CHAPTER 11: TRACKS

11.0 TRACKS

One of the most important functions of Unified Build (UB) is its track management capability.

A *Track* in UB appears as a symbol that represents an object (such as a ship, submarine, land unit, or aircraft). Tracks are plotted on a map background—the tactical display.

A *Contact* is a single position report for a track. The position of the track on the tactical display reflects information contained in the latest contact report.

Track information comes into the system in a variety of ways:

- Through transmission from other locations, received via the UB communications network.
- From the sensors on Ownship.
- Entered manually from the keyboard.

About Track Management

Track information received by JMCIS is automatically correlated*. The related track's position is plotted on the tactical display in its appropriate geographical position. (*See *Correlation* definition later in this section.)

This received information, whether it is new contact reports or updates to currently plotted tracks, forms the track history. Various symbols and colors are used to indicate the type of object represented by each track and its threat status.

Track management capabilities provide a quality-controlled tactical display for the Force Over-the-Horizon Track Coordinator (FOTC). The system may also be operated as a participant in the FOTC environment or as an independent Tactical Data Processor (TDP) in a non-FOTC environment.

Archives are maintained on each track's reported history. For most tracks, JMCIS performs automatic correlation of incoming reports based on geofeasibility and attribute sets—name, type, FOTC track number, class, etc.—for each track. An exception: Link track history points are not archived unless the LINK ARCHIVE option is activated. (See *LINK ARCHIVE* section.)

This section discusses the following track information:

Track Database

Gold Messages

Track Appearance

Track Selection

Track Merge and Association

Summary of Common Operations—Tracks

Tracks Pull-Down Menu Options

11.0.1 TRACK DATABASE

All track information is stored in the UB track database. Specific track information (described in the following) can be obtained or created using options on the TRACKS pull-down menu. For example:

- Obtain a complete list of tracks in the track database with the TRACK SUMMARIES option.
- View or edit individual track information with the EDIT option.
- Manually enter information for a new track with the NEW TRACK option.

The individual fields that define a track in the database are discussed in detail later in this chapter (NEW TRACK, NEW ELINT, and EDIT options).

Many database attributes remain unchanged for the life of the track. Other fields, such as position, course, and speed are updated with each new contact report.

The following sources usually update track database information:

- OTH-T GOLD messages received from OTCIXS, POST, or OPINTEL sources.
- Link-11 or Link-14 contact reports received from NTDS/ACDS Link participating Units (including OWNSHIP).
- Navigation inputs received from SINS, LORANC, SRN-19, SRN-25, GPS, or CVNS.
- Manual inputs from UB operators.

Version Translation—Workstations that have the "UB 2x to 3x Interface" segment installed can exchange track data via the GENBROADCAST capability. These systems must also be running compatible versions of the JMCIS software; i.e., version 2.2.0.3 and above.

Track Database Management and Server Switchover—JMCIS provides a feature to configure a standby backup system to automatically assume track database

management and preserve data in case the master database server experiences a system failure. This automatic system recovery feature is called server switchover.

- Server switchover uses the IFSD software segment to maintain a current database backup of the network datafiles to minimize the risk of data loss in case the master server experiences a failure.
- Server switchover provides recovery for all track processing, with minimum downtime and impact on system performance.
- Manual operator intervention is required only to reconfigure any communications channels that were running on the master server.

For additional information on Server Switchover, see the *Unified Build System Administrator's Guide*.

11.0.2 TRACK REPORTS

Track reports in UB may be entered manually, received from remote ashore sites, or from other ships. The format used to transmit and receive most reports is the standard OTH-T (Over-The-Horizon Targeting) GOLD format. UB also automatically decodes and correlates messages received in the Link-11 and Link-14 message formats.

Correlation

Correlation is the process that determines whether the information contained in an incoming contact report belongs to an existing track or to a new track.

Each report that enters the system must undergo correlation to determine its status. These reports may be updates to current database tracks, new tracks, or may be ambiguous with more than one possible correlation candidate (or have non-feasible speeds).

Depending on incoming attributes and position information, the following results are possible:

Automatic update to a track

Automatic update to an ambiguity

New track created

New ambiguity created

Report discarded as a duplicate

Report discarded because it contains invalid information (for example, time of event = 121ABCD)

Each incoming track report appears in the Report Log (COMMS menu). This log provides a quick reference to check on a specific report or group of reports.

11.0.3 TRACK APPEARANCE

The appearance of a track symbol provides information about the track's category and threat status. The shape and color of the symbol represent the threat status, and the completeness of the symbol determines whether the track represents a surface object, aircraft, or submarine.

Figure11.0 -1 shows the symbol shapes used to represent track threat status.

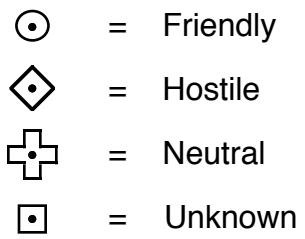


Figure11.0-1 Track Symbols and Their Threat Status

When both the threat status and track category are unknown, the following special symbol is used (Figure11.0 -2):

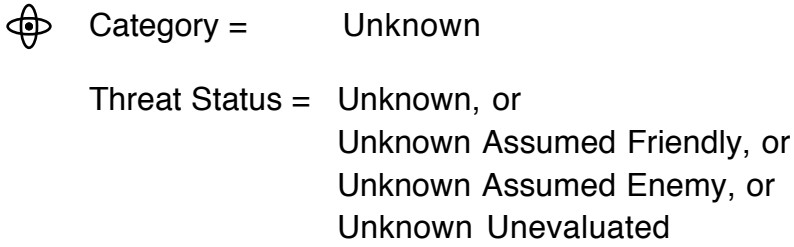


Figure11.0 -2 Unknown Threat and Category Track Symbol

The color of a symbol also indicates the track's threat status:

Light Blue	=	Friendly
Red	=	Hostile
Green	=	Neutral
Yellow	=	Unknown
Purple	=	Ambiguity
White	=	Selected Track

The completeness of the symbol indicates the type of track. Figure11.0-3 shows the symbols used to represent a hostile surface object (complete symbol), aircraft (top half of symbol), and submarine (bottom half of symbol).

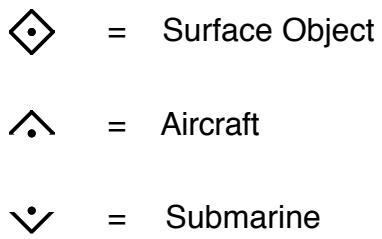


Figure11.0 -3 Completeness of Symbols

Note: Although the examples shown in Figure11.0.2–3 represent hostile tracks, the completeness of symbols is identical for tracks of other threat categories. For example, a half-circle *above* the center dot represents a friendly aircraft, and a half-circle *below* the center dot represents a friendly submarine.

Other symbols are used to represent Link and Unit tracks. See *SYMBOLS/ON/OFF DOTS* (PLOT CONTROL chapter) for a description of Link track symbols. See *NEW UNIT* (TRACKS chapter) for descriptions of various symbols used for Unit tracks.

11.0.4 TRACK IDENTIFICATION

Tracks are identified with a local track number that begins with an alpha character which designates the track as a particular type:

A	=	Ambiguity
B	=	Acoustic
C	=	SI
E	=	Emitter/ELINT
F	=	FCS (Fire Control System)
L	=	LINK/ACDS
R	=	RAYCAS V
S	=	SPA-25(G)
T	=	Platform*
U	=	Unit
X	=	External

(*) Note: When a Platform track is plotted, a "P" appears next to the symbol on the display; however, the local track number for a Platform track begins with "T."

11.0.5 TRACK SELECTION

Many UB operations require a track or group of tracks be selected before using the option. For example, "Select two or more tracks from the tactical display, *then* choose the COMPARE option."

Tracks may be selected from the tactical display, or through the DATABASE SEARCH or QUICK SEARCH windows.

Select Tracks from the Tactical Display

Clicking and geobox methods involve selecting tracks that are on the visible tactical display area.

Click to select an individual track:

1. Move the pointer on the track.
2. Click the left trackball button.
3. The track is selected and the symbol changes to white.

Geobox to select a group of tracks from the same general area:

1. Position the pointer near the group of tracks, hold down the left trackball button, and move the trackball.
2. A geobox appears with one corner formed at the starting point of the drag action. The other corner follows the drag action of the trackball.
3. Move the trackball until the geobox surrounds the group of tracks.
4. Release the trackball button to select all the tracks in the geobox.

Select Tracks Using a Database Search

Use the SEARCH or QUICK SEARCH option from the TRACKS pull-down menu to select a track or group of tracks that do not appear in the current field of view.

Some UB operations automatically bring up the DATABASE SEARCH window when tracks must be selected. (See *SEARCH* or *QUICK SEARCH* s for details.)

Deselect Tracks from the Tactical Display *(Use one of the following methods:)*

Method #1: Hold down the Shift key and click on the individual track(s).

Method #2: Deselect all selected tracks by placing the pointer in an area where no tracks are plotted and double-click the left trackball button.

Result: All white (selected) tracks revert to their normal colors.

11.0.6 TRACK MERGE AND ASSOCIATION

UB provides the capability to merge or associate two or more tracks.

MERGE

Two tracks of the same track type—for example, two Platform tracks—can be *merged* to form one track in the track database and on the tactical display. The histories for both tracks are combined, according to the date-time-groups of the reports.

ASSOCIATE

Track information is received from differing sources—Link, ELINT, Acoustic, etc.—and is stored separately in the track database. If these records represent the same track, they can be *associated* and treated as one track.

One of the associated track records is considered the *parent* record. Records associated with the parent are referred to as *children* of the parent and provide additional information on the parent.

MERGE / ASSOCIATE	RESULT
Merge tracks of the same type:	Only 1 track exists in track database.
	Merges cannot be separated later.
Associate track records from differing sources:	Individual tracks in association exist as separate entities in track database.
	Displays as 1 track (the Parent track) on tactical display.
	Associations can be broken later.
	Track hierarchy created: • Parent = One Platform or Unit Track. • Children = Other track types (Link, ELINT, Acoustic, etc.). • A single Parent can have multiple child tracks associated with it.

Figure11.0 -4 Track Merge/Association Specifics

The steps required to merge or associate a track are discussed in detail in the *COMPARE* section.

11.0.6.1 Creating Track Associations

Since Platform and Unit tracks form the basis of track associations, it is important to understand them. The following information defines Platform and Unit tracks:

PLATFORM TRACKS

Platform tracks are the most comprehensive of the track types in the UB system. They represent air, surface, submarine, and unknown objects.

- Platform tracks have a variety of beginnings, including OTCIXS reports, manual input, and the NU-TRK option.
- Any other type of track, *except* a Unit track, may be associated with a Platform track.
- If an association is created, a "parent/child" relationship results, with the Platform track *always* assuming the parent role.

UNIT TRACKS

Unit tracks are the land-based equivalent of Platform tracks. They consist mainly of friendly tracks that represent Army, Marine, Navy, and Air Force units ashore. However, for tactical purposes Unit tracks can also represent hostile forces.

Track association parent/child relationships can be created as illustrated in the following diagram:

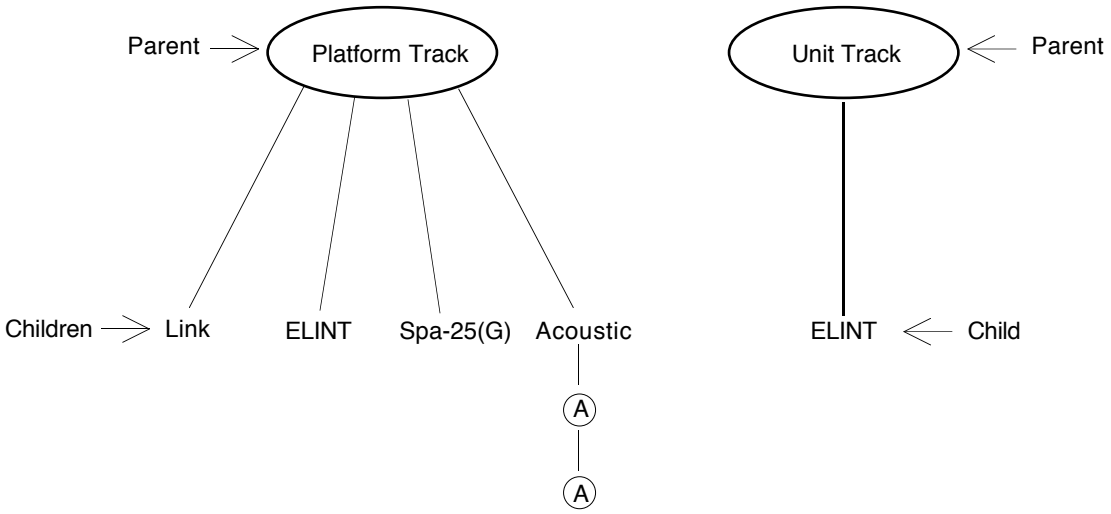


Figure11.0 -5 Track Associations Diagram

About Associations

- Once an association has been made, position reports for any associated child tracks automatically update the parent track.

- For example, each time the Link track in the diagram above receives a position update, the associated Platform track receives the same update. This process is referred to as upward inheritance—"bubbling up"—of the reported data.

- Associations are normally initiated manually; however, UB's track correlation process provides for automatic associations of an ELINT, Acoustic, or Link track to a Platform track under certain conditions.
  - Acoustic tracks that meet specific correlation criteria are automatically associated with a Platform track when they are created.
  - Manually-created ELINT and Acoustic tracks are "orphans" and, if desired, must be manually associated with a Platform track; or, in the case of Unit tracks, manually-created ELINT tracks.
- Non-Platform and non-Unit track types can enter the system without being associated with a Platform or Unit track. If this occurs, actions can be taken to:
  - Associate the track with an existing Platform or Unit track.
  - Create a new Platform track to associate with the track by using the NU-TRK option from the Track Pop-up Menu.
- Non-Platform tracks are given a parent with the NU-TRK option (track's pop-up menu) or from the EDIT window. The SCOPE/TYPE window that appears for the new track contains the scope and type of the child. These values can be modified—without affecting the child track.
- When the NU-TRK option of the TRACK EDIT window is selected, a warning displays and the operation stops if the track already has a parent.

Attribute Changes

The following "general rule" applies to attribute changes:

- Child–to–parent—will fill in empty and UNK fields.
- Parent–to–child—no changes transferred, with the following exceptions:
  - Link will update Link common fields.
  - If an attribute for a Link track is changed, the associated Platform track is automatically updated to reflect the new value. The information is then transferred from the Platform track to all its associated children.

No matter where a history point is edited, the change appears in the Platform history *and* in the associated child's history. (Note: Reports containing SIGNA data cannot be edited.)

11.0.6.2 Breaking Track Associations

Breaking a track association is discussed in detail in the *EDIT* section.

An association may be *manually* broken to create a pure non-Platform or non-Unit track:

- When it is determined that two associated tracks do not represent the same track.
- To *prevent* the track from mistakenly being transmitted out of the system, since Platform and Unit tracks are the method of track transmission.

An association may be *automatically* broken when the system determines that it no longer makes sense:

- It is not geofeasible.
- The category or threat is inconsistent, such as changing HOS to FRI.

When an association is broken, the following rules apply:

- If a Link and parent track association is broken, the Link *archived* points remain with the parent track history, since Link has no history.
- If all history points for a parent track come from children tracks, and all associations with those children are broken, then the parent track is deleted.

As a General Rule: The Child's history points are removed from the parent.

11.0.7 SUMMARY OF COMMON OPERATIONS—TRACKS

Window buttons and pop-up menu options common to most JMCIS operations are described in this section and will not be discussed in detail in the following sections. The buttons and options listed below are routinely found on Track option windows. Those that are "exceptions to the rule" will be described within their respective sections.

Note: See Appendix A, *Common Operations,* for a more detailed description of these buttons and options.

ADD—opens a window to add a like record or function.

APPLY—performs the currently selected operation. For example, if the action is to compute certain values, clicking APPLY carries out the operation.

ARCHIVE—saves individual records from a database (archived) to another location (e.g., tape) for storage.

CANCEL—discards any changes made to data and returns to the previous function.

COPY—makes a duplicate copy of an existing record from the appropriate database.

DELETE—removes (deletes) the selected record(s) from the database.

EDIT—opens a window to view or change the settings of a record.

EXIT—exits (leaves) the option in use.

HELP—provides a general description of the option, function, or window.

OK—accepts any changes made to data and returns to the previous function.

PRINT—generates a printed report of the selected record or file .

RESTORE—retrieves stored records to their original database.

SELECT ALL—selects all the items in a list.

UNSELECT ALL—deselects all the items in a list

XMIT—sends a record from a particular database to another location.

11.0.8 TRACKS PULL-DOWN MENU

The TRACKS pull-down menu contains options that pertain to the track database and allow inspection and manipulation of the database and related files. For many of the options, tracks must be selected (using the track selection methods described earlier in this chapter) prior to using the option.

This section describes the following menu options:

NEW TRACK
Enter a report for a new Platform track. 11-13

NEW ELINT TRACK
Enter a report for a new ELINT track. 11-25

NEW ACOUSTIC TRACK
Enter a report for a new acoustic track. 11-25

NEW UNIT
Enter a report for a new Unit track. 11-25

COPY
Make a duplicate copy of an existing track. 11-25

EDIT
Display and edit track data using the TRACK EDIT window. 11-26

EDIT OWNSHIP (ALT + O)
Edit track data for the designated Ownship track. 11-97

AMPLIFY TRACKS (ALT + A)
Quickly obtain view-only information about a selected track. 11-98

DELETE
Delete selected tracks from the database. 11-101

XMIT (ALT + X)
Transmit OTH-GOLD messages on selected tracks. 11-103

PRINT (ALT + P)
Print a hardcopy summary of track database information for the selected tracks. 11-105

SELECT ALL
Select all system tracks and ambiguities. 11-105

SEARCH (ALT + S)
Search for tracks, based on specified criteria. 11-105

QUICK SEARCH (ALT + Q)
Perform a fast search through all data elements on each track for a specified search string. 11-123

SEARCH TO REPLACE
Search the track database and replace one or more attributes with either blanks or a new value. 11-125

SEARCH FILTER TABLE
Create and save groups of search parameters (search filters) that can be used with the SEARCH option. 11-128

BOOLEAN SEARCH FILTERS
Specify the parameters to add, edit, or delete a Boolean Database Search Filter.....11-130

BOOLEAN TRACK SEARCH
Engage the Boolean Database Search window to conduct complex searches based on different attribute contributions. 11-132

COMPARE (ALT + M)
Compare two tracks, merge an ambiguity into a track, merge two tracks, associate two tracks, create a new track from an ambiguity, or delete a track or ambiguity. 11-139

DUPLICATES
Compare multiple tracks and ambiguities that have common attributes. 11-151

TRACK STATUS
View the number of tracks in the system. Tracks are shown by category, with totals listed. 11-152

TRACK SUMMARIES
View summaries of different track types in the system. 11-154

TRACK TABLES
Maintain tables and databases for many items used throughout UB. 11-185

LINK CONTROLS
Perform different functions relating to Link tracks. 11-243

TRACK POP-UP MENU
Perform many quick functions on an individual track. 11-259

11.1 CREATING NEW TRACKS—PLATFORM, ELINT, ACOUSTIC, AND UNIT

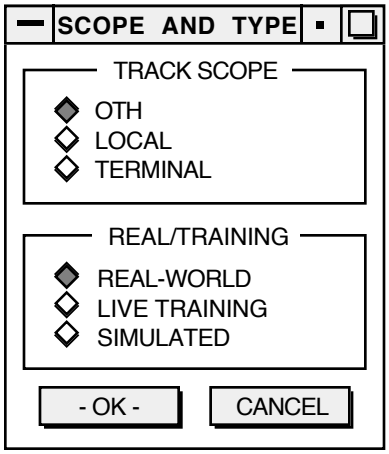
Use one of the "new-track" options to enter a report for a new track. To update information for existing tracks, use the EDIT option from the TRACKS pull-down menu.

How to create a new track:

1. Select the appropriate new-track option from the TRACKS menu.
   - Options: NEW TRACK, NEW ELINT TRACK, NEW ACOUSTIC TRACK, or NEW UNIT.
   - NEW TRACK creates a Platform track.
2. Enter track scope and type. (Described in *TRACK SCOPE AND TYPE*.)
3. Select a report type. (Described in *REPORT TYPE*.)
4. Enter first report information. (Described in *ENTER FIRST REPORT*.)
5. Enter additional information. (Described in the EDIT option from the TRACKS pull-down menu.

11.1.1 TRACK SCOPE AND TYPE

To access this window: TRACKS pull-down menu **:** one of the new track options **:** SCOPE AND TYPE window (Figure11.1-1).



Track SCOPE defines the range of track distribution:

- OTH tracks—available to everyone via radio transmission.
- LOCAL tracks—available only on workstations in the local area network.
- TERMINAL tracks—available only on the workstation where created.

Figure11.1 -1 Scope and Type Window

1. Select the track scope, as described in Figure 11.1-1.
2. Select the track type in the REAL/TRAINING box.
   - REAL-WORLD—exists in the real world.
   - LIVE TRAINING—exists in the real world, but used for exercise purposes and may be assigned a different identity, such as a friendly track being identified as hostile.
   - SIMULATED—does not exist in the real world; being created for exercise and scenario purposes.
3. Click OK to accept settings and continue. (Or click CANCEL to exit without creating a track.)
4. The report TYPE window automatically opens.

TYPE: Above, the track type refers to Real-World, Live Training, or Simulated tracks. But "type" is used throughout the User's Guide in many ways. For example, in the TYPE window, type describes a report: Posit, LOB, or BRG Box. The kinds of tracks available—such as Platform, Acoustic, ELINT, Unit, etc.—are frequently referred to as a "type of track." Thus, when the word type is used, know that it can, and often does, have several connotations.

11.1.2 REPORT TYPE

After making selections in the SCOPE AND TYPE window, the report TYPE window appears (Figure11.1 -2).

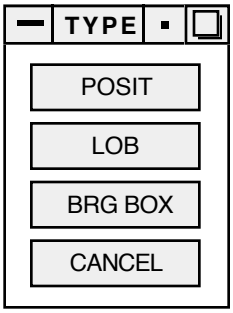


Figure11.1 -2 Type Window

Select the type of report, or click CANCEL to exit the option without creating a track.

POSIT (POSITION)

In general, use the POSIT button for most tracks. There are several cases when POSIT should definitely be used:

• When the position is detected by a cross-fix (such as computed by using the CROSSFIX option from the TDAs menu).

• When the position report includes a course, speed, course and speed uncertainty. (Uncertainties are found in the TRACK CONTROL window from the track's pop-up menu). If dead-reckoning is used with the track, the associated ellipse will grow bigger with time.

• When the track is detected with an over the horizon radar (OTHR, ROTHR).

LOB (LINE OF BEARING)

Systems that *receive* signals (e.g., EW, acoustic) only generate LOBs. Such systems are referred to as "passive systems."

Use the LOB button under the following circumstances:

• A signal is detected at a certain bearing from a site.

• The frequency of the signal and possibly some other characteristics can be determined, but not the distance.

• The detection system has a degree of accuracy, thus generating a report such as "Contact Don Ho at a bearing of 135 degrees plus-or-minus 2 degrees."

BRG BOX (BEARING BOX)

Use the BRG BOX button primarily for subsurface tracks (submarines), according to the method of detection (SOSUS) used by the ASW community.

11.1.3 ENTER FIRST REPORT

When *any* report TYPE button is selected, the ENTER FIRST REPORT window appears (Figure11.1 -3).

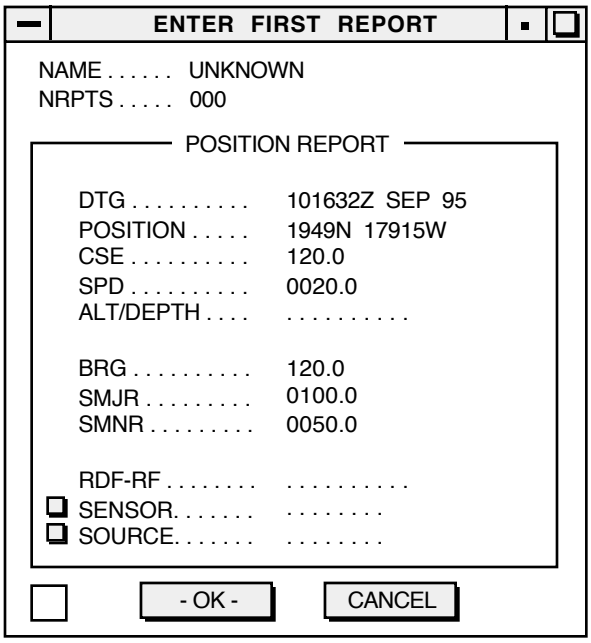


Figure11.1 -3 Enter First Report Window

Window fields depend on (1) which track type is being created and (2) which report type button was selected.

When a first (or new) report is created for a track, all required fields are shown in *red* until the correct data is entered. When data is entered and accepted, the fields then appear in *yellow*.

(1) Track type differences:

- Platform and Unit tracks have identical fields.
- Acoustic and ELINT tracks require additional fields. They are marked "ELINT-only" and "Acoustic-only" in the description below.

(2) Report type differences:

The title of the box inside the window and the three fields that describe uncertainty vary for each report type.

- POSIT report
  - Title: POSITION REPORT

- Uncertainty fields: BRG, SMJR, and SMNR

- LOB report
  - Title: LINE-OF-BEARING REPORT
  - Uncertainty fields: BRG, BRG ERR, and RNG EST
- BRG BOX report
  - Title: BEARING BOX REPORT
  - Uncertainty fields: BRG, H-WIDTH, and LENGTH

(3) Required data fields:

- POSIT (ellipse) report
  - POSITION field
- LOB report
  - POSITION field
  - BRG field
- BRG BOX report
  - POSITION field
  - BRG field
  - SMJR and SMNR fields
  - ELNOT field (for ELINT tracks)
  - FUND FREQ, MAX FREQ, HARMONICS, and SOURCE fields (for acoustic tracks)

To create a report:

1. Enter values in the fields.
   - All fields are described *ENTER FIRST REPORT Window Fields*.
   - POSITION: enter value with the keyboard or click a point on the tactical display.
   - ALT/DEPTH: use *only* if report is for aircraft (positive number) or submarine (negative number).
   - SENSOR, SOURCE, and SCAN TYPE (ELINT only): the list box in front of the label shows available values.
2. Click OK to accept the values and open the EDIT window, or click CANCEL to exit the option without creating a track.

- The EDIT window for each track type is described in the EDIT option from the TRACKS pull-down menu.

11.1.3.1 ENTER FIRST REPORT Window Fields

NAME/EMITTER/TRADEMARK

Platform and Unit tracks—track name. Always UNKNOWN when entering the first track report; cannot be edited.

ELINT tracks—emitter (track) name (the object from which the emitting is being detected). Always UNKNOWN when entering the first track report; cannot be edited.

Acoustic tracks—trademark. Always blank when entering the first track report; cannot be edited.

NRPTS

Number of track reports. Always 000 when entering the first track report; cannot be edited.

Fields common to all track and report types:

DTG

Date-time group. Automatically fills the field with the current date and time, or enter the time the track (contact) was sighted. Format: ddhhmmZMONYR

- dd = the day of the month
- hh = the hour
- mm = the minute
- Z is a constant (for Zulu time)
- MON = three-letter month abbreviation
- YR = the final two digits of the year

Example: enter 040819Z OCT 95 for October 4, 1995 at 8:19 AM; or enter the DTG as @+date.

Note: Use @ to show the current system time, or @+/- to show the current system time plus or minus a given number of minutes.

POSITION

Lat/long position = ddmmA dddmmB

- dd = degrees
- mm = minutes
- A = N (North) or S (South)

- B = E (East) or W (West)

Example: 1348N 08623W

POSIT report: track report

LOB report: sensor report

BB report:

CSE

Course for the track from True North.

SPD

Speed of the track in knots.

ALT/DEPTH

Altitude or depth of the track (no commas). Use this field *only* when the track represents an aircraft or submarine.

Aircraft—enter the altitude of the craft (in feet).

Submarine—enter a negative sign (-), followed by the depth of the sub (in feet).

RDF-RF

If the track is transmitting on a particular radio frequency, enter the numerical value for the frequency.

Note: After entering the frequency, enter HZ, KHZ, or MHZ—whichever is applicable. If not added, a warning message states "Must specify HZ, KHZ, or MHZ without embedded space."

SENSOR

Sensor code for the sensor that detected the track.

1) Click the list box in front of the SENSOR label to show available sensor codes.

2) Select the code from the list and click the left trackball button to automatically enter the code into the SENSOR field.

SOURCE

Source code for the source of information used to detect the track. Two-letter OTCIXS station source code (for example, AM=America). Letters are taken from the Source XREF Table, which can be viewed from the SOURCE XREF TABLE option (MISC menu).

1) Click the list box in front of the SOURCE label to show available source codes.

2) Select the code from the list and click the left trackball button to automatically enter the code into the SOURCE field.

Uncertainty fields—dependent on the report type:

POSIT Report:

Area of Uncertainty (AOU) fields appear in the window. An AOU for a position report is an elliptical area around the track, representing a containment area where the track is almost certain to be found. Although it might be difficult to pinpoint the position of a track, its AOU provides a margin for error by specifying a wider area for the track position. Enter AOU information in the following fields:

BRG
Orientation angle (DEGT) in degrees from True North.

SMJR
Ellipse semi-major axis length (NM).

SMNR
Ellipse semi-minor axis length (NM).

About AOU ellipses:

- When an AOU ellipse is plotted, the track symbol always appears at the center of the ellipse.
- The track is not necessarily at this exact location—it might be anywhere within the ellipse.
- To see AOUs on the tactical display, use the ATTRIBUTE TOGGLES option from the PLOT CONTROLS pull-down menu.
- Figure11.1 -4 depicts an AOU ellipse with the following AOU field values:
  - BRG = 270.0T
  - SMJR = 30 NM
  - SMNR = 15 NM

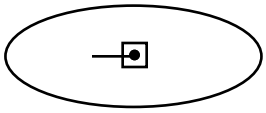


Figure11.1 -4 Example of an Ellipse AOU for a Track

Note: Rarely does a position report have an uncertainty ellipse smaller than 4x4 NM. In most cases, the various sources of error in reporting and position fixing yield 8x8 NM or larger areas of uncertainty.

LOB (Line of Bearing) Report:

Enter Line of Bearing information in the following fields:

BRG
Bearing (DEGT) from True North of the track from the sensor position.

BRG ERR
Bearing error (DEG), usually 1—5 degrees; also known as CONFIDENCE.

RNG EST
Estimated range of the track from the sensor position. This has no effect on the line of bearing when it is plotted.

About the line of bearing:

- The LOB appears as a solid line that extends for 450 NM from the sensor position.
- The track symbol appears at the end of this line, whether or not a range estimate is provided.
- If the AOU is turned ON for a line of bearing track, dashed lines extend from the sensor position outward on both sides of the LOB, at the angle of the bearing error.
- If the line of bearing is "clipped" by the map window so that the track symbol is off the screen, the symbol is placed along the bearing line, just inside the window.
- Figure11.1 -5 shows several line of bearing examples. (The sensor position is at the point where the two dashed lines intersect.)

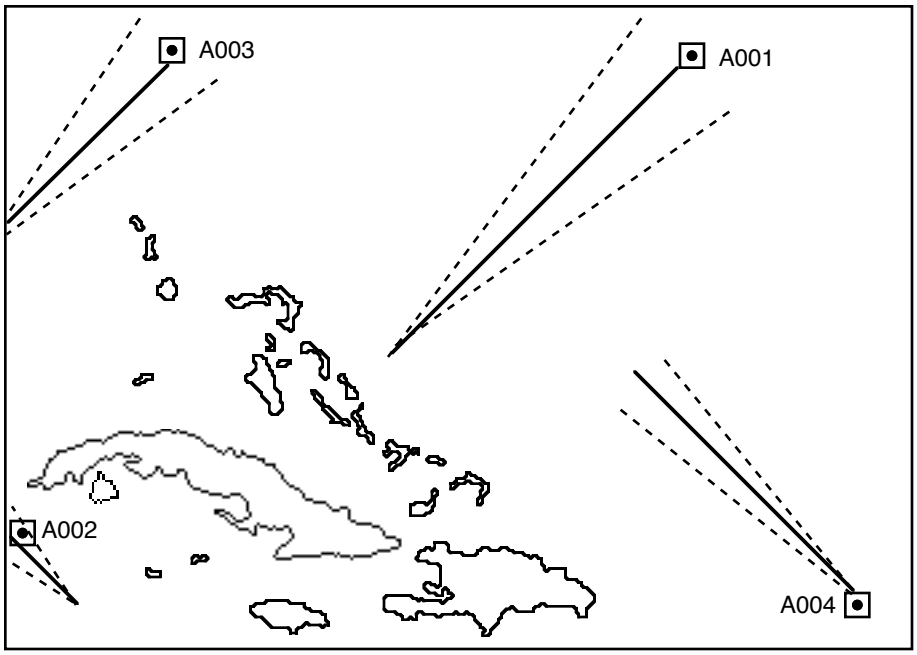


Figure11.1-5 Examples of Line of Bearings for a Track

Details of Figure 11.1-5:

- Track A001—symbol appears at the end of the fully visible 450 NM line.
- Track A002—bearing is around 310°. Its symbol is placed along the bearing line, just inside the window.
- Track A003—direction of the bearing line is approximately 45°; however, there is no real sense of how far back the origin might be. In fact, it could be just off the edge of the map window.
- Track A004—origin of this sensor is visible.

Note: If the only report for a track is a line of bearing, the LOB *always* appears on the tactical display. To turn off the LOB, disengage the track's display, as turning off the AOU has no effect.

BRG BOX Report:

A bearing box is commonly used for submarines. Enter bearing box information in the following fields:

BRG
Orientation angle (DEGT) in degrees from True North.

H-WIDTH
Half-width (NM) for the box.

LENGTH
Length (NM) for the box.

About the bearing box:

- There is no specific containment probability assured for the bearing box.
- Bearing boxes appear on the tactical display only for those track types specified with the ATTRIBUTE TOGGLES option.
- Figure11.1 -6 shows an example of a bearing box. Fields contain the following values:
  - BRG = 270.0T
  - H-WIDTH = 30 NM
  - LENGTH = 100 NM

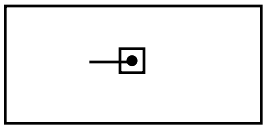


Figure11.1 -6 Example of a Bearing Box for a Track

ELINT REPORT Box—ELINT-only fields:

ELNOT
An acronym for ELINT Notation, the electronic emitter code assigned to a radar by the detecting sensor.

This five digit field begins with an alpha character, followed by three numbers, ending with another alpha character.

EMITTER
Radar name (for example, RAY1500, SPN-43, HEADNET).

PRI
Pulse repetition interval (PRI), measured in microseconds.

PRF
Pulse repetition frequency (PRF), measured in pulses per second. (This is the reciprocal of the PRI value.)

RF
Radio frequency, measured in megahertz (MHZ).

PW
Pulse width, measured in microseconds.

SCAN RATE
Scan rate, measured in seconds per rotation (SPR).

C I
Correlation index.

SCAN TYPE
Scan type code.

1) Click the list box in front of the SCAN TYPE label to show available scan type codes.

2) Select the code from the list and click the left trackball button to automatically enter the code into this field.

LAST SIGNA Box—Acoustic-only fields:

FUND FREQ
Frequency (in hertz).

MAX FREQ (HZ)
Maximum frequency reported for this acoustic track.

RPM
Revolutions per minute for the propellers on the submarine or ship.

TPK
Number of turns per knot for the propellers. This is the number of turns made by the propellers for each knot of forward motion.

HARMONICS
Harmonics for the acoustic track.

SOURCE
Name of the source providing the signature information. Two-letter OTCIXS station source code (for example, AM=America). Letters are taken from the Source XREF Table, which can be viewed from the SOURCE XREF TABLE option (MISC menu).

11.1.3.2 EDIT Window

The EDIT window opens after clicking OK in the ENTER FIRST REPORT window. The fields in the EDIT window depend on the track type—Platform, ELINT, Acoustic, or Unit. Each is described in the EDIT option from the TRACKS pull-down menu.

11.2 NEW ELINT TRACK

Creating a new ELINT track is described in section 11.1 *Creating New Tracks—Platform, ELINT, Acoustic, and Unit.*

ELINT tracks are described in the EDIT option from the TRACKS pull-down menu.

11.3 NEW ACOUSTIC TRACK

Creating a new Acoustic track is described in section 11.1 *Creating New Tracks—Platform, ELINT, Acoustic, and Unit.*

Acoustic tracks are described in the EDIT option from the TRACKS pull-down menu.

11.4 NEW UNIT

Creating a new Unit track is described in section 11.1 *Creating New Tracks—Platform, ELINT, Acoustic, and Unit.*

Unit tracks are described in the EDIT option from the TRACKS pull-down menu.

11.5 COPY

Use the COPY option to create a duplicate copy of a track. COPY is often used for scenario purposes—especially ASW scenarios—or where the effect of placing the same track in different areas is needed.

How to use the COPY option:

1. Use one of the following methods to select a track to COPY, then proceed to step 2.
   - Highlight the track's symbol on the tactical display and click COPY.
   - Click COPY without selecting a track and the DATABASE SEARCH window opens to assist in searching for the track, or group of tracks.
2. The SCOPE AND TYPE window appears.
   - Choose the scope and type for the new track.
   - Click OK to continue. (Or click CANCEL to discard the COPY process.)
3. The EDIT LATEST REPORT window appears.
   - This window is the same as the ENTER FIRST REPORT window described in the *CREATING NEW TRACKS* section.

- Fields in this window are filled with the information for the selected track.
- Make changes, if needed, to the track attributes for the new track.
- Click OK to continue. (Or click CANCEL to discard the COPY process.)

4. If changes are made in either the SCOPE AND TYPE or EDIT LATEST REPORT window, the EDIT window appears.
   - This window is the same as the EDIT window described in the *EDIT* section.
   - Fields are filled with the information for the selected track.
   - If the scope and type are the *same* as the original track, it is mandatory to enter a new NAME for the new track.
   - If the scope and type are *different* from the original track, it is not necessary to change the NAME field.
   - Click OK to accept the new track. (Or click CANCEL to discard the COPY process.)
5. The newly created track plots on the tactical display.

11.6 EDIT

Use the EDIT option to:

- View and modify the database information for a selected track.
- Enter database information for a manually-created new track.

Track Identification

Tracks are identified with a local track number. This number begins with an alpha character which designates the track as a particular type:

A (Ambiguity)
Ambiguity tracks do not correlate with any existing tracks and do not contain enough information to be classified as a new track.

B (Acoustic)
Acoustic tracks are constructed from contact reports with acoustic tonal and Trademark information.

C (SI, COMINT)
SI tracks originated on a SCI LAN and contain data from compartmented sources. These tracks cannot be created, edited, or received by any workstation on a GENSER LAN.

E (Emitter/ELINT)

ELINT/Emitter tracks are reported via TRE/TRAP and other sources containing ELINT parametric data.

F (Fire Control System –FCS)

FCS tracks are used to exchange track data with the CCS/MK2 Submarine Combat System aboard certain USN submarines.

L (LINK/ACDS or Link-PIH/PEDO)

Link tracks are created and maintained through the Link-11, Link-14, Link-16, or ACDS interfaces. Link tracks are not archived to disk unless they are associated with a Platform track.

R (RAYCAS V)

RAYCAS V tracks are constructed from data received via equipment of the same name.

S (SPA-25(G)

SPA-25G tracks are constructed from data received via equipment of the same name.

T (Platform *)

Platform tracks are the most comprehensive of all UB track types. Any type of track may be associated with a Platform track. Only Platform tracks may have FOTC track numbers or may be candidates to be reported over OTCIXS, HIT, or DTC broadcasts.

U (Unit)

Unit tracks are constructed of data representing USMC or US Army operational units, such as brigades, divisions, artillery, etc. Unit tracks are displayed using NTDS echelon symbols.

X (External)

The X track symbol represents a "place holder" for future UB track developments.

(*) When a Platform track is plotted, a "P" appears next to the symbol on the display; however, the local track number for a Platform track begins with "T."

Track Selection

Only one track can be edited at a time.

- If one track is selected when EDIT is chosen, the EDIT window opens immediately.
- If no tracks are selected, the DATABASE SEARCH window appears first. (Described in SEARCH option from the TRACKS pull-down menu.)

