

Figure E.7-1. E/C=Air Correlation based on IFF/SIF Mode II

F. E/C=Air Correlation IFF/SIF Mode II Test Case Set-Up Instructions

(U) MS-6016E, Section 4, Paragraph 4.11.3.4
(U) MS-6016E, Section 4, Paragraph 4.11.13.8.b, Correlation Restrictions

SUT MESSAGE SUMMARY		
J2.X	T/R	PPLI - PPLI and System Status based on system environmental category
J3.2	T/R	Air Track - The surveillance function includes those capabilities a Command and Control JTIDS/MIDS Unit (C2 JU) shall have in order to exchange surveillance information with other compatibly equipped platforms.

SUT MESSAGE SUMMARY		
J7.0	T/R	Drop Track - The J7.0 Track Management Message is used to transmit information necessary to effect management actions on tracks being reported within the interface. Management actions include dropping tracks, reporting environment and identity conflicts, changing environment and identity, changing alert status, and changing strength.
J7.2	T/R	Correlation Message -

(U) ESTIMATED TIME TO COMPLETE: 10.0 Min.

G. (U) AUTOMATIC CORRELATION – SAME/DIFFERENT IFF/SIF MODE II

(U) MS-6016E, Section 4, Paragraph 4.11.3.4
(U) MS-6016E, Section 4, Paragraph 4.11.13.8.b, Correlation Restrictions

1. (U) ATC-Gen (JUYY): Disclose SRN-201 to SUT (JUXX).

UNCLASSIFIED		
SRN-201		
ALTITUDE		
COURSE		
SPEED		
TQ		
LATITUDE		
LONGITUDE		
MODE 1		
MODE 2		
MODE 3		
MODE 4		
Link 16		
Pass	Fail	

2. (U) SUT (JUXX): Report an Air track at SRN-201 position as specified below.

(U) MS-6016E, App. D: D.1.1.1.1 (Stimulus); D.1.2.3.3.6A (Initial TX); D.1.1.1.19a (Periodic TX)

UNCLASSIFIED
SRN-201 TN-A_____
J3.2I

EXER IND	NON-EX TRK	0
FT IND	NS	0
EMER IND	NS	0
SPI IND	NOT REQUIRED	
SIM IND	REAL TRACK	1
TN REF	SRN-201	
STRENGTH	1 UNIT	1
SPEC TYPE	NS	0
TQ		
IDENTITY		
ALTITUDE		
J3.2E0		
LATITUDE		
LONGITUDE		
Course		
Speed		
J3.2C1		
MODE 1		
MODE 2		
MODE 3		
MODE 4		
PPLI IFF/SIF		
PLATFORM		
ACTIVITY		
Link 16		
Pass	Fail	

3. ALL: Verify receipt of data as specified. TN-A _____
4. (U) ATC-Gen (JUYY): Report an Air Track with a position on top of SRN-201 track with same/different IFF/SIF Mode II than SUT (JUXX) Air Track.
   NOTE: The ACT-Gen Script calculates the MODE II values and transmits according to test set objectives.

(U) MS-6016E, App. D: D.1.1.1.1 (Stimulus); D.1.2.3.3.6A (Initial TX); D.1.1.1.19a (Periodic TX)

UNCLASSIFIED		
SRN-201 TN-B_____		
J3.2I		
EXER IND	NON-EX TRK	0
FT IND	NS	0

EMER IND	NS	0
SPI IND	NOT REQUIRED	
SIM IND	REAL TRACK	1
TN REF	SRN-201	
STRENGTH	1 UNIT	1
SPEC TYPE	NS	0
TQ		
IDENTITY		
ALTITUDE		
J3.2E0		
LATITUDE		
LONGITUDE		
Course		
Speed		
J3.2C1		
MODE 1		
MODE 2		
MODE 3		
MODE 4		
PPLI IFF/SIF		
PLATFORM		
ACTIVITY		
Link 16		
Pass	Fail	

5. ALL: Verify receipt of data as specified. TN-B _____
6. (U) ATC-Gen (JUYY): Continue reporting track with a position on top of track SRN-201 track.
7. (U) SUT (JUXX): If Correlation tests meet the requirements for correlation, transmit the J7.2 Correlation Message, if Correlation tests fail continue to report TN-A.
8. (U) ALL: Verify correlation tests passed successfully, and if appropriate, suppress DIS to all. Drop all tracks. Verify all tracks dropped.

SEC	P/F / P/W	Completed Mission (Yes/No)	Repeatable (Yes/No)
E.X			

P = Pass F= Fail PW= Pass with work around

E.8: AIR CORRELATION – POSITION WITHIN/OUTSIDE CORRELATION PARAMETERS

A. (U) Test Case Description: This test case will test the SUTs ability to properly conduct Correlation tests based on Position using the values for Position in the Correlation Window and when the test criteria has been met, transmits the J7.2 Correlation message, and when the criteria is NOT met continues to transmit their local track in accordance with the Link-16 rule-set.

B. (U) OBJECTIVE: To verify that the SUT conducts the proper correlation tests based on Position and when required transmits the J7.2 correlation message.

C. (U) Test Criteria: The following must occur for a successful test:

ATC-Gen starts to transmit DIS truth data to SUT every 1 second.
SUT receives DIS truth data and generates a local Air Track with a Position on Link 16.
ATC-Gen confirms TN A matches the truth data.
ATC-Gen generates a remote Air Track with Position either within the Correlation Window Parameters and with a position on top of SRN-201 track. SUT confirms TN B matches the truth data and TN A.
SUT will conduct the Correlation tests based on Position and determine whether correlation should occur.

Or;

ATC-Gen starts to transmit DIS truth data to SUT every 1 second.
SUT receives DIS truth data and generates a local Air Track with a Position on Link 16.
ATC-Gen confirms TN A matches the truth data.
ATC-Gen generates a remote Air Track with Position outside of the Correlation Window Parameters and with a position on top of SRN-201 track. SUT confirms TN B matches the truth data and TN A.
SUT will conduct the Correlation tests based on Position and determine whether correlation should occur.

D. (U) NOTE: The following will inhibit an Auto Correlation:

ATC-Gen and SUT tracks have Positions outside of the Correlation Window Parameters

E. (U) Testing Variables:

Position either within or outside of the Correlation Window Parameters and between ATC-Gen and SUT.
Two separate tracks viewable between ATC-Gen and SUT.