- If multiple tracks are selected, the SELECT TRACKS TO EDIT window appears first. (Described in Appendix A, *Common Operations,*)

11.6.1 TRACK EDIT WINDOW

The EDIT option opens an EDIT window for the selected track type. Buttons in the window depend on the *number* of tracks selected; window fields depend on the track *type*. Each track type is described in a separate section.

How to use the EDIT window:

1. Data for the selected track fills the fields when the EDIT window opens.
   - The title shows the type of track and the local track number.
   - If multiple tracks were selected, data for the first highlighted track from the SELECT TRACKS TO EDIT window fills the EDIT window fields.
   - If creating a new track, information from the ENTER FIRST REPORT window fills the fields and the remaining fields are blank.
2. Make changes for the track.
   - The list box in front of some fields (for example, CLASS) shows available values for the field.
   - FLAG field: The list contains associated flag and threat codes. If FLAG value is selected from the list, the value in the THREAT field is modified also.
   - Some fields cannot be edited, for example, *all* fields in the TRACK NUMBERS and LAST REPORT boxes. Fields that can be edited have a visual cue.
   - To view the track information for an associated track (Platform, Acoustic, and Unit tracks only), select the track from the list in the ASSOCIATED TRACKS box and click OPEN.
   - To break a track association (Platform, Acoustic, and Unit tracks only), select the track from the list in the ASSOCIATED TRACKS box and click BREAK ASSOC.
3. View the Parent track (for associated tracks) by selecting the PARENT TRACK pop-up menu option from the associated track's EDIT window.
4. Accept the changes. (Or click EXIT to discard changes.)
   - If only one track was selected, click OK. The changes are accepted and the EDIT window closes.
   - If multiple tracks were selected, click APPLY. The changes are accepted and the EDIT window remains open.

5. If there is a problem with any data, a window appears to warn that there is invalid data.
   a. Click OK to continue. The field or fields containing invalid data appear in red in the EDIT window.
   b. Correct the information and accept the data (OK or APPLY).
6. For Platform tracks and Ambiguities only, enter the reason and other remarks about the track in the window provided (described in *Platform or Ambiguity Tracks*).
7. If multiple tracks were selected, the NEXT and PREV buttons are available. (If only one track was selected, they are "ghosted" and are unavailable.)
   a. Use NEXT or PREV to bring the data for the next or previous highlighted track from the SELECT TRACK TO EDIT window into the EDIT window to replace the current track.
   b. Repeat steps 2–5 for each track.
   c. Click EXIT to close the EDIT window.

Fields for each of the following track types are described in a separate section:

Platform or Ambiguity Tracks

Link Tracks

SPA-25(G), RAYCAS V Tracks

Emitter/ELINT Tracks

Acoustic/Sub Tracks

Unit Tracks

Fire Control System Tracks

11.6.2 PLATFORM OR AMBIGUITY TRACKS

- Platform tracks (or OTH tracks)—can be entered manually into the system and can represent air, surface, submarine, and unknown objects.
- Platform tracks can be received via different types of transmissions, such as OTCIXS reports.
- Platform tracks *always* assume the parent role in a track association. Any type of track, *except* a Unit track, may be associated with a Platform track.
- Ambiguity tracks (local track number begins with "A")—do not correlate with any existing tracks and do not contain enough information to be classified as a new track.

The same EDIT window appears for both Platform and Ambiguity tracks. Figure 11.6-1 shows data for a Platform track.

Note: For tracks held mutually between the ATWCS and JMCIS systems, the title of the EDIT window will show "EDIT OTH REAL-WORLD TRACKS Txxxx."

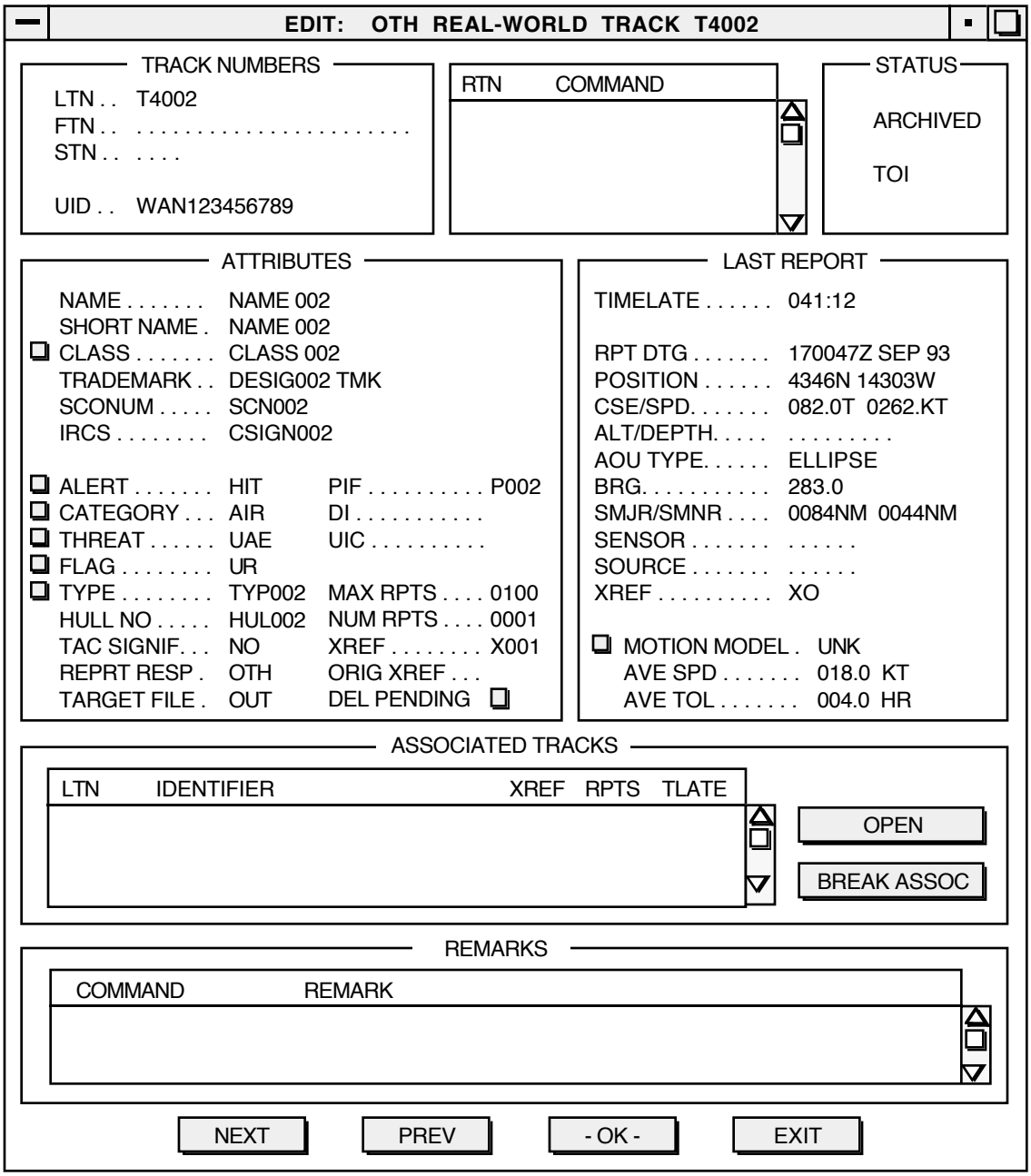


Figure11.6 -1 Edit—Platform/Ambiguity track

EDIT Window Pop-up Menu Options

Platform track pop-up menu options (described in *EDIT Pop-up Menu*): APPLY, CANDIDATES, CENTER, INTEL DATABASE SEARCH, DELETE, DELETE ALL

RTNS, DELETE RTN, EXIT, HISTORY, LOCAL REMARKS, PRINT, RAW DATA, RCVD REMARKS, REMOVE FTN, SCOPE & TYPE, SYSTEMS, TECH DATA, and XMIT.

Ambiguity pop-up menu options (described in *EDIT Pop-up Menu*): APPLY, CANDIDATES, CENTER, DELETE, DELETE ALL RTNS, DELETE RTN, EXIT, HISTORY, LOCAL REMARKS, NU-TRK, PRINT, RAW DATA, RCVD REMARKS, REPROCESS, SCOPE & TYPE, SYSTEMS, TECH DATA.

EDIT Window Fields

The EDIT window contains a TRACK NUMBERS box, a RECEIVED TRACK NUMBER scroll list, an ATTRIBUTES box, a LAST REPORT box (titled INITIAL REPORT when creating a new track), an ASSOCIATED TRACKS box (not available if creating a new track), and a REMARKS scroll list (not available if creating a new track). A STATUS box is available for those workstations with Track of Interest (TOI) capability.

TRACK NUMBERS Box

These fields cannot be edited.

LTN
Local UB track number. Every track is given a unique number by the system for track identification.

FTN
Force Over-The-Horizon Track Coordinator number assigned by FOTC, if in FOTC mode.

STN
System track number, also known as the Naval Tactical Display System (NTDS) track number.

This 4-digit track number is exchanged with other ships and aircraft via Link-11 and other tactical data networks.

UID (For ashore sites only)
Unique identifier. Begins with three letters representing the site that reported the track, followed by a series of numbers to identify the track.

The UID of tracks coming in to ashore sites is automatically "corrected" when the ashore site is operating in UID Correlation Mode. The UID of the incoming track is replaced with a new UID based on the local command UID.

REASON FIELD (For Ambiguities only)
A brief description why the track has been classified as an Ambiguity.

RECEIVED TRACK NUMBER (RTN) Scroll list

RTN numbers are used for track correlation. Each received track number in the list consists of the local track number and the reporting command.

ATTRIBUTES Box

At a minimum, information should be entered into the NAME, CATEGORY, and THREAT fields. (List boxes are available for the following fields: ALERT, CATEGORY, THREAT, FLAG, and TYPE.)

NAME
Track name.

SHORT NAME
Name for the track that is meaningful only within the local network. This name is not transmitted to other locations.

CLASS
Unit class for the track.

TRADEMARK
Unique identification assigned to a track to enhance the track evaluation. Normally used for submarines, this is the case or designation number identifying unknown or hostile submarines.

SCONUM
Naval vessel identification number (alphanumeric code) assigned by the Office of Naval Intelligence. SCONUM (Ship's Control Number) is sometimes referred to by its old name—NOIC ID. SCONUMs are typically of the form A#####.

IRCS
International radio call sign assigned to the ship is an 8-character alphanumeric code.

ALERT
A track may be designated as a non-alert track or an alert track.

Non-alert tracks—leave field blank.

Alert tracks—enter the proper alert classification:

HIT High Interest Track

TGT Target

SUS Suspect Carrier

NSP Cleared Suspect

. . . No Alert

CATEGORY

Category code for the track:

AIR Aircraft

NAV Naval

SUB Submarine

MER Merchant

FSH Fishing Vessel

LND Land Unit

UNK Unknown

THREAT

Threat status code for the track:

FRI Friendly

HOS Hostile

NEU Neutral

UAF Unknown Assumed Friendly

UAE Unknown Assumed Enemy

UEV Unknown Evaluated

UNK Unknown

PND Pending

FLAG

Two-character country code representing the nationality of the track. Each flag entry also has an associated threat code.

Note: A complete list of country codes can be found in Appendix C.

TYPE

Code for the ship type (for example, CGN).

HULL NO

Ship's hull number (a 1-6 character alphanumeric entry assigned to the ship and painted on the hull).

TAC SIGNIF (For editing tracks only.)

YES—track is tactically significant.

NO—track is not tactically significant.

Field cannot be edited.

REPRT RESP (For editing tracks only.)
Organization responsible for reporting tactically significant tracks; cannot be edited.

TARGET FILE (For editing tracks only.)
IN—track is considered a target.

OUT—track is not considered a target.

Field cannot be edited.

PIF
Intel Pseudo Identification Feature (PIF) number.

DI
Intel Discrete Identifier—a four-digit code that represents hostile or unknown tracks.

UIC (For ashore sites only)
Unit ID number.

MAX RPTS
Maximum number of reports allowed for the track (1 to 1000).

When the number of reports received for a track exceeds the maximum number, the system deletes the oldest report.

NUM RPTS
Number of reports received for the track. This field cannot be edited.

XREF (For editing tracks only.)
Two-character source cross-reference code for the Command that originated the track report.

DEL PENDING (For editing tracks only.)
The following warning message appears if this checkbox is clicked:

"Track will be deleted if unprotected."

ORIG XREF
Source reference code for the site that originally reported the track. Field cannot be edited.

LAST REPORT/ INITIAL REPORT Box

If editing an existing track, data is from the latest track report. If creating a new track, data is from the ENTER FIRST REPORT window. Fields cannot be edited.

TIMELATE
Amount of elapsed time (in hours and minutes) since the latest report.

RPT DTG
Date-time group for the last reported position.

POSITION
Latitude and longitude of the last reported position.

CSE/SPD
Course for the track (in degrees true), followed by the speed of the track (in knots).

ALT/DEPTH
Altitude or depth (in feet) of the track. A negative number appears if the track is a subsurface vessel.

AOU TYPE
Type of AOU (ELLIPSE, LOB, or BBOX).

BRG
AOU bearing in degrees true.

SMJR/SMNR (Ellipse AOU only)
Semi-major axis length, followed by the semi-minor axis length of the ellipse.

ERR/RNG (Line of Bearing AOU only)
Bearing error, followed by the range for the line of bearing.

LEN/HWDTH (Bearing Box AOU only)
Length, followed by the half-width for the bearing box.

SENSOR
Sensor type used to pick up the track at its last reported position.

SOURCE
Two-letter OTCIXS station source code (for example, AM=America). Letters are taken from the Source XREF Table, which can be viewed from the SOURCE XREF TABLE option (MISC menu).

XREF
Two-character source cross-reference code for the Command that originated the track report.

MOTION MODEL (For editing tracks only.)
Used only with MTST (for example, with the TRACK HISTORY ANALYSIS option).

When a motion model is chosen, values are automatically placed in the AVE SPD and AVE TOL fields. The following values are available from this field's list box:

BAR: Barrier

PAT: Patrol

TRA: Transit

DIW: Dead in Water

UNK: Unknown

LND: Land Site

AIR: Air Contact

AVE SPD (For editing tracks only.)
Average speed for a track using a chosen motion model. A value is automatically placed in this field when a motion model is chosen. This field cannot be edited.

AVE TOL (For editing tracks only.)
Average time on leg for a track using a chosen motion model. A value is automatically placed in this field when a motion model is chosen. This field cannot be edited.

ASSOCIATED TRACKS Box

A list of tracks associated with the track being viewed. (Editing tracks only.)

- For tracks to be associated with each other, one of the tracks must be a Platform or Unit track; the other tracks can be of any type. (For example, an Acoustic track and a Link track can be associated with a Platform track.)
- More than one track type at a time may be associated with a given Platform track (e.g., a Link track and an Acoustic track).
- Some track associations are created automatically.
  - For example, a Platform track may already be in existence when an Emitter report is received for the same track.
  - These two tracks are associated automatically, so that only one track appears on the tactical display.
  - Since the track types are different, the two tracks are not merged; instead, they are associated with each other.
- To view the track information for an associated track, select the track from the list in the ASSOCIATED TRACKS box and click OPEN.
- To break a track association, select the track and click BREAK ASSOC. When an association is broken, the two tracks become separate entities, and are represented by two different tracks on the tactical display.

REMARKS Box

This box shows remarks received from other locations. The Command that issued the remarks is also shown. (Editing tracks only.)

Remarks can be viewed and deleted through the RCVD REMARKS option from the pop-up menu.

STATUS Box

The STATUS box is active for systems with Track of Interest (TOI) segment software (Figure11.1 -8) installed. For additional information about these fields, refer to the segment documentation for this topic.

ARCHIVED
Placed track in the archive database. Retains track information even if the track is deleted from the system. If the TOI checkbox is turned ON, the ARCHIVED checkbox is automatically turned ON, as TOI tracks must be archived separately for report purposes.

TOI
Information about TOI tracks is saved in the archive database, where special reports may be generated for TOI tracks.

11.6.3 LINK TRACKS

Link tracks are received into the system through a variety of Link interfaces, such as ACDS, Link11PEDO, Link11PIH. The EDIT (or VIEW) window displayed depends on the Link interface that was used to receive the tracks.

Note: The ACDS interface includes Link and other sensor source data. Although ACDS is faster than Link11PEDO and Link11PIH, it does not provide as much information as that which appears in Link windows for PED and PIH interfaces.

An EDIT window appears for Link track types received via an ACDS interface when the EDIT option is selected; however, *fields in this window cannot be edited.*

About Link Tracks

- Link tracks enter the system only after two reports have been received for the track. By requiring two reports, false Link contacts are filtered out.
- Link reports for a track update frequently—often within minutes, even seconds after the previous report.
- Link tracks cannot be archived unless they are associated with a Platform track. Histories are maintained through the parent track. However, the LINK ARCHIVE option must be ON to archive these history points.

- Up to four separate Link databases are supported to monitor remote Link-11 data sources.

11.6.3.1 EDIT Link Tracks—ACDS/LINK11EDO/LINK11IH Interfaces

Figure11.6 -2 shows the EDIT window for a Link track received via the ACDS interface.

```
EDIT:  OTH REAL-WORLD TRACK L00059

TRACK NUMBERS
LTN . . . . . . L00059
STN. . . . . . 5007
PARENT . . . . . . . .
UID . . . . . . WAN066521163

ATTRIBUTES
SHORT NAME. . . . . . .
CTSX NUM . . . . . . . .
CATEGORY . . . NAV
THREAT . . . . . . UNK

MODE 1 IFF . . . . .
MODE 2 IFF . . . . . . .
MODE 3 IFF . . . . . . .
MODE 4 IFF . . . .

PU/RU . . . . . . . 0044
DI. . . . . . . . . . . . . .
TQ . . . . . 1

LAST REPORT
TIMELATE . . . . . 041:33
RPT DTG . . . . . 092246Z FEB 95
POSITION . . . . . 3309N 16226W
CSE/SPD. . . . . 270.0T 0020.0KT
ALT/DEPTH. . . . . . . . . . . .
AOU TYPE. . . . . ELLIPSE
BRG. . . . . 000.0T
SMJR/SMNR . . . . 0009NM 0009NM
SENSOR . . . . . . . . . . . .
SOURCE . . . . . NTDS
XREF . . . . . L11A

AVE SPD . . . . . 018.0 KT
AVE TOL . . . . . 004.0 HR

NEXT        PREV        EXIT
```

Figure11.6 -2 Edit—Link track

EDIT Window Pop-up Menu Options

Link pop-up menu options (described in *EDIT Pop-up Menu*): CENTER, DELETE, EXIT, HELP, NU-TRK, PARENT TRACK, PRINT, and XMIT.

EDIT Window Fields

The EDIT window contains a TRACK NUMBERS box, ATTRIBUTES box, and LAST REPORT box.

TRACK NUMBERS Box

Shows the various track numbers assigned to the track.

LTN
Local UB track number. This number is used internally by the system for track identification.

STN
System track number, also known as the Naval Tactical Display System (NTDS) track number.

PARENT
If the track is associated with a Platform track, the local track number of the Platform track appears in this field.

UID (For ashore sites only)
Unique identifier. Begins with three letters representing the site that reported the track, followed by a series of numbers to identify the track.

ATTRIBUTES Box

SHORT NAME
Name for the track that is meaningful only within the local network. This name is not transmitted to other locations..

CTSX NUM
Link provider's internal track number (e.g., ACDS, 2-way Link, etc.).

CATEGORY
Track category received from Link source.

THREAT
Threat category received from Link source.

MODE 1 IFF (Identification Friend or Foe)
Code that gives a general description of the mission. Mode 1 IFF is military only.

MODE 2 IFF
Code that provides an exact ID for the ship or aircraft. Mode 2 IFF (also known as PIF) is for friendly military only.

This number is used in UB track correlation, and is also used with the PIF DON'T CARE and PIF NICKNAMES options from the TRACK TABLES option, found under the TRACKS pull-down menu.

MODE 3 IFF
Code to describe the type of mission.

• Mode 3 IFF can be commercial or military, or can come from other sources. It can be either friendly or non-friendly.

• For ships, this field shows the general direction of travel. For aircraft, the controlling agency assigns the value for this field.

MODE 4 IFF
Contains the encrypted PIF number.

PU/RU
Participating or Report Unit. This identifies the reporting source.

DI
Discrete Identifier—a four-digit code that represents hostile or unknown tracks. representing non-friendly tracks.

TQ
Track quality number. This number (between 1 and 7) represents the quality of the track reported in the Link.

LAST REPORT Box

TIMELATE
Amount of elapsed time (in hours and minutes) since the latest report.

RPT DTG
Date-time group for the last reported position.

POSITION
Latitude and longitude of the last reported position.

CSE/SPD
Course for the track (in degrees true), followed by the speed of the track (in knots).

ALT/DEPTH
Altitude or depth (in feet) of the track. (A negative number appears if the track is a submarine.)

AOU TYPE
Type of AOU (ELLIPSE, LOB, or BBOX).

BRG
AOU bearing in degrees true.

SMJR/SMNR (Ellipse AOU only)
Semi-major axis length, followed by the semi-minor axis length of the ellipse.

ERR/RNG (Line of Bearing AOU only)
Bearing error, followed by the range for the line of bearing.

LEN/HWDTH (Bearing Box AOU only)
Length, followed by the half-width for the bearing box.

SENSOR
Sensor type used to pick up the track at its last reported position.

SOURCE
Two-letter OTCIXS station source code (for example, AM=America). Letters are taken from the Source XREF Table, which can be viewed from the SOURCE XREF TABLE option (MISC menu).

XREF
Two-character source cross-reference code for the Command that originated the track report.

MOTION MODEL (For editing tracks only.)
Used only with MTST (for example, with the TRACK HISTORY ANALYSIS option). When a motion model is chosen, values are automatically placed in the AVE SPD and AVE TOL fields.

AVE SPD (For editing tracks only.)
Average speed for a track using a chosen motion model. A value is automatically placed in this field when a motion model is chosen. This field cannot be edited.

AVE TOL (For editing tracks only.)
Average time on leg for a track using a chosen motion model. A value is automatically placed in this field when a motion model is chosen. This field cannot be edited.

11.6.3.2 Link (PEDO/PIH) Tracks

The following examples (Figures 11.6.3 and 11.6.4) are of a surface and air track received by a LINK11PEDO interface. Tracks received via the LINK11PIH interface contain the same fields.

Other track types (not shown) that can be received through the LINK11PEDO and LINK11PIH interfaces include Subsurface, ASW Bearing, ESM (Electronic Support Message), AOP (Area of Probability), Sonobouy, Special Point Report, Pointer, NOTACK, and Acoustic Bearing.

Figure11.6 -3 shows the VIEW window for a Link (surface) track.

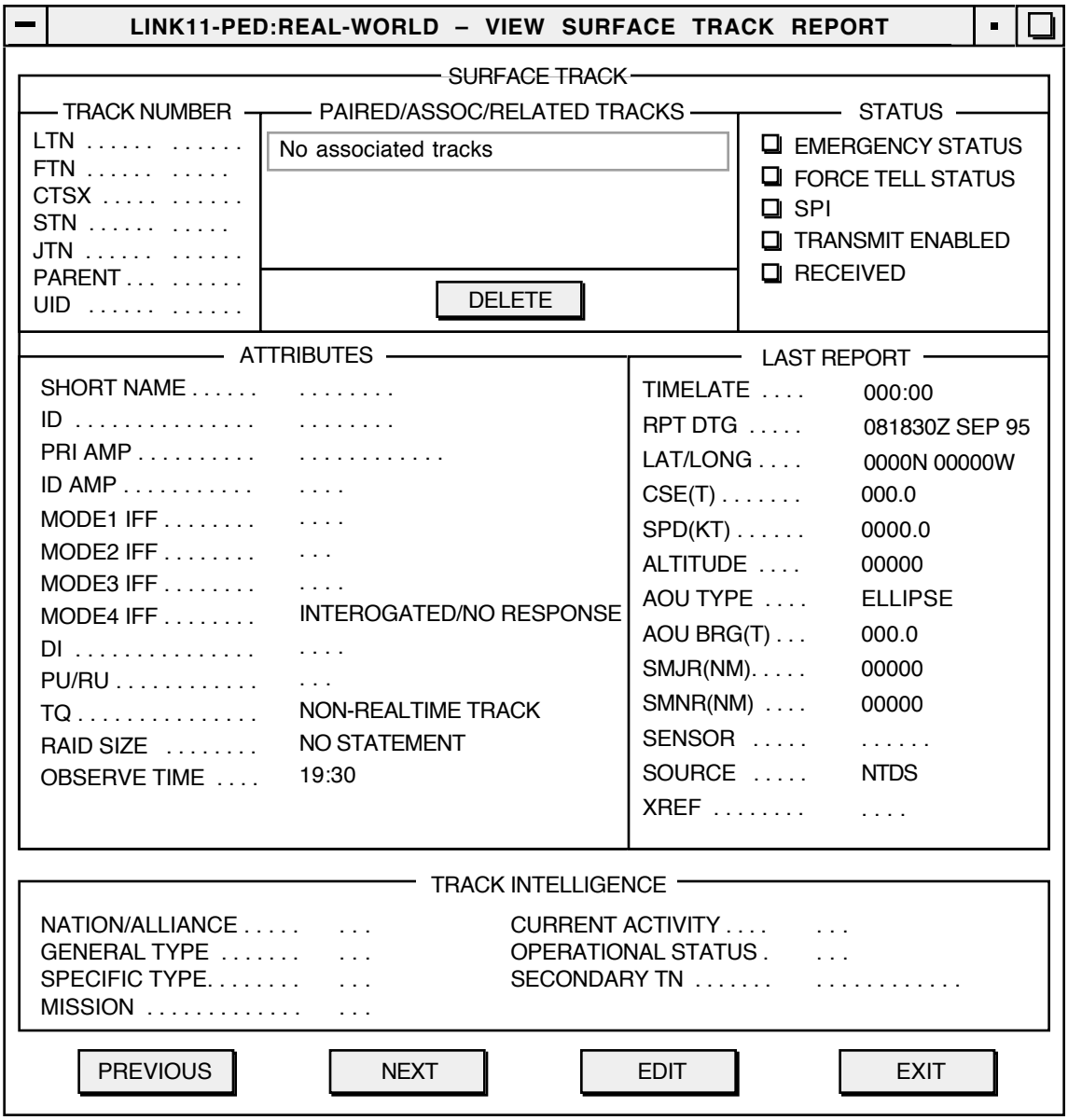


Figure 11.6-3 View—Link track (Surface Track Report window)

VIEW SURFACE/AIR TRACK REPORT Pop-up Menu Options

Link11PEDO/PIH track pop-up menu options (described in *EDIT Pop-up Menu*): CENTER, CLEAR IFF, DELETE, EDIT, EMERGENCY ON/OFF, EXIT, FORCE TELL ON/OFF, GOTO PARENT, HELP, NEXT, NU-TRK, PREVIOUS, PRINT, and TAKE/RELEASE CONTROL.

VIEW SURFACE TRACK REPORT Window Buttons

PREVIOUS—displays the previous track.

NEXT—shows the next track.

EDIT—ghosted. This function is not currently available.

EXIT—close the window.

VIEW SURFACE TRACK REPORT Window Fields

TRACK NUMBER Box

Displays numbers assigned to the track. All fields are view-only.

LTN
Local UB track number, used internally by the system for track identification.

FTN
FOTC track number.

CTSX
Unique local Link track number, assigned when track enters the Link.

STN
System track number. Also known as the Naval Tactical Display System (NTDS) track number.

JTN
TADIL J track number.

PARENT
If the track is associated with a Platform track, the local track number of the Platform track is shown in this field.

UID
For ashore sites only, this field is a unique identifier for the track. The identifier begins with three letters that represent the site which reported the track, followed by a longer series of numbers.

PAIRED/ASSOC/RELATED TRACKS Box

Lists numbers of associated tracks. Fields are view-only.

ATTRIBUTES Box

SHORT NAME
Name for the track that is meaningful only within the local network. This name is not transmitted to other locations..

ID
Identification choices.

PRI AMP
Primary Amplifier.

ID AMP
Further amplification of the identity of the track. Possible entries for this field are determined by the track type.

MODE 1 IFF
Contains a code which gives a general description of the mission. (IFF stands for Identification Friend or Foe.) Mode 1 IFF is military only.

MODE 2 IFF
Contains a code which provides an exact ID for the platform or track.

This number is used in UB track correlation and is also used with the PIF DON'T CARE and PIF NICKNAMES options from the TRACK TABLES option, found under the TRACKS menu.

MODE 3 IFF
Contains a code to describe the type of mission. Mode 3 IFF can be commercial, military, or can come from other sources. It can be either friendly or non-friendly and also tells the general direction of travel.

MODE 4 IFF
Contains the interrogation status (e.g., Interrogated/No Response).

DI
Discrete Identifier, a four digit code.

PU/RU
Participating or Reporting Unit. This identifies the reporting source.

TQ
Track quality number. NON-REAL TIME TRACK or a number between 1 and 7 displayed in this field represents the quality of the track report as reported in the LINK. The higher the number, the more accurate the report.

SIZE
Indicates the number of objects in track.

OBSERVE TIME
Time track was observed.

STATUS Box

EMERGENCY STATUS
A track with EMERGENCY STATUS indicates an emergency exists; all display filters will be bypassed and the track will be displayed.

FORCE TELL STATUS
A track with FORCE TELL STATUS will override display filters and the track will be displayed.

SPI
Select Special Processing Indicator (SPI) to indicate track derived from intelligence sources.

TRANSMIT ENABLED, and RECEIVED are unavailable in this window.

LAST REPORT Box

The LAST REPORT box displays information about the last reported position for the track.

TIMELATE
Amount of time elapsed since the most recent report was received.

RPT DTG
Date-time group for the last report.

LAT/LONG
Latitude and longitude of the last reported position.

CSE
Course for track in degrees true.

SPD
Speed of track in knots.

ALTITUDE
Displays altitude for the track.

AOU TYPE
Type of AOU used for the track. The possible types are ELLIPSE, LOB (Line of Bearing), or BBOX (Bearing Box).

AOU BRG (T)
AOU bearing for the track in degrees true.

SMJR (NM)
Semi-major axis length of the ellipse.

SMNR (NM)
Semi-minor axis length of the ellipse.

SENSOR
Sensor type used to pick up the track at its last reported position.

SOURCE
Displays the source code, NTDS, for the track.

XREF
Source cross-reference code for Command originating the track report.

TRACK INTELLIGENCE Box

NATION/ALLIANCE
Entries as defined in Governing Operation Order. This field is indirectly related to specific country codes.

GENERAL TYPE
Amplifies the category of the track; e.g., to a platform type.

SPECIFIC TYPE
Identifies the specific type of craft. Such as a particular aircraft type or for surface platforms, a specific hull type.

MISSION
Defines the type of mission the platform is engaged in; e.g., a patrol for an aircraft or a mine sweeping operation for a surface vessel.

CURRENT ACTIVITY
The activity the track is currently undertaking. For example, an ASW search attack.

OPERATIONAL STATUS
Current status of the platform, such as "out-of-action" or "low on fuel."

SECONDARY TN
Shows the track number of the targeted platform (or object) being acting upon.

Figure11.6 -3 shows the VIEW window for a Link (air) track.

LINK11-PED:REAL-WORLD – VIEW AIR TRACK REPORT

AIR TRACK

TRACK NUMBER	PAIRED/ASSOC/RELATED TRACKS	STATUS
LTN	No associated tracks	❑ EMERGENCY STATUS
FTN		❑ FORCE TELL STATUS
CTSX		❑ SPI
STN		❑ TRANSMIT ENABLED
JTN		❑ RECEIVED
PARENT	DELETE	
UID		

ATTRIBUTES

SHORT NAME	. . . . .
ID	UNKNOWN
PRI AMP	ASSUMED FRIENDLY
ID AMP	AEW/RECCE/EW/DECOY
MODE1 IFF	. .
MODE2 IFF	. . . .
MODE3 IFF	. . . .
MODE4 IFF	. . .
DI	. . . .
PU/RU	. . .
TQ	NON-REALTIME TRACK
RAID SIZE	UNESTIMATED
CONTROLLING TN	NONE
OBSERVE TIME	18:30
HEIGHT SOURCE	NO STATEMENT
AIRCRAFT TYPE	. . .
NUCLEAR CAPABLE	. . .
ALL_ASPECT_ANGLE_label	. . .
REAR ASPECT	. . .
MULTIPLE INTERCEPT	. . .
ORDNANCE A	. . .
ORDNANCE B	. . .
ORDNANCE C	. . .
ORDNANCE D	. . .

LAST REPORT

TIMELATE	000:00
RPT DTG	081830Z SEP 95
LAT/LONG	0000N 00000W
CSE(T)	000.0
SPD(KT)	0000.0
ALTITUDE	00000
AOU TYPE	ELLIPSE
AOU BRG(T) . . .	000.0
SMJR(NM).	00000
SMNR(NM)	00000
SENSOR	. . . . .
SOURCE	NTDS
XREF	. . . .

TRACK INTELLIGENCE

NATION/ALLIANCE	. . .	CURRENT ACTIVITY	. . .
GENERAL TYPE	. . .	OPERATIONAL STATUS .	. . .
SPECIFIC TYPE.	. . .	SECONDARY TN	. . . . .
MISSION	. . .		

PREVIOUS NEXT EDIT EXIT

Figure 11.6-4 View—Link track (Air Track Report window)

VIEW AIR TRACK REPORT Window Buttons:

PREVIOUS—displays the previous track.

NEXT—shows the next track.

EDIT—ghosted. This function is currently not available.

EXIT—close the window.

VIEW AIR TRACK REPORT Window Fields:

TRACK NUMBER Box

Displays numbers assigned to the track. Fields are the same as those described in *View Surface Track Report*.

PAIRED/ASSOC/RELATED TRACKS Box

Lists numbers of associated tracks. This field is view-only.

ATTRIBUTES Box

Most of the ATTRIBUTES box fields are the same as those in the VIEW SURFACE TRACK REPORT window and are described in *View Surface Track Report*. Fields unique to this window are as follows:

CONTROLLING TN
Track that controls the aircraft.

HEIGHT SOURCE
Source of height report.

AIRCRAFT TYPE
Type of platform—C-141, F14, etc.

NUCLEAR CAPABLE
Field shows YES of nuclear capable; blank if not.

ALL_ASPECT_ANGLE_label
Target angle. Represents a particular missile type, capable of attacking regardless of aspect of angle to target.

REAR ASPECT
An air-to-air missile, designed to engage a target from the rear (Check 6).

MULTIPLE INTERCEPT
Airframe capable of engaging numerous targets simultaneously (e.g., F14 or Phoenix).

ORDNANCE A
Guided (smart) bombs. The percentage shown indicates the value of those remaining; for example, 0 = none, 100 = all.

ORDNANCE B
Unguided (iron) bombs. The percentage shown indicates the value of those remaining; for example, 0 = none, 100 = all.

ORDNANCE C
Softload. The percentage shown indicates the value of those remaining; for example, 0 = none, 100 = all.

ORDNANCE D
Guns. The percentage shown indicates the value of those remaining; for example, 0 = none, 100 = all.

STATUS Box

The STATUS box contains the same fields as those shown in the STATUS box in the VIEW SURFACE TRACK REPORT window. See *View Surface Track Report* for field information.

LAST REPORT Box

The LAST REPORT box contains the same fields as those in the LAST REPORT Box in the VIEW SURFACE TRACK REPORT window. See *View Surface Track Report* for field information.

TRACK INTELLIGENCE Box

The TRACK INTELLIGENCE box contains the same fields as those shown in the TRACK INTELLIGENCE box in the VIEW SURFACE TRACK REPORT window. See *View Surface Track Report* for field information.

11.6.4 SPA-25(G), RAYCAS V TRACKS

SPA-25(G) and RAYCAS V tracks are received through special transmissions. The same EDIT window appears for both these track types; however, *fields in the window cannot be edited.*

About SPA-25(G) and RAYCAS V Tracks

- SPA-25G tracks are supported by up to four simultaneous SPA-25G interfaces.
- Correlation for SPA-25G tracks is performed by using the unique track number. History information is maintained for these tracks.
- RAYCAS V tracks are reported by the RAYCAS V system aboard US Coast Guard vessels.
- RAYCAS V tracks contain a minimum of data. They are reported as a track number with position, course, and speed attributes.

Figure11.6 -3 shows the EDIT window for a RAYCAS V track.

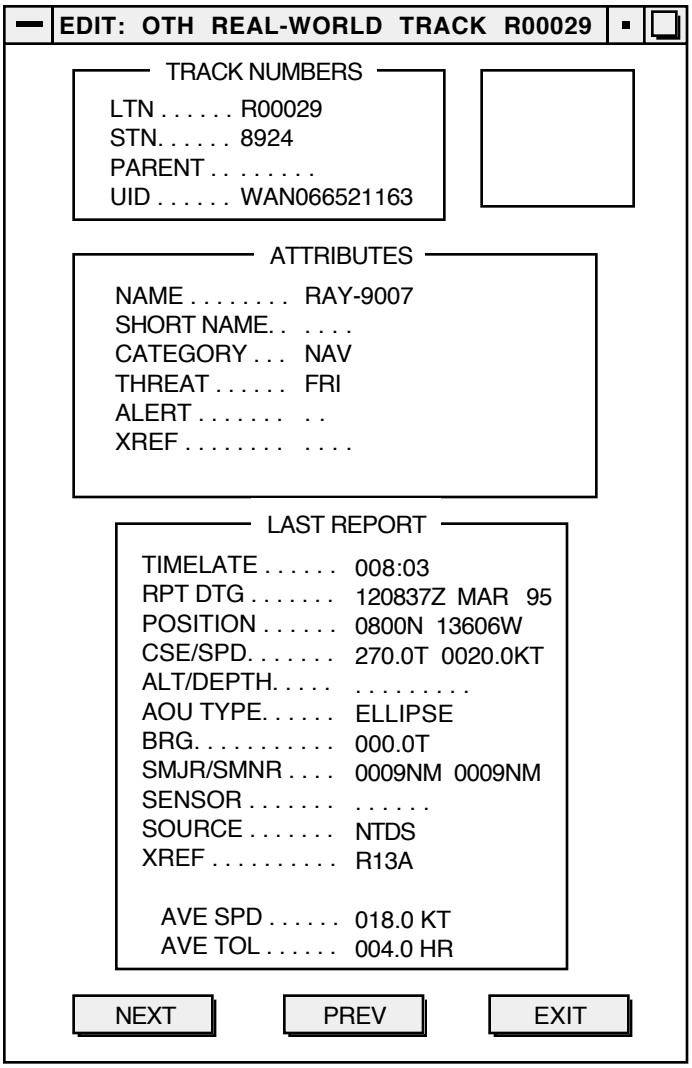


Figure11.6 -3 Edit—SPA-25(G) or RAYCAS V track

EDIT Window Pop-up Menu Options

SPA-25(G) and RAYCAS V pop-up menu options (described in *EDIT Pop-up Menu*): CENTER, DELETE, EXIT, HELP, NU-TRK, PARENT TRACK, PRINT, and XMIT.

EDIT Window Fields

The EDIT window contains a TRACK NUMBERS box, ATTRIBUTES box, and LAST REPORT box.

TRACK NUMBERS Box

Shows the various track numbers assigned to the track.

LTN
Local UB track number, used internally by the system for track identification.

STN
System track number, also known as the Naval Tactical Display System (NTDS) track number.

PARENT
If the track is associated with a Platform track, the local track number of the Platform track appears in this field.

(Note: SPA-25(G) tracks may be associated with Unit tracks.)

UID (For ashore sites only)
Unique identifier. Begins with three letters representing the site that reported the track, followed by a series of numbers to identify the track.

ATTRIBUTES Box

NAME
Track name.

SHORT NAME
Abbreviated track name.

CATEGORY
Track category received from the source.

THREAT
Threat category received from the source.

ALERT
If the track has been designated as an alert track, contains an alert classification.

HIT High Interest Track

TGT Target

SUS Suspect Carrier

NSP Cleared Suspect

. . . No Alert

XREF
Source reference code for the site reporting the track.

LAST REPORT Box

TIMELATE
Amount of elapsed time (in hours and minutes) since the latest report.

RPT DTG
Date-time group for the last reported position.

POSITION
Latitude and longitude of the last reported position.

CSE/SPD
Course for the track in degrees true, followed by the speed of the track (in knots).

ALT/DEPTH
Altitude or depth (in feet) of the track. A negative number appears if the track is a submarine.

AOU TYPE
Type of AOU (ELLIPSE, LOB, or BBOX).

BRG
AOU bearing in degrees true.

SMJR/SMNR (Ellipse AOU only)
Semi-major axis length, followed by the semi-minor axis length of the ellipse.

ERR/RNG (Line of Bearing AOU only)
Bearing error, followed by the range for the line of bearing. (For RAYCAS V reports.)

LEN/HWDTH (Bearing Box AOU only)
Length, followed by the half-width for the bearing box. (For RAYCAS V reports.)

SENSOR
Sensor type used to pick up the track at its last reported position.

SOURCE
Two-letter OTCIXS station source code (for example, AM=America). Letters are taken from the Source XREF Table, which can be viewed from the SOURCE XREF TABLE option (MISC menu).

XREF
Two-character source cross-reference code for the Command that originated the track report.

MOTION MODEL (For editing tracks only.)
Used only with MTST (for example, with the TRACK HISTORY ANALYSIS option). When a motion model is chosen, values are automatically placed in the AVE SPD and AVE TOL fields.

AVE SPD (For editing tracks only.)
Average speed for a track using a chosen motion model. A value is automatically placed in this field when a motion model is chosen. This field cannot be edited.

AVE TOL (For editing tracks only.)
Average time on leg for a track using a chosen motion model. A value is automatically placed in this field when a motion model is chosen. This field cannot be edited.

11.6.5 EMITTER/ELINT TRACKS

ELINT (Electronic Intelligence) tracks, also known as Emitter tracks, provide information about the electronic transmitters being used by the selected track.

Figure 11.6 -4 shows the EDIT window for an ELINT track.

```
EDIT:  OTH  REAL-WORLD  TRACK  E00003

TRACK NUMBERS
LTN . . . . . . E00003
PARENT . .  T4022
UID . . . . . .  WAN066441922

ATTRIBUTES
ELNOT . . . . . . . .  C306Z
EMITTER NAME .  UNKNOWN
SHORT NAME. . .  UN: 0003
FLAG . . . . . . . . .  . .
BE # . . . . . . . . . .  . . . . . . .
SCONUM . . . . . .  64013
ALERT . . . . . . . .  . . .
CATEGORY . . . .  UNK      MAX RPTS . . .  0100
THREAT . . . . . . .  UNK      NUM RPTS . . .  0001
PARTITION  . . . .  N      ORIG XREF . .  . . . .

ELINT STATS
PRI AVG . . . . . . .  437.6700
PRI TOL  . . . . . . .  0.0000
NUM PRI . . . . . . .  0001

SCAN AVG . . . . .  4.000
SCAN TOL. . . . . .  0.000
NUM SCAN . . . . .  0001
RF AVG . . . . . . . .  3361.5
RF TOL  . . . . . . . .  0.0
NUM RF . . . . . . . .  0001

LAST REPORT
TIMELATE . . . . . .  243:25
RPT DTG . . . . . .  011303Z  FEB  95
POSITION . . . . . .  3817N  16059W
CSE/SPD. . . . . .  .....T    .....KT
ALT/DEPTH. . . . .  . . . . . . . . .
AOU TYPE. . . . . .  ELLIPSE
BRG. . . . . .  166.6T
SMJR/SMNR . . . .  0006NM  0003NM
SENSOR . . . . . .  ELINT
SOURCE . . . . . .  . . . . . .
XREF . . . . . . . . . .  . . . .

MOTION MODEL .  UNK
AVE SPD . . . . . .  018.0 KT
AVE TOL . . . . . .  004.0 HR

LAST RAD
TIMELATE . . . . . .  243:25

RAD DTG . . . . . .  011303Z  FEB  95
BB PRI. . . . . . . . .  0437.6
PRI. . . . . .  0437.6700
BB SCAN . . . . . .  04.00
SCAN RATE . . . . .  04.00
PRF . . . . . .  0346.2100
RF. . . . . .  03361.5
PW . . . . . .  04.200
CI . . . . . .  . .
ELNOT . . . . . . . .  C306Z
EMITTER . . . . . .  UNKNOWN
SCAN TYPE . . . . .  CIRC

NEXT    PREVIOUS    OK    CANCEL
```

Figure 11.6 -4 Edit—Emitter/ELINT track

EDIT Window Pop-up Menu Options

Emitter/ELINT track pop-up menu options (described in *EDIT Pop-up Menu*): APPLY, CANDIDATE PLOT, CANDIDATES, CENTER, DELETE, EXIT, HISTORY, HULTEC TDA, LOCAL REMARKS, NU-TRK, PARENT TRACK, PRINT, RAW DATA, RCVD REMARKS, REPROCESS, SCOPE AND TYPE, and XMIT. (Note: XMIT option is available for editing existing tracks only.)

EDIT Window Fields

The EDIT window for ELINT tracks contains five boxes of data fields: TRACK NUMBERS box, ATTRIBUTES box, ELINT STATS box, LAST REPORT box, and LAST RAD box.

TRACK NUMBERS Box

Shows the various track numbers assigned to the track. Fields cannot be edited.

LTN
Local UB track number, used internally by the system for track identification.

PARENT
If the track is associated with a Platform track, the local track number of the Platform track appears in this field.

UID (For ashore sites only)
Unique identifier. Begins with three letters representing the site that reported the track, followed by a series of numbers to identify the track.

ATTRIBUTES Box

This box contains the only window fields that may be edited. Most ATTRIBUTES box fields contain the same information as those that appear in the EDIT window for the NEW TRACK option. (See *NEW TRACK* for details about these fields.)

ELNOT
ELINT notation. This five digit field begins with an alpha character, followed by three numbers, ending with another alpha character.

EMITTER NAME
Radar name (for example, RAY1500, SPN-43, HEADNET).

SHORT NAME
Abbreviated track name.

FLAG
Two-character country code representing the nationality of the track. Each flag entry also has an associated threat code.

A complete list of country codes can be found in Appendix C.

BE #
Basic Encyclopedia number, used for land emitters.

SCONUM

Ship Control Number. Assigned by NOIC (Naval Ocean Information Center); sometimes referred to as the NOIC ID or NOSICID.

ALERT

A track may be designated as a non-alert track or an alert track.

Non-alert tracks—leave field blank.

Alert tracks—enter the proper alert classification:

HIT High Interest Track

TGT Target

SUS Suspect Carrier

NSP Cleared Suspect

. . . No Alert

CATEGORY

Category code for the track:

AIR Aircraft

NAV Naval

SUB Submarine

MER Merchant

FSH Fishing Vessel

LND Land Unit

UNK Unknown

THREAT

Threat status code for the track:

FRI Friendly

HOS Hostile

NEU Neutral

UAF Unknown Assumed Friendly

UAE Unknown Assumed Enemy

UEV Unknown Evaluated

UNK Unknown

PND Pending

PARTITION

Indicates if the ELINT track is in a partition. Partition types are A to E, with "N" meaning the track is *not* in a partition. Designations are set

with the TRACK TYPE TOGGLES option (PLOT CONTROLS pull-down menu).

Partitions—any ELINT track in a partition (A, B, C, D, E) can interact only with other ELINT tracks from the same partition. NU-TRK cannot be applied to ELINT tracks in partitions A to E.

No Partitions—ELINT tracks in no partition (N) can interact with other track types and those ELINT tracks not in a partition. Valid interactions are correlation, resolve, merge, and association.

If an ELINT track is in a partition, changing the scope to OTH (use SCOPE AND TYPE pop-up option) will remove it from the partition and it will have a value of N.

MAX RPTS
Maximum number of reports allowed for the track (1 to 100).

When the number of reports received for a track exceeds the maximum number allowed, the system deletes the oldest report.

NUM RPTS
Number of reports received for the track. This field cannot be edited.

ORIG XREF
Source reference code for the site that originally reported the track. This field cannot be edited.

ELINT STATS Box

Basebanded averages for the received ELINT reports. Fields cannot be edited.

PRI AVG
Mean value for all reported Pulse Repetition Intervals (PRI).

PRI TOL
Standard deviation for the PRI.

NUM PRI
Number of PRIs used for these statistics. Generally, there is one PRI value for every report and this field contains the same number as the NUM RPTS field in the ATTRIBUTES box.

SCAN AVG
Mean value for all reported scan rates.

SCAN TOL
Standard deviation for the scan rate.

NUM SCAN
Number of scan rates that are used for these statistics. This number is less than or equal to the number in the NUM PRI field.

RF AVG
Mean value for all reported radio frequency values.

RF TOL
Standard deviation for the radio frequency.

NUM RF
Number of radio frequency values used for these statistics. This number is less than or equal to the number in the NUM PRI field.

LAST REPORT Box

TIMELATE
Amount of elapsed time (in hours and minutes) since the latest report.

RPT DTG
Date-time group for the last reported position.

POSITION
Latitude and longitude of the last reported position.

CSE/SPD
Course for the track in degrees true, followed by the speed of the track (in knots).

ALT/DEPTH
Altitude or depth (in feet) of the track. A negative number appears if the track is a submarine.

AOU TYPE
Type of AOU (ELLIPSE, LOB, or BBOX).

BRG
AOU bearing in degrees true.

SMJR/SMNR (Ellipse AOU only)
Semi-major axis length, followed by the semi-minor axis length of the ellipse.

ERR/RNG (Line of Bearing AOU only)
Bearing error, followed by the range for the line of bearing.

LEN/HWDTH (Bearing Box AOU only)
Length, followed by the half-width for the bearing box.

SENSOR
Sensor type used to pick up the track at its last reported position.

SOURCE
Two-letter OTCIXS station source code (for example, AM=America). Letters are taken from the Source XREF Table, which can be viewed from the SOURCE XREF TABLE option (MISC menu).

XREF
Two-character source cross-reference code for the Command that originated the track report.

MOTION MODEL (For editing tracks.)
Used only with MTST (for example, with the TRACK HISTORY ANALYSIS option). When a motion model is chosen, values are automatically placed in the AVE SPD and AVE TOL fields.

AVE SPD (For editing tracks only.)
Average speed for a track using a chosen motion model. A value is automatically placed in this field when a motion model is chosen. This field cannot be edited.

AVE TOL (For editing tracks only.)
Average time on leg for a track using a chosen motion model. A value is automatically placed in this field when a motion model is chosen. This field cannot be edited.

LAST RAD Box

Information about the most recent ELINT report received for the track. The LAST RAD and LAST REPORT box each contain information from the same report.

TIMELATE
Amount of elapsed time (in hours and minutes) since the latest report.

RAD DTG
Date-time group for the ELINT report.

BB PRI
Basebanded PRI for this report.

PRI
Pulse repetition interval (PRI), measured in microseconds.

BB SCAN
Basebanded scan rate for this report.

SCAN RATE
Scan rate, measured in seconds per rotation (SPR).

PRF
Pulse repetition frequency (PRF), measured in pulses per second. (This the reciprocal of the PRI value.)

RF
Radio frequency, measured in megahertz (MHZ).

PW
Pulse width, measured in microseconds.

CI
Correlation index.

ELNOT
An acronym for ELINT Notation, the electronic emitter code assigned to a radar by the detecting sensor.

This five digit field begins with an alpha character, followed by three numbers, ending with another alpha character.

EMITTER
Radar name (for example, RAY1500, SPN-43, HEADNET).

SCAN TYPE
Scan type code.

11.6.6 ACOUSTIC/SUB TRACKS

Acoustic or Sub tracks are acoustical signature reports for the selected track, which represents a submarine.

Reports are generated from passive sonar systems, based on the sounds emitted by the track.

Figure11.6 -5 shows the EDIT window for an Acoustic track.

EDIT: OTH REAL-WORLD TRACK B00002

TRACK NUMBERS

LTN B00002
STN. . . . .
PARENT . . T4031

UID WAN066441905

LAST SIGNA

SOURCE . . . . . .
FUND FREQ. . . . . XXX HZ
FUND FREQ MAX . . . . . XXX HZ
HARMONICS . . . . . .
RPM . . . . . .
TPK . . . . . .

ATTRIBUTES

TRADEMARK . . . . DESIG 0020
SHORT NAME. . . . DESIG 0020

FLAG . . . . . UR
CLASS . . . . . TYPE II
TYPE . . . . . .

ALERT . . . . . .
CATEGORY . . . . . SUB
THREAT . . . . . UAE

MAX RPTS 0100
NUM RPTS 0004
ORIG XREF . . . . . .

LAST REPORT

TIMELATE 239.17
RPT DTG . . . . . 011722Z JUN 95
POSITION 2920N 15516W
CSE/SPD. . . . .T .....KT
ALT/DEPTH. . . . . .
AOU TYPE. . . . . ELLIPSE
BRG. 018.6T
SMJR/SMNR 0010NM 0010NM
SENSOR . . . . . OTHR
SOURCE . . . . . .
XREF . . . . . .

MOTION MODEL . UNK
AVE SPD . . . . . 018.0 KT
AVE TOL . . . . . 004.0 HR

ASSOCIATED TRACKS

LTN	IDENTIFIER	XREF	RPTS	TLATE

OPEN

BREAK ASSOC

REMARKS

COMMAND	REMARK

NEXT PREV OK EXIT

Figure11.6 -5 Edit—Acoustic track

EDIT Window Pop-up Menu Options

Acoustic track pop-up menu options (described in *EDIT Pop-up Menu*): APPLY, CANDIDATES, CENTER, INTELL DATABASE SEARCH, DELETE, EXIT, HELP, HISTORY, LOCAL REMARKS, NU-TRK, PARENT TRACK, PRINT, RCVD REMARKS, SCOPE & TYPE, SYSTEMS, TECH DATA, and XMIT.

EDIT Window Fields

The EDIT window contains six different boxes of data: TRACK NUMBERS box, LAST SIGNA box, ATTRIBUTES box, LAST REPORT box, ASSOCIATED TRACKS box, and RECEIVED REMARKS box.

TRACK NUMBERS Box

These fields cannot be edited.

LTN
Local UB track number. Every track is given a unique number by the system for track identification.

STN
System track number, also known as the Naval Tactical Display System (NTDS) track number.

PARENT
If the track is associated with a Platform track, the local track number of the Platform track appears in this field.

UID (For ashore sites only)
Unique identifier. Begins with three letters representing the site that reported the track, followed by a series of numbers to identify the track.

ATTRIBUTES Box

TRADEMARK
Case or designation number identifying an unknown or hostile submarine.

SHORT NAME
Name for the track that is meaningful only within the local network. This name is not transmitted to other locations.

FLAG
Two-character country code representing the nationality of the track. Each country code also has an associated threat code.

Note: A complete list of country codes can be found in Appendix C.

CLASS
Unit class for the track.

TYPE
Ship type code.

ALERT

A track may be designated as a non-alert track or an alert track.

Non-alert tracks—leave field blank.

Alert tracks—enter the proper alert classification:

HIT High Interest Track

TGT Target

SUS Suspect Carrier

NSP Cleared Suspect

. . . No Alert

CATEGORY

Category code for the track:

AIR Aircraft

NAV Naval

SUB Submarine

MER Merchant

FSH Fishing Vessel

LND Land Unit

UNK Unknown

THREAT

Threat status code for the track:

FRI Friendly

HOS Hostile

NEU Neutral

UAF Unknown Assumed Friendly

UAE Unknown Assumed Enemy

UEV Unknown Evaluated

UNK Unknown

PND Pending

MAX RPTS

Maximum number of reports allowed for the track (1 to 100).

When the number of reports received for a track exceeds the maximum number allowed, the system deletes the oldest report.

NUM RPTS
Number of reports received for the track. This field cannot be edited.

ORIG XREF
Source reference code for the site that originally reported the track. This field cannot be edited.

LAST SIGNA Box

Fields in this box describe the most recent acoustic signature report for the selected track.

SOURCE
Name of the source providing the signature information. Two-letter OTCIXS station source code (for example, AM=America). Letters are taken from the Source XREF Table, which can be viewed from the SOURCE XREF TABLE option (MISC menu).

FUND FREQUENCY
Frequency (in hertz) for the acoustic signature report.

FUND FREQ MAX
Maximum frequency reported for this acoustic track.

HARMONICS
Harmonics for the acoustic signature report.

RPM
Revolutions per minute for the propellers on the submarine or ship.

TPK
Number of turns per knot for the propellers. The number of turns made by the propellers for each knot of forward motion.

LAST REPORT Box

If editing an existing track, data is from the latest track report. If creating a new track, data is from the ENTER FIRST REPORT window. Fields cannot be edited.

TIMELATE
Amount of elapsed time (in hours and minutes) since the latest report.

RPT DTG
Date-time group for the last reported position.

POSITION
Latitude and longitude of the last reported position.

CSE/SPD
Course for the track (in degrees true), followed by the speed of the track (in knots).

ALT/DEPTH
Altitude or depth (in feet) of the track. A negative number appears if the track is a submarine.

AOU TYPE
Type of AOU (ELLIPSE, LOB, or BBOX).

BRG
AOU bearing in degrees true.

SMJR/SMNR (Ellipse AOU only)
Semi-major axis length, followed by the semi-minor axis length of the ellipse.

ERR/RNG (Line of Bearing AOU only)
Bearing error, followed by the range for the line of bearing.

LEN/HWDTH (Bearing Box AOU only)
Length, followed by the half-width for the bearing box.

SENSOR
Sensor type used to pick up the track at its last reported position.

SOURCE
Two-letter OTCIXS station source code (for example, AM=America). Letters are taken from the Source XREF Table, which can be viewed from the SOURCE XREF TABLE option (MISC menu).

XREF
Two-character source cross-reference code for the Command that originated the track report.

MOTION MODEL
Used only with MTST (for example, with the TRACK HISTORY ANALYSIS option). When a motion model is chosen, values are automatically placed in the AVE SPD and AVE TOL fields. The list box contains the following:

BAR: Barrier

PAT: Patrol

TRA: Transit

DIW: Dead in Water

UNK: Unknown

LND: Land Site

AIR: Air Contact

AVE SPD

Average speed for a track using a chosen motion model. A value is automatically placed in this field when a motion model is chosen. This field cannot be edited.

AVE TOL

Average time on leg for a track using a chosen motion model. A value is automatically placed in this field when a motion model is chosen. This field cannot be edited.

ASSOCIATED TRACKS Box

(For editing tracks only.) Lists the tracks associated with the track being viewed.

- For tracks to be associated with each other, one of the tracks must be a Platform or Unit track; the other tracks can be of any type. (For example, an Acoustic track and a Link track can be associated with a Platform track.)
- More than one track type at a time may be associated with a given Platform track (e.g., a Link track and an Acoustic track).
- Some track associations are created automatically.
  - For example, a Platform track may already be in existence when an Emitter report is received for the same track.
  - These two tracks are associated automatically, so that only one track appears on the tactical display.
  - Since the track types are different, the two tracks are not merged; instead, they are associated with each other.
- To view the track information for an associated track, select the track from the list in the ASSOCIATED TRACKS box and click OPEN.
- To break a track association, select the track and click BREAK ASSOC. When an association is broken, the two tracks become separate entities, and are represented by two different tracks on the tactical display.

REMARKS Box

(For editing tracks only.) Shows remarks received from other locations. The Command that issued the remarks is also shown.

Remarks can be viewed and deleted through the RCVD REMARKS option from the pop-up menu.

11.6.7 UNIT TRACKS

Unit tracks can represent a variety of objects on the tactical display. For example:

- Groups (battalion, company, or squadron).
- Organizations (82nd Airborne Division, 3rd Fleet).
- Weapon types (tank, field artillery).
- Vehicle types (jeep, missile launch vehicle).

About Unit Track Symbology

Unit track symbols differ from Platform tracks.

- The ORG TYPE field determines the type of symbol. If there is no value in the ORG TYPE field, the symbol appears as an empty box.
- The ECHELON field determines the type of modifier (if any) that appears along with the symbol.
- Symbols and modifiers are listed in the Basic Symbol Codes Table in *Operations Specification For Over-the-Horizon Targeting GOLD,* Revision A.

Figure11.6 -6 shows the EDIT window for a Unit track.

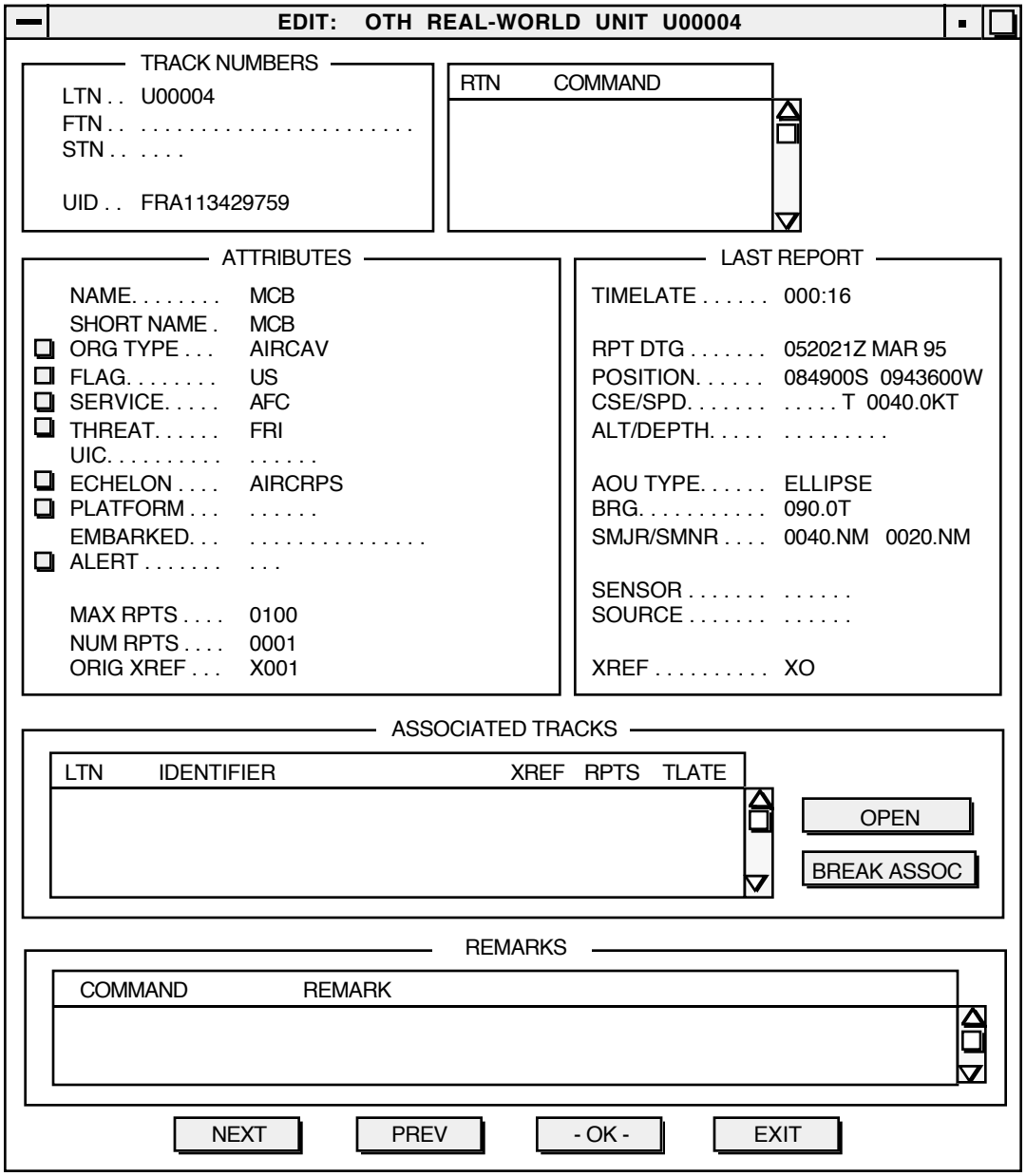


Figure11.6 -6 Edit—Unit track

EDIT Window Pop-up Menu Options

Unit track pop-up menu options (described in *EDIT Pop-up Menu*): APPLY, CANDIDATES, CENTER, INTELL DATABASE SEARCH, DELETE, DELETE ALL RTNS, DELETE RTN, EXIT, HISTORY, LOCAL REMARKS, PRINT, RAW DATA, RCVD REMARKS, SCOPE & TYPE, SYSTEMS, TECH DATA, and XMIT.

Note: When using the XMIT option to transmit a Unit track, the status of the SEND UID checkbox in the XMIT FORMAT window is irrelevant. Whether or not the SEND UID checkbox is clicked, the system *always* sends the unique identifier for a Unit track.

EDIT Window Fields

The EDIT window contains a TRACK NUMBERS box, RECEIVED TRACK NUMBER scroll list, ATTRIBUTES box, LAST REPORT box (titled INITIAL REPORT if creating a new track), ASSOCIATED TRACKS box (not available if creating a new track), and a REMARKS scroll list (not available if creating a new track).

TRACK NUMBERS Box

These fields cannot be edited.

LTN
Local UB track number. Every track is given a unique number by the system for track identification.

FTN
Force Over-The-Horizon Track Coordinator number assigned by FOTC, if in FOTC mode.

STN
System track number, also known as the Naval Tactical Display System (NTDS) track number.

UID (For ashore sites only)
Unique identifier. Begins with three letters representing the site that reported the track, followed by a series of numbers to identify the track.

RECEIVED TRACK NUMBER (RTN) Scroll list

RTN numbers are used for track correlation. Each received track number in the list consists of the local track number and the reporting command.

ATTRIBUTES Box

NAME
Track name.

SHORT NAME
Name for the track that is meaningful only within the local network. This name is not transmitted to other locations.

ORG TYPE

Organization type of the unit; determines the type of symbol that plots on the tactical display.

FLAG

Two-character country code representing the nationality of the track. Each code also has an associated threat code.

Note: A complete list of country codes can be found in Appendix C.

SERVICE

Service code for the unit:

AFC	Air Force
ARM	Army
CGD	Coast Guard
JNT	Joint
MRN	Marines
NVY	Navy
COM	Composite
UNK	Unknown

THREAT

Threat status code for the track:

FRI	Friendly
HOS	Hostile
NEU	Neutral
UAF	Unknown Assumed Friendly
UAE	Unknown Assumed Enemy
UEV	Unknown Evaluated
UNK	Unknown
PND	Pending

UIC (For ashore sites only)

Unit ID number.

ECHELON

Organizational level of the unit.

PLATFORM

Platform type for the unit.

EMBARKED

Name of the platform on which the unit is embarked (examples: SAIPAN, LANGLEY AIR FORCE BASE).

Note: NOT EMBARKED appears in this field by default.

ALERT

A track may be designated as a non-alert track or an alert track.

Non-alert tracks—leave field blank.

Alert tracks—enter the proper alert classification:

HIT High Interest Track

TGT Target

SUS Suspect Carrier

NSP Cleared Suspect

. . . No Alert

MAX RPTS

Maximum number of reports allowed for the track (1 to 100).

When the number of reports received for a track exceeds the maximum number allowed, the system deletes the oldest report.

NUM RPTS

Number of reports received for the track. This field cannot be edited.

ORIG XREF

Source reference code for the site that originally reported the track. This field cannot be edited.

LAST REPORT Box

If editing an existing track, data is from the latest track report. If creating a new track, data is from the ENTER FIRST REPORT window. Fields cannot be edited.

TIMELATE

Amount of elapsed time (in hours and minutes) since the latest report.

RPT DTG

Date-time group for the last reported position.

POSITION

Latitude and longitude of the last reported position.

CSE/SPD

Course for the track (in degrees true), followed by the speed of the track (in knots).

ALT/DEPTH
Altitude or depth (in feet) of the track. A negative number appears if the track is a submarine.

AOU TYPE
Type of AOU (ELLIPSE, LOB, or BBOX).

BRG
AOU bearing in degrees true.

SMJR/SMNR (Ellipse AOU only)
Semi-major axis length, followed by the semi-minor axis length of the ellipse.

ERR/RNG (Line of Bearing AOU only)
Bearing error, followed by the range for the line of bearing.

LEN/HWDTH (Bearing Box AOU only)
Length, followed by the half-width for the bearing box.

SENSOR
Sensor type used to pick up the track at its last reported position.

SOURCE
Two-letter OTCIXS station source code (for example, AM=America). Letters are taken from the Source XREF Table, which can be viewed from the SOURCE XREF TABLE option (MISC menu).

XREF
Two-character source cross-reference code for the command that originated the track report.

ASSOCIATED TRACKS Box

(For editing tracks only.) A list of tracks associated with the track being viewed.

- For tracks to be associated with each other, one of the tracks must be a Platform or Unit track; the other tracks can be of any type. (For example, an Acoustic track and a Link track can be associated with a Platform track.)
- More than one track type at a time may be associated with a given Platform track (e.g., a Link track and an Acoustic track).
- Some track associations are created automatically.
  - For example, a Platform track may already be in existence when an Emitter report is received for the same track.
  - These two tracks are associated automatically, so that only one track appears on the tactical display.

- Since the track types are different, the two tracks are not merged; instead, they are associated with each other.

- To view the track information for an associated track, select the track from the list in the ASSOCIATED TRACKS box and click OPEN.
- To break a track association, select the track and click BREAK ASSOC. When an association is broken, the two tracks become separate entities, and are represented by two different tracks on the tactical display.

REMARKS Box

(For editing tracks only.) This box shows remarks received from other locations. The Command that issued the remarks is also shown.

Remarks can be viewed and deleted through the RCVD REMARKS option from the pop-up menu.

11.6.8 FCS TRACKS

Fire Control System (FCS) tracks are used to exchange track data with the CCS/MK2 Submarine Combat System aboard certain USN submarines.

Note: The FCS communications interface provides the FCS with OTH track data. This interface must be added in the COMMUNICATIONS window and started before information can be transmitted between UB and the FCS. See the *Communications* option (COMMS pull-down menu) for information on adding and starting a comms channel.

About FCS Tracks

- Are similar to Link tracks, except they have minimal attribute data.
- Are reported as a position, course, speed, weather at target, and FCS target number.
- Their correlation is based exclusively on the FCS target number.

Figure11.6 -7 shows the EDIT window for a FCS track.

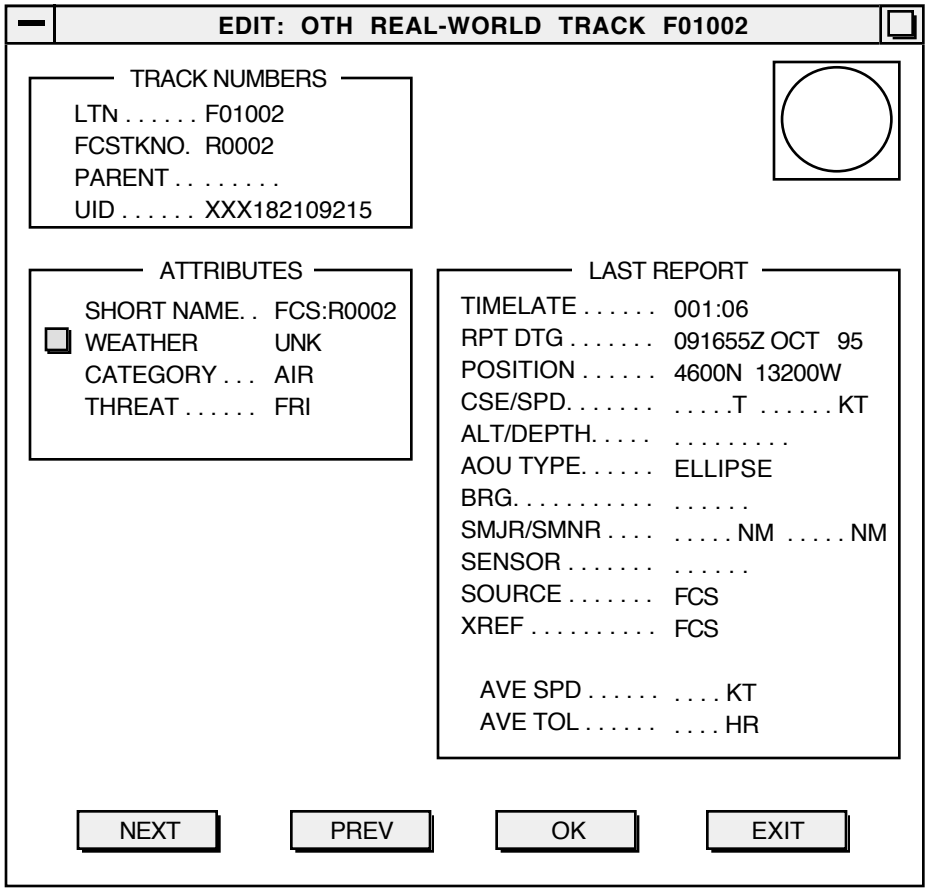


Figure 11.6-7 Edit—FCS track

EDIT Window Pop-up Menu Options

FCS track pop-up menu options (described in *EDIT Pop-up Menu*): APPLY, CENTER, DELETE, EXIT, HELP, NU-TRK, PARENT TRACK, PRINT, and XMIT.

EDIT Window Fields

The EDIT window contains a TRACK NUMBERS box, ATTRIBUTES box, and LAST REPORT box.

Note: The only editable field within the window is the WEATHER field.

TRACK NUMBERS Box

Shows the various track numbers assigned to the track.

LTN
Local UB track number. This number is used internally by the system for track identification.

FCSTKNO
Fire Control System track number.

PARENT
If the track is associated with a Platform track, the local track number of the Platform track appears in this field.

UID
Unique identifier. Begins with three letters representing the site that reported the track, followed by a series of numbers to identify the track.

ATTRIBUTES Box

SHORT NAME
Name for the track that is meaningful only within the local network. This name is not transmitted to other locations.

WEATHER
Weather condition (UNK, RAIN, or CLEAR).

CATEGORY
Category code for the track:

AIR Aircraft

NAV Naval

SUB Submarine

MER Merchant

FSH Fishing Vessel

LND Land Unit

UNK Unknown

THREAT
Threat status code for the track:

FRI Friendly

HOS Hostile

NEU Neutral

UAF Unknown Assumed Friendly

UAE Unknown Assumed Enemy

UEV Unknown Evaluated

UNK Unknown

PND Pending

LAST REPORT Box

TIMELATE
Amount of elapsed time (in hours and minutes) since the latest report.

RPT DTG
Date-time group for the last reported position.

POSITION
Latitude and longitude of the last reported position.

CSE/SPD
Course for the track (in degrees true), followed by the speed of the track (in knots).

ALT/DEPTH
Altitude or depth (in feet) of the track. (A negative number appears if the track is a submarine.)

AOU TYPE
Type of AOU (ELLIPSE, LOB, or BBOX).

BRG
AOU bearing in degrees true.

SMJR/SMNR (Ellipse AOU only)
Semi-major axis length, followed by the semi-minor axis length of the ellipse.

SENSOR
Sensor type used to pick up the track at its last reported position.

SOURCE
The OTCIXS station source code (for example, AM=America). Letters are taken from the Source XREF Table, which can be viewed from the SOURCE XREF TABLE option (MISC menu).

XREF
Source cross-reference code for the Command that originated the track report.

AVE SPD (For editing tracks only.)
Average speed for a track using a chosen motion model. A value is automatically placed in this field when a motion model is chosen. This field cannot be edited.

AVE TOL (For editing tracks only.)
Average time on leg for a track using a chosen motion model. A value is automatically placed in this field when a motion model is chosen. This field cannot be edited.

11.6.9 EDIT WINDOW POP-UP MENU

Options available on EDIT window pop-up menus can vary, depending on the track type selected. Options are described below in alphabetical order, rather than their order of appearance on the menus. Those options that apply to one track type only are so noted.

Options that are discussed in the sections or in Appendix A, *Common Operations*: APPLY and EXIT.

11.6.9.1 CANDIDATE PLOT

(ELINT tracks only) Plots all history points for the selected track and all candidate tracks.

- Each history point is shown, with connecting lines from the start to the present position of each track.
- An AOU for the selected track and all candidate tracks is plotted for the time of the last track report.
- Candidate AOUs are projected forward or backward in time as required.

11.6.9.2 CANDIDATES

View correlation candidates for the selected track.

- A candidate for a track occurs when there is an ambiguity that resembles the track, but doesn't contain enough information for the system to correlate the ambiguity automatically with the track.
- Use the CANDIDATES option to quickly compare the track with the ambiguity and decide whether the ambiguity represents the track.
- If the selected track doesn't have any candidates, a message appears stating "There are no candidates."
- If one or more candidates exists, a COMPARE window appears.
- The COMPARE window works the same as:
  - The window accessed with the COMPARE option from the TRACKS pull-down menu.
  - The RESOLVE button from the ELINT TRACK SUMMARY option. (Refer to *TRACK SUMMARIES* for details about this option.)

11.6.9.3 CENTER

To center the tactical display on a selected track:

1. Select the track and choose the CENTER pop-up option.
2. The CENTER ON TRACK window opens, showing the latitude and longitude of the selected track and the current map width.
3. Click the appropriate projection diamond knob in the EDIT box.
4. Click OK to center the map on the selected track, or click CANCEL to discard the action.

To recenter the map, but not necessarily on the selected track:

1. Choose the CENTER pop-up option to open the CENTER ON TRACK window.
2. Click anywhere on the map to choose a new center point before clicking OK.
3. Click the appropriate projection diamond knob in the EDIT box.
4. Click OK to center the map on the selected track.

CENTER Pop-up Menu:

SAVE

Save a copy of the current map to recall at a later time. Refer to STORED MAPS from the MAP OPTIONS pull-down menu for details about this option.

RECALL

Recall a saved map to the tactical display. Refer to STORED MAPS from the MAP OPTIONS pull-down menu for details about this option.

11.6.9.4 DELETE

To delete the selected track(s) from the system:

1. Select DELETE from the EDIT pop-up menu.
   - If the track is a protected track—designated by HIT or TGT in the ALERT field—a CONFIRM DELETE window displays a warning window.
2. Click YES in the ANSWER PLEASE window to confirm the delete request, or click NO to discard the delete.
3. The TRACK EDIT window closes and the track is removed from the tactical display.

To delete a parent track (i.e., one with associated tracks):

1. Select DELETE from the EDIT pop-up menu.
2. A BREAK ASSOCIATIONS window appears to choose whether or not the associated track(s) should also be deleted.
3. Click YES to break the associations and delete *only* the originally selected track. Or, click NO to delete the originally selected track and all associated tracks.

11.6.9.5 INTELL DATABASE SEARCH

The INTELL DATABASE SEARCH option gives operators access to a larger collection of technical data in the NIPS or Naval Intelligence Database (NID) databases.

Information is available only if the system has access to NIPS/NID data. The NIPS/NID data is used to amplify an existing track's attributes.

From the track's EDIT window, select the INTELL DATABASE SEARCH pop-up option to open the INTELL DB SEARCH window, as shown in Figure 11.6-8 for a Platform track.