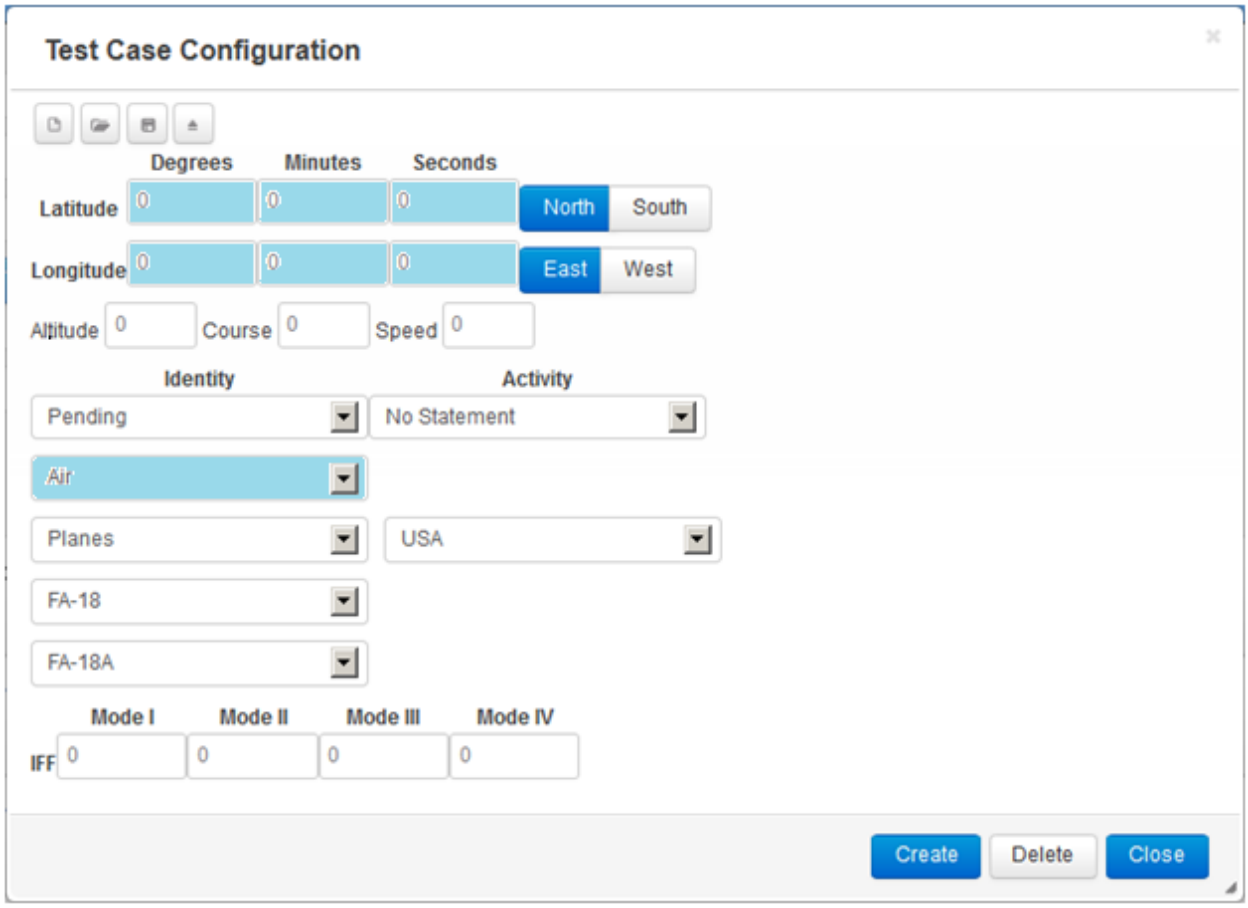

Figure E.8-1. E/C=Air Correlation based on Position

F. E/C=Air Correlation Position Test Case Set-Up Instructions

(U) MS-6016E, Section 4, Paragraph 4.11.3.4
(U) MS-6016E, Section 4, Paragraph 4.11.13.8.b, Correlation Restrictions

SUT MESSAGE SUMMARY		
J2.X	T/R	PPLI - PPLI and System Status based on system environmental category
J3.2	T/R	Air Track - The surveillance function includes those capabilities a Command and Control JTIDS/MIDS Unit (C2 JU) shall have in order to exchange surveillance information with other compatibly equipped platforms.

SUT MESSAGE SUMMARY		
J7.0	T/R	Drop Track - The J7.0 Track Management Message is used to transmit information necessary to effect management actions on tracks being reported within the interface. Management actions include dropping tracks, reporting environment and identity conflicts, changing environment and identity, changing alert status, and changing strength.
J7.2	T/R	Correlation Message -

(U) ESTIMATED TIME TO COMPLETE: 10.0 Min.

G. (U) AUTOMATIC CORRELATION – SAME/DIFFERENT POSITION

(U) MS-6016E, Section 4, Paragraph 4.11.3.4
(U) MS-6016E, Section 4, Paragraph 4.11.13.8.b, Correlation Restrictions

1. (U) ATC-Gen (JUYY): Disclose SRN-201 to SUT (JUXX).

UNCLASSIFIED		
SRN-201		
ALTITUDE		
COURSE		
SPEED		
TQ		
LATITUDE		
LONGITUDE		
MODE 1		
MODE 2		
MODE 3		
MODE 4		
Link 16		
Pass	Fail	

2. (U) SUT (JUXX): Report an Air track at SRN-201 position as specified below.

(U) MS-6016E, App. D: D.1.1.1.1 (Stimulus); D.1.2.3.3.6A (Initial TX); D.1.1.1.19a (Periodic TX)

UNCLASSIFIED
SRN-201 TN-A_____
J3.2I

EXER IND	NON-EX TRK	0
FT IND	NS	0
EMER IND	NS	0
SPI IND	NOT REQUIRED	
SIM IND	REAL TRACK	1
TN REF	SRN-201	
STRENGTH	1 UNIT	1
SPEC TYPE	NS	0
TQ		
IDENTITY		
ALTITUDE		
J3.2E0		
LATITUDE		
LONGITUDE		
Course		
Speed		
J3.2C1		
MODE 1		
MODE 2		
MODE 3		
MODE 4		
PPLI IFF/SIF		
PLATFORM		
ACTIVITY		
Link 16		
Pass	Fail	

3. ALL: Verify receipt of data as specified. TN-A _____
4. (U) ATC-Gen (JUYY): Report an Air Track with a position on top of SRN-201 track with same/different STRENGTH than SUT (JUXX) Air Track.
   NOTE: The ACT-Gen Script calculates the Positional difference and transmits their track with the position either inside or outside of the correlation window parameters

(U) MS-6016E, App. D: D.1.1.1.1 (Stimulus); D.1.2.3.3.6A (Initial TX); D.1.1.1.19a (Periodic TX)

UNCLASSIFIED		
SRN-201 TN-B_____		
J3.2I		
EXER IND	NON-EX TRK	0
FT IND	NS	0

EMER IND	NS	0
SPI IND	NOT REQUIRED	
SIM IND	REAL TRACK	1
TN REF	SRN-201	
STRENGTH	1 UNIT	1
SPEC TYPE	NS	0
TQ		
IDENTITY		
ALTITUDE		
J3.2E0		
LATITUDE		
LONGITUDE		
Course		
Speed		
J3.2C1		
MODE 1		
MODE 2		
MODE 3		
MODE 4		
PPLI IFF/SIF		
PLATFORM		
ACTIVITY		
Link 16		
Pass	Fail	

5. ALL: Verify receipt of data as specified. TN-B _____
6. (U) ATC-Gen (JUYY): Continue reporting track with a position on top of track SRN-201 track.
7. (U) SUT (JUXX): If Correlation tests meet the requirements for correlation, transmit the J7.2 Correlation Message, if Correlation tests fail continue to report TN-A.
8. (U) ALL: Verify correlation tests passed successfully, and if appropriate, suppress DIS to all. Drop all tracks. Verify all tracks dropped.

SEC	P/F / P/W	Completed Mission (Yes/No)	Repeatable (Yes/No)
E.X			

P = Pass F= Fail PW= Pass with work around

E.9: AIR CORRELATION – PPLI

A. (U) Test Case Description: This test case will test the SUTs ability to properly conduct Correlation tests based on PPLI STATUS and transmits the J7.2 Correlation message, and

when the criteria is NOT met continues to transmit their local track in accordance with the Link-16 rule-set.

B. (U) OBJECTIVE: To verify that the SUT conducts the proper correlation tests based on PPLI and when required transmits the J7.2 correlation message.

C. (U) Test Criteria: The following must occur for a successful test:

ATC-Gen starts to transmit DIS truth data to SUT every 1 second.
SUT receives DIS truth data and generates a local Air Track on Link 16. ATC-Gen confirms TN A matches the truth data.
ATC-Gen changes their NPSI to Radio Silent.
SUT will conduct the Correlation tests based on PPLI requirements and determine whether correlation should occur.