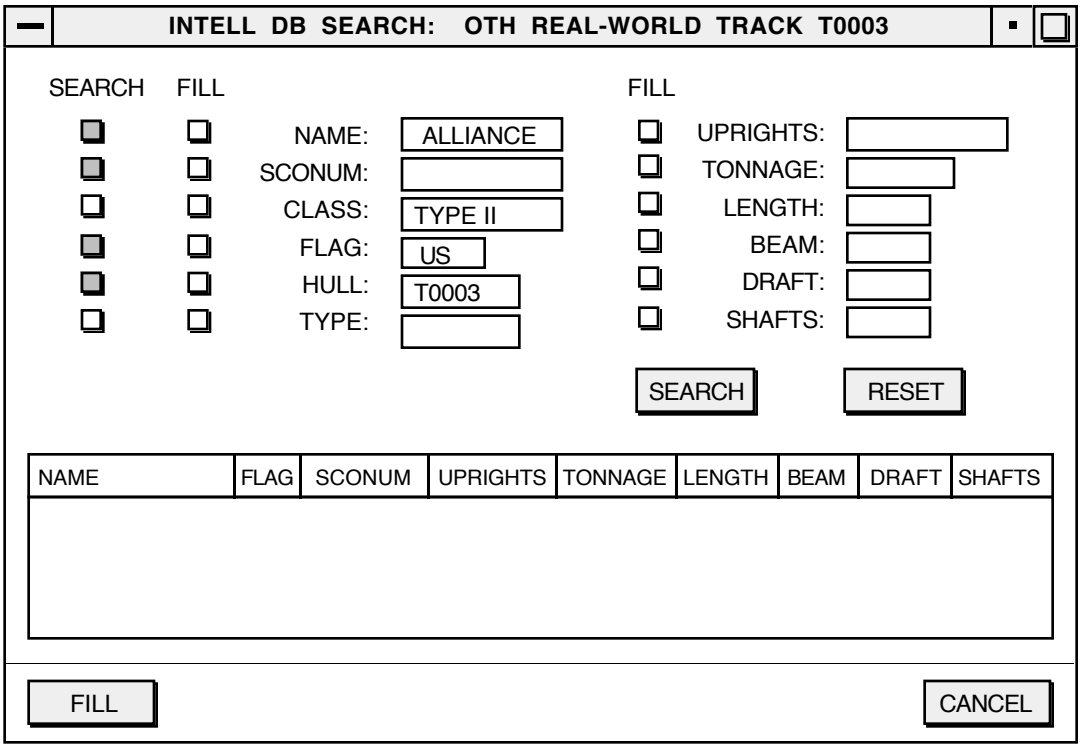


Figure 11.6-8 Database Search pop-up window (shown for Platform track)

How to use the INTELL DATABASE SEARCH pop-up option:

1. The INTELL DB SEARCH window for the selected track contains fields (left side) for conditional searches on the following: NAME, SCONUM, CLASS, FLAG, HULL, and TYPE.
   - These attributes are "or'ed" together to form the search query. Enter information as needed in these fields.
   - The default search attributes are taken from the selected track.
   - For example, to find information on all tracks in the database with the TYPE II class, enter TYPE II in the CLASS field, then click the SEARCH checkbox by that field to begin the search. The checkbox is toggled ON.
   - Tracks matching the criteria will be listed in the scroll list area.
2. Highlight the track in the NIPS/NID scroll list and click FILL.
3. NIPS/NID track information from the database fills the fields in the right area of the window.
4. When FILL is clicked, the information received from the NIPS/NID database is added to the selected track and becomes part of the track's records.

11.6.9.6 DELETE

To delete the selected track(s) from the system:

1. Select DELETE from the EDIT pop-up menu.
   - If the track is a protected track—designated by HIT or TGT in the ALERT field—a CONFIRM DELETE window displays a warning window.
2. Click YES in the ANSWER PLEASE window to confirm the delete request, or click NO to discard the delete.
3. The TRACK EDIT window closes and the track is removed from the tactical display.

To delete a parent track (i.e., one with associated tracks):

1. Select DELETE from the EDIT pop-up menu.
2. A BREAK ASSOCIATIONS window appears to choose whether or not the associated track(s) should also be deleted.
3. Click YES to break the associations and delete *only* the originally selected track. Or, click NO to delete the originally selected track and all associated tracks.

11.6.9.7 DELETE ALL RTNS

To delete all RTNs from the RTN list:

1. Select DELETE ALL RTNS.
2. All RTNS are automatically deleted from the list.

11.6.9.8 DELETE RTN

To delete one or more selected RTNs from the RTN list:

1. Highlight the RTNs to delete from the list.
2. Select DELETE RTN and the RTNS are removed from the list.

11.6.9.9 EMERGENCY ON/OFF

(Link tracks received via PEDO/PIF interface.) A track with EMERGENCY STATUS indicates an emergency exists; all display filters will be bypassed and the track will be displayed. Toggle the Emergency status ON or OFF.

11.6.9.10 FORCE TELL ON/OFF

(Link tracks received via PEDO/PIF interface.) A track with FORCE TELL STATUS will override display filters and the track will be displayed. Toggle the Force Tell status ON or OFF.

11.6.9.11 HISTORY

Use the HISTORY pop-up option to:

- List the past reports for a track.
- Enter new reports.
- Edit existing reports.

Select HISTORY from the EDIT pop-up menu to open the HISTORY window (Figure11.6 -9).

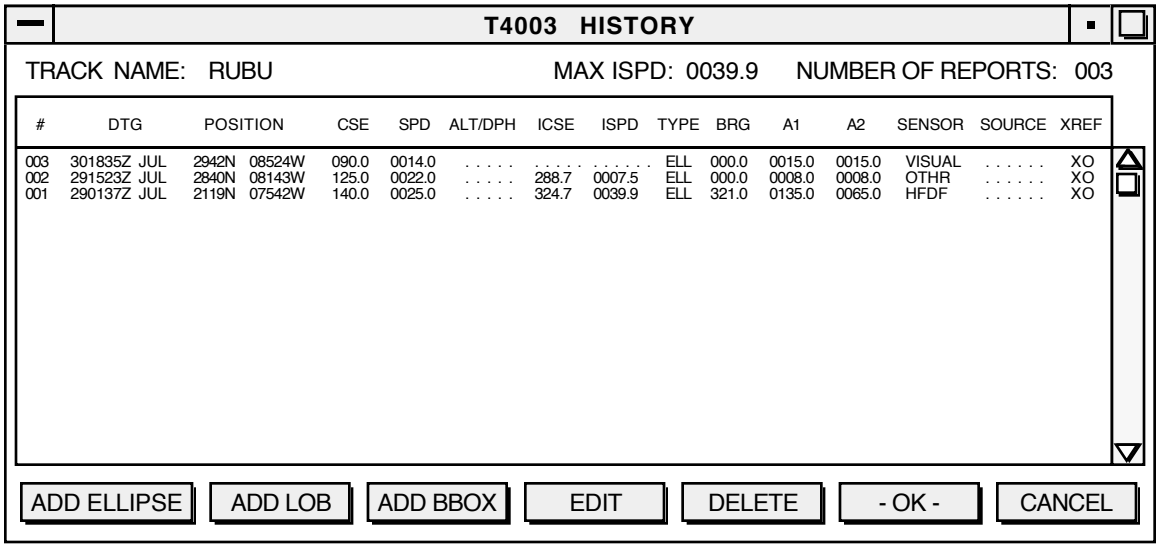


Figure11.6-9 History Window

The HISTORY window shows the TRACK NAME, its maximum indicated speed (MAX ISPD), and the NUMBER OF REPORTS received for the track.

HISTORY Window Buttons

ADD ELLIPSE—add a new ellipse report for the selected track. Described in *Adding a New Report*.

ADD LOB—add a new line of bearing report for the selected track. Described in *Adding a New Report*.

ADD BBOX—add a new bearing box report for the selected track. Described in *Adding a New Report*.

EDIT—a track history report.

1. Select the report from the HISTORY window.
2. Click EDIT to open the EDIT REPORT window. This window is identical to the ADD REPORT window, with the data for the selected report shown in the appropriate fields.
3. Click OK to accept any changes, or click CANCEL to discard them.
4. If OK (or CANCEL) is clicked, the HISTORY window reappears. Click EXIT to return to the EDIT window.
5. Click OK from the EDIT window to permanently save the changes. If the editing updates the track position, the track is automatically moved on the tactical display to reflect its new position.

DELETE—old history reports.

1. Select the reports to delete from the list in the HISTORY window.
2. Click DELETE. The selected reports are removed from the list.
3. To delete all old reports, select DELETE ALL from the HISTORY pop-up menu. All reports, except the most recent, are removed from the list.
4. Click OK after using the DELETE or DELETE ALL option to return to the EDIT window.
5. The deletions are not permanently saved until OK is clicked from the EDIT window. Note: If the current track position is deleted, the position of the track automatically moves on the tactical display to reflect the next most recent position.

OK—save changes and return to the EDIT window.

CANCEL—discard changes and return to the EDIT window.

HISTORY Window Scroll List

Each past report appears on a line in the scroll list and contain the following track history data:

#
: Report number for the track. UB automatically assigns a number for each report, with the oldest report assigned the number 001, and each update report assigned a number incremented by 1.

DTG
: Date-time group for the report.

POSITION
: Position of the track at the report time.

CSE
: Course of the track at the report time.

SPD
: Speed of the track at the report time.

ALT/DPH
: Altitude or depth (in feet) of the track at the report time.

ICSE
: Indicated course. The course is automatically calculated based on the positions of this report and the next report.

ISPD
Indicated speed. The speed is automatically calculated based on the positions of this report and the next report.

TYPE
Code for the type of AOU used for the report.

ELL = Ellipse

BBOX = Bearing Box

LOB = Line of Bearing

BRG
Bearing of the track at the report time.

A1
Information shown depends on the AOU type for the track:

Ellipse: Semi-major axis length for the ellipse.

Bearing Box: Half-width for the box.

Line of Bearing: Bearing error.

A2
Information shown depends on the AOU type for the track:

Ellipse: Semi-minor axis length for the ellipse.

Bearing Box: Length for the box.

Line of Bearing: Range for the line of bearing.

SENSOR
Sensor type used to detect the track at its last reported position.

SOURCE
Source code for the information used to detect the track. Two-letter OTCIXS station source code (for example, AM=America). Letters are taken from the Source XREF Table, which can be viewed from the SOURCE XREF TABLE option (MISC menu).

XREF
Source cross reference. This is a two letter code representing the source of the report.

Add a New Report

To add a new report for the selected track, click either the ADD ELLIPSE, ADD LOB, or ADD BBOX button from the HISTORY window.

Depending on the button selected, either the ADD POSITION REPORT, ADD LOB REPORT, or ADD BEARING BOX REPORT window appears.

The example shown in Figure11.6 -10 adds an ellipse (ADD POSITION REPORT):

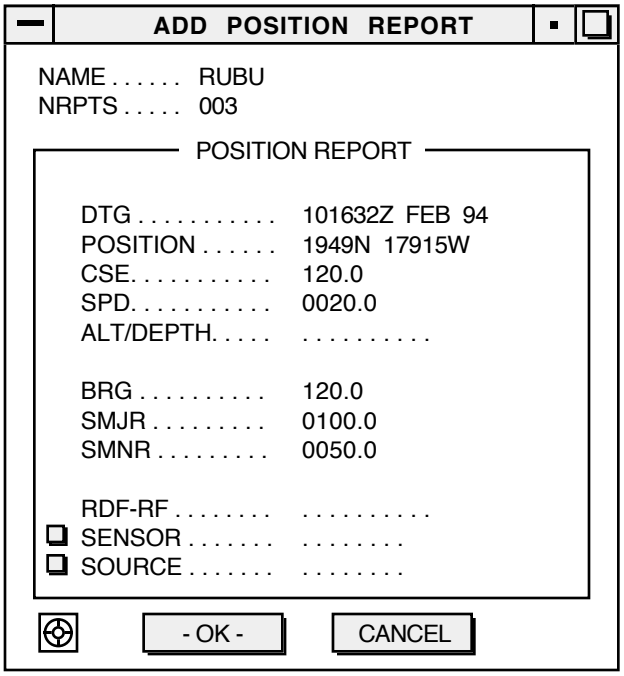


Figure11.6 -10 Add Position Report Window

1. Enter new position and area of uncertainty data for the selected track. (This window is identical to the ENTER FIRST REPORT window from the NEW TRACK option. Refer to *NEW TRACK* for detailed information about this window.)
   - Note: When a new report is created for a track, all required fields are shown in *red* until the correct data is entered. When data is entered and accepted, the fields then appear in *yellow*.
2. Click OK to accept the entries, or click CANCEL to discard them.
3. If OK is clicked, the HISTORY window reappears.
4. Click EXIT from the HISTORY window to return to the EDIT window.
5. Click OK from the EDIT window to permanently save the new report. If the new report changes the track position, the track is automatically moved on the tactical display to reflect its new position.

HISTORY Window Pop-Up Menu

In addition to options described in *Summary of Common Operations* or that perform as buttons of the same name described elsewhere in this section (ADD ELLIPSE, ADD

LOB, ADD BBOX, EDIT, DELETE, PRINT, RAW DATA, OK and CANCEL), the HISTORY pop-up menu also contains the following:

COPY and PASTE

Use these pop-up options to COPY a history report from one track and PASTE it into the HISTORY window of another track.

This operation is very useful if one track has been improperly updated with the report of another track.

1. Select the track report to move from the list in the HISTORY window.
2. Click COPY to store the selected track report in a temporary memory buffer.
3. Open the HISTORY window for the "correct" track and click in the window.
4. Click PASTE and the copied track report is pasted into the HISTORY window.

Note: Using COPY on a selected track report clears out any previously copied track report in the temporary memory buffer and replaces it with the newly copied track report. After copying one track report, PASTE it into another HISTORY window before another track report is copied. Copying the second track report erases the first one from memory.

NU-TRK (ELINT only)

Select a history report from the list and use this option to separate the report from its current ELINT track and make it into a new track. (Note: This option cannot be used if there is only one report for the track.)

PLOT HIST

Use the PLOT HIST pop-up option to display a history plot t for the track. The history plot:

- Shows a continuous line on the tactical display connecting all history points for the track.
- Begins with the first report in the system and ends with the current track position.
- Disappears from the tactical display when the HISTORY pop-up option is exited.

Figure11.6 -11 shows a history plot for a sample track on the tactical display.

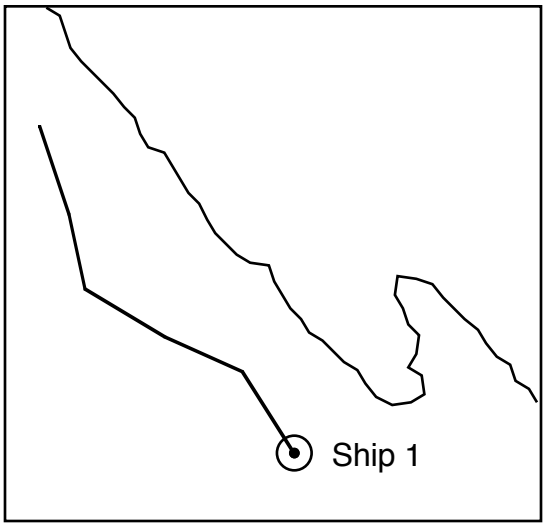


Figure11.6 -11 A History Plot Example

PLOT AOUs

Use the PLOT AOUs pop-up option to show the AOUs around the history points for the track. Plotted AOUs disappear from the tactical display after exiting the HISTORY pop-up option.

REPROCESS (ELINT only)

1. Select one or more (*but not all*) of the history reports from the list.
2. Choose REPROCESS to send the history report back through the correlator.
3. The correlator may separate the report from its current ELINT track and make it into a new track. In most cases, the report remains associated with its current track.

11.6.9.12 HULTEC TDA

Use HULTEC TDA to try and match an ELINT track for an unidentified ship with a known ship that uses an emitter with the same characteristics.

HULTEC TDA compares the selected ELINT track with the tracks in the HULTEC database to find a track with the same (or equivalent) ELINT notation.

- If one or more are found, the parametric information is checked to see if there is an intersection.
- If there is an intersection, the track is presented as a HULTEC candidate.
- If there are no ELINT notation matches, or there are no intersections among matched ELINT notation tracks, a message appears stating that “there are no HULTEC candidates.”

Check the candidates to determine if any of them represent the selected ELINT track.

- If one of them does, the identity of the matching ship can be assigned from the HULTEC database to the selected ELINT track.

Choose HULTEC TDA from the pop-up menu to view the HULTEC CANDIDATES window—*if* there are candidates (Figure11.6-12).

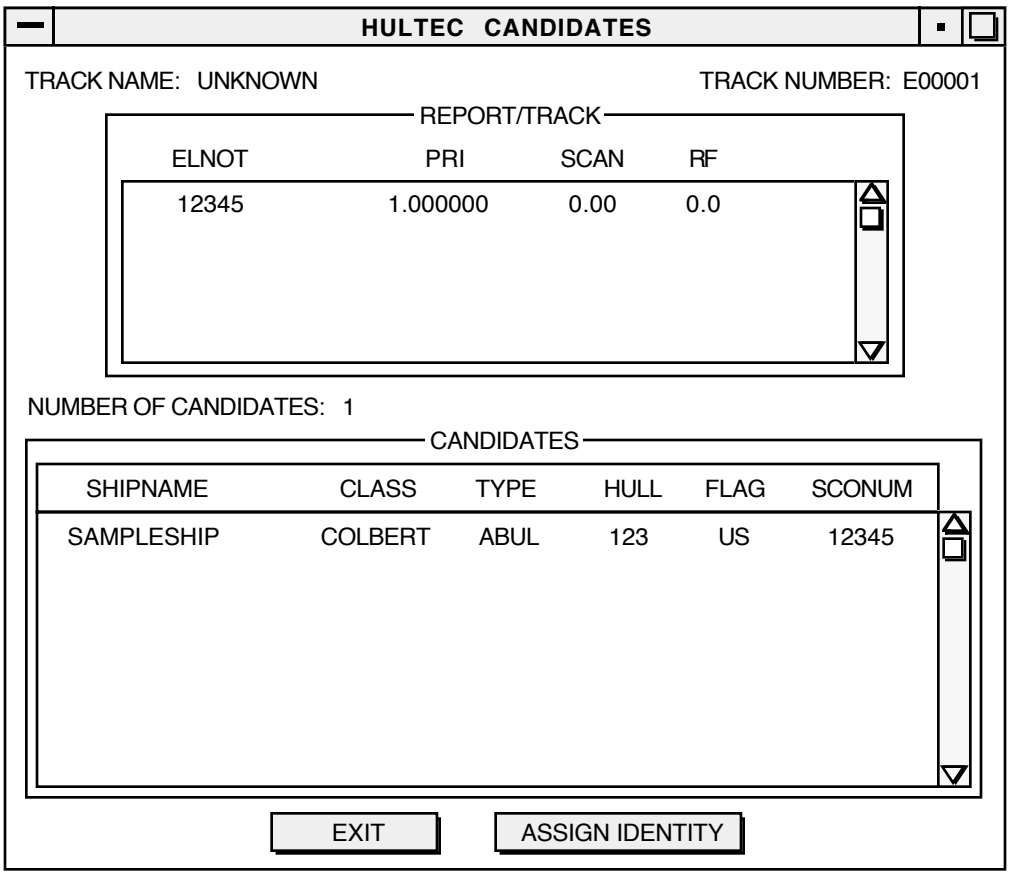


Figure11.6 -12 HULTEC Candidates Window

The HULTEC CANDIDATES window contains information about the selected ELINT track (including track name and number) at the top of the window, and candidate track information in the bottom part of the window.

ASSIGN IDENTITY Button

When the candidates are presented, determine whether any of them represent the same ship as the selected ELINT track. If one does:

1. Select that ship in the candidate list and click ASSIGN IDENTITY.

2. A new Platform track is built that contains both emitter and ship information.
3. The track is sent through correlation, with the result returned in an EDIT window. The resulting Platform track will be either:
   a. a new track
   b. an update to an existing track
   c. an ambiguity
4. If the newly created Platform track is representative of the selected ELINT track, click OK from the EDIT window to accept it. Or, click CANCEL and all the HULTEC TDA changes will be discarded.
5. Click EXIT to leave the HULTEC CANDIDATES window without assigning any candidate information to the selected ELINT track.

REPORT/TRACK Box

ELNOT
ELINT notation for the selected ELINT track. This five digit field begins with an alpha character, followed by three numbers, ending with another alpha character.

PRI
Pulse repetition interval for the selected ELINT track.

SCAN
Scan rate for the selected ELINT track.

RF
Radio frequency for the selected ELINT track.

CANDIDATES Box

SHIPNAME
Shipname of the candidate.

CLASS
Ship class of the candidate.

TYPE
Code for ship type (for example, CGN).

HULL
Hull number of the candidate.

FLAG
Country code of the candidate.

SCONUM
Ship control number of the candidate.

11.6.9.13 LOCAL REMARKS

Use the LOCAL REMARKS pop-up option to view, enter, or edit any remarks about the track.

Select the LOCAL REMARKS option from the EDIT pop-up menu to open the EDIT REMARKS window (Figure11.6 -13).

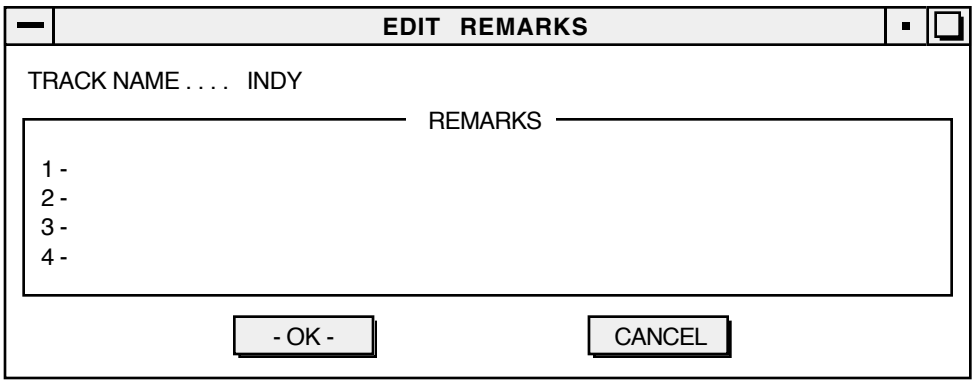


Figure11.6-13 Edit Remarks Window

1. Enter up to four lines of remarks about the track. Or, view or edit existing remarks.
2. Click OK to save changes, or click CANCEL to discard changes. Clicking either button exits the option.
3. When track information is transmitted, any remarks will be sent if transmitted in expanded format.

11.6.9.14 NU-TRK (ELINT and Acoustic tracks)

Use NU-TRK option to create a new Platform track that is associated with an ELINT track *or* with an Acoustic track.

Note: NU-TRK is available only for Acoustic tracks *not already associated* with a Platform track.

1. Select the NU-TRK option to open the SCOPE and TYPE window.
2. Click the applicable diamond knobs and click OK to open an EDIT window for the selected track (Figure11.6-14).

3. The EDIT window that appears is the same as the EDIT window for the NEW TRACK option. (See *NEW TRACK* for details about the fields in this window.)
4. Edit any of the fields in the ATTRIBUTES box for the new Platform track. When a new report is created for a track, all required fields are shown in *red* until the correct data is entered. When data is entered and accepted, the fields then appear in *yellow*.
5. Click OK to accept the new Platform track. (Or click CANCEL to discard it.)
6. The Platform and ELINT (or Acoustic) tracks are associated with each other. The EDIT window for the ELINT (or Acoustic) track reappears.

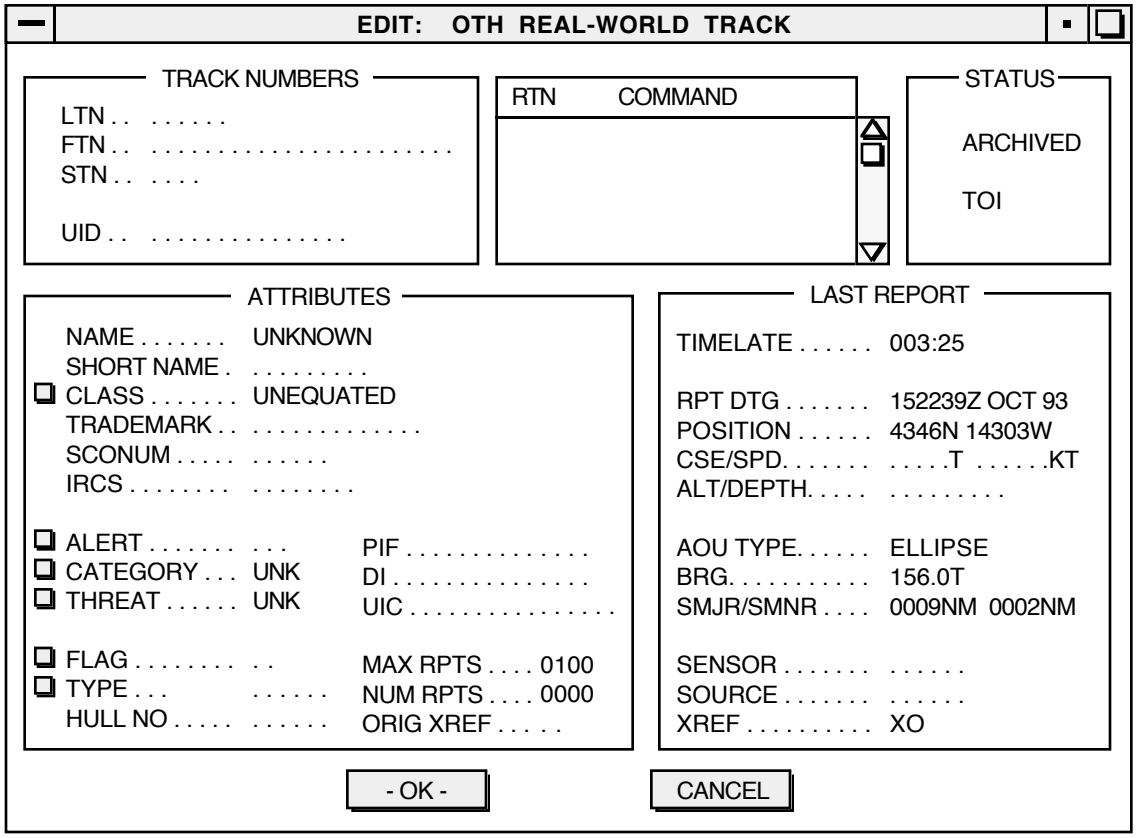


Figure11.6 -14 Edit Window

11.6.9.15 PARENT TRACK

Use the PARENT TRACK pop-up option to select the parent track from a child track's EDIT window. When this option is chosen, the EDIT window for the associated parent track is displayed.

11.6.9.16 PRINT

Use the PRINT pop-up option to print a hardcopy summary of track database information for the selected track. Printed information includes all fields displayed in the EDIT window for the selected track.

Since many options use the same printing procedure, refer to Appendix A, *Printing* for complete details about the JMCIS PRINTER window.

11.6.9.17 RAW DATA

Use this pop-up option to view the raw data for the track. Raw data is shown only for those reports that were received through a transmission.

Select the RAW DATA option to open the RLOG EDITOR window (Figure11.6-15).

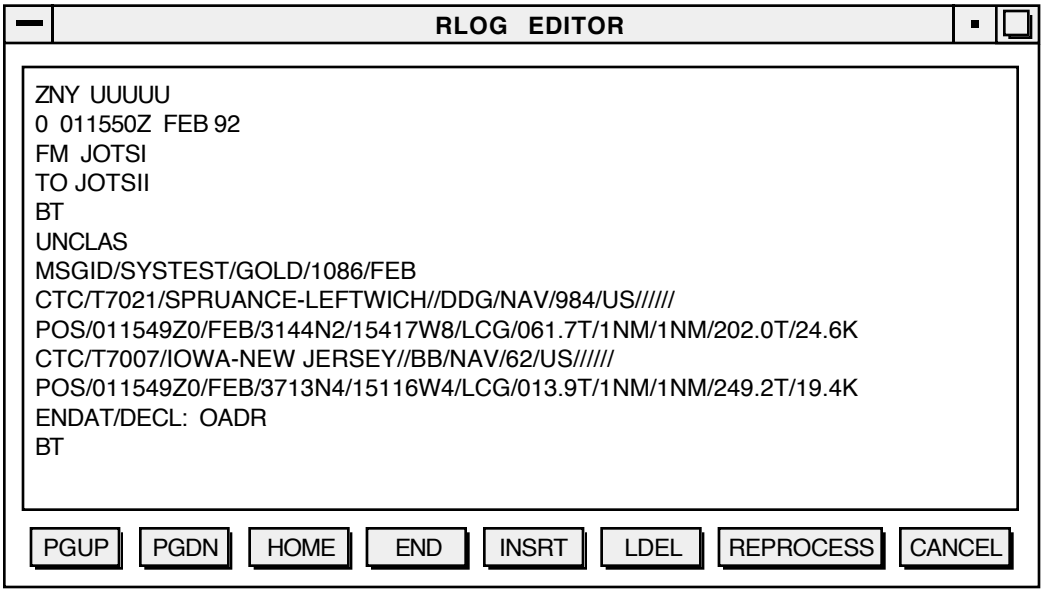


Figure11.6 -15 RLOG Editor Window

- The RLOG EDITOR window is the same window as that accessed through the REPORT LOG option from the FOTC/BCST pull-down menu.
- See the *REPORT LOG* section (FOTC/BCST chapter) for complete details about this window.
- Use the window buttons to view the raw data.
- Note: The system retains only the last 1000 reports. If the system has received more than 1000 reports *after* receiving the report selected to view, the raw data for that report will not be available for viewing.
- Click CANCEL to return to the EDIT window.

11.6.9.18 RCVD REMARKS

Use the RCVD REMARKS pop-up option to view track remarks received from other locations.

Select RCVD REMARKS to open the LIST REMARKS window (Figure11.6 -16).

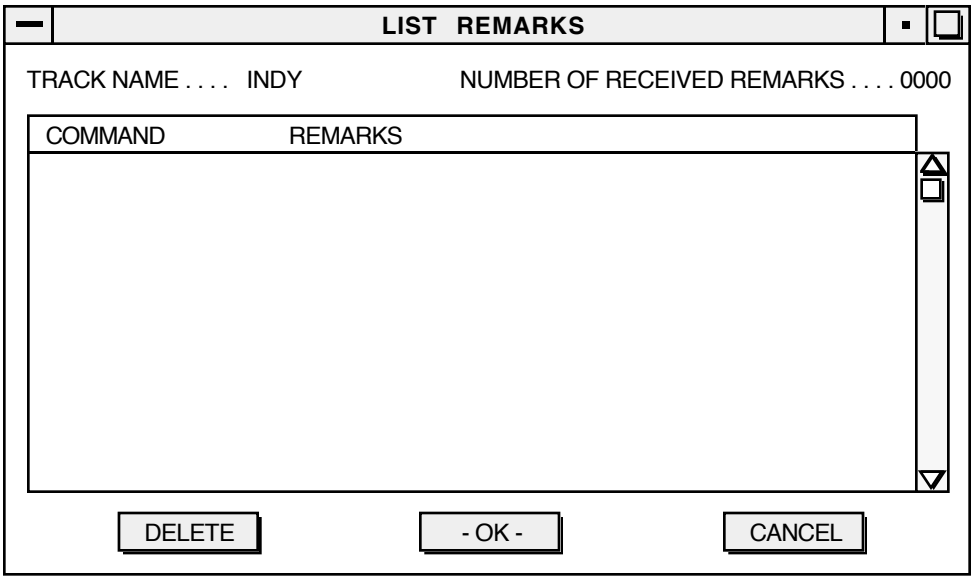


Figure11.6 -16 List Remarks Window

The LIST REMARKS window lists all remarks received for the track and the COMMAND that issued remarks.

DELETE—select the remarks to delete and click DELETE. (Use the SELECT ALL or UNSELECT ALL pop-up menu options to select or deselect all remarks to delete.)

OK—accept changes made to the window information and exit the option.

CANCEL— discard any changes and exit the option.

11.6.9.19 REMOVE FTN (Platform Track only)

Use this option to remove the FOTC track number. This option is valid only in PT mode. If selected in any mode, a warning window displays “MUST BE IN PT MODE TO REMOVE FTN.”

11.6.9.20 REPROCESS (ELINT only)

Accept changes made to the track without exiting the EDIT option. If changes were that allow the track to correlate with an existing track, using the REPROCESS option correlates the information and merges it with the appropriate track.

11.6.9.21 SCOPE & TYPE

Select the SCOPE & TYPE pop-up option to open the SCOPE AND TYPE window (Figure11.6 -17).

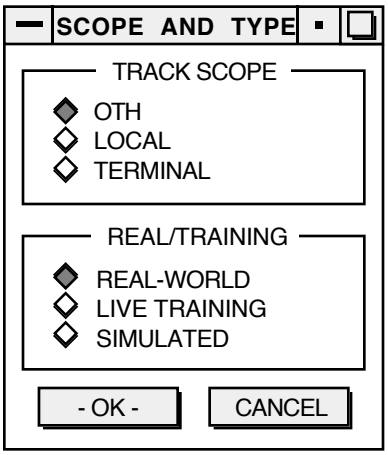


Figure11.6 -17 Scope and Type Window

The SCOPE AND TYPE window contains a TRACK SCOPE box and a REAL/TRAINING box. See *SCOPE AND TYPE* (NEW TRACK option) for detailed descriptions of this window's diamond knobs.

TRACK SCOPE Box

- The scope of the track can be changed only to a higher level. Thus, if the TERMINAL diamond knob is currently selected, the scope can be changed to either of the levels above it.
- Available scopes appear in yellow; unavailable scopes are "ghosted."

REAL/TRAINING Box

- Change the status of REAL-WORLD or LIVE TRAINING tracks.
- Note: A track cannot be changed from SIMULATED to either REAL-WORLD or LIVE TRAINING.

Click OK to accept changes, or click CANCEL to discard them. Clicking either button exits the SCOPE AND TYPE window and the EDIT window reappears.

11.6.9.22 SYSTEMS

Engages the SYSTEM ASSIGNMENT window (weapons assignment) for workstations with the applicable software segment loaded. For information about this option, refer to the segment documentation for this topic.

11.6.9.23 TAKE/RELEASE CONTROL (Link11PIH/Link11EDO tracks)

Indicates to the Link "world" that the operator is going to TAKE CONTROL of the platform (if currently not controlling). Or, if breaking control of the platform, the operator will RELEASE CONTROL.

11.6.9.24 TECH DATA

Use the TECH DATA pop-up option to list the technical data for a track. This data is especially useful for contacts that have not been positively identified.

Select the TECH DATA option from the EDIT pop-up menu to open the TECH DATA window (Figure11.6-18).

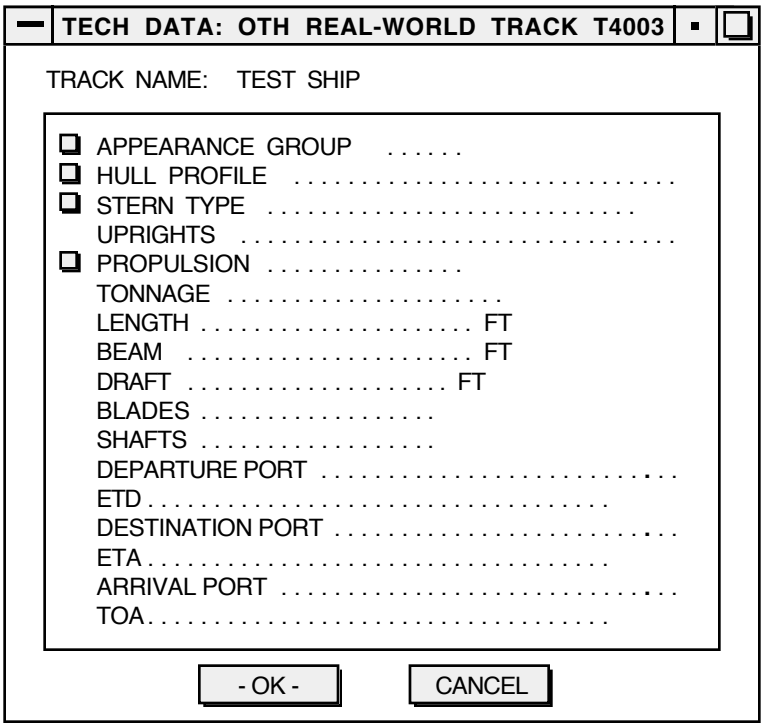


Figure11.6 -18 Tech Data Window

The TECH DATA window contains the TRACK NAME and fields for technical data about the track.

TECH DATA Window Fields

All fields—except the last six—have data that should not change. These six fields (DEPARTURE PORT, ETD, DESTINATION PORT, ETA, ARRIVAL PORT, TAO) help describe the current deployment.

APPEARANCE GROUP

Appearance group code. List box values:

GP1

GP2

GP3

HULL PROFILE

Hull profile code. List box values:

Flush

Raised 1

Raised 2

Raised 3

Raised 1-2-3

Raised 1-2

Raised 1-3

Raised 12

Raised 23

Raised 12-3

Raised 1-23

STERN TYPE

Stern type code. List box values:

Counter

Cruiser

UPRIGHTS

Code to describe the uprights of the vessel.

PROPULSION

Type of propulsion used. List box values:

Nuclear

Diesel

TONNAGE

Weight of the vessel, in tons.

LENGTH
Length of the vessel, in feet.

BEAM
Width (in feet) of the vessel at the widest point.

DRAFT
Draft of the vessel at its deepest point.

BLADES
Number of blades per shaft.

SHAFTS
Number of shafts on the vessel.

DEPARTURE PORT
Port where the vessel will depart or has departed. Enter the country code of the port at the end of this field (additional 2-character field).

ETD
Estimated time of departure for the vessel.

DESTINATION PORT
Destination port for the vessel. Enter the country code of the port at the end of this field (additional 2-character field).

ETA
Estimated time of arrival.

ARRIVAL PORT
Arrival port for the vessel. Enter the country code of the port at the end of this field (additional 2-character field).

TOA
Actual time of arrival.

Click OK to save any changes, or click CANCEL to discard them. Clicking either button returns to the EDIT window.

11.6.9.25 XMIT (Platform and Unit track types)

Use the XMIT pop-up option to transmit data for selected tracks to other locations. For detailed information see the *XMIT* section.

11.7 EDIT OWNSHIP

Use this option to open the EDIT window with “Ownship” data in the fields.

The EDIT window is described in the EDIT option from the TRACKS pull-down menu.

11.8 AMPLIFY TRACKS

Use this option to "browse through" a group of tracks and select ones to be edited.

To access this window: TRACKS pull-down menu **:** AMPLIFY TRACKS option **:** AMPLIFY TRACK window (Figure11.8 -1).

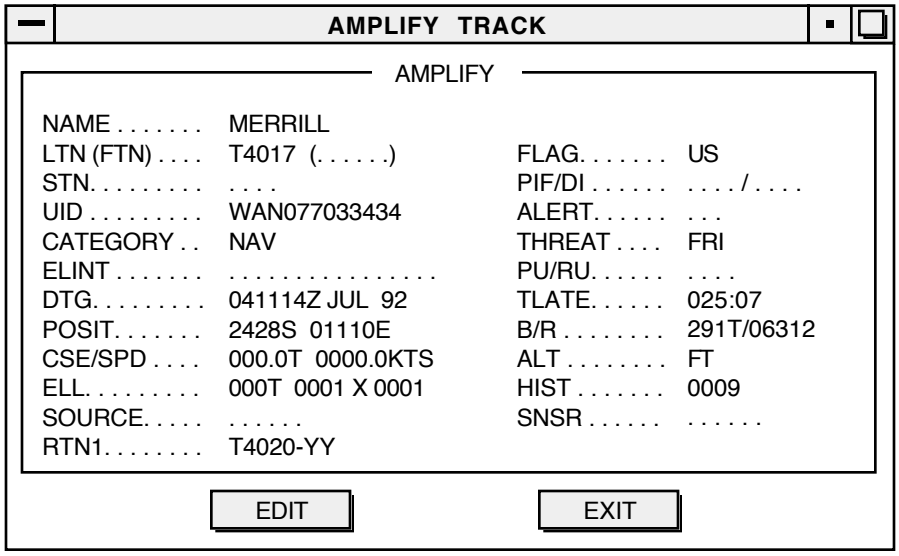


Figure11.8 -1 Amplify Track Window

When the AMPLIFY TRACK window opens, Ownship information appears in the fields.

1. Click a track on the display to show the track's information within the AMPLIFY TRACK window. Data in this window cannot be edited.
2. To edit the track, click EDIT to open the track's EDIT window.
3. Make changes in the EDIT window.
4. Click OK to save changes, or click EXIT to discard them. Clicking either button returns to the AMPLIFY TRACK window.
5. Repeat steps 1–4 to continue viewing and editing tracks.
6. Click EXIT to exit the AMPLIFY TRACKS option.

AMPLIFY TRACK Window Fields

Data in the AMPLIFY TRACK window cannot be edited.

NAME
Track name.

LTN (FTN)
Local system track number, followed by the FOTC track number in parentheses.

STN
System track number, also known as the Naval Tactical Display System (NTDS) track number.

This 4-digit track number is exchanged with other ships and aircraft via Link-11 and other tactical data networks.

UID
Unique identification number; used for ashore sites only. Begins with three letters that represents the site reporting the track, followed by a series of numbers to identify the track.

CATEGORY
Category code for the track:

AIR Aircraft

NAV Naval

SUB Submarine

MER Merchant

FSH Fishing Vessel

LND Land Unit

UNK Unknown

ELINT
If ELINT data has been reported for the track, this field shows the emitter name.

If no emitter name was reported, the field shows the ELINT notation.

DTG
Date-time group for the last reported position of the track.

POSIT
Last reported latitude and longitude for the track.

CSE/SPD
Last reported course and speed for the track.

ELL, BBX, or LOB

Data defining the area of uncertainty for the track. The field name changes depending on the AOU type—ELL (ellipse), BBX (bearing box), or LOB (line of bearing).

SOURCE

Two-letter OTCIXS station source code (for example, AM=America). Letters are taken from the Source XREF Table, which can be viewed from the SOURCE XREF TABLE option (MISC menu).

RTN 1

First received track number for the track. This number comes from the source reporting the contact.

FLAG

Two-character country code representing the nationality of the track.

Note: A complete list of country codes can be found in Appendix C.

PIF/DI

Intel Pseudo Identification Feature (PIF) number for the track. Consists of a PIF number, a slash, then the Intel Discrete Identifier for the track—a four-digit code that represents hostile or unknown tracks.

ALERT

If the track has been designated as an alert track, contains an alert classification.

HIT High Interest Track

TGT Target

SUS Suspect Carrier

NSP Cleared Suspect

. . . No Alert

THREAT

Threat status code for the track:

FRI Friendly

HOS Hostile

NEU Neutral

UAF Unknown Assumed Friendly

UAE Unknown Assumed Enemy

UEV Unknown Evaluated

UNK Unknown

PND Pending

PU/RU
Participating or Report Unit, which identifies the reporting source.

TLATE
Amount of time elapsed since the last report for the track.

B/R
Bearing and range of the track from Ownship's last reported position.

ALT or DEP
Surface object—field is blank.

Aircraft—field is titled ALT and displays the altitude (in feet) from the last report.

Submarine—field is titled DEP and displays the depth (in feet) from the last report.

HIST
Number of history reports for the track.

SNSR
Sensor type used to obtain the last report.

11.9 DELETE

Use this option to delete tracks from the system. When a track is deleted, its track symbol and label are removed from the tactical display and its data is removed from the track database.

To access this window (with multiple tracks selected): TRACKS pull-down menu **:** DELETE option **:** SELECT TRACKS FOR DELETE window (Figure11.9-1).

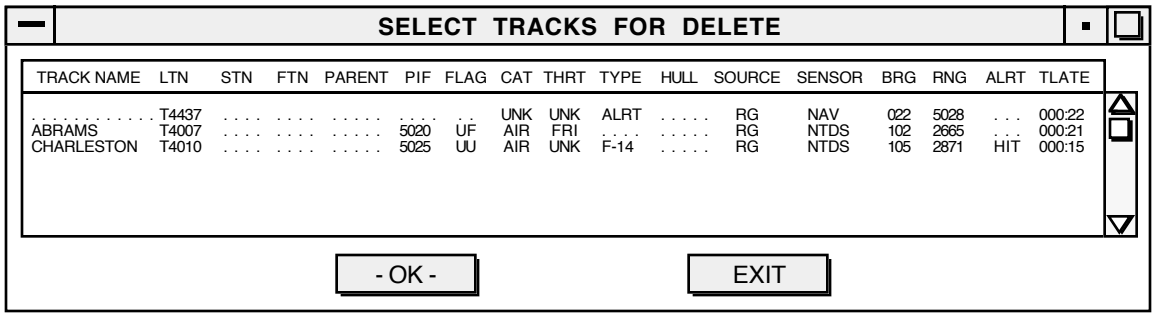


Figure11.9 -1 Select Tracks for Delete Window

How to delete a track:

1. Select one or more tracks from the tactical display.

2. Select DELETE from the TRACKS pull-down menu.
   - If one track is selected, the CONFIRM DELETES window opens immediately.
   - If no tracks are selected, the DATABASE SEARCH window appears. (Described in SEARCH from the TRACKS pull-down menu.)
   - If multiple tracks are selected, the SELECT TRACKS FOR DELETE window appears. Select the tracks to delete and click OK.
3. The CONFIRM DELETES window provides the following options:
   - Click YES to confirm each delete individually.
   - Click NO to delete all selected tracks at once.
   - Click CANCEL to cancel the delete process.
4. If YES is chosen (confirm each delete individually), the selected track's EDIT window appears, with a DELETE button in place of the OK button.
   - NEXT (button available if multiple tracks were selected)—view the next track in the scroll list without deleting the track whose data is currently displayed in the window.
   - PREV—view the previous track.
   - DELETE—delete the track whose data is displayed in the window.
   - EXIT—close the EDIT window without deleting the track whose data is displayed in the window.
5. If the track selected for deletion is a parent track (associated with other tracks), a BREAK ASSOCIATIONS window appears.
   - Click YES to break the associations and delete *only* the selected parent track.
   - Click NO to delete the selected parent track and *all* associated tracks.
6. Click EXIT to exit from the DELETE option.

SELECT TRACKS FOR DELETE Pop-Up Menu

In addition to the options described in *Summary of Common Operations* (SELECT ALL, UNSELECT ALL, OK, and EXIT), the SELECT TRACKS FOR DELETE pop-up menu also includes:

PRINT SELECTED

Prints a list of all the selected tracks in the window.

1. Select one or more tracks.
2. Choose the PRINT SELECTED pop-up option.

3. The JMCIS PRINTER window opens to start the printing process. Refer to Appendix A, *Printing*, for details about the JMCIS PRINTER window.

PRINT ALL

Prints a list of all the tracks in the window.

11.10 XMIT

Use the XMIT option to transmit selected tracks to other sites.

- Only Platform and Unit tracks with a scope of OTH may be transmitted.
- The most recent track report is sent.
- Track histories can be sent; the number of history reports is operator-specified.
- Messages are sent in GOLD format, over one or more operator-specified comms channels.

Using the XMIT option:

1. Select one or more tracks from the tactical display.
2. Select the XMIT option from the TRACKS pull-down menu.
   - If one track is selected, the XMIT FORMAT window opens immediately.
   - If no tracks are selected, the DATABASE SEARCH window appears. (Described in *SEARCH* from the TRACKS pull-down menu.)
   - If multiple tracks are selected, the SELECT TRACKS TO XMIT window appears. Select the tracks to transmit and click OK.
3. Specify the transmission format in the XMIT FORMAT window (Figure11.10 -1).
   - Toggle the diamond knobs and checkboxes (described below).
   - Click OK to accept the entries, or click CANCEL to exit the option.
4. Specify the header and channel information. (Described in the MESSAGE HEADERS option from the COMMS pull-down menu.)

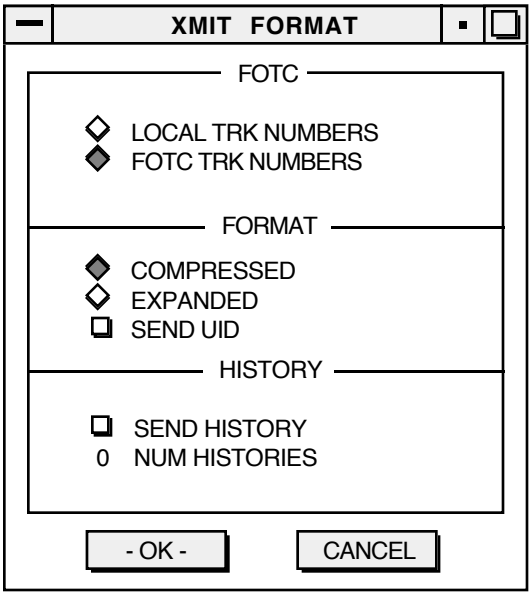


Figure11.10 -1 XMIT Format Window

XMIT FORMAT Window Fields

FOTC Box

LOCAL/FOTC TRK NUMBERS

Specify which track number is sent—local or FOTC.

FORMAT Box

COMPRESSED/EXPANDED

Specify the transmission format—compressed or expanded.

COMPRESSED—only basic track information is sent.

EXPANDED—additional information is sent, such as remarks and tech data.

SEND UID (ashore sites only)

ON—send track's unique identifier.

Blank—do not send unique identifier.

UNIT tracks: the status of the SEND UID checkbox is irrelevant; the unique identifier is always sent.

HISTORY Box

SEND HISTORY

ON—send history information.

Blank—send only the last reported position.

NUM HISTORIES
Number of history reports to send. Relevant only when SEND HISTORY is toggled ON.

11.11 PRINT

Use the PRINT option to generate a printed report of selected tracks. The report includes all fields in the EDIT window.

1. Select one or more tracks from the tactical display.
2. Select the PRINT option from the TRACKS pull-down menu.
3. The JMCIS PRINTER window opens to start the printing process. (Refer to *Printing* in Appendix A, *Common Operations,* for details about the JMCIS PRINTER window.)

11.12 SELECT ALL

User this option to select all plotted tracks and ambiguities.

Their color on the tactical display changes to white, indicating they are selected.

11.13 SEARCH

Use this option to search the database for tracks that meet specified criteria. Tracks that meet the criteria are listed in a window on the screen and become selected on the tactical display.

Search parameters may be specified by:

- recalling values from a saved filter
- entering new values
- a combination of the above

To access this window: TRACKS pull-down menu **:** SEARCH option **:** DATABASE SEARCH window (Figure11.13 -1).The DATABASE SEARCH window also appears whenever an option is chosen that requires selected tracks and no tracks are selected.

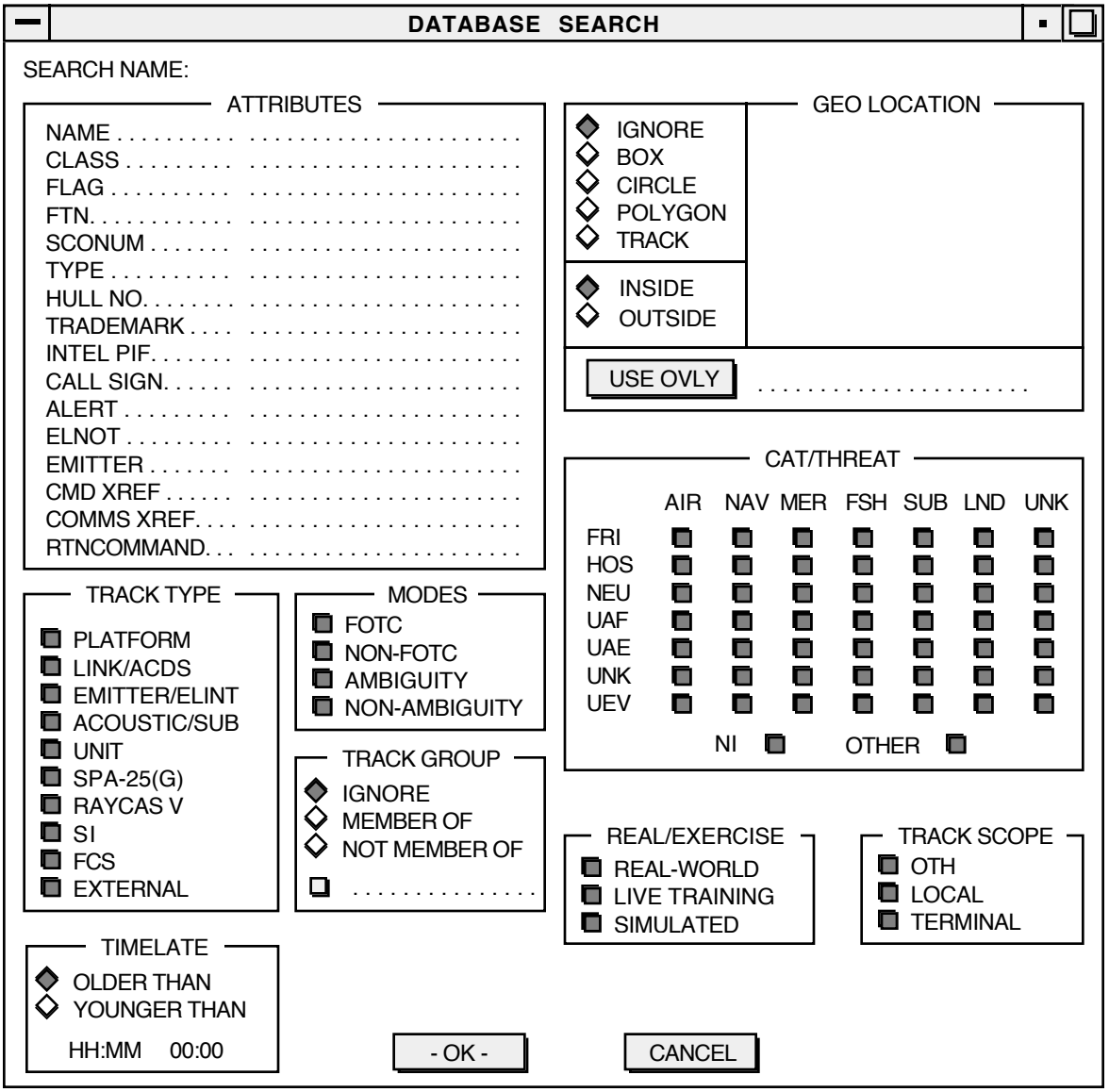


Figure11.13 -1 Database Search Window

To Perform a Search:

The SEARCH NAME field (top portion of the window) is blank unless a saved search filter is recalled.

1. To recall a search filter, use the RECALL pop-up option. The values from the saved filter appear in the fields.
   - Track database search filters are saved either with the SAVE pop-up menu option or the SEARCH FILTER TABLE option.
   - Boolean search filters, saved with the BOOLEAN SEARCH FILTERS option, cannot be recalled into the DATABASE SEARCH window.

2. Specify the search criteria—set the checkboxes and diamond knobs, and enter field values.
   - Wildcard characters can be used in the attribute fields. (Described in *Wildcard Searches* below.)
3. Click OK to search for tracks that meet the specified criteria.
4. If a match is found, the tracks are selected on the tactical display and the SELECTED SUMMARY window appears with a list of the tracks.
   - Options and buttons in this window are the same as those available with the TRACK SUMMARIES–TRACK option from the TRACKS pull-down menu.
   - Click EXIT from the SELECTED SUMMARY window to return to the DATABASE SEARCH window.
5. Optional: Save these search filter settings with the SAVE pop-up option.
6. Click CANCEL to exit the SEARCH option. The selected tracks *remain* selected on the tactical display.

DATABASE SEARCH Window Fields

The window contains nine groups of search-related criteria—ATTRIBUTES, TRACK TYPE, TIMELATE, MODES, TRACK GROUP, CAT/THREAT, REAL/EXERCISE, TRACK SCOPE, and GEO LOCATION.

11.13.1 ATTRIBUTES BOX

Enter information in the ATTRIBUTES field (1) *exactly* as it appears in the track database or (2) using wildcard characters. For example, if the name of the track is TRACK ONE, the search will be unsuccessful if TRACK 1 is entered but will be successful if TRACK* is entered.

The following wildcard characters (wildcards can represent “anything”) and operators can be used within any of the attribute fields:

*	multiple-character wildcard
?	single-character wildcard
[...]	single-character range
|	OR
&	AND
!	NOT
\	interpret next character literally

—The same wildcards can be used in a string more than once.

—Search strings can contain any logical combination of wildcards.

Multiple Character Wildcard (*)

Use the asterisk (*) character as a wildcard to replace one or more characters in a word; that is, if unsure of the complete spelling or to search for all tracks that have the same partial word spelling.

For example, if TRACK* is entered in the UNIT NAME field, the search will find both TRACK ONE and TRACK TWO.

Single Character Wildcard (?)

Use the question mark (?) as a single-character wildcard to replace one character in a word. The following examples illustrate the use of the single-character wildcard:

Tracks in database: STARK, STARR, STALEY, STORK. In the UNIT NAME field, enter:

STAR? to find STARK, STARR

ST?RK to find STARK, STORK

STA?? to find STARK, STARR

STA??? to find STALEY

Single Character Range [...]

Use the square brackets [...] with a range of characters (or a group of individual characters) to replace one character in a word with any one of a range of characters. The following example shows the use of the single character range.

In the HULL NO field, enter:

94[1-4] to find 941, 942, 943, 944

94[2468] to find 942, 944, 946, 948

Note: A range of characters *or* a group of individual characters can be entered within the brackets.

OR Operator (|)

Use the OR operator (|) to search for two different items in the track database.

For example, if US|FR is entered in the FLAG field, the search finds all tracks from the United States *and* all tracks from France.

AND Operator (&)

Use the AND operator (&) to find tracks that match two search strings. The following examples illustrate the AND operator.

Tracks in database: ALASKA, ALABAMA, ALBUQUERQUE. In the UNIT NAME field, enter:

AL*&*A to find ALASKA, ALABAMA

AL*&*MA to find ALABAMA

NOT Operator (!)

Use the NOT operator (!) to find tracks that do not contain the entered text string. For example, if !US is entered in the FLAG field, the search will find all non-United States tracks.

Backslash Character(\)

Use the backslash operator (\) to indicate that the next character following the backslash should be interpreted literally. The backslash operator is necessary in case any of the other operator characters is a real character in a field.

For example, if the name of a ship is BLACK&BLUE and this string is entered into the UNIT NAME search field, the & character will be interpreted as the AND operator. Instead, enter BLACK\&BLUE as the search string.

ATTRIBUTE Fields

NAME
Name of the object (track, emitter, etc.)

CLASS
Unit/ship class.

FLAG
Two-character country code representing the nationality of the track.

FTN

Force Over-The-Horizon Track Coordinator number assigned by FOTC, if in FOTC mode.

SCONUM

Ship Control Number. Assigned by NOIC (Naval Ocean Information Center); sometimes referred to as the NOIC ID or NOSICID.

TYPE

Track type (i.e., ship, aircraft, land unit, etc.).

HULL NO

Ship's hull number.

TRADEMARK

Case or designation number identifying an unknown or hostile submarine.

INTEL PIF

Intel Pseudo Identification Feature (PIF) number.

CALL SIGN

Intl (international) call sign.

ALERT

Alert status.

HIT	High Interest Track
TGT	Target
SUS	Suspect Carrier
NSP	Cleared Suspect
. . .	No Alert

ELNOT

An acronym for ELINT Notation, the electronic emitter code assigned to a radar by the detecting sensor.

This five digit field begins with an alpha character, followed by three numbers, ending with another alpha character.

EMITTER

Radar name (for example, RAY1500, SPN-43, HEADNET).

CMD XREF

Two-character source cross-reference code for the Command that originated the track report.

COMMS XREF
Communications cross reference code used for a particular communications interface. (Normally two characters, but accepts up to four—e.g., FOTC.)

RTNCOMMAND
RTN—received track number—command.

11.13.2 TRACK TYPE BOX

To include a track type category in the search, toggle the applicable checkbox ON. The following track type classifications can be specified for the search:

PLATFORM

LINK/ACDS

EMITTER/ELINT

ACOUSTIC/SUB

UNIT

SPA-25(G)

RAYCAS V

SI

FCS

EXTERNAL

11.13.3 TIMELATE BOX

Specify a number of hours and minutes for a timelate interval (a period of time since the last report).

1. Specify the timelate interval.
2. Select a diamond knob to indicate whether the search is to include only those tracks OLDER THAN the timelate, or YOUNGER THAN the timelate.
3. To turn off timelate for the search, set the HH:MM to 00:00 and click the OLDER THAN diamond knob.

11.13.4 MODES BOX

Specify a search based on FOTC and Ambiguity tracks—FOTC, NON-FOTC, AMBIGUITY, and NON-AMBIGUITY.

- At least one of the FOTC or NON-FOTC checkboxes must be turned ON.

- At least one of the AMBIGUITY or NON-AMBIGUITY checkboxes must be turned ON.
- Both checkboxes for either pair can be toggled ON.

11.13.5 TRACK GROUP BOX

Specify a search that includes track group information.

1. Click one of the following diamond knobs to specify the track group information for the search:
   - IGNORE—track group information will have no bearing on the search.
   - MEMBER OF—include only tracks from a particular track group.
   - NOT MEMBER OF—exclude all tracks from a particular track group.
2. If either the MEMBER OF or NOT MEMBER OF diamond knob is selected, specify the track group.
   a. Click the left trackball button on the list box to show available track groups.
   b. Select a group from the list to fill the field in the TRACK GROUP box.

11.13.6 CAT/THREAT BOX

Use the CAT/THREAT box to:

- Specify the categories included in the search—Air, Surface, Sub-Surface, Land, Unknown.
- Set the threat status of the chosen categories—Friendly, Hostile, Neutral, Unknown Assumed Friendly, Unknown Assumed Enemy, Unknown, Unknown Unevaluated.

To include a category and threat status:

1. Toggle ON the checkbox for the category/threat.
2. If all checkboxes are left blank, no tracks will be found.

11.13.7 REAL/EXERCISE BOX

Toggle ON one or more of the checkboxes—REAL-WORLD, LIVE TRAINING, and SIMULATED—to include those tracks in the search.

11.13.8 TRACK SCOPE BOX

Toggle ON one or more of the checkboxes—OTH, LOCAL, and TERMINAL—to include those tracks in the search.

11.13.9 GEO LOCATION BOX

To define a geographic search area, either (1) specify the location or (2) recall a saved location.

To specify a location:

1. Select one diamond knob to indicate the type of geographic area—IGNORE, BOX, CIRCLE, POLYGON, or TRACK (described below).
2. Enter values for the selected type of area.
3. Select one diamond knob to indicate whether the tracks should be INSIDE or OUTSIDE the area. (Described in *INSIDE/OUTSIDE Diamond Knobs*.)

To recall a saved location:

- Click the USE OVLY button. (Described in *USE OVLY Button*.)

IGNORE Diamond Knob

Searches the entire world for the track instead of limiting the search to a specific geographical area.

BOX Diamond Knob

Specifies a rectangular search area. An UPPER LEFT and LOWER RIGHT field and an EDIT button appear in the right portion of the GEO LOCATION box (Figure11.13 -2):

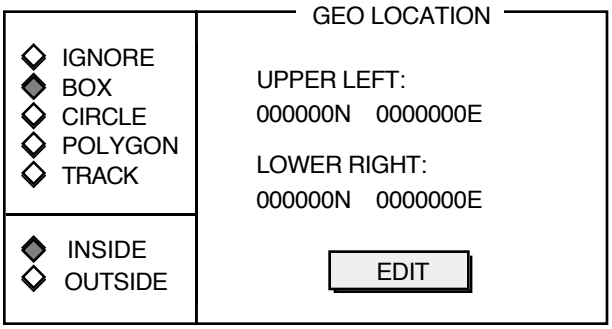


Figure11.13 -2 Geo Location Box with BOX diamond knob clicked

To define the filter area:

1. Click EDIT to open the EDIT RECTANGLE window (Figure11.13-3).
2. Enter lat/long values using one of these methods:
   - Enter lat/long values for the corners of the rectangle in the UPPER LEFT and LOWER RIGHT fields.
   - Draw a filter area directly on the tactical display using the trackball.
3. To draw a rectangle:
   a. Click a point on the tactical display for the upper left corner of the rectangle.
   b. Move the pointer to the position for the lower right corner of the rectangle, and click the trackball button.
   c. The lat/long values for the positions automatically fill the UPPER LEFT and LOWER RIGHT fields.
4. The AREA is automatically calculated regardless of the method used to enter lat/long values.
5. Specify whether the rectangle's lines are shown as Great Circle (GC) lines or Rhumblines (RL).
   - Great Circle line—shortest path between two points; may appear curved with some map projections.
   - Rhumbline—straight line on a Mercator projection map.
6. A NAME is not required.
7. Click OK to accept the settings, or click CANCEL to discard them.

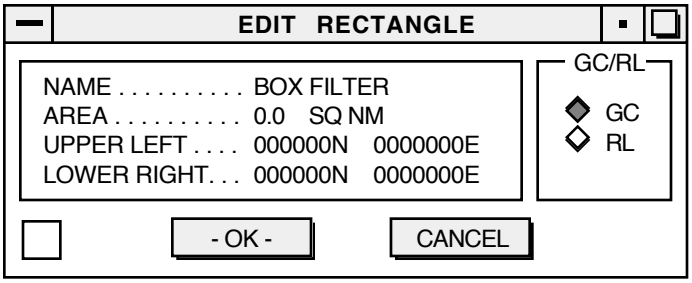


Figure11.13 -3 Edit Rectangle Window

CIRCLE Diamond Knob

Specifies a circular search area. CENTER and RANGE fields and an EDIT button appear in the right portion of the GEO LOCATION box (Figure11.13 -4).

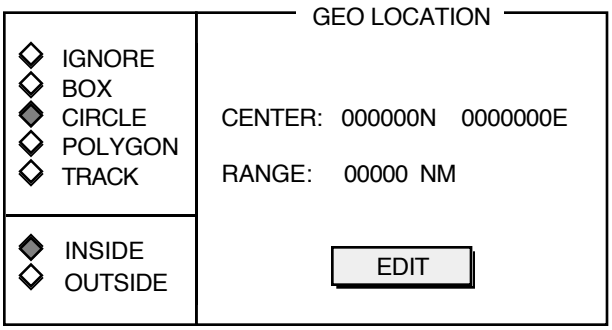


Figure11.13 -4 Geo Location Box with CIRCLE diamond knob clicked

To define the filter area:

1. Click EDIT to open the EDIT CIRCLE window (Figure11.13 -5).
2. Define the center and radius of the circle using one of these methods:
   - Enter values in the CENTER and RANGE fields.
   - Draw the filter area directly on the tactical display.
3. To draw the circle:
   a. Click a point on the tactical display for the center of the circle.
   b. Move the pointer outward, creating a circle on the screen, until the circle covers the area for the filter. Click the trackball button.
   c. The lat/long value of the CENTER and the nautical miles of the RADIUS fill those fields.
   d. Optional: Use the grab points to adjust the size (radius) of the circle.
   e. Optional: Move the entire circle to a new location by clicking and holding down the left trackball button on the center point, dragging the circle to a new location, and releasing the trackball button.
4. The AREA is automatically calculated.
5. A NAME is not required.
6. Click OK to accept the settings, or click CANCEL to discard them.

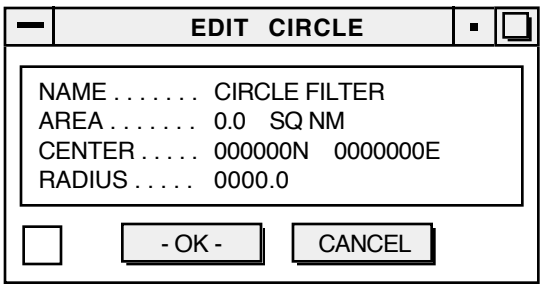


Figure11.13 -5 Edit Circle Window

POLYGON Diamond Knob

Specifies a search area in the shape of a polygon. A list of endpoints for the polygon appears in the right portion of the GEO LOCATION box (Figure 11.13 -6). If the endpoints form an open polyline rather than a closed polygon, an imaginary line is drawn from the first point to the last point to define the search area.

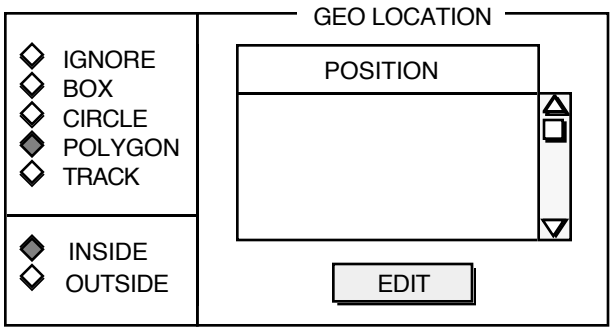


Figure 11.13 -6 Geo Location Box with POLYGON diamond knob clicked

Click EDIT to open the EDIT POLYLINE window (Figure 11.13 -7).

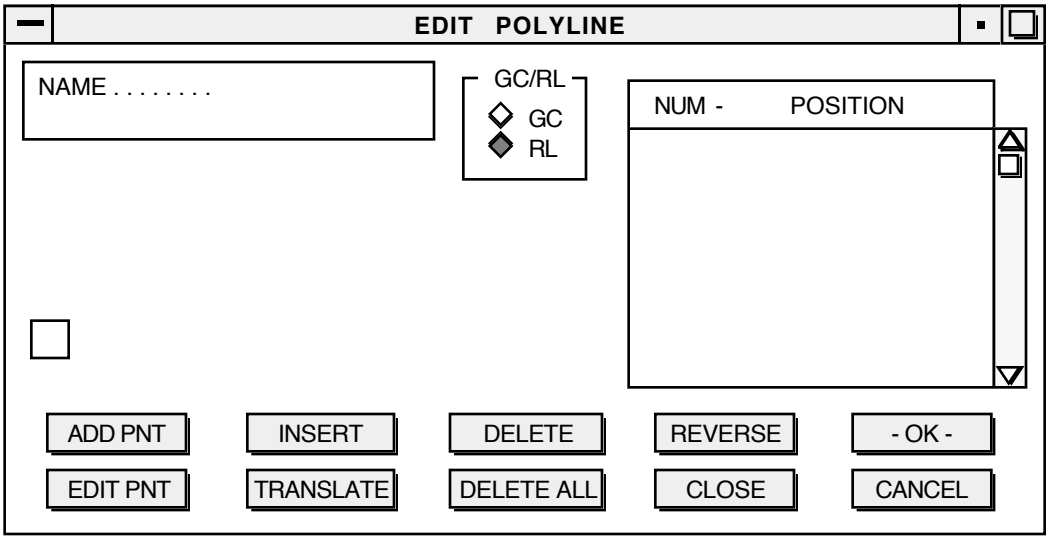


Figure 11.13 -7 Edit Polyline Window

EDIT POLYLINE Window Buttons

ADD PNT—add an endpoint to the polyline.

1. Click ADD PNT to open the ADD POINT window.
2. Enter the lat/long value for a polyline endpoint, either from the keyboard or by clicking a point on the tactical display.

   a. The new position becomes the last endpoint of the polyline.
   b. The window remains open so additional endpoints can be entered.
   c. If values are entered via the keyboard, click ACPT PNT after entering each endpoint.
3. Click OK to accept the polyline and return to the EDIT POLYLINE window.

EDIT PNT—edit a polyline endpoint.

1. Select the endpoint from the EDIT POLYLINE scroll list.
2. Click EDIT PNT.
3. The EDIT POINT window appears to edit the endpoint's lat/long position.
4. Enter a new position and click OK.
5. The position changes on the tactical display and the EDIT POLYLINE window reappears.

An *alternate way* to edit a polyline endpoint: Click on an endpoint from the tactical display and drag it to a new position.

INSERT—a new endpoint between two endpoints.

1. Select the endpoint (from the scroll list) immediately *after* the new endpoint to enter.
2. Click INSERT.
3. The ADD POINT window appears to add the new lat/long position.
4. Enter the new position from the keyboard, or click a point on the tactical display for the new point.
5. Click OK. The new endpoint is inserted before the selected endpoint and the EDIT POLYLINE window reappears.
6. Endpoints following the inserted endpoint are automatically renumbered.

TRANSLATE—move the polyline to a new position.

1. Click TRANSLATE to open the TRANSLATE window.
2. Click the trackball anywhere on the tactical display.
3. Move the pointer the distance and direction that the polyline is to move and click a second time.
4. The entire polyline moves as selected.

DELETE—an endpoint.

1. Select one or more endpoints from the EDIT POLYLINE scroll list.
2. Click DELETE.

3. The selected endpoints disappear from the scroll list and the display.

DELETE ALL—endpoints.

1. Click DELETE ALL.
2. An ANSWER PLEASE window appears requesting confirmation to delete all points.
3. Click YES to confirm the delete, or click NO to return to the EDIT POLYLINE window without deleting the points.

REVERSE—the order of the endpoints.

1. Click REVERSE.
2. Endpoints in the scroll list are reversed.
3. Labels on the tactical display are reversed to match the new sequence.

CLOSE—create a closed polyline.

1. Click CLOSE.
2. A new endpoint is added to the polyline, with the same position as the first endpoint in the polyline.
3. To open the polyline again, delete the last endpoint.

OK—save the polyline and close the window.

CANCEL—close the EDIT POLYLINE window without saving changes since the last time the polyline was saved.

EDIT POLYLINE Window Fields

The window contains a NAME field, a box to select Great Circle or Rhumblines, and a scroll list to show polyline endpoints.

NAME

Enter a name for the polyline, or any remarks about it.

GC/RL Box

Select a diamond knob to display the lines of the polyline as Great Circle lines or Rhumbline.

GREAT CIRCLE line—the shortest path between two points; may appear curved with some map projections.

RHUMBLINE—straight line on a Mercator projection map.

EDIT POLYLINE Pop-up Menu

The UNDO pop-up option is not active for the current JMCIS version. When active, the UNDO option will cancel the last action performed. For example, if a new endpoint is inserted, choose UNDO to cancel this operation and plot the polyline as it was before the insert action.

TRACK Diamond Knob

Specifies a circular search area based on a specified range from a selected track. The track name and local track number, the RANGE, and a SEARCH button appear in the right portion of the GEO LOCATION box (Figure11.13-8).

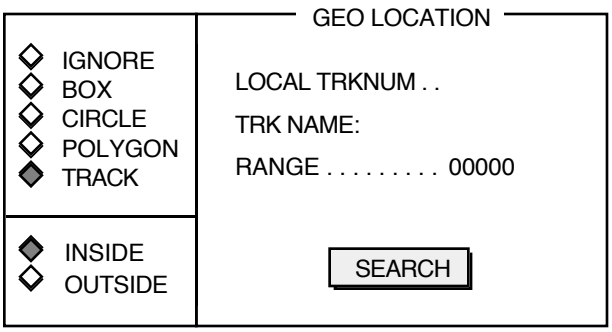


Figure11.13 -8 Geo Location Box with TRACK diamond knob clicked

To define the filter, specify a track and a distance from the track:

1. Identify the track name and local track number in one of two ways:
   - Click on the track on the tactical display.
   - Use the SEARCH button (described below).
2. In the RANGE field, enter the radius of the circle (in NM) which contains the selected track as its center.

To use the SEARCH button:

1. Click SEARCH to open the QUICK SEARCH window (Figure11.13 -9).
2. Enter a string of text (up to 26 characters).
   - Information may be entered exactly the same way as it appears in the track database, or wildcard characters may be used as part of the text string.
   - Refer to *Wildcard Searches* earlier in this section for a description of wildcard characters.
3. Click OK to perform the search.

4. If the quick search finds more than one track, the SELECT GEO TRACK window appears listing all tracks found.
5. Select the track from the list and click OK.
6. The DATABASE SEARCH window reappears with the selected track information—local track number and track name—entered in the GEO LOCATION box.

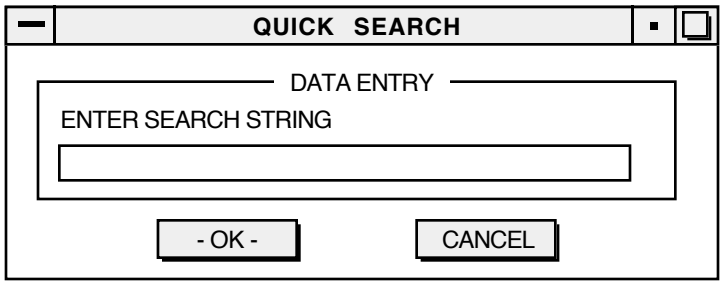


Figure11.13 -9 Quick Search Window

INSIDE/OUTSIDE Diamond Knobs

INSIDE
Specifies that only the internal area of the geographical location is included in the search.

OUTSIDE
Specifies that only the outside area of the geographical location is included in the search.

USE OVLY Button

The USE OVLY button retrieves a saved geographic overlay to be used for the search area. (Overlays are defined with the OVERLAYS option from the SUPPORT TDA'S menu.)

The SELECT OVERLAY SEGMENT window (Figure11.13-10) appears.

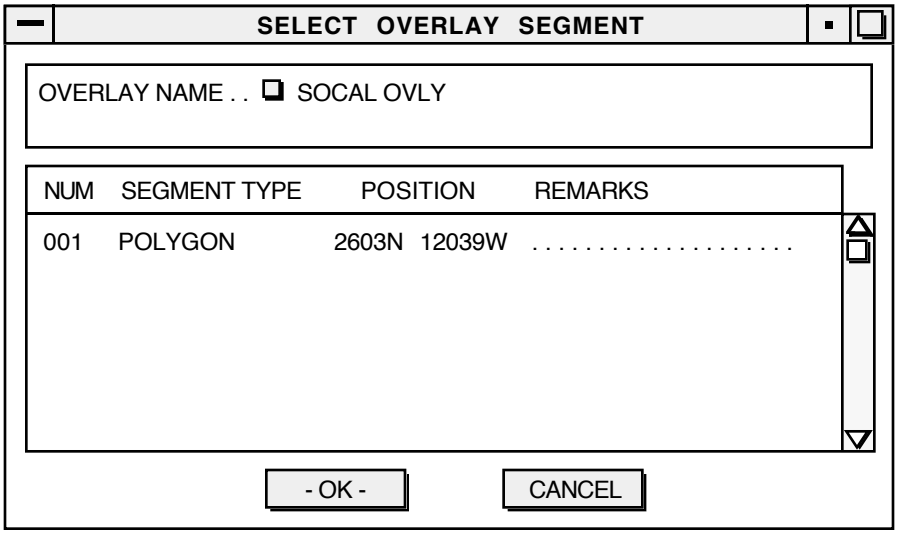


Figure11.13 -10 Select Overlay Segment Window

The window shows the name of an overlay and a list of the objects contained in the overlay. Only closed overlay objects may be used in the search; therefore, only closed overlay objects appear in the list.

To select a different overlay than the one shown in the top box:

1. Click the list box to show all overlays in the system.
2. Select an overlay from the list.
3. The objects of the selected overlay appear in the list.

To select an overlay for the geographical search area:

1. Select one overlay object from the list.
2. Click OK to accept the object. (Or, click CANCEL to discard it.)
3. The GEO LOCATION box in the DATABASE SEARCH window contains the values for the selected overlay object.

11.13.10 DATABASE SEARCH WINDOW POP-UP MENU

In addition to the options described in *Summary of Common Operations* (OK and CANCEL), or that function as buttons with the same name, the DATABASE SEARCH pop-up menu also includes:

RECALL

Use the RECALL pop-up option to retrieve a group of previously defined settings (a search filter). For example, if many searches are performed within the same

geographical box area, save a search filter that defines the area and use the RECALL option to retrieve the area whenever needed.

Search filters are saved with the SAVE pop-up option from the DATABASE SEARCH window and with the SEARCH FILTER TABLE option from the TRACKS pull-down menu.

Select RECALL to open the RECALL SEARCH FILTER window (Figure11.13 -11).

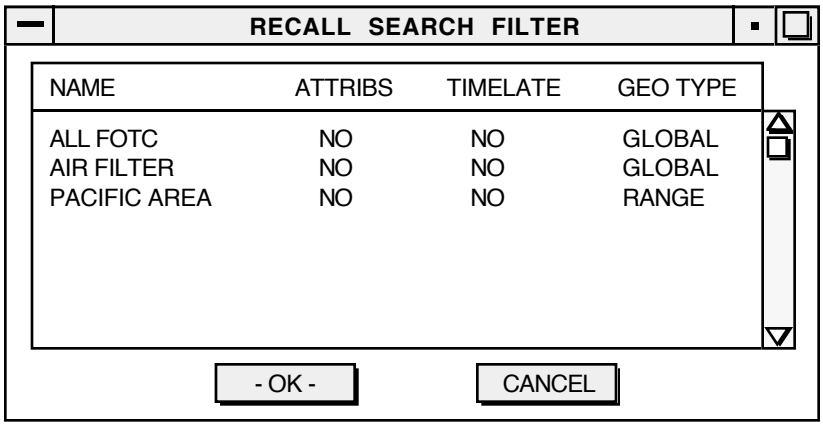


Figure11.13 -11 Recall Search Filter Window

The window lists all search filters that have been defined with the SEARCH FILTER TABLE option.

1. Choose the search filter from the list.
2. Click OK. (Or, click CANCEL to exit without selecting a filter.)
3. The checkboxes, diamond knobs, and fields in the DATABASE SEARCH window automatically change to reflect the values from the search filter.

SAVE

Use the SAVE pop-up option to save the current search settings as a search filter.

Search filters are retrieved with the RECALL pop-up option from the DATABASE SEARCH window.

To save a search filter:

1. When the search settings are fixed, select SAVE from the pop-up menu to open the SAVE SEARCH FILTER window (Figure11.13 -12).
2. Enter a name for the search filter.
3. Click OK to save the filter, or click CANCEL to discard it. Clicking either button returns to the DATABASE SEARCH window.