D. (U) NOTE: The following will inhibit an Auto Correlation:

ATC-Gen continues to report its PPLI with the NPSI Indicator set to active on L-16

E. (U) Testing Variables:

NPSI Indicator Set to Active
NPSI Indicator Set to Inactive

F. E/C=Air Correlation PPLI Test Case Set-Up Instructions

(U) MS-6016E, Section 4, Paragraph 4.11.3.4
(U) MS-6016E, Section 4, Paragraph 4.11.13.8.b, Correlation Restrictions

SUT MESSAGE SUMMARY		
J2.X	T/R	PPLI - PPLI and System Status based on system environmental category
J3.2	T/R	Air Track - The surveillance function includes those capabilities a Command and Control JTIDS/MIDS Unit (C2 JU) shall have in order to exchange surveillance information with other compatibly equipped platforms.
J7.0	T/R	Drop Track - The J7.0 Track Management Message is used to transmit information necessary to effect management actions on tracks being reported within the interface. Management actions include dropping tracks, reporting environment and identity conflicts, changing environment and identity, changing alert status, and changing strength.
J7.2	T/R	Correlation Message -

(U) ESTIMATED TIME TO COMPLETE: 10.0 Min.

G. (U) AUTOMATIC CORRELATION – PPLI

(U) MS-6016E, Section 4, Paragraph 4.11.3.4
(U) MS-6016E, Section 4, Paragraph 4.11.13.8.b, Correlation Restrictions

1. (U) ATC-Gen (JUYY): Disclose SRN-201 to SUT (JUXX).

UNCLASSIFIED		
SRN-201		
ALTITUDE		
COURSE		
SPEED		
TQ		
LATITUDE		
LONGITUDE		
MODE 1		
MODE 2		
MODE 3		
MODE 4		
Link 16		
Pass	Fail	

2. (U) SUT (JUXX): Report an Air track at SRN-201 position as specified below.

(U) MS-6016E, App. D: D.1.1.1.1 (Stimulus); D.1.2.3.3.6A (Initial TX); D.1.1.1.19a (Periodic TX)

UNCLASSIFIED		
SRN-201 TN-A_____		
J3.2I		
EXER IND	NON-EX TRK	0
FT IND	NS	0
EMER IND	NS	0
SPI IND	NOT REQUIRED	
SIM IND	REAL TRACK	1
TN REF	SRN-201	
STRENGTH	1 UNIT	1
SPEC TYPE	NS	0
TQ		
IDENTITY		

ALTITUDE		
J3.2E0		
LATITUDE		
LONGITUDE		
Course		
Speed		
J3.2C1		
MODE 1		
MODE 2		
MODE 3		
MODE 4		
PPLI IFF/SIF		
PLATFORM		
ACTIVITY		
Link 16		
Pass	Fail	

3. ALL: Verify receipt of data as specified. TN-A _____
4. (U) ATC-Gen (JUYY): Report OWN UNIT PPLI with a position on top of SRN-201.

(U) MS-6016E, App. D: D.1.1.1.1 (Stimulus); D.1.2.3.3.6A (Initial TX); D.1.1.1.19a (Periodic TX)

UNCLASSIFIED		
SRN-201 TN-B_____		
J3.2I		
EXER IND	NON-EX TRK	0
FT IND	NS	0
EMER IND	NS	0
SPI IND	NOT REQUIRED	
SIM IND	REAL TRACK	1
TN REF	SRN-201	
STRENGTH	1 UNIT	1
SPEC TYPE	NS	0
TQ		
IDENTITY		
ALTITUDE		
J3.2E0		
LATITUDE		
LONGITUDE		
Course		

Speed		
J3.2C1		
MODE 1		
MODE 2		
MODE 3		
MODE 4		
PPLI IFF/SIF		
PLATFORM		
ACTIVITY		
Link 16		
Pass	Fail	

5. ALL: Verify receipt of data as specified. TN-B _____
6. (U) ATC-Gen (JUYY): Change NPSI Status to Inactive/Radio Silent for OWN UNIT.
7. (U) SUT (JUXX): If Correlation tests meet the requirements for correlation, transmit the J7.2 Correlation Message, if Correlation tests fail continue to report TN-A.
8. (U) ALL: Verify correlation tests passed successfully, and if appropriate, suppress DIS to all. Drop all tracks. Verify all tracks dropped.

SEC	P/F / P/W	Completed Mission (Yes/No)	Repeatable (Yes/No)
E.X			

P = Pass F= Fail PW= Pass with work around

E.10: AIR CORRELATION – SPEED WITHIN/OUTSIDE OF CORRELATION PARAMETERS

A. (U) Test Case Description: This test case will test the SUTs ability to properly conduct Correlation tests based on Speed using the values for Speed in the Correlation Window and when the test criteria has been met, transmits the J7.2 Correlation message, and when the criteria is NOT met continues to transmit their local track in accordance with the Link-16 rule-set.

B. (U) OBJECTIVE: To verify that the SUT conducts the proper correlation tests based on Speed and when required transmits the J7.2 correlation message.

C. (U) Test Criteria: The following must occur for a successful test:

ATC-Gen starts to transmit DIS truth data to SUT every 1 second.
SUT receives DIS truth data and generates a local Air Track with a Speed on Link 16.
ATC-Gen confirms TN A matches the truth data.
ATC-Gen generates a remote Air Track with Speed with a position on top of SRN-201 track. SUT confirms TN B matches the truth data and TN A.
SUT will conduct the Correlation tests based on Speed and determine whether correlation should occur.

Or;

ATC-Gen starts to transmit DIS truth data to SUT every 1 second.
SUT receives DIS truth data and generates a local Air Track with a Speed on Link 16.
ATC-Gen confirms TN A matches the truth data.
ATC-Gen generates a remote Air Track with Speed with a position on top of SRN-201 track. SUT confirms TN B matches the truth data and TN A.
SUT will conduct the Correlation tests based on Speed and determine whether correlation should occur.

D. (U) NOTE: The following will inhibit an Auto Correlation:

Both ATC-Gen and SUT tracks have Speeds that fall outside of the Correlation Window Parameters

E. (U) Testing Variables:

Same Speed between ATC-Gen and SUT.
Two separate tracks viewable between ATC-Gen and SUT.
Different Speed between ATC-GEN and SUT.

Figure E.10-1. E/C=Air Correlation based on Speed

F. E/C=Air Correlation Speed Test Case Set-Up Instructions

(U) MS-6016E, Section 4, Paragraph 4.11.3.4
(U) MS-6016E, Section 4, Paragraph 4.11.13.8.b, Correlation Restrictions

SUT MESSAGE SUMMARY		
J2.X	T/R	PPLI - PPLI and System Status based on system environmental category
J3.2	T/R	Air Track - The surveillance function includes those capabilities a Command and Control JTIDS/MIDS Unit (C2 JU) shall have in order to exchange surveillance information with other compatibly equipped platforms.
J7.0	T/R	Drop Track - The J7.0 Track Management Message is used to transmit information necessary to effect management actions on tracks being reported within the interface. Management actions include dropping tracks, reporting environment and identity conflicts, changing environment and identity, changing alert status, and changing strength.

SUT MESSAGE SUMMARY		
J7.2	T/R	Correlation Message -

(U) ESTIMATED TIME TO COMPLETE: 10.0 Min.

G. (U) AUTOMATIC CORRELATION – SAME/DIFFERENT SPEED

(U) MS-6016E, Section 4, Paragraph 4.11.3.4
(U) MS-6016E, Section 4, Paragraph 4.11.13.8.b, Correlation Restrictions

1. (U) ATC-Gen (JUYY): Disclose SRN-201 to SUT (JUXX).

UNCLASSIFIED		
SRN-201		
ALTITUDE		
COURSE		
SPEED		
TQ		
LATITUDE		
LONGITUDE		
MODE 1		
MODE 2		
MODE 3		
MODE 4		
Link 16		
Pass	Fail	

2. (U) SUT (JUXX): Report an Air track at SRN-201 position as specified below.