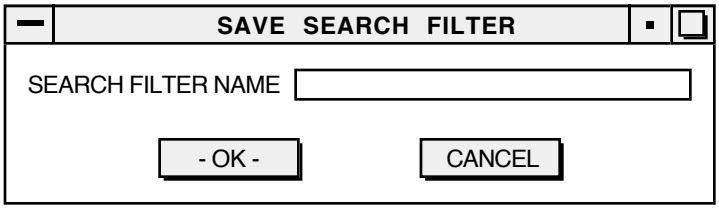


Figure11.13 -12 Save Search Filter Window

11.14 QUICK SEARCH

Use this option to conduct a quick search through the following track database fields for a specific string of text:

Track Name

Local Track Number

System Track Number

FOTC Track Number

Class

Intel PIF Number

Flag

Category

Threat

Type

Hull

Alert

Discrete Identifier

SCONUM

Call Sign

To access this window: TRACKS pull-down menu **:** QUICK SEARCH option **:** QUICK SEARCH window (Figure11.14-1).

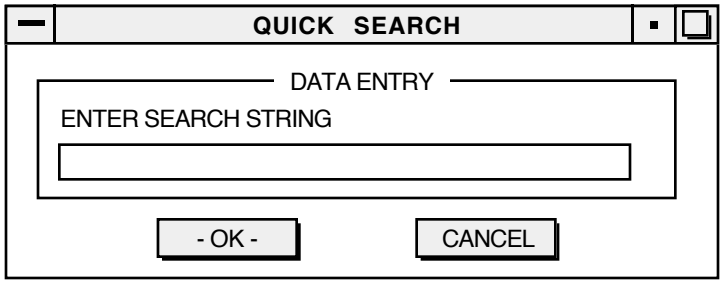


Figure11.14 -1 Quick Search Window

How to use the QUICK SEARCH option:

1. Enter a string of text (up to 26 characters).
   - For example, enter a country code to search for all tracks from a particular country (FLAG field).
   - Wildcard characters can be used. (Described in *Wildcard Searches* in the SEARCH option from the TRACKS pull-down menu.)
2. Click OK to perform the search.
3. If a match is found, the tracks are selected on the tactical display and listed in a SELECTED TRACK window.
   - Options and buttons in this window are the same as those for the TRACK SUMMARIES option from the TRACKS pull-down menu.
   - Click EXIT from the SELECTED TRACK window to return to the QUICK SEARCH window.
4. Repeat steps 1–3 to search for another string.
   - Selected tracks from the previous search are deselected on the tactical display.
5. Click CANCEL to close the QUICK SEARCH window. The tracks remain selected on the tactical display.

11.15 SEARCH TO REPLACE

Use this option to change one or more attributes for a track or a group of tracks.

For example, if the threat status of a country has changed from hostile to friendly, use SEARCH TO REPLACE to change the threat status for all tracks from that country.

Using the SEARCH TO REPLACE option:

1. Select one or more tracks from the tactical display.
2. Choose the SEARCH TO REPLACE option from the TRACKS pull-down menu.
   - If one track is selected, the SEARCH AND REPLACE window opens immediately.
   - If no tracks are selected, the DATABASE SEARCH window appears. (Described in the SEARCH option from the TRACKS pull-down menu.)
   - If multiple tracks are selected, the SELECT TRACKS FOR SEARCH-TO-REPLACE window appears. Select the tracks to modify and click OK.
3. Set the checkboxes in the SEARCH AND REPLACE window (Figure11.15 -1) to change the attributes for all selected tracks.
   - Any attribute toggled ON is applied to all selected tracks.
   - UNIQUE Box fields: Replace attribute values with blanks, except RTN COMMAND which is replaced with a user-provided entry.
   - NON-UNIQUE Box fields: Replace attribute values with user-provided entries.
4. Click OK and the changes take effect for all selected tracks. Or, click CANCEL to exit this option and discard changes.

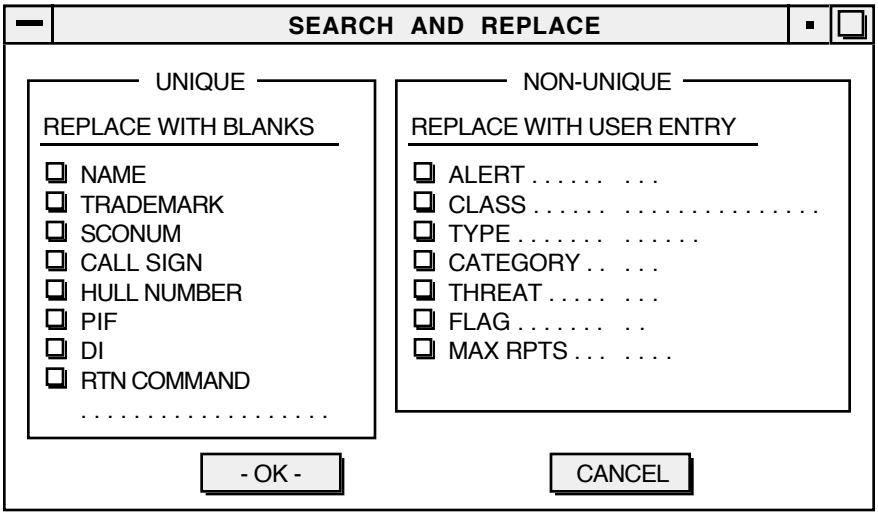


Figure11.15 -1 Search and Replace Window

SEARCH AND REPLACE Window Fields

UNIQUE Box

NAME
Name of the object (track, emitter, etc.)

TRADEMARK
Case or designation number identifying an unknown or hostile submarine.

SCONUM
Ship Control Number. Assigned by NOIC (Naval Ocean Information Center); sometimes referred to as the NOIC ID or NOSICID.

CALL SIGN
International Radio Call Sign.

HULL NUMBER
Hull number.

PIF
Intel Pseudo Identification Feature (PIF) number.

DI
Intel Discrete Identifier—a four-digit code representing hostile or unknown tracks.

RTN COMMAND
RTN (received track number) command.

If toggled ON, enter a value to replace the RTN command.

NON-UNIQUE Box

ALERT

Alert status.

HIT	High Interest Track
TGT	Target
SUS	Suspect Carrier
NSP	Cleared Suspect
. . .	No Alert

CLASS

Unit class.

TYPE

Track type (i.e., ship, aircraft, land unit, etc.).

CATEGORY

Category code for the track:

AIR	Aircraft
NAV	Naval
SUB	Submarine
MER	Merchant
FSH	Fishing Vessel
LND	Land Unit
UNK	Unknown

THREAT

Threat status code for the track:

FRI	Friendly
HOS	Hostile
NEU	Neutral
UAF	Unknown Assumed Friendly
UAE	Unknown Assumed Enemy
UEV	Unknown Evaluated
UNK	Unknown
PND	Pending

FLAG
Two-character country code representing the nationality of the track.

MAX RPTS
Maximum number of reports. Range: 26–1000.

11.16 SEARCH FILTER TABLE

Use this option to create and save groups of search parameters (search filters) for use with the SEARCH option. These filters may not be used with the BOOLEAN TRACK SEARCH option.

To access this option: TRACKS pull-down menu **:** SEARCH FILTER TABLE option **:** SELECT SEARCH FILTER window (Figure11.16-1).

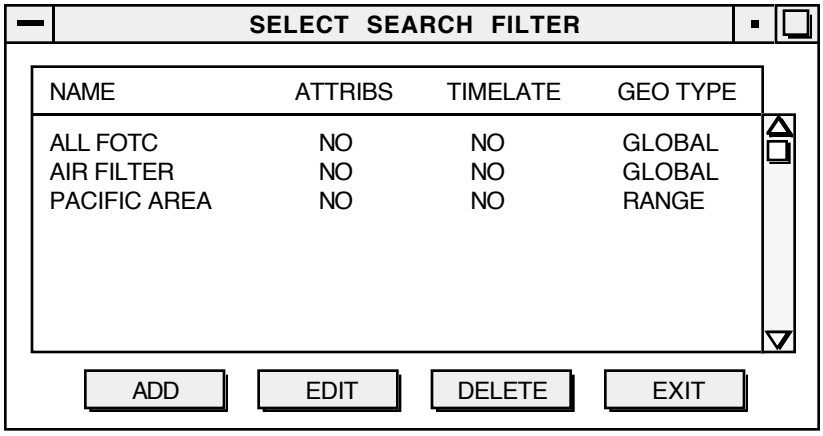


Figure11.16 -1 Select Search Filter Window

SELECT SEARCH FILTER Window Buttons

ADD—a search filter.

1. Click ADD to open the ADD SEARCH FILTER window.
   - This window is similar to the DATABASE SEARCH window.
   - See the *SEARCH* option from the TRACKS pull-down menu for a complete description.
2. Toggle ON the diamond knobs and checkboxes and enter data into the appropriate fields.
3. Click OK to accept the new filter. (Or click CANCEL to discard it.)
   - The filter appears in the scroll list of the SELECT SEARCH FILTER window.

- The filter can be used with the DATABASE SEARCH window, using the RECALL pop-up menu option.

EDIT—a search filter.

1. Select the filter from the list in the SELECT SEARCH FILTER window.
2. Click EDIT to open the EDIT SEARCH FILTER window.
3. Make changes to the filter. Options to edit a filter are the same as those to add a filter.
4. Click OK to accept changes, or click CANCEL to discard them.

DELETE—a search filter or filters.

1. Select one or more filters from the SELECT SEARCH FILTER window.
2. Click DELETE and the selected filters are removed from the system.

EXIT—the SEARCH FILTER TABLE option.

SELECT SEARCH FILTER Window Pop-up Menu Options

Options on the pop-up menu perform as described elsewhere in this section, or as described in *Summary of Common Operations*: ADD, DELETE, EDIT, EXIT, SELECT ALL, and UNSELECT ALL.

SELECT SEARCH FILTER Window Fields

NAME
Name of the search filter.

ATTRIBS
Indicates whether values are entered in the ATTRIBUTES fields of the DATABASE SEARCH window.

YES—one or more fields contain entries.

NO—no values are entered.

TIMELATE
Indicates whether a non-zero time is entered in the TIMELATE box of the DATABASE SEARCH window.

YES—a non-zero time is entered.

NO—time is 00:00.

GEO TYPE
Type of geographic boundary for the search filter:

GLOBAL—the world. (No geographic boundary.)

BOX—rectangular area.

RANGE—circular area.

POLYGON—closed polyline area.

TRK RNG—range from a specified track.

11.17 BOOLEAN SEARCH FILTERS

Use this option to create and save groups of Boolean search parameters (search filters) for use with the BOOLEAN TRACK SEARCH option. These filters may not be used with the SEARCH option.

To access this option: TRACKS pull-down menu **:** BOOLEAN SEARCH FILTERS option **:** SELECT BOOLEAN SEARCH FILTER window (Figure11.17-1).

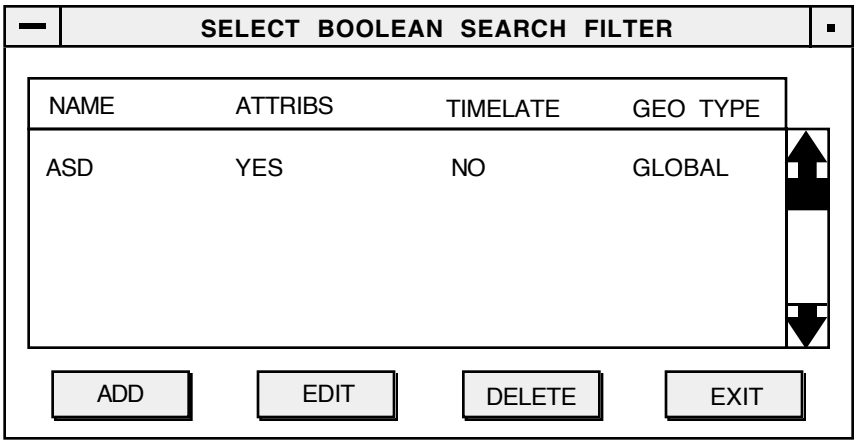


Figure11.17 -1 Select Boolean Search Filter Window

SELECT BOOLEAN SEARCH FILTER Window Buttons

ADD—a search filter.

1. Click ADD to open the ADD BOOLEAN SEARCH FILTER window.
   - This window is similar to the BOOLEAN DATABASE SEARCH window.
   - See the BOOLEAN TRACK SEARCH option from the TRACKS pull-down menu for a complete description.
2. Toggle ON the diamond knobs and checkboxes and enter data into the appropriate fields.
3. Click OK to accept the new filter. (Or click CANCEL to discard it.)

- The filter appears in the scroll list of the SELECT SEARCH FILTER window.
- The filter can be used with the BOOLEAN DATABASE SEARCH window, using the RECALL button.

EDIT—a Boolean filter.

1. Select the filter from the list in the SELECT BOOLEAN SEARCH FILTER window.
2. Click EDIT to open the EDIT BOOLEAN SEARCH FILTER window.
3. Make changes to the filter. Options to edit a filter are the same as those to add a filter.
4. Click OK to accept changes, or click CANCEL to discard them.

DELETE—a Boolean search filter.

1. Select one or more filters from the SELECT BOOLEAN SEARCH FILTER window.
2. Click DELETE. The selected filters are removed from the system.

EXIT—the BOOLEAN SEARCH FILTERS option.

SELECT BOOLEAN SEARCH FILTER Window Pop-up Menu Options

Options on the pop-up menu perform as described elsewhere in this section, or as described in *Summary of Common Operations:* ADD, DELETE, EDIT, EXIT, SELECT ALL, and UNSELECT ALL.

SELECT BOOLEAN SEARCH FILTER Fields

The SELECT BOOLEAN SEARCH FILTER window lists all current search filters. The following fields appear for each search filter:

NAME
Search filter name.

ATTRIBS
Indicates whether attributes and values are entered in the QUERY STRING of the BOOLEAN DATABASE SEARCH window.

YES—one or more attributes are entered.

NO—no values are entered.

TIMELATE

Indicates whether a non-zero time is entered in the TIMELATE box of the DATABASE SEARCH window.

YES—a non-zero time is entered.

NO—time is 00:00.

GEO TYPE

Type of geographic boundary for the search filter:

GLOBAL—the world. (No geographic boundary.)

BOX—rectangular area.

RANGE—circular area.

POLYGON—closed polyline area.

TRK RNG—range from a specified track.

11.18 BOOLEAN TRACK SEARCH

Use this option to search the database for tracks that meet specified criteria.

- Tracks meeting the criteria are listed in a window on the screen and become selected on the tactical display.
- Although this option is very similar to SEARCH, it provides the capability to connect track attributes with Boolean operators such as NOT and OR.
- Both SEARCH and BOOLEAN TRACK SEARCH offer wildcard characters and Boolean operators for specifying attribute values.

To access this window: TRACKS pull-down menu **:** BOOLEAN TRACK SEARCH option **:** BOOLEAN DATABASE SEARCH window (Figure11.18 -1).

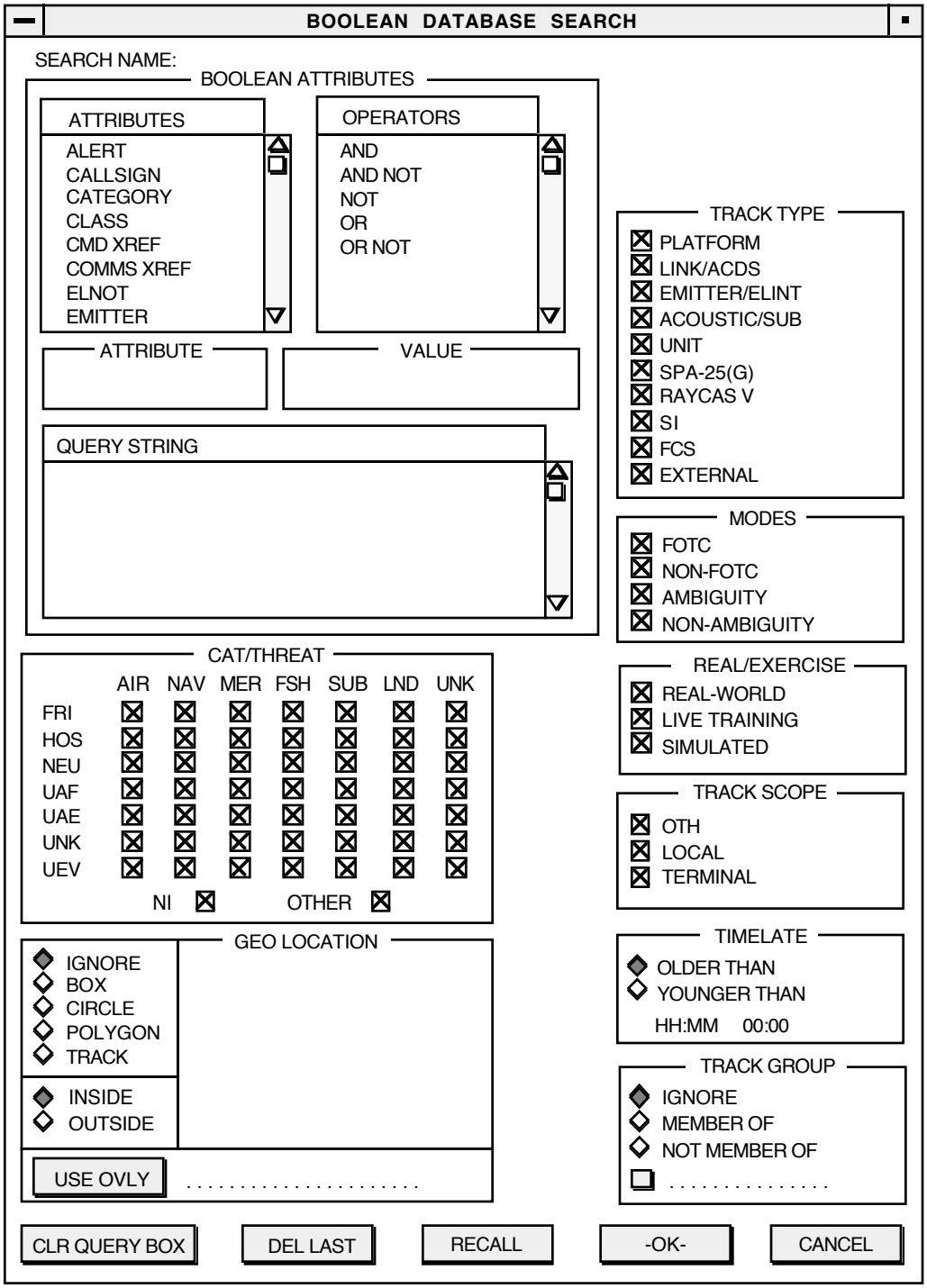


Figure11.18 -1 Boolean Database Search Window

When entering the search criteria:

- The QUERY STRING field is a non-editable display showing the current Boolean string. Maximum string size is 20 lines and scrolls downward if a long query is entered.

- If there is an error in the QUERY STRING, a warning indicates the type of error. Follow the instructions in the warning message to correct the error.
- Use the DEL LAST button to delete the last entry in the QUERY STRING box. This action deletes only one entry at a time—attribute, value, or operator.
- Use the CLR QUERY BOX button to clear all information from the QUERY STRING box.

To define the search criteria:

1. To recall a search filter, click the RECALL button and select a filter from the list. The values from the saved filter appear in the fields.
   - Boolean search filters are saved with the BOOLEAN SEARCH FILTERS option.
   - Track database search filters, saved with the DATABASE SEARCH window pop-up option or the SEARCH FILTER TABLE option, cannot be recalled into the BOOLEAN DATABASE SEARCH window.
2. Specify an attribute query—described in steps 3–5.
3. Identify an attribute—either click on the name in the ATTRIBUTES scroll list or type the name in the ATTRIBUTE box and press RETURN.
   - The attribute appears in the QUERY STRING box (attribute=).
   - Attributes are described below in *BOOLEAN DATABASE SEARCH Window ATTRIBUTES*.
   - To *exclude* an attribute value, select the operator NOT *before* selecting the attribute name. For example, NOT THREAT=:FRI: locates all tracks that are not friendly.
4. Enter the value for the attribute in the VALUE box and press RETURN.
   - The value appears in the QUERY STRING box (attribute=:value:).
   - The system places colons (:) around the value; do not enter them.
   - Wildcard characters and Boolean operators that may be used to specify the value (*, ?, [ ], |) are described in the SEARCH option from the TRACKS pull-down menu.
5. To base the search on multiple attributes, select an operator from the OPERATORS scroll list to connect them.
   - The operator appears in the QUERY STRING box (attribute=:value:operator).
   - Operators are described below in *BOOLEAN DATABASE SEARCH Window OPERATORS*.

6. Repeat steps 3–5 until all search attributes are specified.
7. Specify the remaining search criteria—set the checkboxes and diamond knobs, and enter field values. Described in the SEARCH option from the TRACKS pull-down menu.
8. Click OK to perform the track database search.
9. If a match is found, the tracks are selected on the tactical display and the SELECTED SUMMARY window appears with a list of the tracks.
   - Options and buttons in this window are the same as those available with the TRACK SUMMARIES—TRACK option from the TRACKS pull-down menu.
   - Click EXIT from the SELECTED SUMMARY window to return to the BOOLEAN DATABASE SEARCH window.
10. Click CANCEL to exit the BOOLEAN TRACK SEARCH option. The selected tracks *remain* selected on the tactical display.

BOOLEAN DATABASE SEARCH Window Pop-Up Menu Options

Pop-up menu options function the same as buttons in the window: CANCEL, CLRBOX, DEL LAST, OK, RECALL, and USE OVLY.

BOOLEAN DATABASE SEARCH Window OPERATORS

Before entering attributes and values, divide the overall query into small pieces:

- The divisions occur by using the OR and OR NOT operators.
- Small subsearches are connected with AND and AND NOT operators.
- OR and OR NOT indicate that a search should be performed on the previously connected ANDs and AND NOTs.

The examples below illustrate the order of operations.

(Single Attribute—No Operator)

Find all tracks that have the specified attribute value.

For example: ALERT=:HIT: finds every track that is a High Interest Track.

AND

Find all tracks that have both the previously given attribute value *and* the value that follows.

For example: NAME=:DESTROYER: AND ALERT=:HIT: finds every track that has the name Destroyer and is also a High Interest Track.

AND NOT

Find all tracks that have the previously given attribute value *and not* the value that follows.

For example: NAME=:DESTROYER: AND NOT ALERT=:HIT: finds every track that has the name Destroyer and is not a High Interest Track.

NOT

Find all tracks that *do not* have the attribute value to follow. NOT is the only operator that can immediately follow another operator and is the only operator that can *begin* a query string.

For example: NOT THREAT=:FRI: locates all tracks that are not friendly.

OR

Find all tracks that have either the previously given attribute value *or* the value that follows. The previous and following values may be multiple attributes connected with AND and AND NOT operators.

For example: NAME=:DESTROYER: AND NOT ALERT=:HIT: OR NAME=:CRUISER: AND ALERT=:TGT: finds every track that has the name Destroyer and is not a HIT and also every track that has the name Cruiser and an alert of TGT.

The system performs a search with the criteria before the OR operator. It then uses the original database of all tracks to perform the search with the criteria following OR. The results of both searches are presented in the SELECTED SUMMARY window.

OR NOT

Find all tracks that have either the previously given attribute value *or not* the value that follows. The previous and following values may be multiple attributes connected with AND and AND NOT operators.

For example: NAME=:DESTROYER: AND NOT ALERT=:HIT: ORNOT NAME=:CRUISER: AND ALERT=:TGT: finds every track that has the name Destroyer and is not a HIT and also every track that does not have *both* the name Cruiser and an alert of TGT.

BOOLEAN DATABASE SEARCH Window ATTRIBUTES

ALERT

Alert status.

HIT High Interest Track

TGT Target

SUS Suspect Carrier

NSP Cleared Suspect

. . . No Alert

CALLSIGN
International call sign.

CATEGORY
Category code for the track:

AIR Aircraft

NAV Naval

SUB Submarine

MER Merchant

FSH Fishing Vessel

LND Land Unit

UNK Unknown

CLASS
Ship class or aircraft model/class designator.

CMD XREF
Two-character source cross-reference code for the Command that originated the track report.

COMMAND
Specific reporting command.

COMMS XREF
Communications cross-reference code for a particular communications interface.

ELNOT
An acronym for ELINT Notation, the electronic emitter code assigned to a radar by the detecting sensor.

This five digit field begins with an alpha character, followed by three numbers, ending with another alpha character.

EMITTER
Radar name (for example, RAY1500, SPN-43, HEADNET).

FLAG
Two-character country code representing the nationality of the track.

FTN
Force Over-The-Horizon Track Coordinator number assigned by FOTC, if in FOTC mode.

HULL NO

A 1–6 character alphanumeric entry assigned to the ship and shown on the ship's hull (e.g., A35, D51).

INTEL PIF

Intel Pseudo Identification Feature (PIF) number.

LAST REPORT

Track's last reported position, found by entering a DTG or DTG range (ddhhmmZ MON YR).

Use the following format to enter DTG values for LAST REPORT and LAST UPDATE:

{DTG}—for tracks with that exact DTG.

{DTG}>—for tracks with the given DTG or a DTG later than that given.

<{DTG}—for tracks with a DTG earlier than the given DTG.

{DTG}^{DTG}—for tracks with a DTG between those given.

@—designates the current system time. Combinations of @+{min} and @-{min} indicate a current system time plus or minus the given number of minutes.

LAST UPDATE

Last update of track in Tdbm. Found by entering a DTG or DTG range with a given time range. Update includes all updated track information.

LTN

System-assigned local track number. Every new track is automatically assigned a unique number for system identification.

PRF

Pulse repetition frequency (PRF), measured in pulses per second. (This the reciprocal of the PRI value.)

PRI

Pulse repetition interval for the transmission (measured in pulses per second).

PW

Pulse width (measured in microseconds).

RF

Radio frequency (measured in microseconds).

RTN

Received track number.

SCAN RATE
Scan rate (measured in seconds per rotation).

SCAN TYPE
Scan type code. For example: CIRC (circular)

SCONUM
Ship Control Number. Assigned by NOIC (Naval Ocean Information Center); sometimes referred to as the NOIC ID or NOSICID.

SENSOR
Sensor type used to pick up the track at its last reported position.

SOURCE
Two-letter OTCIXS station source code (for example, AM=America). Letters are taken from the Source XREF Table, which can be viewed from the SOURCE XREF TABLE option (MISC menu).

SPD
Speed of the track.

THREAT
Threat status code for the track:

FRI	Friendly
HOS	Hostile
NEU	Neutral
UAF	Unknown Assumed Friendly
UAE	Unknown Assumed Enemy
UEV	Unknown Evaluated
UNK	Unknown
PND	Pending

TRADEMARK
Case or designation number used to identify an unknown or hostile submarine.

TYPE
Code for ship type (for example, CGN).

11.19 COMPARE

Use the COMPARE option to compare tracks and ambiguities and to merge them when appropriate; that is, when it is determined that they represent the same track.

Figure 11.19-1 shows a comparison of merge and associate and the results of those actions. A detailed explanation of the Merge and Associate functions can be found in the introduction to the *TRACKS* chapter.

MERGE / ASSOCIATE	RESULT
Merge tracks of the same type:	Only 1 track exists in track database.
	Merges cannot be separated later.
Associate track records from differing sources:	Individual tracks in association exist as separate entities in track database.
	Displays as 1 track (the Parent track) on tactical display.
	Associations can be broken later.
	Track hierarchy created: • Parent = One Platform or Unit Track. • Children = Other track types (Link, ELINT, Acoustic, etc.). • A single Parent can have multiple child tracks associated with it.

Figure11.19-1 Track Merge/Association Specifics

Compare, Merge, and Associate:

- A track can be merged into another track of the same type (for example, if both are Unit tracks), resulting in one track in the database.
  - Exception: Ownship cannot be merged into another track.
  - Compare track information carefully before performing a merge.
  - A merge cannot be "undone."
- Tracks of different types (for example, Platform and Link) can be "associated."
  - An association can be broken, resulting in two separate tracks in the database.
- Tracks with different scopes (for example, OTH and LOCAL) cannot be merged or associated.
- An ambiguity can be merged into a track, but a track cannot be merged into an ambiguity.
- When comparing two tracks, one track is the master and one is the slave. If merged:

- The slave is merged into the master.
- Existing values from the master track are recommended in most cases where the tracks have different attribute values.
- For some fields, the operator can override the recommended master value.

- When Link tracks are associated to a parent, unique rules apply:
  - All Link-11 parameters (STN, PIF, DI, Category, and Threat) will over-write the existing Platform track parameters.
  - Only one Link track may be associated to a Platform track. If a Link-to-Platform track association already exists, then the previous association will be automatically broken prior to the new manual association request.
- If multiple tracks are selected, the comparison can occur from the perspective of the master or the slave.
  - Choose one track as a master—all other selected tracks are treated as slaves and may be compared to the master sequentially.
  - Choose one track as a slave—all other selected tracks are treated as candidate masters and may be compared to the slave sequentially.
  - A LIST SLAVE button is provided at the top of the COMPARE window to permit more immediate access to a specific slave track.

Selecting tracks to compare:

1. Select two or more tracks to compare—using one of the track selection methods (from the display, or the DATABASE SEARCH window, or the QUICK SEARCH window).
2. Choose COMPARE from the TRACKS pull-down menu.
   - If more than two tracks are chosen, the SELECT TRACK window appears, with a list of the selected tracks (Figure 11.19-2).
3. Select a track for the basis of the comparison.
   - Highlight the track in the list.
   - Click either the SELECT MASTER or SELECT SLAVE diamond knob.
4. Optional: Click the AUTO-GEO PLOT checkbox to automatically center the tactical display on a point between the master track and the slave track.
   - All track history points are automatically displayed for both tracks.
   - If AOUs are present for any of these history points, they will also be displayed, depending on the user's last selection for the GEO plot.

- To reduce display clutter, all other tracks will be plotted as dots on the display. Only the master and slave will be shown with their standard display symbols.

5. Optional: Click AUTO ICONIFY to automatically iconify the COMPARE window. This toggle is active only when the AUTO GEO-PLOT is active.
6. If the AUTO-GEO PLOT checkbox was toggled ON, click OK.

HINT: The AUTO-GEO PLOT checkbox (with two tracks selected) allows the user to bypass the Master/Slave selection window and go directly to the display.

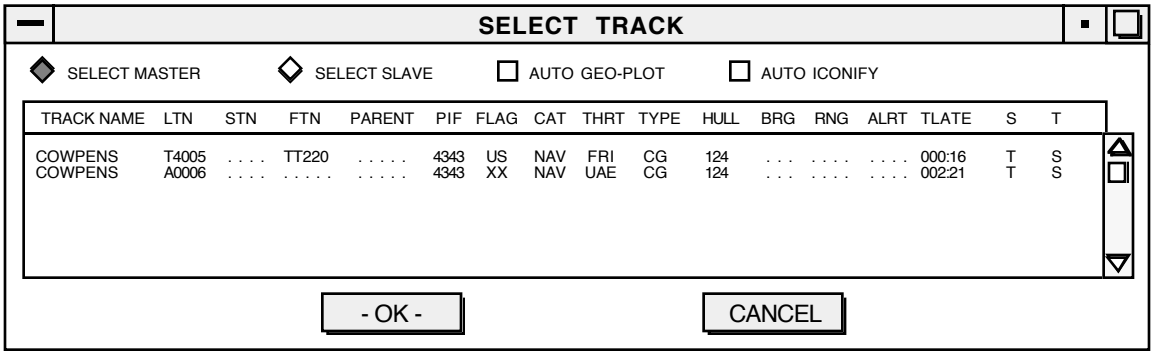


Figure 11-19-2 Select Track Window

Compare the tracks:

If the AUTO-GEO PLOT checkbox *was not* toggled on, click OK from the SELECT TRACK window to open the COMPARE TRACKS/AMBIGUITIES window (Figure11.19 -3).

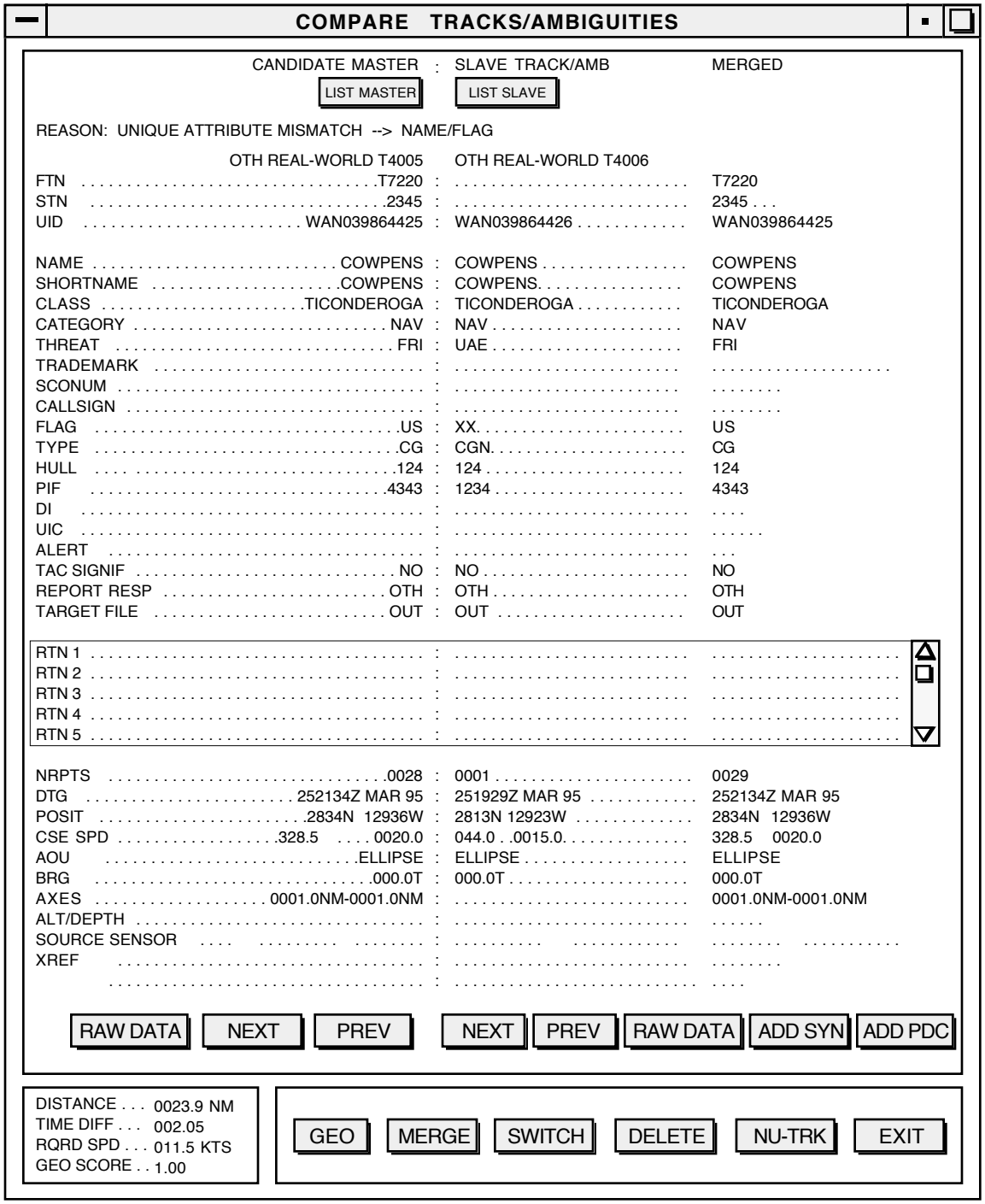


Figure11.19 -3 Compare Tracks/Ambiguities Window

The selected track appears in the CANDIDATE MASTER or SLAVE TRACK/AMB column, based on the diamond knob chosen.

The first non-selected track from the SELECT TRACK window appears in the other column.

COMPARE TRACKS/AMBIGUITIES Window Buttons

Appropriate buttons are available, based on the master and slave tracks that appear in the window. Other buttons are dimmed.

LIST SLAVE/LIST MASTER—shows a window containing non-selected tracks. Works in conjunction with the SWITCH button.

1. Depending on which diamond knob was chosen in the SELECT TRACK window—SLAVE or MASTER—the LIST button is available to view/select (next or previous) non-selected tracks.
2. Click LIST SLAVE to see the SELECT SLAVE TRACK window.
   - This window's appearance is the same as the SELECT TRACK window.
3. Select a track from the list and click OK.
   - The information appears in the COMPARE TRACKS window.
4. Click SWITCH to switch the positions of the master and slave tracks. If there are available master tracks, the LIST MASTER button becomes selectable.

NEXT or PREV—shows the next or previous non-selected track from the SELECT TRACK window.

- Buttons are available only if more than two tracks appear in the scroll list of the SELECT TRACK window.
- The selected master or slave track always remains the same and the buttons are dimmed in that column.

RAW DATA—view the raw data for the track. Raw data is shown only for those reports that were received through a transmission.

1. Click RAW DATA to open the RLOG EDITOR window.
   - This window is the same window that can be accessed through the REPORT LOG options from the FOTC/BCST menu.
2. Use the window buttons to view the track reports.

ADD SYN—add a synonymous track name to the synonym table. This button is active only when the master and slave track display different valid names. Described in *Add Synonym*. For example, add JF Kennedy as a synonym for the carrier Kennedy JF. This prevents future ambiguities from data sources that are incorrectly reporting the ship as JF Kennedy.

ADD PDC—add the slave track's PIF number to the PIF DON'T CARE TABLE. Described in *Add PIF Don't Care.* This is useful if one or more sources of data are reporting information with an incorrect PIF code.

GEO—"zero in" on a view of the master and slave track.

1. Click GEO to center the tactical display around the slave track.
   - Note: If AUTO-GEO has been previously toggled ON in the SELECT TRACK window, the GEO button will be grayed-out when the COMPARE window opens.
2. All tracks (*except* the slave track and master track) are plotted in dots. The master and slave track maintain their natural track symbology.
   - Both tracks are shown. The map adjusts to accommodate any distance between the slave and master track.
   - Click PREVIOUS CHART (MAP OPTIONS menu) to return the display to the prior view.

MERGE—the two tracks and create one symbol on the tactical display.

- ASSOC—associate tracks. Replaces the MERGE button when tracks of different types are compared.
- Merge and associate are described in *Merging Tracks*.

SWITCH—the positions of the master and slave tracks. The slave track moves to the master column and the master track moves to the slave column.

DELETE—the track in the SLAVE TRACK/AMB column from the track database.

NU-TRK—create a new track for an ambiguity track shown in the SLAVE TRACK/AMB column.

1. Click NU-TRK.
2. The ambiguity is automatically converted to a track.
3. Local and FOTC track numbers change from numbers preceded by an "A" to numbers preceded by a "T."

EXIT—exit the COMPARE option.

COMPARE TRACKS/AMBIGUITIES Window Fields

The COMPARE TRACKS window contains three columns of track data fields. The fields are described in the EDIT option from the TRACKS pull-down menu.

- CANDIDATE MASTER column—contains the most recent master track data.
- SLAVE TRACK/AMB column—contains the most recent slave track data.
- MERGED column—shows the track data that will result if the master and slave are merged.

- RED: different attribute values for master and slave tracks. Master track value is chosen for the merge; operator can modify it.
- YELLOW: only one of the tracks has a value, which is chosen for the merge. Operator can modify it.
- GREEN: both master and slave have the same value, which is chosen for the merge. Operator can modify it.
- WHITE: master value is chosen for the merge; cannot be modified by the operator.

Additionally, there are several general information fields:

REASON
If the slave track is an ambiguity, the REASON field near the top of the window provides a brief explanation why the correlation process classified the track as an ambiguity.

Note: If there are multiple attribute conflicts, only the first conflict will be shown.

DISTANCE
Distance between the last reported master position and the last reported slave position.

TIME DIFF
Amount of time between the last master report and the last slave report.

RQRD SPD
Speed required to cover the distance between the positions of the two latest positions for the master and slave tracks.

GEO SCORE
Level of correlation between the master and slave track attributes. Range: zero to one, with one indicating the best geofeasibility. (Aircraft are not subject to geofeasibility requirements.)

11.19.1 MERGING TRACKS

A slave and a master of the same type (for example, Unit) can be merged to form one track.

A slave and a master of different types (for example, Platform and Link) can be associated. The appropriate button label appears for the selected tracks.

The MERGED column shows the track data that will result if the master and slave are merged or associated.

RED—different attribute values for master and slave tracks. Master track value is chosen for the merge; operator can modify it for most attributes.

YELLOW—only one of the tracks has a value, which is chosen for the merge. Operator can modify it.

GREEN—both master and slave have the same value, which is chosen for the merge. Operator can modify it for most attributes.

WHITE—master value is chosen for the merge; cannot be modified by the operator.

Caution: Merges can be undone only by a very time-intensive manual process. Therefore, before merging carefully examine the track's feasibility fields (rqrd speed, geo score, etc.) and the track histories to ensure their compatibility.

How to merge a slave and master track:

1. Values in the MERGED column for any of the following fields can be changed *before* the tracks are merged: NAME, SHORTNAME, CLASS, CATEGORY, THREAT, TRADEMARK, SCONUM, CALLSIGN, FLAG, TYPE, HULL, PIF, DI, UIC, and ALERT.
2. Click MERGE to merge the tracks together.
3. The two previous tracks on the tactical display are replaced by only one track, with the attributes that are listed in the MERGED column of the COMPARE TRACKS window.
4. Track histories for both tracks are combined in chronological order according to the DTGs of the reports.

How to associate a track:

1. If the master track is a Platform track and the slave track is a Link, ELINT, or acoustic track, the name of the MERGE button changes to ASSOC.
   - If the master track is a Unit track, the slave track can only be an ELINT track.
2. Click ASSOC and the two tracks are associated with each other—not merged.
3. When two tracks are associated, the master track becomes the parent in the association, and the slave track becomes the child.

11.19.2 ADD SYNONYM

The ADD SYNONYM button is active only when the master and slave track display different valid names in their NAME fields.

- Use the ADD SYN button if the slave track's name is not *exactly* the same as the name shown for the master track, but is synonymous. For example:
  - Master track is reported as "STANLEY WH."
  - Slave track is reported as "USS STANLEY."
  - Add "USS STANLEY" to the synonym table.
  - If "USS STANLEY" is reported, it is treated as equal to "STANLEY WH" for correlation purposes.
- The synonym table correlates reports for a ship that has been reported under a name other than its proper reporting name, as outlined and designated in the Standard Attribute Reference (STAR) Manual.

To add the slave track name to the synonym table:

1. Click ADD SYNONYM to open the ADD SYNONYM window (Figure11.19 -3).
2. The name of the master track appears in the STANDARD NAME field and the name of the slave track in the SYNONYM field.
3. Click OK to add these values to the synonym table, or click CANCEL to discard this entry. Clicking either button returns to the COMPARE window.

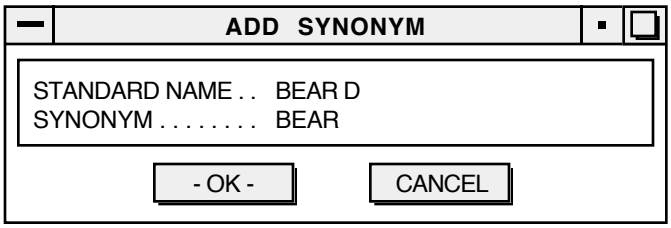


Figure11.19 -3 Add Synonym Window

Note: Entries can also be added to the synonym table with the TRACK TABLES–SHIP SYNONYMS option from the TRACKS pull-down menu.

11.19.3 ADD PIF DON'T CARE

The ADD PDC button is active only when the master and slave track display different valid PIF numbers in their PIF fields.

- If the slave track contains a PIF (Pseudo-Identification Feature) number that can be discarded for correlation purposes, use the ADD PDC button to add this value to the PIF DON'T CARE TABLE.
- When a track enters the system with a PIF value that matches an entry in the PIF DON'T CARE TABLE, the PIF number is ignored during track correlation.

To add the slave track PIF number to the PIF DON'T CARE TABLE:

1. Click ADD PDC to open the ADD PDC window (Figure11.19 -4).
2. The ADD PDC window shows the PIF number, category, and threat values for the slave track.
3. Click OK to add these values to the PIF DON'T CARE TABLE, or click CANCEL to discard the entry. Clicking either button returns to the COMPARE window.

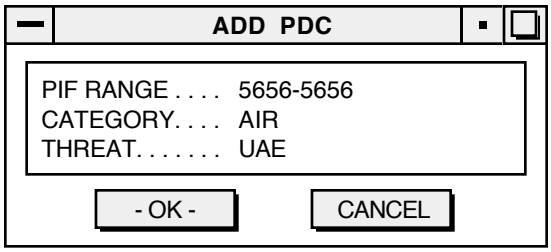


Figure11.19 -4 Add PDC Window

Note: Entries can also be added to the PIF DON'T CARE TABLE with the TRACK TABLES–PIF DON'T CARE option from the TRACKS pull-down menu.

COMPARE TRACKS/AMBIGUITIES Window Pop-up Menu Options

In addition to options that perform as buttons described above (ADD PDC, ADD SYN, ASSOC, DELETE, EXIT, GEO, LIST CAND, LIST SLAVE, MASTER RAW DATA, MERGE, NEXT MASTER, NEXT SLAVE, NU-TRK, PREV MASTER, PREV SLAVE, SLAVE RAW DATA, and SWITCH), the COMPARE TRACKS/AMBIGUITIES window also includes:

GEO CONTROLS

Use the GEO CONTROLS pop-up option to open the PLOT TYPE window (Figure 11.19-5).

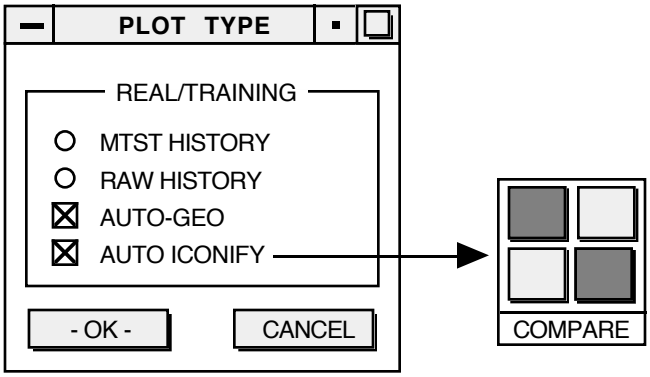


Figure 11.19-5 Plot Type Window

PLOT TYPE Window Fields

MTST HISTORY

Use the MTST HISTORY option to turn ON or OFF the MTST history plot for the selected track.

MTST should be used only for ships; it displays a "smoothed" track history display and shows a *predicted* current position for both the slave and master tracks.

• Depending on the age of the two latest (displayed) positions for the master and slave, the MTST predicated current positions will be separated by some distance from the smoothed track history display.

• The predicted position will be connected to the smoothed track history plot via a dotted line.

• The AOU for the MTST predicted position is shown by a dotted ellipse, centered on the prediction.

RAW HISTORY

Use to view the raw data history for the selected track. Raw history data is shown only for those reports that were received through a transmission. Note: The RAW HISTORY display option should always be used with air tracks.

• When this button is toggled ON, all reported track history positions and associated AOUs for each position are shown.

• The master and slave track are always shown with their normal symbology at their most recent posits.

AUTO-GEO

When toggled ON, automatically centers the tactical display to a location centered between the most recent positions of the master and slave tracks. All other tracks are temporarily plotted as dots.

AUTO ICONIFY
When toggled ON, automatically iconifies the COMPARE window when it is opened.

11.20 DUPLICATES

Use the DUPLICATES option to search for multiple tracks with some identifying attribute in common. This option assists in identifying duplicate tracks that should be merged into one track.

- Some attributes such as RTN, CLASS, TYPE, HULL NO, TRADEMARK, ELNOT, EMITTER, FLAG, and ALERT will naturally have duplicates.
- Others—LTN, FTN, STN, SCONUM, CALLSIGN—should not have duplicate data.
- Tracks with duplicate attributes can be passed through the COMPARE option to quickly merge those which represent the same object.

To access this window: TRACKS pull-down menu **:** DUPLICATES option **:** DUPLICATES window (Figure11.20 -1).

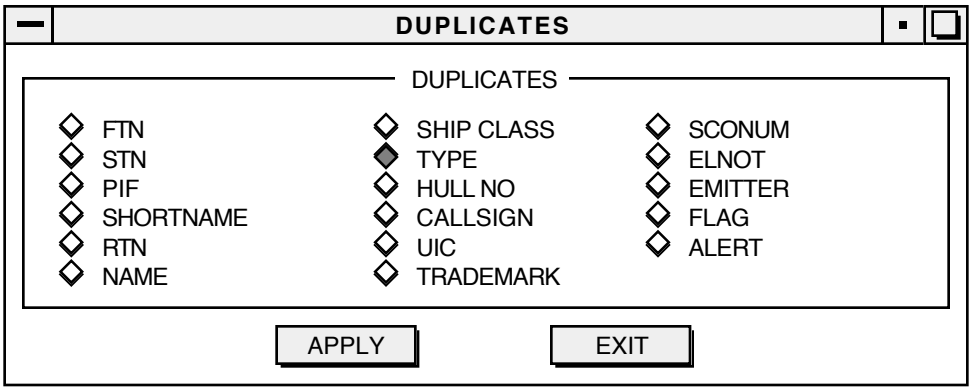


Figure11.20 -1 Duplicates Window

How to use the DUPLICATES option:

1. Click a diamond knob to select an attribute. (Only one diamond knob can be selected at a time.)
2. Click APPLY to search the database for tracks that have duplicate values for the selected attribute.
3. A window lists the values that have duplicates and the number of tracks for each value.
4. To view tracks with duplicate values, select one of the entries from the list and click OK.

5. The SELECT MASTER TRACK FOR MERGE window appears. All tracks with the selected value appear in the scrolling list.
6. Use COMPARE to merge duplicate tracks.
   - Choose a track to use as the master track and click OK to view the COMPARE window.
   - Refer to *COMPARE* from the TRACKS pull-down menu for information on comparing tracks.
7. Repeat steps 1–6 to search for duplicates of each attribute.
8. Click EXIT to close the DUPLICATES window and exit the option.

11.21 TRACK STATUS

Use the TRACK STATUS option to view the number of tracks in the system and grand totals for tracks across all levels.

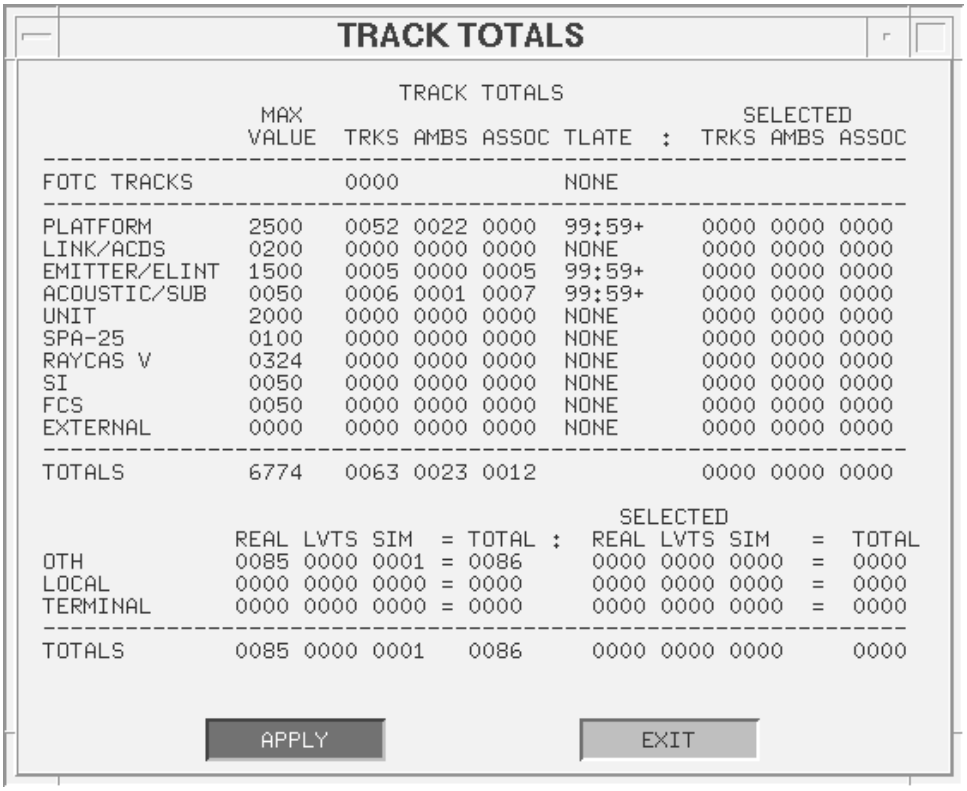
By track type:

- Tracks, ambiguities, and associated tracks (Platform, Emitter, Link, etc.).
- Selected tracks, ambiguities, and associated tracks.

By availability level:

- Real-World, Live Training, and Simulated tracks (OTH, Local, or Terminal).
- Selected Real-World, Live Training, and Simulated tracks.

To access this window: TRACKS pull-down menu **:** TRACK STATUS option **:** SYSTEM TRACK TOTALS window (Figure11.21 -1).



TRACK TOTALS

TRACK TOTALS

	MAX VALUE	TRKS	AMBS	ASSOC	TLATE	:	SELECTED TRKS	AMBS	ASSOC
FOTC TRACKS		0000			NONE				
PLATFORM	2500	0052	0022	0000	99:59+		0000	0000	0000
LINK/ACDS	0200	0000	0000	0000	NONE		0000	0000	0000
EMITTER/ELINT	1500	0005	0000	0005	99:59+		0000	0000	0000
ACOUSTIC/SUB	0050	0006	0001	0007	99:59+		0000	0000	0000
UNIT	2000	0000	0000	0000	NONE		0000	0000	0000
SPA-25	0100	0000	0000	0000	NONE		0000	0000	0000
RAYCAS V	0324	0000	0000	0000	NONE		0000	0000	0000
SI	0050	0000	0000	0000	NONE		0000	0000	0000
FCS	0050	0000	0000	0000	NONE		0000	0000	0000
EXTERNAL	0000	0000	0000	0000	NONE		0000	0000	0000
TOTALS	6774	0063	0023	0012			0000	0000	0000

	REAL	LVTS	SIM	=	TOTAL	:	SELECTED REAL	LVTS	SIM	=	TOTAL
OTH	0085	0000	0001	=	0086		0000	0000	0000	=	0000
LOCAL	0000	0000	0000	=	0000		0000	0000	0000	=	0000
TERMINAL	0000	0000	0000	=	0000		0000	0000	0000	=	0000
TOTALS	0085	0000	0001		0086		0000	0000	0000		0000

APPLY EXIT

Figure11.21 -1 System Track Totals Window

About the window:

- Maximum values listed are those set locally. Only the System Administrator can change their values.
- Each track type (Platform, Emitter, Link, etc.) shows the amount of time elapsed since the last report (timelate).
- The window has a dynamically changing display.
- Use EXIT to close the window.

SYSTEM TRACK TOTALS Pop-Up Menu

In addition to the options described in *Summary of Common Operations* (APPLY and EXIT), or that function as buttons with the same name, the SYSTEM TRACK TOTALS pop-up menu also includes:

SELECTED

Shows the SYSTEM TRACK TOTALS window with totals for selected tracks in all categories, as illustrated in Figure 11.21-1.

NO SELECTED

Shows the SYSTEM TRACK TOTALS window without totals for selected tracks. The SELECTED columns do not appear in the window.

11.22 TRACK SUMMARIES

Use the TRACK SUMMARIES cascading menu to view summary windows for these track types:

TRACK

SELECTED TRACK

AMBIGUITY

ELINT TRACK

ELINT AMBIGUITY

SELECTED ELINT

ACOUSTIC/SUB

UNIT TRACK

UNIT AMBIGUITY

SELECTED UNIT

NIPS TRACK (NIPS workstations only)

11.22.1 TRACK

Use the TRACK option to display a summary of all tracks in the track database.

To access this window: TRACKS pull-down menu **:** TRACK SUMMARIES cascading menu **:** TRACK option **:** TRACK SUMMARY window (Figure11.22 -1).

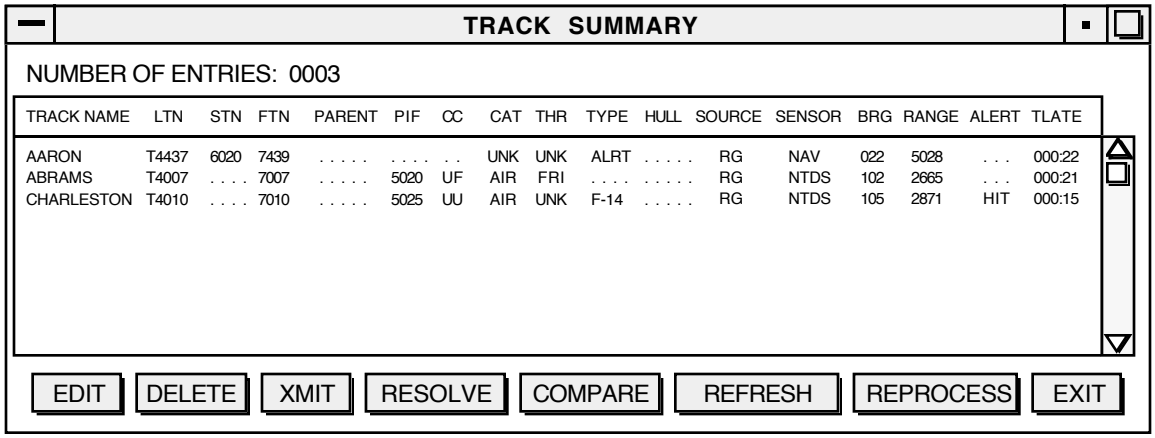


Figure11.22 -1 Track Summary Window

TRACK SUMMARY Window Buttons

EDIT—a track.

1. Select one or more tracks.
2. Click EDIT to open the EDIT window. (This is the same window that appears when using the EDIT option.)
3. If multiple tracks were selected, the NEXT and PREV buttons will be active in the EDIT window. Use these buttons to view the next or previous track from the selected group.
4. Click EXIT to return to the TRACK SUMMARY window.

DELETE—a track.

1. Select one or more tracks.
2. Click DELETE. The selected tracks are removed from the system.

XMIT—transmit a track to another location.

1. Select one or more tracks.
2. Click XMIT to open the XMIT FORMAT window and start the transmission process. See XMIT from the TRACKS pull-down menu for details about the XMIT FORMAT window.

RESOLVE—view the candidates for a selected track and determine whether they should be merged.

1. Select one track.
2. Click RESOLVE to open the COMPARE window.

- If there is more than one candidate, the NEXT and PREV buttons are active.

3. Use the options in the COMPARE window to resolve whether the track and its candidates should be merged. (See the *COMPARE* section for more information.)

COMPARE—two or more selected tracks and determine whether they should be merged.

1. Select two or more tracks from the list.
2. Click COMPARE to open the SELECT TRACK window.
3. Choose a master or slave from this window.
4. Click OK to open the COMPARE window for the selected tracks.
   - Use the options in the window to determine whether the selected tracks should be merged.
   - See the *COMPARE* section for more information.

REFRESH—update the track summary list to include new tracks that have come into the system since this option was selected.

REPROCESS—send a track through the correlator again. Use when fields that affect correlation are edited.

1. Select one or more tracks.
2. Click REPROCESS.

EXIT—the option and close the window.

TRACK SUMMARY Window Pop-up Menu Options

Pop-up menu options (described in *TRACK SUMMARY Pop-up Menu*): ARCHIVE, BREAK ASSOC, COMPARE, DEFAULT COLUMNS, DELETE, EDIT, EXIT, HULTEC TDA, PRINT ALL, PRINT SELECTED, REFRESH, REPROCESS, RESOLVE, RESTORE, SELECT ALL, SELECT COLUMNS, UNSELECT ALL, and XMIT.

TRACK SUMMARY Window Fields

When the TRACK SUMMARY window first opens, the tracks are sorted by track name. Click any of the following column titles to re-sort the list on that column:

TRACK NAME
Track name.

LTN
Local track number assigned by the system.

STN
System track number. This is also known as the Naval Tactical Display System (NTDS) track number.

FTN
Force Over-The-Horizon Track Coordinator track number. Assigned by the system on the FOTC ship when in FOTC Controller mode.

PARENT
Local track number of the parent track if the track is associated with another track.

PIF/MODE 2
Personal Identification Feature (PIF) or Mode 2 number; a four digit, encrypted code that provides an exact ID for any vessel or aircraft. Friendly military only.

CC
Two-letter code identifying the country associated with the track.

CAT
Track category (AIR, FSH, LAND, MER, etc.).

THR
Threat classification code (FRI, HOS, NEU, etc.).

TYPE
Ship type of the track, such as DDG, CV, CG, or SSN. In some cases, the aircraft designator (for example TU16, F14, A6, or E2C) may appear in this column.

HULL
A 1–6 character alphanumeric entry assigned to the ship and shown on the ship's hull (e.g., A35, D51).

SOURCE
Two-letter OTCIXS station source code (for example, AM=America). Letters are taken from the Source XREF Table, which can be viewed from the SOURCE XREF TABLE option (MISC menu).

SENSOR
Sensor type used to pick up the track at its last reported position.

BRG
Bearing of the track from Ownship.

RANGE
Range of the track from Ownship, in nautical miles.

ALERT
ALERT code (HIT, TGT, etc.).

TLATE
Amount of time elapsed since the last report for the track.

TRACK SUMMARY Pop-Up Menu

In addition to the options described in *Summary of Common Operations* or that function as buttons with the same name (EDIT, EXIT, DELETE, XMIT, RESOLVE, COMPARE, REFRESH, PRINT ALL, REPROCESS, SELECT ALL, and UNSELECT ALL), the TRACK SUMMARY pop-up menu also includes the following

BREAK ASSOC

To break a track association:

1. Select the associated track (not the parent) from the TRACK SUMMARY window.
2. Choose BREAK ASSOC from the pop-up menu.
   - The two tracks become separate entities and are represented by two different tracks on the tactical display.

HULTEC TDA

The HULTEC TDA pop-up option works in conjunction with the HULTEC DATABASE option (TDAs pull-down menu) by comparing an ELINT track for an unidentified ship with known ships using an emitter with the same characteristics. Thus, specific ships can be identified just from their ELINT data.

1. Select one ELINT track.
2. Choose the HULTEC TDA pop-up option.
   - HULTEC TDA compares the selected ELINT track with the HULTEC database to find a track with the same or equivalent ELINT notation.
   - If one or more tracks are found, the parametric information is checked to see if there is an intersection.
   - If there are no ELINT notation matches or parametric intersections, a message states that "there are no HULTEC candidates."
   - If an intersection exists, the track is presented as a HULTEC candidate (Figure11.22 -2).

3. If a candidate represents the selected ELINT track, click ASSIGN IDENTITY to assign the identity of the matching ship from the HULTEC database to the selected ELINT track.
   - A new Platform track is built that contains both emitter and ship information.
   - The resulting Platform track is either a new track, an update to an existing track, or an ambiguity.
   - This track is sent through correlation. Results are returned in an EDIT window.
4. In the EDIT window:
   - Verify that the newly created Platform track represents the selected ELINT track.
   - If it does, click OK to accept it.
   - If it doesn't, click CANCEL and all the HULTEC TDA work will be undone.
   - Either OK or CANCEL returns to the HULTEC CANDIDATES window.
5. Click EXIT from the HULTEC CANDIDATES window to return to the TRACK SUMMARY window.

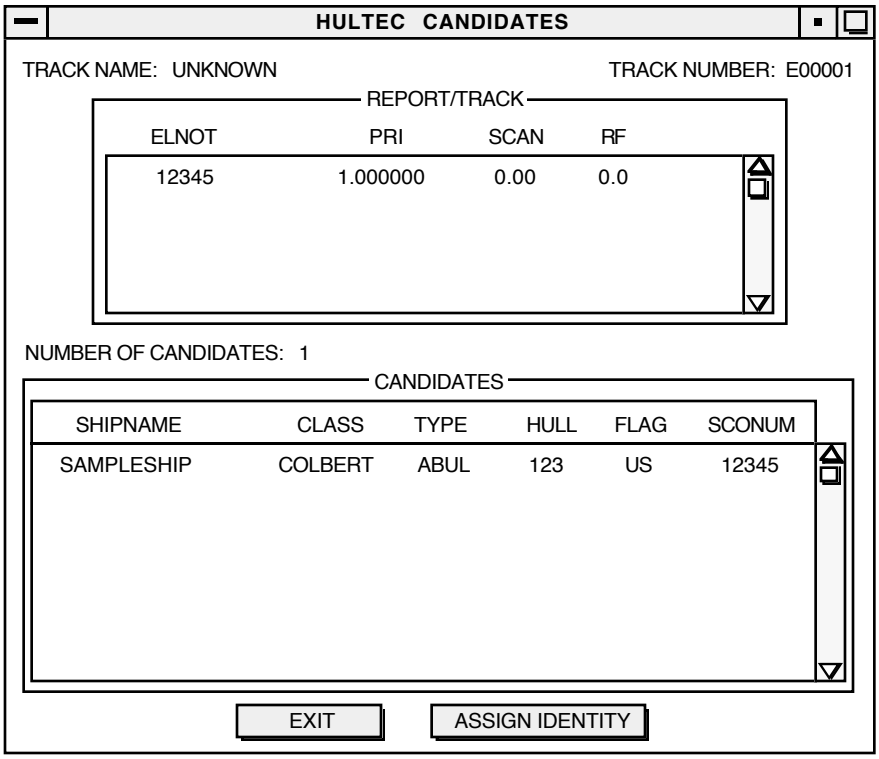


Figure11.22 -2 HULTEC Candidates Window

The HULTEC CANDIDATES window shows the selected ELINT track name and track number at the top of the window. The NUMBER OF CANDIDATES field appears in the middle of the window.

REPORT/TRACK Box:

ELNOT
This five digit ELINT notation field begins with an alpha character, followed by three numbers, ending with another alpha character.

PRI
Pulse repetition interval.

SCAN
Scan rate, measured in seconds per rotation (SPR).

RF
Radio frequency, measured in megahertz (MHZ).

CANDIDATES Box:

SHIPNAME
Name shown in the track's UNIT NAME field.

CLASS
Ship class or aircraft model/class designator.

TYPE
Code for ship type (for example, CGN).

HULL #
A 1–6 character alphanumeric entry assigned to the ship and shown on the ship's hull (e.g., A35, D51).

FLAG
Two-letter code identifying the country associated with the track.

SCONUM
Naval vessel identification number (alphanumeric code) assigned by the Office of Naval Intelligence. SCONUM (Ship's Control Number) is sometimes referred to by its old name—NOIC ID. SCONUMs are typically of the form A#####.

ARCHIVE

Use the ARCHIVE pop-up option to save a copy of platform or emitter/ELINT tracks to a file on the internal hard disk.

Note: This ARCHIVE pop-up option works differently from other ARCHIVE pop-up options within the system.

1. Select one or more tracks to archive from the TRACK SUMMARY window.
2. Choose the ARCHIVE pop-up option to open the ARCHIVE NAME window (Figure11.22 -3).
3. Enter a name and description for the archive file.
4. Click OK to archive the tracks. (Or, click CANCEL to discard the archive.)
5. Tracks are automatically archived and the TRACK SUMMARY window reappears.

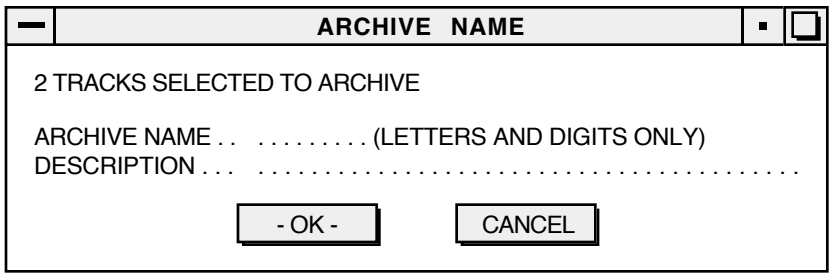


Figure11.22 -3 Archive Name Window

RESTORE

Use this pop-up option to open the SELECT ARCHIVE window (Figure11.22-4) and retrieve tracks that were saved with the ARCHIVE pop-up option..

Note: This window will not appear unless at least one track archive file has been created.

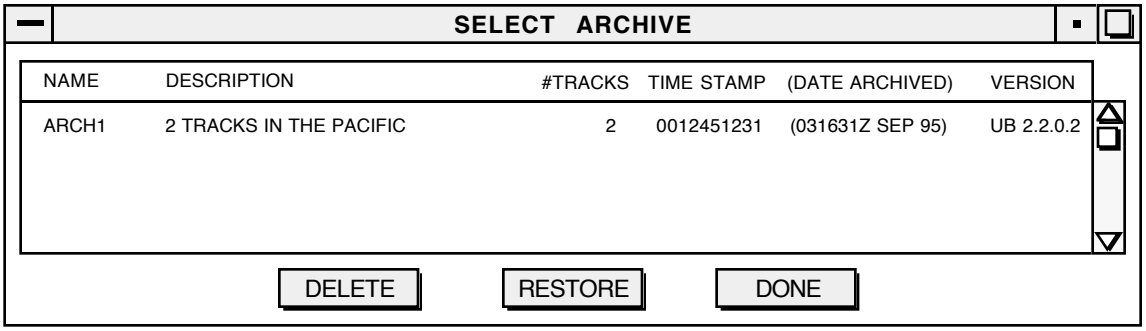


Figure11.22 -4 Select Archive Window

The SELECT ARCHIVE window lists the track archive files stored on the hard disk.

1. Select an archive file.

2. Click RESTORE to open the SELECT TRACKS TO RESTORE FROM ARCHIVE window, which lists the tracks in the archive file.
3. Select one or more tracks to restore.
4. Click OK and the tracks are restored. (Or click EXIT to ignore the restore process.)
   - Clicking either button returns to the SELECT ARCHIVE window.
5. To delete an archive file and the tracks in it:
   - Select one or more archive files.
   - Click DELETE.
   - Confirm the delete to complete the process.
6. Click DONE to return to the TRACK SUMMARY window.

The following fields are shown for each archive file in the SELECT ARCHIVE window:

NAME
Name of the archived file.

DESCRIPTION
Description of the archive file.

#TRACKS
Number of tracks in the archive file.

TIMESTAMP
System-generated number—based on the time the file was created. This is used to sort the files in order of creation time.

(DATE ARRIVED)
DTG when the file was archived.

VERSION
Unified Build version number.

PRINT SELECTED

Use the PRINT SELECTED pop-up option to print a summary of all selected tracks.

1. Select one or more tracks.
2. Choose PRINT SELECTED to open the JMCIS PRINTER window and start the printing process. (Refer to PRINT in Appendix A, *Common Operations,* for details about the JMCIS PRINTER window.)

SELECT COLUMNS

To select the columns and their order of appearance for the scroll list in the TRACK SUMMARY window:

1. Choose the SELECT COLUMNS pop-up option to open the DOUBLE LIST window.
   - Set the column headings and click EXIT.
   - Refer to SELECT COLUMNS in Appendix A, *Common Operations,* for details on the DOUBLE LIST window.
2. The TRACK SUMMARY window reappears with the selected columns in the scroll list.

In addition to the default columns previously described in the *TRACK* section, the following columns are available. Note: Column headings below are listed in alphabetical order and may appear in a different order, depending on the system.

ADMINISTRATIVE SUBORD
Administrative subordination for SI tracks.

AVERAGE PRI
Mean value for all reported Pulse Repetition Intervals (PRI).

AVERAGE RF
Mean value for all reported radio frequency values.

AVERAGE SCAN
Mean value for all reported scan rates.

BE NUMBER
Basic Encyclopedia number.

CALL SIGN
International radio call sign assigned to the ship is an 8-character alphanumeric code.

CROSS REFERENCE
Source reference code for the site that originally reported the track.

CURRENT POSITION
Most recently reported lat/long.

CURR TRACKER POSIT
MTST-calculated POSIT current position.

CTSX NUMBER
Link provider's internal track number (ACDS, 2-way Link, etc.).

DISCRETE IDENTIFIER
Intel Discrete Identifier.

ECHELON (Unit Tracks only)
Organizational level of the unit.

ELNOT
An acronym for ELINT Notation, the electronic emitter code assigned to a radar by the detecting sensor.

This five digit field begins with an alpha character, followed by three numbers, ending with another alpha character.

EMBARKED (Unit Tracks only)
Name of the platform on which the unit is embarked.

EMITTER NAME
Radar name (for example, RAY1500, SPN-43, HEADNET).

HOME BASE/PORT
Track's home base or port.

MODE 1
A two digit code that is used to indicate the task/mission assigned to any vessel or aircraft. Friendly military only.

MODE 3
A four digit code that is used to indicate the task/mission of both military and commercial vessels and aircraft. May also be used for pseudo PIF codes during special operations.

Also indicates emergency conditions within the aircraft: communications emergency, distress (hijack), mechanical emergency due to catastrophe.

MTN
Master track number.

NATIVE TYPE
Ship type for SI tracks.

NUMBER OF REPORTS
Number of reports received.

OPERATIONAL SUBORD
Operational subordination for SI tracks.

ORGANIZATION TYPE (Unit Tracks only)
Organization type of the unit.

PARTICIPATING UNIT
Participating Unit—identifies the reporting source.

PDDG
PDDG value for SI tracks.

PLATFORM (Unit Tracks only)
Platform type for the unit.

PRI TOLERANCE
Standard deviation for the PRI.

RAID NUMBER
Raid number for SI tracks.

REASON (Ambiguities only)
Reason the track has been marked as an ambiguity.

RF TOLERANCE
Standard deviation for the radio frequency.

SCAN RATE TOLERANCE
Standard deviation for the scan rate.

SCONUM
Naval vessel identification number (alphanumeric code) assigned by the Office of Naval Intelligence. SCONUM (Ship's Control Number) is sometimes referred to by its old name—NOIC ID. SCONUMs are typically of the form A#####.

SERVICE
If this is a unit track, the service code for the unit.

SHIP CLASS
Ship class or aircraft model/class designator.

SHORT NAME
Short name for the track; a name local to the network.

STRENGTH
Strength for unit tracks.

SUBJECT TYPE
Subject type for SI tracks.

SUFFIX
Suffix for SI tracks.

TRACK SCOPE
Track scope (OTH, Local, or Terminal).

TRACK TYPE
Track type (Real-World, Live Training, or Simulated).

TRADEMARK
Trademark (if the track is a submarine).

UIC (Ashore Sites only)
Unit ID number.

UNIQUE ID (Ashore Sites only)
Unique identifier for the track.

DEFAULT COLUMNS

Use the DEFAULT COLUMNS pop-up option to change the columns and their order of appearance in the TRACK SUMMARY window to their original default settings.

11.22.2 SELECTED TRACK

Use the SELECTED TRACK option to display a summary of all selected tracks.

To access this window: TRACKS pull-down menu : TRACK SUMMARIES cascading menu : SELECTED TRACK option : SELECTED SUMMARY window (Figure11.22 -5).

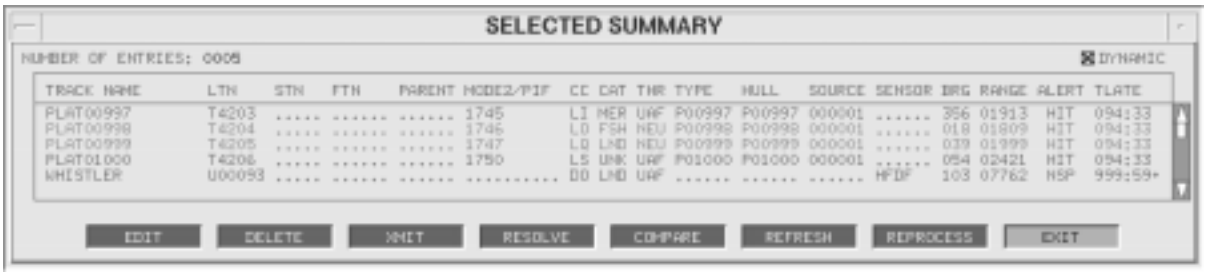


Figure11.22 -5 Selected Summary Window

The fields and functions available from this window are identical to those of the TRACK SUMMARY window, with one exception—the DYNAMIC option.

DYNAMIC
Toggle ON the DYNAMIC checkbox to declutter the tactical display and to automatically declutter the screen periodically.

For more information, see DYNAMIC DECLUTTER from the PLOT CONTROLS menu.

See the *TRACK SUMMARIES* window for detailed field descriptions.

11.22.3 AMBIGUITY

Use the AMBIGUITY option to display a summary of all ambiguities in the track database.

To access this window: TRACKS pull-down menu : TRACK SUMMARIES cascading menu : AMBIGUITY option : AMBIGUITY SUMMARY window (Figure11.22 -6).

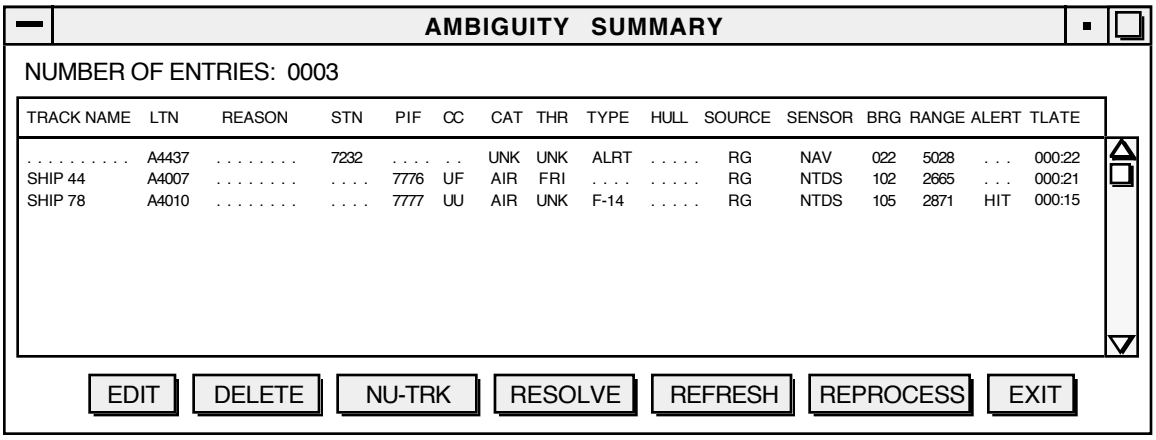


Figure11.22 -6 Ambiguity Summary Window

The fields and functions available from this window are identical to those of the TRACK SUMMARY window, with one exception—NU-TRK.

Use the NU-TRK button to create a track from an ambiguity:

1. Select a track to convert.
2. Click NU-TRK.
3. The ambiguity automatically converts to a track. The LTN (local track number) changes from a number preceded by an “A” to a number preceded by a “T.”
4. The track disappears from the AMBIGUITY SUMMARY window, since it is no longer an ambiguity.

11.22.4 ELINT TRACK

Use the ELINT TRACK option to display a summary of all ELINT tracks in the track database.

To access this window: TRACKS pull-down menu : TRACK SUMMARIES cascading menu : ELINT TRACK option : ELINT SUMMARY window (Figure11.22 -7).

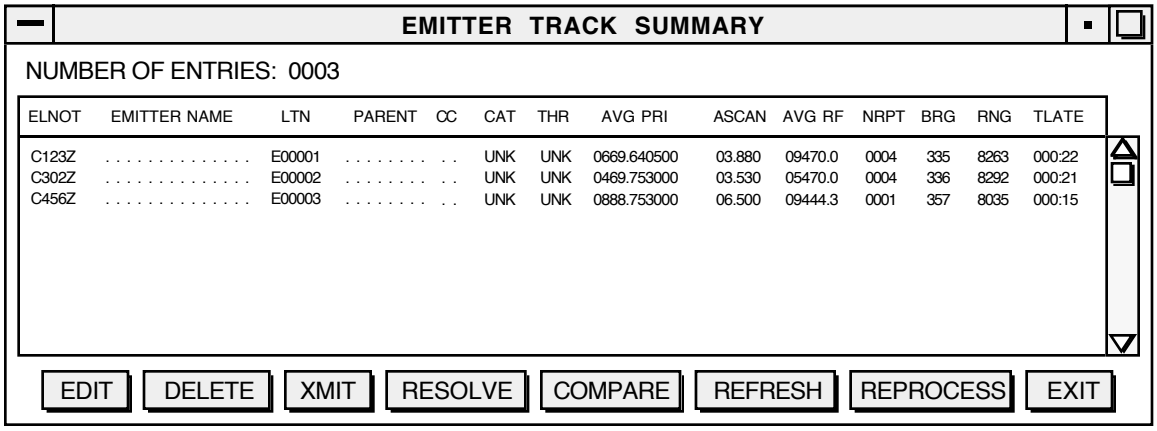


Figure11.22 -7 Emitter Track Summary

EMITTER TRACK SUMMARY Window Buttons

EDIT—a track.