(U) MS-6016E, App. D: D.1.1.1.1 (Stimulus); D.1.2.3.3.6A (Initial TX); D.1.1.1.19a (Periodic TX)

UNCLASSIFIED		
SRN-201 TN-A_____		
J3.2I		
EXER IND	NON-EX TRK	0
FT IND	NS	0
EMER IND	NS	0
SPI IND	NOT REQUIRED	
SIM IND	REAL TRACK	1
TN REF	SRN-201	

STRENGTH	1 UNIT	1
SPEC TYPE	NS	0
TQ		
IDENTITY		
ALTITUDE		
J3.2E0		
LATITUDE		
LONGITUDE		
Course		
Speed		
J3.2C1		
MODE 1		
MODE 2		
MODE 3		
MODE 4		
PPLI IFF/SIF		
PLATFORM		
ACTIVITY		
Link 16		
Pass	Fail	

3. ALL: Verify receipt of data as specified. TN-A _____
4. (U) ATC-Gen (JUYY): Report an Air Track with a position on top of SRN-201 track with same/different Speed than SUT (JUXX) Air Track.
   NOTE: The ACT-Gen Script calculates the Speed difference, whether to increase or decrease accordingly.

(U) MS-6016E, App. D: D.1.1.1.1 (Stimulus); D.1.2.3.3.6A (Initial TX); D.1.1.1.19a (Periodic TX)

UNCLASSIFIED		
SRN-201 TN-B_____		
J3.2I		
EXER IND	NON-EX TRK	0
FT IND	NS	0
EMER IND	NS	0
SPI IND	NOT REQUIRED	
SIM IND	REAL TRACK	1
TN REF	SRN-201	
STRENGTH	1 UNIT	1
SPEC TYPE	NS	0

TQ		
IDENTITY		
ALTITUDE		
J3.2E0		
LATITUDE		
LONGITUDE		
Course		
Speed		
J3.2C1		
MODE 1		
MODE 2		
MODE 3		
MODE 4		
PPLI IFF/SIF		
PLATFORM		
ACTIVITY		
Link 16		
Pass	Fail	

5. ALL: Verify receipt of data as specified. TN-B _____
6. (U) ATC-Gen (JUYY): Continue reporting track with a position on top of track SRN-201 track.
7. (U) SUT (JUXX): If Correlation tests meet the requirements for correlation, transmit the J7.2 Correlation Message, if Correlation tests fail continue to report TN-A.
8. (U) ALL: Verify correlation tests passed successfully, and if appropriate, suppress DIS to all. Drop all tracks. Verify all tracks dropped.

SEC	P/F / P/W	Completed Mission (Yes/No)	Repeatable (Yes/No)
E.X			

P = Pass F= Fail PW= Pass with work around

E.11: AIR CORRELATION – STRENGTH SAME/DIFFERENT

A. (U) Test Case Description: This test case will test the SUTs ability to properly conduct Correlation tests based on Altitude using the values for Altitude in the Correlation Window and when the test criteria has been met, transmits the J7.2 Correlation message, and when the criteria is NOT met continues to transmit their local track in accordance with the Link-16 rule-set.
B. (U) OBJECTIVE: To verify that the SUT conducts the proper correlation tests based on Strength and when required transmits the J7.2 correlation message.
C. (U) Test Criteria: The following must occur for a successful test:

ATC-Gen starts to transmit DIS truth data to SUT every 1 second.
SUT receives DIS truth data and generates a local Air Track with a Strength=1 on Link 16. ATC-Gen confirms TN A matches the truth data.
ATC-Gen generates a remote Air Track with Strength=1 with a position on top of SRN-201 track. SUT confirms TN B matches the truth data and TN A.
SUT will conduct the Correlation tests based on STRENGTH and determine whether correlation should occur.

Or;

ATC-Gen starts to transmit DIS truth data to SUT every 1 second.
SUT receives DIS truth data and generates a local Air Track with a Strength=1 on Link 16. ATC-Gen confirms TN A matches the truth data.
ATC-Gen generates a remote Air Track with Strength≠1 with a position on top of SRN-201 track. SUT confirms TN B matches the truth data and TN A.
SUT will conduct the Correlation tests based on STRENGTH and determine whether correlation should occur.

D. (U) NOTE: The following will inhibit an Auto Correlation:

Both ATC-Gen and SUT tracks have different Strength

E. (U) Testing Variables:

Same Strength between ATC-Gen and SUT.
Two separate tracks viewable between ATC-Gen and SUT.
Different Strength between ATC-GEN and SUT.

Figure E.5-1. E/C=Air Correlation based on Strength

F. E/C=Air Correlation Strength Test Case Set-Up Instructions

(U) MS-6016E, Section 4, Paragraph 4.11.3.4
(U) MS-6016E, Section 4, Paragraph 4.11.13.8.b, Correlation Restrictions

SUT MESSAGE SUMMARY		
J2.X	T/R	PPLI - PPLI and System Status based on system environmental category
J3.2	T/R	Air Track - The surveillance function includes those capabilities a Command and Control JTIDS/MIDS Unit (C2 JU) shall have in order to exchange surveillance information with other compatibly equipped platforms.

SUT MESSAGE SUMMARY		
J7.0	T/R	Drop Track - The J7.0 Track Management Message is used to transmit information necessary to effect management actions on tracks being reported within the interface. Management actions include dropping tracks, reporting environment and identity conflicts, changing environment and identity, changing alert status, and changing strength.
J7.2	T/R	Correlation Message -

(U) ESTIMATED TIME TO COMPLETE: 10.0 Min.

G. (U) AUTOMATIC CORRELATION – SAME/DIFFERENT STRENGTH

(U) MS-6016E, Section 4, Paragraph 4.11.3.4
(U) MS-6016E, Section 4, Paragraph 4.11.13.8.b, Correlation Restrictions

1. (U) ATC-Gen (JUYY): Disclose SRN-201 to SUT (JUXX).

UNCLASSIFIED		
SRN-201		
ALTITUDE		
COURSE		
SPEED		
TQ		
LATITUDE		
LONGITUDE		
MODE 1		
MODE 2		
MODE 3		
MODE 4		
Link 16		
Pass	Fail	

2. (U) SUT (JUXX): Report an Air track at SRN-201 position as specified below.

(U) MS-6016E, App. D: D.1.1.1.1 (Stimulus); D.1.2.3.3.6A (Initial TX); D.1.1.1.19a (Periodic TX)

UNCLASSIFIED
SRN-201 TN-A_____
J3.2I

EXER IND	NON-EX TRK	0
FT IND	NS	0
EMER IND	NS	0
SPI IND	NOT REQUIRED	
SIM IND	REAL TRACK	1
TN REF	SRN-201	
STRENGTH	**1 UNIT**	**1**
SPEC TYPE	NS	0
TQ		
IDENTITY		
ALTITUDE		
J3.2E0		
LATITUDE		
LONGITUDE		
Course		
Speed		
J3.2C1		
MODE 1		
MODE 2		
MODE 3		
MODE 4		
PPLI IFF/SIF		
PLATFORM		
ACTIVITY		
Link 16		
Pass	Fail	

3. ALL: Verify receipt of data as specified. TN-A _____
4. (U) ATC-Gen (JUYY): Report an Air Track with a position on top of SRN-201 track with same/different STRENGTH than SUT (JUXX) Air Track.
   NOTE: The ACT-Gen Script calculates the strength difference, whether to increase or decrease accordingly.

(U) MS-6016E, App. D: D.1.1.1.1 (Stimulus); D.1.2.3.3.6A (Initial TX); D.1.1.1.19a (Periodic TX)

UNCLASSIFIED		
SRN-201 TN-B_____		
J3.2I		
EXER IND	NON-EX TRK	0
FT IND	NS	0

EMER IND	NS	0
SPI IND	NOT REQUIRED	
SIM IND	REAL TRACK	1
TN REF	SRN-201	
STRENGTH	**1 UNIT**	**1**
SPEC TYPE	NS	0
TQ		
IDENTITY		
ALTITUDE		
J3.2E0		
LATITUDE		
LONGITUDE		
Course		
Speed		
J3.2C1		
MODE 1		
MODE 2		
MODE 3		
MODE 4		
PPLI IFF/SIF		
PLATFORM		
ACTIVITY		
Link 16		
Pass	Fail	

5. ALL: Verify receipt of data as specified. TN-B _____
6. (U) ATC-Gen (JUYY): Continue reporting track with a position on top of track SRN-201 track.
7. (U) SUT (JUXX): If Correlation tests meet the requirements for correlation, transmit the J7.2 Correlation Message, if Correlation tests fail continue to report TN-A.
8. (U) ALL: Verify correlation tests passed successfully, and if appropriate, suppress DIS to all. Drop all tracks. Verify all tracks dropped.

SEC	P/F / P/W	Completed Mission (Yes/No)	Repeatable (Yes/No)
E.X			

P = Pass F= Fail PW= Pass with work around

TEST CASE – ENVIRONMENTAL CATEGORY = SURFACE

F: SURFACE TEST CASES AND PROCEDURES

1. AVAILABLE SURFACE TEST CASES

Table E-1, displays a list and a description of the Surface Test Cases that are currently available in ATC-GEN.

Section	Test Case Name	Description
F.1	Correlation - Course	
F.2	Correlation – Position	
F.3	Correlation – Speed	

Table F-1. List of Available E/C=Surface Test Cases

2. SETTING UP AND RUNNING A TEST CASE FOR E/C=SURFACE

Each Surface Test Case requires its own specific setup and test procedures to run. Those specific steps can be found in the applicable Surface Test Procedures in Sections F.1 through F.3.

F.1: SURFACE CORRELATION – COURSE SAME/DIFFERENT

A. (U) Test Case Description: This test case will test the SUTs ability to properly conduct Correlation tests based on Course using the values for Course in the Correlation Window and when the test criteria has been met, transmits the J7.2 Correlation message, and when the criteria is NOT met continues to transmit their local track in accordance with the Link-16 rule-set.
B. (U) OBJECTIVE: To verify that the SUT conducts the proper correlation tests based on Course and when required transmits the J7.2 correlation message.
C. (U) Test Criteria: The following must occur for a successful test:

ATC-Gen starts to transmit DIS truth data to SUT every 1 second.
SUT receives DIS truth data and generates a local Surface Track with Course set to value other than No Statement on Link 16. ATC-Gen confirms TN A matches the truth data.
ATC-Gen generates a remote Surface Track with the Course value inside the Correlation Window Parameters with a position on top of SRN-201 track.
SUT will conduct the Correlation tests based on COURSE and determine whether correlation should occur.
Or;
ATC-Gen starts to transmit DIS truth data to SUT every 1 second.

SUT receives DIS truth data and generates a local Surface Track with a Course set to value other than No Statement on Link 16. ATC-Gen confirms TN A matches the truth data.
ATC-Gen generates a remote Surface Track with Course outside of the Correlation Window Parameters but with a position on top of SRN-201 track.
SUT will conduct the Correlation tests based on COURSE and determine whether correlation should occur.

D. (U) NOTE: The following will inhibit an Auto Correlation:

Both ATC-Gen and SUT tracks have Course that fall outside of the Correlation Window Parameters

E. (U) Testing Variables:

Same Course between ATC-Gen and SUT.
Two separate tracks viewable between ATC-Gen and SUT.
Different Course between ATC-GEN and SUT.

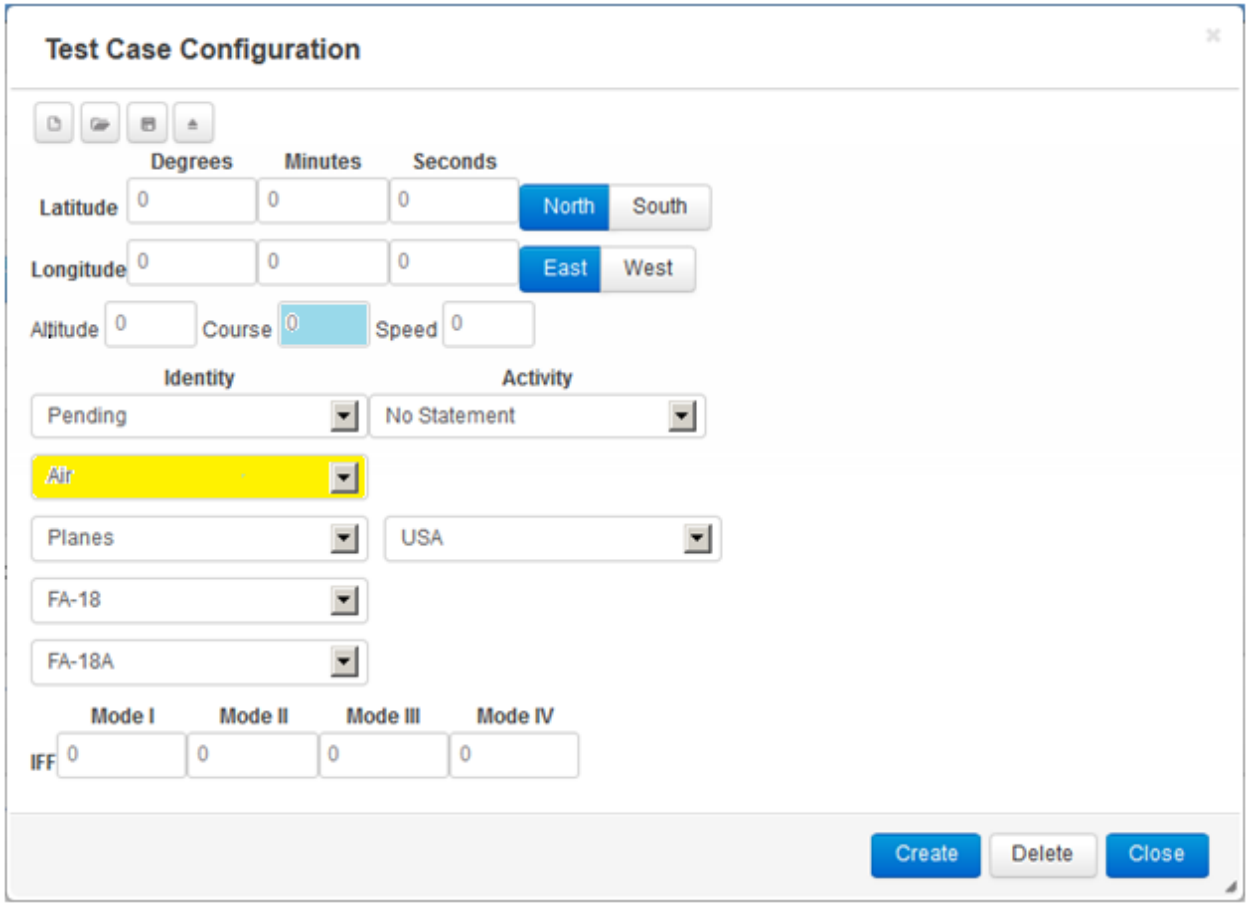

Figure F.1-1. E/C=Surface Correlation based on Course

F. E/C=Surface Correlation Course Test Case Set-Up Instructions

(U) MS-6016E, Section 4, Paragraph 4.11.3.4
(U) MS-6016E, Section 4, Paragraph 4.11.13.8.b, Correlation Restrictions

SUT MESSAGE SUMMARY		
J2.X	T/R	PPLI - PPLI and System Status based on system environmental category
J3.3	T/R	Surface Track - The surveillance function includes those capabilities a Command and Control JTIDS/MIDS Unit (C2 JU) shall have in order to exchange surveillance information with other compatibly equipped platforms.

SUT MESSAGE SUMMARY		
J7.0	T/R	Drop Track - The J7.0 Track Management Message is used to transmit information necessary to effect management actions on tracks being reported within the interface. Management actions include dropping tracks, reporting environment and identity conflicts, changing environment and identity, changing alert status, and changing Course.
J7.2	T/R	Correlation Message -

(U) ESTIMATED TIME TO COMPLETE: 10.0 Min.

G. (U) AUTOMATIC CORRELATION – SAME/DIFFERENT COURSE

(U) MS-6016E, Section 4, Paragraph 4.11.3.4
(U) MS-6016E, Section 4, Paragraph 4.11.13.8.b, Correlation Restrictions

9. (U) ATC-Gen (JUYY): Disclose SRN-201 to SUT (JUXX).

UNCLASSIFIED		
SRN-201		
ALTITUDE		
COURSE		
SPEED		
TQ		
LATITUDE		
LONGITUDE		
MODE 1		
MODE 2		
MODE 3		
MODE 4		
Link 16		
Pass	Fail	

10. (U) SUT (JUXX): Report a Surface track at SRN-201 position as specified below.

(U) MS-6016E, App. D: D.1.1.1.1 (Stimulus); D.1.2.3.3.6A (Initial TX); D.1.1.1.19a (Periodic TX)

UNCLASSIFIED
SRN-201 TN-A_____
J3.3I

EXER IND	NON-EX TRK	0
FT IND	NS	0
EMER IND	NS	0
SPI IND	NOT REQUIRED	
SIM IND	REAL TRACK	1
TN REF	SRN-201	
Strength		
SPEC TYPE	NS	0
TQ		
IDENTITY		
ALTITUDE		
J3.3E0		
LATITUDE		
LONGITUDE		
Course		
Speed		
J3.3C1		
MODE 1		
MODE 2		
MODE 3		
MODE 4		
PPLI IFF/SIF		
PLATFORM		
ACTIVITY		
Link 16		
Pass	Fail	

11. ALL: Verify receipt of data as specified. TN-A _____
12. (U) ATC-Gen (JUYY): Report a Surface Track with a position on top of SRN-201 track with same/different COURSE than SUT (JUXX) Surface Track.
    NOTE: The ACT-Gen Script calculates the altitude difference, whether to increase or decrease accordingly.

(U) MS-6016E, App. D: D.1.1.1.1 (Stimulus); D.1.2.3.3.6A (Initial TX); D.1.1.1.19a (Periodic TX)

UNCLASSIFIED		
SRN-201 TN-B_____		
J3.3I		
EXER IND	NON-EX TRK	0
FT IND	NS	0

EMER IND	NS	0
SPI IND	NOT REQUIRED	
SIM IND	REAL TRACK	1
TN REF	SRN-201	
STRENGTH	1 UNIT	1
SPEC TYPE	NS	0
TQ		
IDENTITY		
ALTITUDE		
J3.3E0		
LATITUDE		
LONGITUDE		
COURSE		
SPEED		
J3.3C1		
MODE 1		
MODE 2		
MODE 3		
MODE 4		
PPLI IFF/SIF		
PLATFORM		
ACTIVITY		
Link 16		
Pass	Fail	

13. ALL: Verify receipt of data as specified. TN-B _____
14. (U) ATC-Gen (JUYY): Continue reporting track with a position on top of track SRN-201 track.
15. (U) SUT (JUXX): If Correlation tests meet the requirements for correlation, transmit the J7.2 Correlation Message, if Correlation tests fail continue to report TN-A.
16. (U) ALL: Verify correlation tests passed successfully, and if appropriate, suppress DIS to all. Drop all tracks. Verify all tracks dropped.

SEC	P/F / P/W	Completed Mission (Yes/No)	Repeatable (Yes/No)
E.X			

P = Pass F= Fail PW= Pass with work around

F.2: SURFACE CORRELATION – POSITION WITHIN/OUTSIDE OF CORRELATION PARAMETERS

A. (U) Test Case Description: This test case will test the SUTs ability to properly conduct Correlation tests based on Position using the values for Position in the Correlation Window and when the test criteria has been met, transmits the J7.2 Correlation message, and when the criteria is NOT met continues to transmit their local track in accordance with the Link-16 rule-set.

B. (U) OBJECTIVE: To verify that the SUT conducts the proper correlation tests based on Position and when required transmits the J7.2 correlation message.

C. (U) Test Criteria: The following must occur for a successful test:

ATC-Gen starts to transmit DIS truth data to SUT every 1 second.
SUT receives DIS truth data and generates a local Surface Track at the position of SRN-301 on Link 16. ATC-Gen confirms TN A matches the truth data.
ATC-Gen generates a remote Surface Track with the position within/outside of the correlation window parameters.
SUT will conduct the Correlation tests based on Position and determine whether correlation should occur.

D. (U) NOTE: The following will inhibit an Auto Correlation:

Both ATC-Gen and SUT tracks are located outside of the allowed Position parameters within the Correlation Window configuration.

E. (U) Testing Variables:

Same Position between ATC-Gen and SUT.
Two separate tracks viewable between ATC-Gen and SUT.
Different Position between ATC-GEN and SUT.

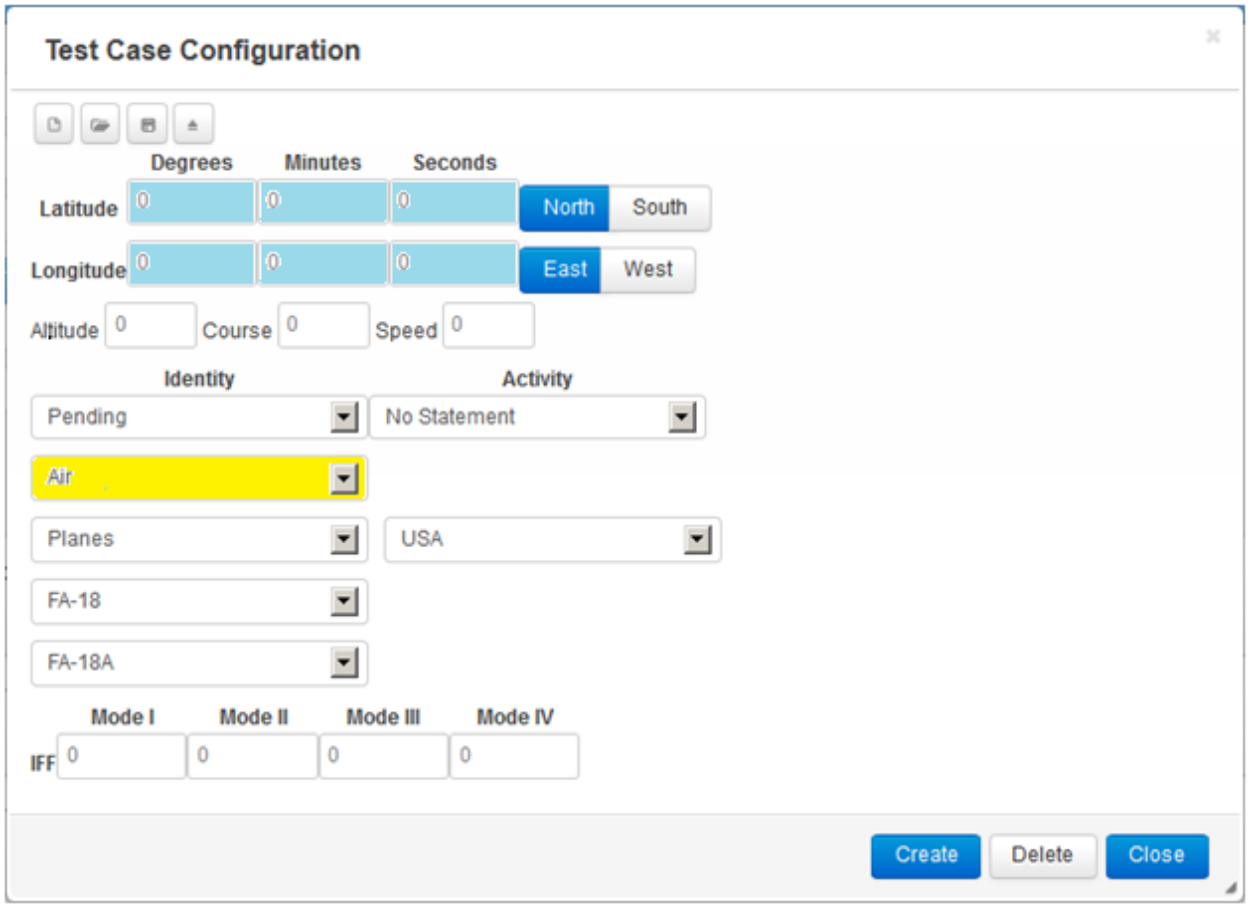

Figure E.5-1. E/C=Surface Correlation based on Position

F. E/C=Surface Correlation Position Test Case Set-Up Instructions

(U) MS-6016E, Section 4, Paragraph 4.11.3.4
(U) MS-6016E, Section 4, Paragraph 4.11.13.8.b, Correlation Restrictions

SUT MESSAGE SUMMARY		
J2.X	T/R	PPLI - PPLI and System Status based on system environmental category
J3.3	T/R	Surface Track - The surveillance function includes those capabilities a Command and Control JTIDS/MIDS Unit (C2 JU) shall have in order to exchange surveillance information with other compatibly equipped platforms.

SUT MESSAGE SUMMARY		
J7.0	T/R	Drop Track - The J7.0 Track Management Message is used to transmit information necessary to effect management actions on tracks being reported within the interface. Management actions include dropping tracks, reporting environment and identity conflicts, changing environment and identity, changing alert status, and changing Course.
J7.2	T/R	Correlation Message -

(U) ESTIMATED TIME TO COMPLETE: 10.0 Min.

G. (U) AUTOMATIC CORRELATION – SAME/DIFFERENT POSITION

(U) MS-6016E, Section 4, Paragraph 4.11.3.4
(U) MS-6016E, Section 4, Paragraph 4.11.13.8.b, Correlation Restrictions

1. (U) ATC-Gen (JUYY): Disclose SRN-201 to SUT (JUXX).

UNCLASSIFIED		
SRN-201		
ALTITUDE		
COURSE		
SPEED		
TQ		
LATITUDE		
LONGITUDE		
MODE 1		
MODE 2		
MODE 3		
MODE 4		
Link 16		
Pass	Fail	

2. (U) SUT (JUXX): Report a Surface track at SRN-201 position as specified below.

(U) MS-6016E, App. D: D.1.1.1.1 (Stimulus); D.1.2.3.3.6A (Initial TX); D.1.1.1.19a (Periodic TX)

UNCLASSIFIED
SRN-201 TN-A_____
J3.3I

EXER IND	NON-EX TRK	0
FT IND	NS	0
EMER IND	NS	0
SPI IND	NOT REQUIRED	
SIM IND	REAL TRACK	1
TN REF	SRN-201	
COURSE	1 UNIT	1
SPEC TYPE	NS	0
TQ		
IDENTITY		
ALTITUDE		
J3.3E0		
LATITUDE		
LONGITUDE		
Course		
Speed		
J3.3C1		
MODE 1		
MODE 2		
MODE 3		
MODE 4		
PPLI IFF/SIF		
PLATFORM		
ACTIVITY		
Link 16		
Pass	Fail	

3. ALL: Verify receipt of data as specified. TN-A _____
4. (U) ATC-Gen (JUYY): Report a Surface Track with a position on top of SRN-201 track with same/different Position than SUT (JUXX) Surface Track.
   NOTE: The ACT-Gen Script calculates the position difference, whether to increase or decrease accordingly.

(U) MS-6016E, App. D: D.1.1.1.1 (Stimulus); D.1.2.3.3.6A (Initial TX); D.1.1.1.19a (Periodic TX)

UNCLASSIFIED		
SRN-201 TN-B_____		
J3.3I		
EXER IND	NON-EX TRK	0
FT IND	NS	0

EMER IND	NS	0
SPI IND	NOT REQUIRED	
SIM IND	REAL TRACK	1
TN REF	SRN-201	
COURSE	1 UNIT	1
SPEC TYPE	NS	0
TQ		
IDENTITY		
ALTITUDE		
J3.3E0		
LATITUDE		
LONGITUDE		
Course		
Speed		
J3.3C1		
MODE 1		
MODE 2		
MODE 3		
MODE 4		
PPLI IFF/SIF		
PLATFORM		
ACTIVITY		
Link 16		
Pass	Fail	

5. ALL: Verify receipt of data as specified. TN-B _____
6. (U) ATC-Gen (JUYY): Continue reporting track with a position on top of track SRN-201 track.
7. (U) SUT (JUXX): If Correlation tests meet the requirements for correlation, transmit the J7.2 Correlation Message, if Correlation tests fail continue to report TN-A.
8. (U) ALL: Verify correlation tests passed successfully, and if appropriate, suppress DIS to all. Drop all tracks. Verify all tracks dropped.

SEC	P/F / P/W	Completed Mission (Yes/No)	Repeatable (Yes/No)
E.X			

P = Pass F= Fail PW= Pass with work around

F.3: SURFACE CORRELATION – SPEED SAME/DIFFERENT

A. (U) Test Case Description: This test case will test the SUTs ability to properly conduct Correlation tests based on Speed using the values for Speed in the Correlation Window and when the test criteria has been met, transmits the J7.2 Correlation message, and when the

criteria is NOT met continues to transmit their local track in accordance with the Link-16 rule-set.

B. (U) OBJECTIVE: To verify that the SUT conducts the proper correlation tests based on Speed and when required transmits the J7.2 correlation message.

C. (U) Test Criteria: The following must occur for a successful test:

ATC-Gen starts to transmit DIS truth data to SUT every 1 second.
SUT receives DIS truth data and generates a local Surface Track with a Speed on Link 16. ATC-Gen confirms TN A matches the truth data.
ATC-Gen generates a remote Surface Track with the Speed set to a value within the correlation parameters and with a position on top of SRN-201 track. SUT confirms TN B matches the truth data and TN A.
SUT will conduct the Correlation tests based on Speed and determine whether correlation should occur.

Or;

ATC-Gen starts to transmit DIS truth data to SUT every 1 second.
SUT receives DIS truth data and generates a local Surface Track with a Speed on Link 16. ATC-Gen confirms TN A matches the truth data.
ATC-Gen generates a remote Surface Track with Speed set to a value outside of the correlation parameters and with a position on top of SRN-201 track. SUT confirms TN B matches the truth data and TN A.
SUT will conduct the Correlation tests based on Speed and determine whether correlation should occur.

D. (U) NOTE: The following will inhibit an Auto Correlation:

Both ATC-Gen and SUT tracks have different Speed

E. (U) Testing Variables:

Same Speed between ATC-Gen and SUT.
Two separate tracks viewable between ATC-Gen and SUT.
Different Speed between ATC-GEN and SUT.

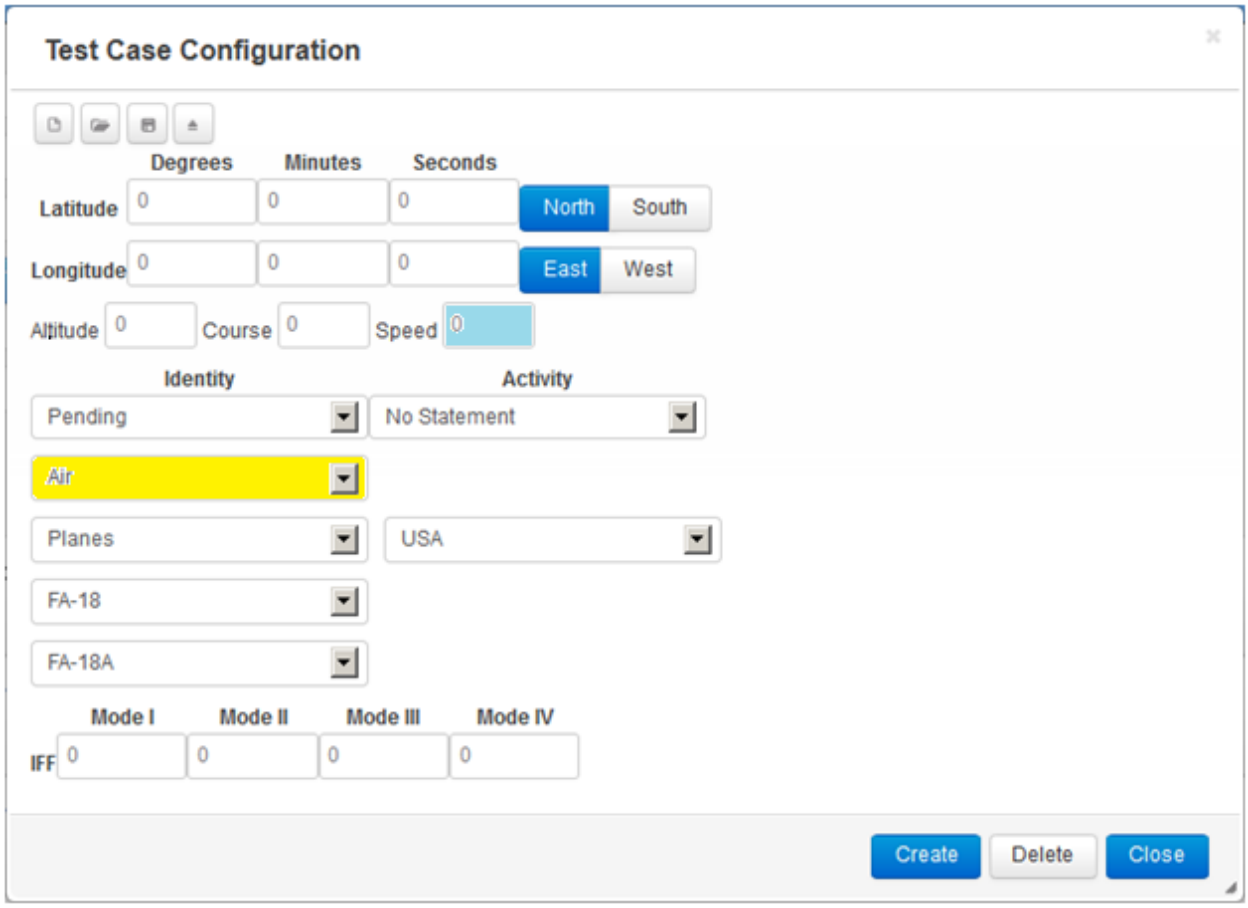

Figure F.3-1. E/C=Surface Correlation based on Speed

F. E/C=Surface Correlation Speed Test Case Set-Up Instructions

(U) MS-6016E, Section 4, Paragraph 4.11.3.4
(U) MS-6016E, Section 4, Paragraph 4.11.13.8.b, Correlation Restrictions

SUT MESSAGE SUMMARY		
J2.X	T/R	PPLI - PPLI and System Status based on system environmental category
J3.3	T/R	Surface Track - The surveillance function includes those capabilities a Command and Control JTIDS/MIDS Unit (C2 JU) shall have in order to exchange surveillance information with other compatibly equipped platforms.

SUT MESSAGE SUMMARY		
J7.0	T/R	Drop Track - The J7.0 Track Management Message is used to transmit information necessary to effect management actions on tracks being reported within the interface. Management actions include dropping tracks, reporting environment and identity conflicts, changing environment and identity, changing alert status, and changing Course.
J7.2	T/R	Correlation Message -

(U) ESTIMATED TIME TO COMPLETE: 10.0 Min.

G. (U) AUTOMATIC CORRELATION – SAME/DIFFERENT SPEED

(U) MS-6016E, Section 4, Paragraph 4.11.3.4
(U) MS-6016E, Section 4, Paragraph 4.11.13.8.b, Correlation Restrictions

1. (U) ATC-Gen (JUYY): Disclose SRN-201 to SUT (JUXX).

UNCLASSIFIED		
SRN-201		
ALTITUDE		
COURSE		
SPEED		
TQ		
LATITUDE		
LONGITUDE		
MODE 1		
MODE 2		
MODE 3		
MODE 4		
Link 16		
Pass	Fail	

2. (U) SUT (JUXX): Report a Surface track at SRN-201 position as specified below.

(U) MS-6016E, App. D: D.1.1.1.1 (Stimulus); D.1.2.3.3.6A (Initial TX); D.1.1.1.19a (Periodic TX)

UNCLASSIFIED
SRN-201 TN-A_____
J3.3I

EXER IND	NON-EX TRK	0
FT IND	NS	0
EMER IND	NS	0
SPI IND	NOT REQUIRED	
SIM IND	REAL TRACK	1
TN REF	SRN-201	
COURSE	1 UNIT	1
SPEC TYPE	NS	0
TQ		
IDENTITY		
ALTITUDE		
J3.3E0		
LATITUDE		
LONGITUDE		
COURSE		
SPEED		
J3.3C1		
MODE 1		
MODE 2		
MODE 3		
MODE 4		
PPLI IFF/SIF		
PLATFORM		
ACTIVITY		
Link 16		
Pass	Fail	

3. ALL: Verify receipt of data as specified. TN-A _____
4. (U) ATC-Gen (JUYY): Report a Surface Track with a position on top of SRN-201 track with same/different Speed than SUT (JUXX) Surface Track.
   NOTE: The ACT-Gen Script calculates the Speed difference, whether to increase or decrease accordingly.

(U) MS-6016E, App. D: D.1.1.1.1 (Stimulus); D.1.2.3.3.6A (Initial TX); D.1.1.1.19a (Periodic TX)

UNCLASSIFIED		
SRN-201 TN-B_____		
J3.3I		
EXER IND	NON-EX TRK	0
FT IND	NS	0

EMER IND	NS	0
SPI IND	NOT REQUIRED	
SIM IND	REAL TRACK	1
TN REF	SRN-201	
COURSE	1 UNIT	1
SPEC TYPE	NS	0
TQ		
IDENTITY		
ALTITUDE		
J3.3E0		
LATITUDE		
LONGITUDE		
COURSE		
SPEED		
J3.3C1		
MODE 1		
MODE 2		
MODE 3		
MODE 4		
PPLI IFF/SIF		
PLATFORM		
ACTIVITY		
Link 16		
Pass	Fail	

5. ALL: Verify receipt of data as specified. TN-B _____
6. (U) ATC-Gen (JUYY): Continue reporting track with a position on top of track SRN-201 track.
7. (U) SUT (JUXX): If Correlation tests meet the requirements for correlation, transmit the J7.2 Correlation Message, if Correlation tests fail continue to report TN-A.
8. (U) ALL: Verify correlation tests passed successfully, and if appropriate, suppress DIS to all. Drop all tracks. Verify all tracks dropped.

SEC	P/F / P/W	Completed Mission (Yes/No)	Repeatable (Yes/No)
E.X			

P = Pass F= Fail PW= Pass with work around