1. Select one or more tracks.
2. Click EDIT to open the EDIT window. (This is the same window that appears when using the EDIT option.)
3. If multiple tracks were selected, the NEXT and PREV buttons will be active in the EDIT window. Use these buttons to view the next or previous track from the selected group.
4. Click EXIT to return to the EMITTER TRACK SUMMARY window.

DELETE—a track.

1. Select one or more tracks.
2. Click DELETE. The selected tracks are removed from the system.

XMIT—transmit a track to another location.

1. Select one or more tracks.
2. Click XMIT to open the XMIT FORMAT window and start the transmission process. See *XMIT* from the TRACKS pull-down menu for details about the XMIT FORMAT window.

RESOLVE—view the candidates for a selected track and resolve whether they should be merged. Described in *Resolve Candidate Comparison.*

COMPARE—two or more selected tracks to set a master reference track.

1. Select two to twenty tracks (only) from the list.

2. Click COMPARE to open the SELECT REFERENCE EMITTER TRACK window.
3. Choose a master reference track. Other tracks are compared to this track to determine if any of them represent the same track.
4. Click OK.
5. The tactical display centers on the selected track and the ELINT CANDIDATES window appears. See the *Resolve Candidate Comparison*. section for more details.

REFRESH—update the emitter track summary list to include new tracks that have come into the system since this option was selected.

REPROCESS—send a track through the correlator again. Use when fields that affect correlation are edited.

1. Select one or more tracks.
2. Click REPROCESS.

EXIT—the option and close the window.

EMITTER TRACK SUMMARY Window Pop-up Menu Options

Pop-up menu options are identical to TRACK SUMMARY pop-up menu options (described in *TRACK SUMMARY Pop-up Menu*): ARCHIVE, BREAK ASSOC, COMPARE, DEFAULT COLUMNS, DELETE, EDIT, EXIT, HULTEC TDA, PRINT ALL, PRINT SELECTED, REFRESH, REPROCESS, RESOLVE, RESTORE, SELECT ALL, SELECT COLUMNS, UNSELECT ALL, and XMIT.

EMITTER TRACK SUMMARY Window Fields

The EMITTER TRACK SUMMARY window presents the number of entries in the emitter track database and a summary of each emitter track.

When the TRACK SUMMARY window first opens, the tracks are sorted by track name. Click any of the following column titles to re-sort the list on that column:

ELNOT

An acronym for ELINT Notation, the electronic emitter code assigned to a radar by the detecting sensor.

This five digit field begins with an alpha character, followed by three numbers, ending with another alpha character.

EMITTER NAME

Radar name (for example, RAY1500, SPN-43, HEADNET).

LTN
Local track number.

PARENT
If the track is associated with another track, this column displays the local track number of the parent track.

CC
Two-letter code identifying the country associated with the track.

CAT
Track category (AIR, FSH, LAND, MER, etc.).

THR
Threat classification code (FRI, HOS, NEU, etc.).

AVG PRI
Mean value for all reported Pulse Repetition Intervals (PRI).

ASCAN
Mean value for all reported scan rates.

AVG RF
Mean value for all reported radio frequency values.

NRPT
Number of reports received for the track.

BRG
Bearing of the track from Ownship.

RNG
Range of the track from Ownship, in nautical miles.

TLATE
Amount of time elapsed since the track's last report.

11.22.4.1 Resolve Candidate Comparison

Select one track and click RESOLVE to center the tactical display on the selected track and open the ELINT CANDIDATES window (Figure11.22 -8).

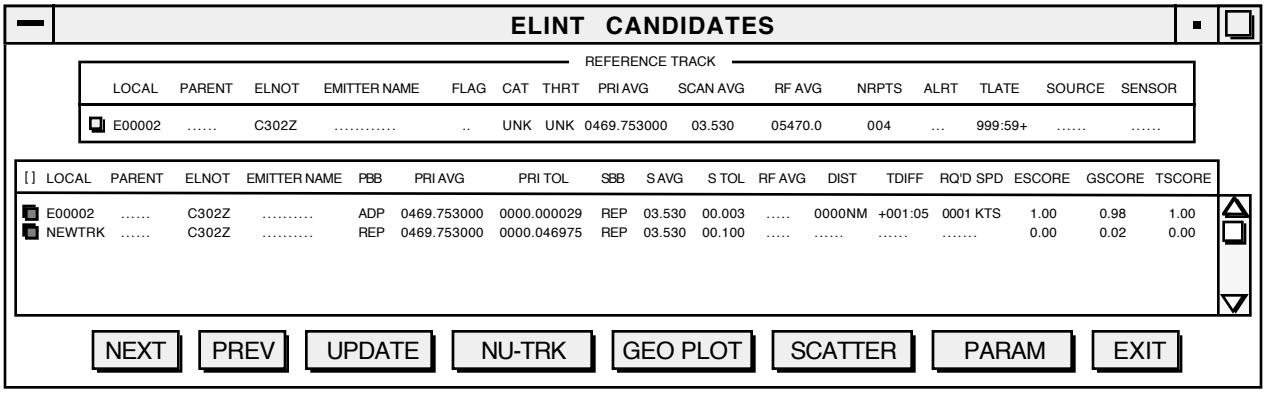


Figure11.22 -8 ELINT Candidates Window

ELINT CANDIDATES Window Buttons

NEXT and PREV—if more than one ELINT track was selected when RESOLVE was clicked, use these buttons to view the tracks.

UPDATE—if one of the candidate tracks in the scroll list is a report for the reference track, use UPDATE to merge the candidate track with the reference track.

1. Select the track in the scroll list.
2. Click UPDATE to merge the two tracks.
3. The selected track is removed from the display and all of its reports are transferred to the reference track.

NU-TRK—if the reference track is an ambiguity, change it to a new emitter track. Note: If the reference track is *not* an ambiguity, this button has no effect.

GEO PLOT—show all history points for the reference track and all candidate tracks.

- Each history point is displayed, with connecting lines from the start to the present position of each track.
- An AOU for the reference track and all candidate tracks is plotted for the time of the last reference track report.
- Candidate AOUs are projected forward or backward in time, as required.
- Track histories and AOUs are plotted in the color shown in the checkbox.
  - To change the color, click the checkbox and a LIST window (colors) opens.
  - Select a color from the list. The AOUs are plotted in the new color.

SCATTER—open the ELINT SCATTER PLOT window for all candidate tracks. Described in *Scatter Button*.

PARAM—open the ELINT PARAMETER VS TIME window for all candidate tracks Described in *PARAM Button*.

EXIT—the option and close the window.

ELINT CANDIDATES Window Pop-up Menu Options

Pop-up menu options (described in *ELINT CANDIDATES Pop-up Menu*): COLOR, EXCLUDE CANDS, EXIT, GEO PLOT, PARAM VS TIME, RESTORE CANDS, SCATTER PLOT, SELECT ALL, UNSELECT ALL, and UPDATE,

ELINT CANDIDATES Window Fields

The ELINT CANDIDATES window contains the REFERENCE TRACK box and a scroll list showing all candidates for the selected track.

REFERENCE TRACK Box

Fields for the selected track are identical to those that may appear in the EMITTER TRACK SUMMARY window and are described in *TRACK SUMMARIES—ELINT TRACK*.

ELINT CANDIDATES Scroll List

The scroll list contains all candidate tracks for the selected track, and also lists a NEWTRK entry among the candidates.

- NEWTRK is a hypothesis that an ELINT ambiguity reference track is a new emitter track and should not be merged with any existing tracks.
- If this is the case, select NEWTRK from the list and click UPDATE to change an ELINT ambiguity reference track into a new emitter track.

Several fields in the scroll list are identical to those in the EMITTER TRACK SUMMARY window. (See *TRACK SUMMARIES—ELINT TRACK* section for details.) The following new fields are in the scroll list:

CHECKBOX

First column in the scroll list. Indicates display status.

ON—display the candidate.

OFF—suppress the display.

PBB

Type of PRI basebanding used for this candidate:

REP	Reported
RNG	Range

XTL	Crystal
ADP	Adaptive

SBB
Type of scan basebanding used for this candidate, either REP (Reported) or RNG (Range).

DIST
Distance (in NM) between the reference track's position and the candidate track's position.

TDIFF
Time difference (in hours and minutes) between the last candidate track report and the last reference track report.

RQ'D SPD
Speed required (in knots) for the candidate to travel from the candidate track's last reported position to the reference track's last reported position in TDIFF hours.

ESCORE
ELINT score for the candidate—based on the proximity of the candidate's basebanded parameter data to the reference track's basebanded parameter data. The closer this number is to 1, the higher the likelihood that this candidate represents the same track as the reference track.

Note: The sum of the ESCOREs for all candidates totals 1.

GSCORE
GEO score for the candidate—based on the candidate's geographic proximity to the reference track. The closer this number is to 1, the higher the likelihood that this candidate represents the same track as the reference track.

Note: The sum of the GSCOREs for all candidates totals 1.

TSCORE
Total score of the Emitter track; computed using the track's ESCORE and GSCORE. The closer this number is to 1, the higher the probability that the Emitter track represents the same track as the ESM track.

Note: The sum of the TSCOREs for all candidate Emitter tracks is 1.000.

SCATTER Button

Click SCATTER to open the ELINT SCATTER PLOT window for all candidate tracks (Figure11.22 -9).

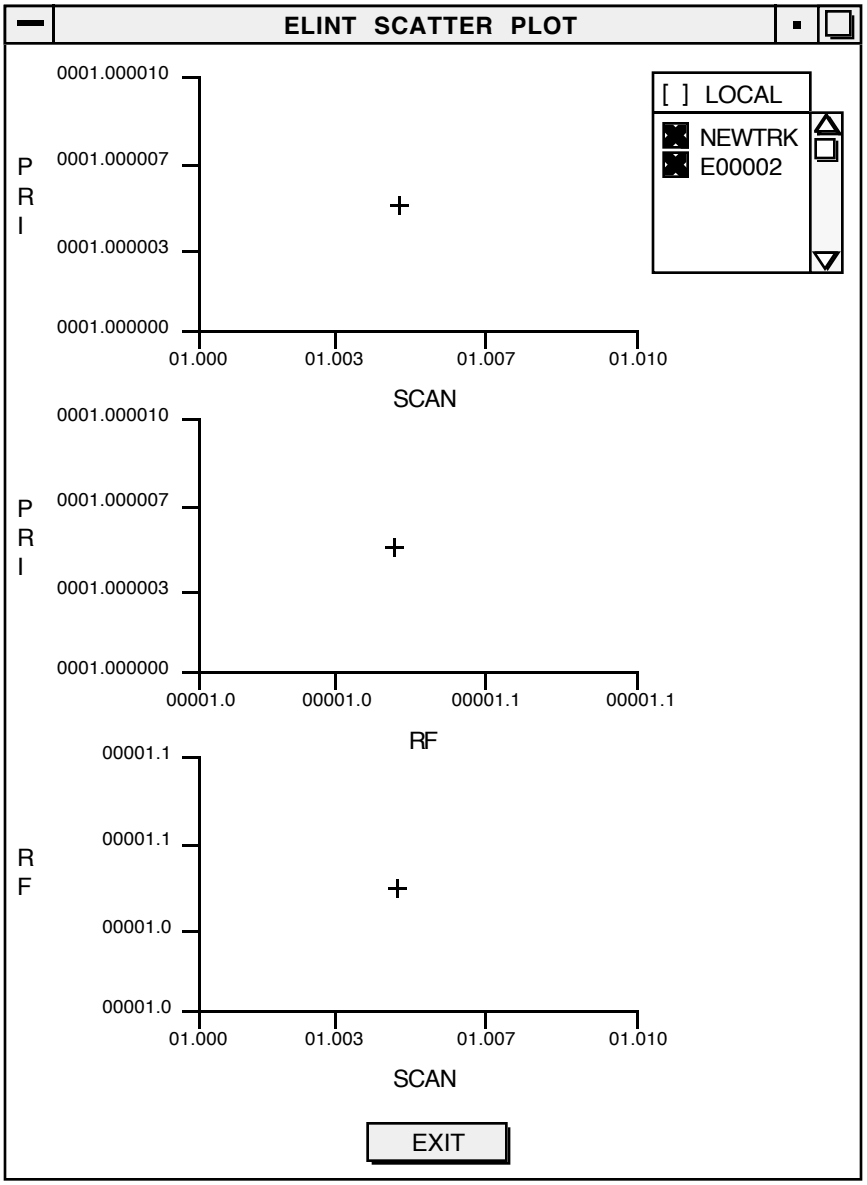


Figure11.22 -9 ELINT Scatter Plot Window

About the ELINT SCATTER PLOT window:

- It contains three graphs for candidate tracks: PRI vs. SCAN, PRI vs. RF, and RF vs. SCAN.
- If only PRI data exists, a "NO DATA FOR SCATTER PLOT" message appears.
- The scroll list at the top right part of the window contains the candidate names and their color. Toggle a checkbox ON or OFF to show or suppress the display of data for a particular candidate.
- Click EXIT to return to the ELINT CANDIDATES window.

PARAM Button

Click PARAM to open the ELINT PARAMETER VS TIME window for all candidate tracks (Figure11.22-10).

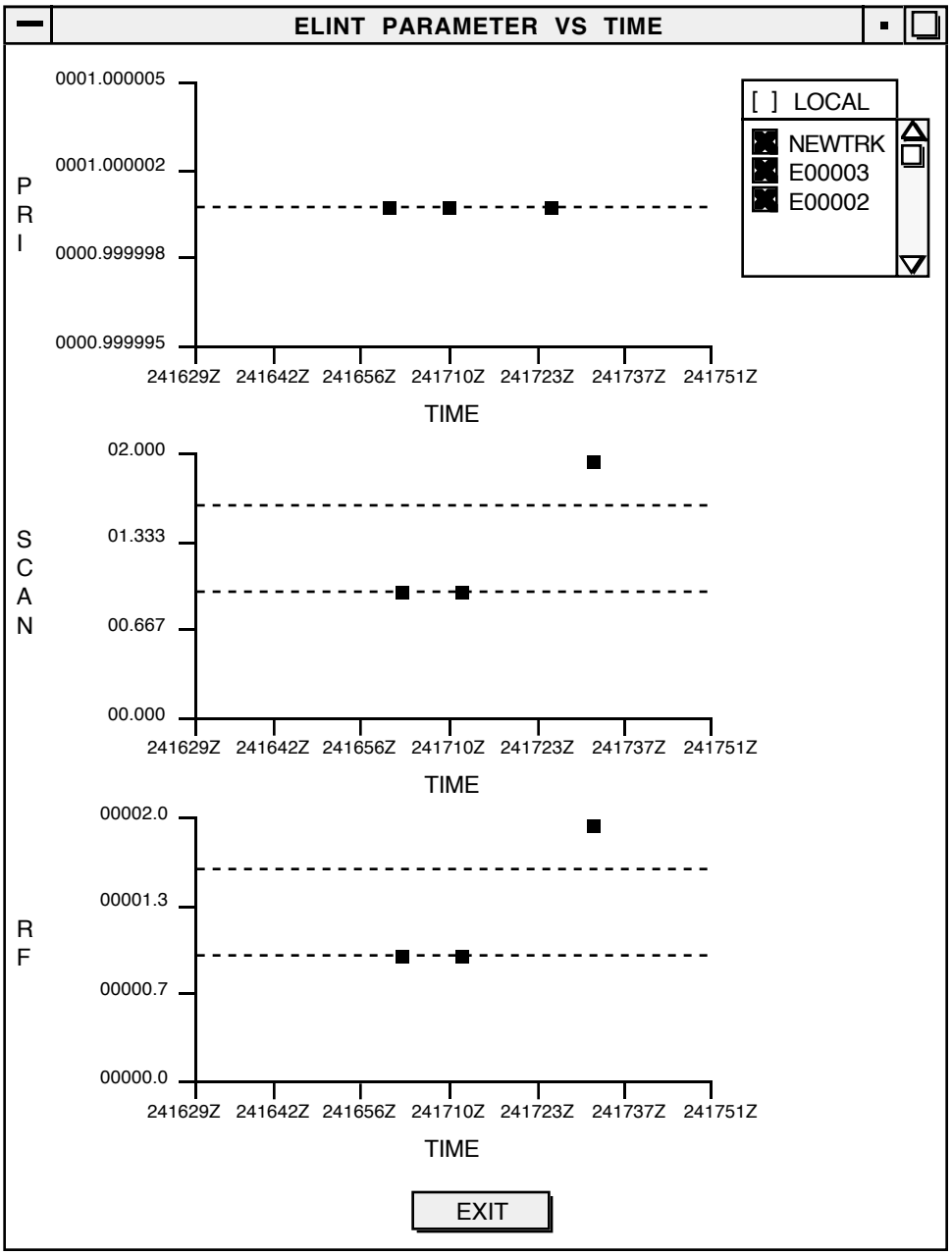


Figure11.22 -10 ELINT Parameter vs. Time Window

About the ELINT PARAMETER VS TIME window:

- It contains three graphs showing PRI, SCAN, and RF time plots for all candidate tracks.

- The scroll list at the top right part of the window contains the candidate names and their color. Toggle a checkbox ON or OFF to show or suppress the display of data for a particular candidate.
- Click EXIT to return to the ELINT CANDIDATES window.

ELINT CANDIDATES Pop-Up Menu

In addition to the options described in *Summary of Common Operations* or that function as buttons with the same name (UPDATE, GEO PLOT, PARAM VS TIME, SCATTER PLOT, SELECT ALL, UNSELECT ALL, and EXIT), the ELINT CANDIDATES pop-up menu also includes:

COLOR

Use this pop-up option to change the color of a selected track in the scroll list.

1. Select a track from the list and choose COLOR to open the LIST window of colors.
2. Click the color choice. The color of the track is changed in the scroll list.

Note: Double-clicking on a track also displays the LIST window.

EXCLUDE CANDS

If one or more candidates definitely do not represent the reference track, remove them from the list and recalculate the ELINT statistics based on the remaining candidates only.

1. Select the candidates to exclude from the list.
2. Choose EXCLUDE CANDS.
3. The remaining candidates are sent back through the correlator and the scores are recalculated.

RESTORE CANDS

Use RESTORE CANDS to restore candidates that were removed with the EXCLUDE CANDS option. When this option is used, candidates are sent back through the correlator and the scores are recalculated.

11.22.5 ELINT AMBIGUITY

Use the ELINT AMBIGUITY option to display a summary of all ELINT ambiguities in the track database.

- Select ELINT AMBIGUITY from the TRACK SUMMARIES cascading menu to open the ELINT AMBIGUITY SUMMARY window.

- This window shows only those ELINT tracks that are ambiguities.
- Fields and functions in this window are the same as those in the EMITTER TRACK SUMMARY window. See the *ELINT Track* section for details on these options.

11.22.6 SELECTED ELINT

Use the SELECTED ELINT option to present a summary of all selected ELINT tracks.

- Select the ELINT tracks from the display.
  - If no tracks are selected, the DATABASE SEARCH window opens.
- Choose the SELECTED ELINT option from the TRACK SUMMARIES cascading menu to open the SELECTED EMITTER SUMMARY window.
- Fields and functions in this window are the same as those in the EMITTER TRACK SUMMARY window. See the *ELINT Track* section for details on these options.

11.22.7 ACOUSTIC/SUB

Use the ACOUSTIC/SUB option to present a summary of all acoustic tracks in the track database.

To access this window: TRACKS pull-down menu **:** TRACK SUMMARIES cascading menu **:** ACOUSTIC/SUB option **:** ACOUSTIC TRACK SUMMARY window (Figure11.22 -11).

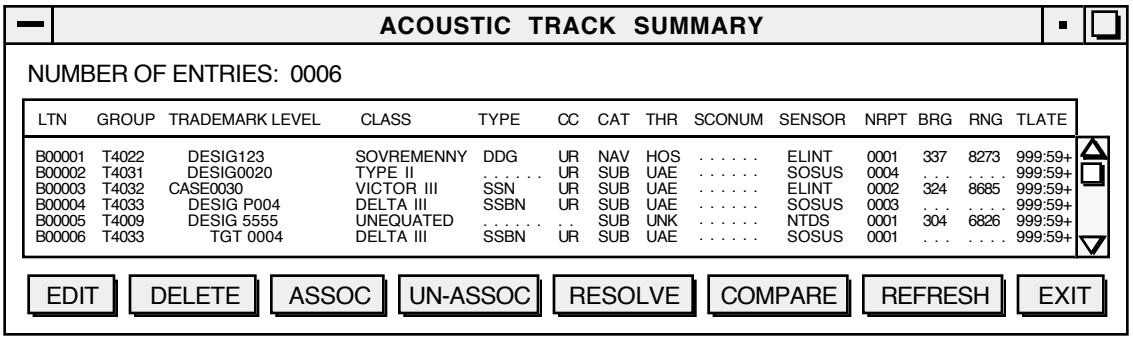


Figure11.22 -11 Acoustic Track Summary

ACOUSTIC TRACK SUMMARY Window Buttons

EDIT—a track.

1. Select one or more tracks.

2. Click EDIT to open the EDIT window. (This is the same window that appears when using the EDIT option.)
3. If multiple tracks were selected, the NEXT and PREV buttons will be active in the EDIT window. Use these buttons to view the next or previous track from the selected group.
4. Click EXIT to return to the ACOUSTIC TRACK SUMMARY window.

DELETE—a track.

1. Select one or more tracks.
2. Click DELETE. The selected tracks are removed from the system.

ASSOC—associate acoustic tracks of different levels.

1. Select two tracks.
   - The tracks must have different trademark levels.
   - The track with the higher-level trademark will be the "parent" of the association.
2. Click ASSOC to associate the acoustic tracks.

UN-ASSOC—break the association between a selected acoustic track and its Platform parent track, or between acoustic tracks of different levels.

RESOLVE—view the candidates for a selected track and resolve whether they should be merged.

1. Select one track.
2. Click RESOLVE to open the COMPARE window.
   - If there is more than one candidate, the NEXT and PREV buttons are active.
3. Use the options in the COMPARE window to resolve whether the track and its candidates should be merged. (See the *COMPARE* section for more information.)

COMPARE—two or more selected tracks and resolve whether they should be merged.

1. Select two or more tracks from the list.
2. Click COMPARE to bring up the SELECT TRACK window.
3. Choose a master or slave from this window.
4. Click OK to open the COMPARE window for the selected tracks.
   - Use the options in the window to determine whether the selected tracks should be merged.

- See the *COMPARE* section for more information.

REFRESH—update the acoustic track summary list to include new tracks that have come into the system since this option was selected.

EXIT—the option and close the window.

ACOUSTIC TRACK SUMMARY Window Pop-up Menu Options

Options on the pop-up menu perform as described in *Summary of Common Operations* or function as buttons with the same names described elsewhere in this section: ASSOC, COMPARE, DELETE, EDIT, EXIT, PRINT ALL, PRINT SELECTED, REFRESH, RESOLVE, SELECT ALL, UN-ASSOC, and UNSELECT ALL.

ACOUSTIC TRACK SUMMARY Window Fields

The ACOUSTIC TRACK SUMMARY window scroll list contains the following fields of information for each acoustic track selected:

LTN
Local track number.

GROUP
Parent Platform track number associated with this acoustic track.

TRADEMARK LEVEL
Trademark for the track. Trademarks of different levels are indented within this column to distinguish the levels:

CASE acoustic track—left justified with the TRADEMARK LEVEL column heading.

DESIG acoustic track—indented three characters.

TGT acoustic track—indented six characters.

CONT or POD acoustic track—indented nine characters.

CLASS
Ship class.

TYPE
Ship type of the track, such as DDG, CV, CG, or SSN.

CC
Two-letter code identifying the country associated with the track.

CAT
Track category (SUB, NAV, etc.).

THR
Threat classification code (FRI, HOS, NEU, etc.).

SCONUM
Ship control number.

SENSOR
Device or method that detected the track (for example, VIS=visual sighting).

NRPT
Number of reports received for the track.

BRG
Bearing of the track from Ownship.

RNG
Range of the track from Ownship, in nautical miles.

TLATE
Amount of time that has elapsed since the last report for the track.

11.22.8 UNIT TRACK

Use the UNIT TRACK option to show a summary of all unit tracks in the track database.

To access this window: TRACKS pull-down menu : TRACK SUMMARIES cascading menu : UNIT TRACK option : UNIT TRACK SUMMARY window (Figure 11.22 -12).

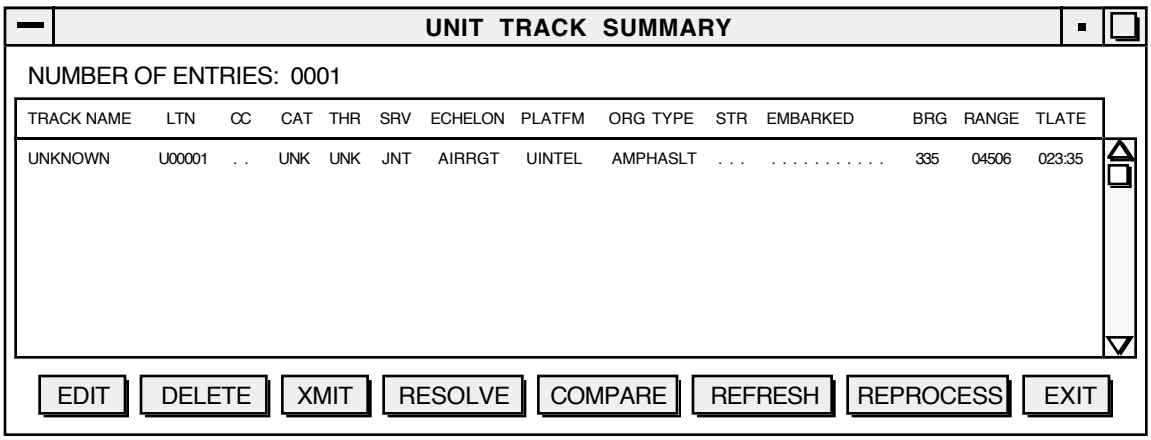


Figure 11.22 -12 Unit Track Summary Window

UNIT TRACK SUMMARY Window Buttons

EDIT—a track.

1. Select one or more tracks.
2. Click EDIT to open the EDIT window. (This is the same window that appears when using the EDIT option.)
3. If multiple tracks were selected, the NEXT and PREV buttons will be active in the EDIT window. Use these buttons to view the next or previous track from the selected group.
4. Click EXIT to return to the UNIT TRACK SUMMARY window.

DELETE—a track.

1. Select one or more tracks.
2. Click DELETE. The selected tracks are removed from the system.

XMIT—transmit a track to another location.

1. Select one or more tracks.
2. Click XMIT to open the XMIT FORMAT window and start the transmission process. See XMIT from the TRACKS pull-down menu for details about the XMIT FORMAT window.

RESOLVE—view the candidates for a selected track and determine whether they should be merged.

1. Select one track.
2. Click RESOLVE to open the COMPARE window.
   - If there is more than one candidate, the NEXT and PREV buttons are active.
3. Use the options in the COMPARE window to resolve whether the track and its candidates should be merged. (See the *COMPARE* section for more information.)

COMPARE—two or more selected tracks and determine whether they should be merged.

1. Select two or more tracks from the list.
2. Click COMPARE to open the SELECT TRACK window.
3. Choose a master or slave from this window.
4. Click OK to open the COMPARE window for the selected tracks.
   - Use the options in the window to determine whether the selected tracks should be merged.

- See the *COMPARE* section for more information.

REFRESH—update the track summary list to include new tracks that have come into the system since this option was selected.

REPROCESS—send a track through the correlator again. Use when fields that affect correlation are edited.

1. Select one or more tracks.
2. Click REPROCESS.

EXIT—the option and close the window.

UNIT TRACK SUMMARY Window Fields

The UNIT TRACK SUMMARY window lists the number of entries in the unit track database, as well as a summary of each track. The following fields of information appear for each track:

TRACK NAME
Unit name for the track.

LTN
Local track number.

CC
Two-letter code identifying the country associated with the track.

CAT
Track category (AIR, FSH, LAND, MER, etc.).

THR
Threat classification code (FRI, HOS, NEU, etc.).

SRV
Service code.

ECHELON
Organizational level.

PLATFM
Platform type.

ORG TYPE
Organization type.

STR
Strength of the unit.

EMBARKED
Platform on which the unit is embarked.

BRG
Bearing of the track from Ownship.

RANGE
Range of the track from Ownship, in nautical miles.

TLATE
Amount of time that has elapsed since the last report for the track.

11.22.9 UNIT AMBIGUITY

Use the UNIT AMBIGUITY option to show a summary of all unit ambiguities in the track database.

Select UNIT AMBIGUITY from the TRACK SUMMARIES cascading menu to open the UNIT AMBIGUITY SUMMARY window.

This window presents a summary of only those unit tracks that are ambiguities. Buttons in this window perform the same functions as those available from the UNIT TRACK SUMMARY window. (See *TRACK SUMMARY* for details on these options.)

11.22.10 SELECTED UNIT

Use the SELECTED UNIT option to show a summary of all selected unit tracks.

Choose SELECTED UNIT from the TRACK SUMMARIES cascading menu to open the SELECTED UNIT SUMMARY window.

Fields and functions for this window are the same as those available from the UNIT TRACK SUMMARY window. (See *TRACK SUMMARY* for details on these options.)

11.22.11 NIPS TRACK

Note: The NIPS TRACK option is available only on UB workstations that are connected directly to NIPS.

Use the NIPS TRACK option to display a summary of all NIPS associated tracks in the track database. A track can be associated with a NIPS data element by using the NIPS UPDATE option from the TRACK pop-up menu.

To access this window: TRACKS pull-down menu : TRACK SUMMARIES cascading menu : NIPS TRACK option : NIPS TRACK SUMMARY window (Figure 11.22 -13).

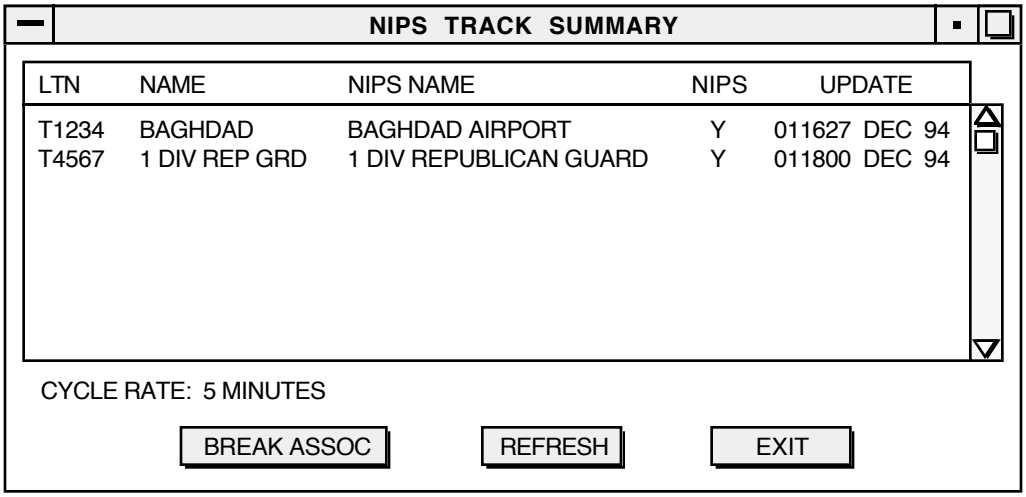


Figure 11.22 -13 NIPS Track Summary Window

NIPS TRACK SUMMARY Window Buttons

BREAK ASSOC—break a NIPS association.

1. Select the track to break from the NIPS association.
2. Click BREAK ASSOC.
   - When an association is broken, the system stops sending updates to NIPS for the selected track.
   - Both the UB track and the associated NIPS data element remain in their respective databases.

REFRESH—update the NIPS TRACK SUMMARY window to include new NIPS track information received since this option was selected.

EXIT—the option and close the window.

NIPS TRACK SUMMARY Pop-Up Menu

Options available on the NIPS TRACK SUMMARY pop-up menu perform as described in S*ummary of Common Operations* or function as window buttons with the same name: ARCHIVE DB, BREAK ASSOC, EXIT, REFRESH, RESTORE DB, SELECT ALL, and UNSELECT ALL.

NIPS TRACK SUMMARY Window Fields

The following fields are displayed for each NIPS associated track:

LTN
Local track number for the UB track.

Note: Tracks that no longer exist in the UB track database, but were associated with a NIPS data element, are listed in white. The LTN and NAME fields are blank.

NAME
Name of the UB track.

NIPS NAME
Name of the associated NIPS data element.

NIPS
Y—NIPS still holds the track,

N—does not hold the track.

UPDATE
DTG when the last update was sent to NIPS.

CYCLE RATE
Amount of time between UB updates being sent to the NIPS database. To change this setting, enter a new number of minutes.

11.23 TRACK TABLES

The TRACK TABLES option controls a cascading menu (Figure 11.23-1) with tables that pertain to tracks. This list of tables is "split" into two groups—the top group refers mainly to ELINT tracks; the bottom group relates to other tracks in the system.

About track tables

- Each table contains all possible values for a particular field or function in the system.
- Table values can be manipulated using add, edit, and delete operations.
- Some tables in the cascading menu are accessible from other options within UB. For example, the track EDIT window contains several fields with a list box next to the field. Many of the choices in these list boxes are controlled through TRACK TABLES options.

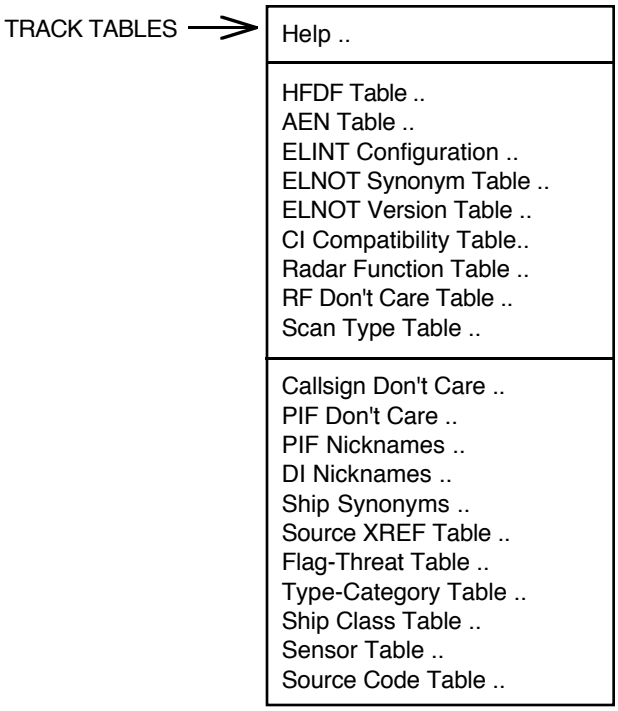


Figure11.23 -1 Track Tables Cascading Menu

11.23.1 HFDF TABLE

The HFDF TABLE option is used to maintain a database of High Frequency Direction Finder (HFDF) stations and their locations. In particular, many options within the TDAs pull-down menu use HFDF station information.

Select HFDF TABLE from the TRACK TABLES cascading menu to open the HFDF STATION TABLE window (Figure11.23-2).

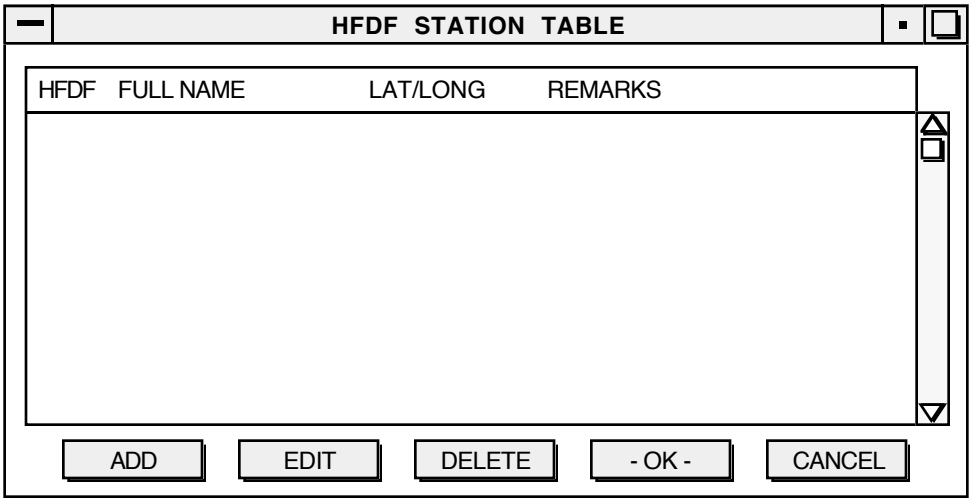


Figure11.23 -2 HFDF Station Table Window

HFDF STATION TABLE Window Buttons

ADD—a HFDF station. Described in *ADD an HFDF Station*.

EDIT—a HFDF station record.

1. Select the record from the HFDF STATION TABLE window.
2. Click EDIT to open the EDIT HFDF STATION window, which is functionally equivalent to the ADD HFDF STATION window.
3. Click OK to save changes or click CANCEL to discard changes. Clicking either button returns to the HFDF STATION TABLE window.
4. Changes made appear in the HFDF STATION TABLE window, but are not permanently saved until OK has been clicked from this window.

DELETE—one or more HFDF station records.

1. Click to select the records from the HFDF STATION TABLE window.
2. Click DELETE to open an ANSWER PLEASE window.
3. Click YES at the "Are you sure you wish to delete xxx item(s)?" Or, click NO to stop the delete action.

OK—accept the entry. Although new data is shown in the HFDF STATION TABLE window, it is not permanently saved until OK is clicked from this window.

CANCEL—discard the entry and exit the HFDF STATION TABLE window.

11.23.1.1 Add an HFDF Station

Click ADD to open the ADD HFDF STATION window (Figure11.23-3).

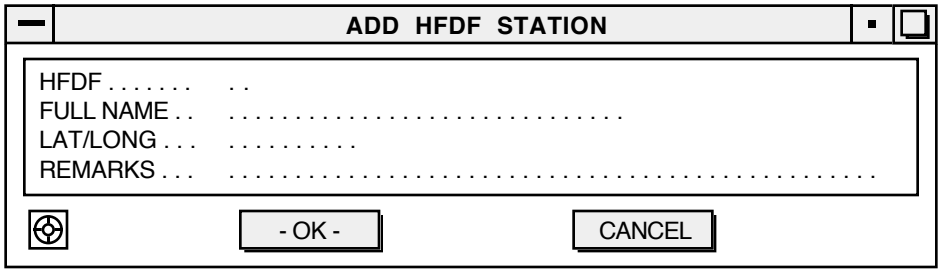


Figure11.23 -3 Add HFDF Station Window

Enter information into the following fields.

HFDF
Two-character HFDF code to identify the HFDF station.

FULL NAME
Full name of the HFDF station.

LAT/LONG
Latitude and longitude position for the HFDF station. Enter the LAT/LONG position from the keyboard, or automatically by clicking a point on the tactical display.

REMARKS
Enter any remarks about the HFDF station.

11.23.1.2 HFDF STATION TABLE Pop-Up Menu

Options available on the HFDF STATION TABLE pop-up menu (ADD, EDIT, DELETE, OK, CANCEL, SELECT ALL, UNSELECT ALL, ARCHIVE, RESTORE, PRINT, and EXIT) perform as described in S*ummary of Common Operations* or function as window buttons with the same name.

11.23.2 AEN TABLE

Use the AEN TABLE option to maintain a table of Arbitrary ELINT Notation (AEN) information.

Note: The AEN TABLE is described in greater detail in the *JOTSII Classified Supplement*. Refer to that document for more information about this option.

Select AEN TABLE from the TRACK TABLES cascading menu to open the AEN TABLE window (Figure11.23 -4).

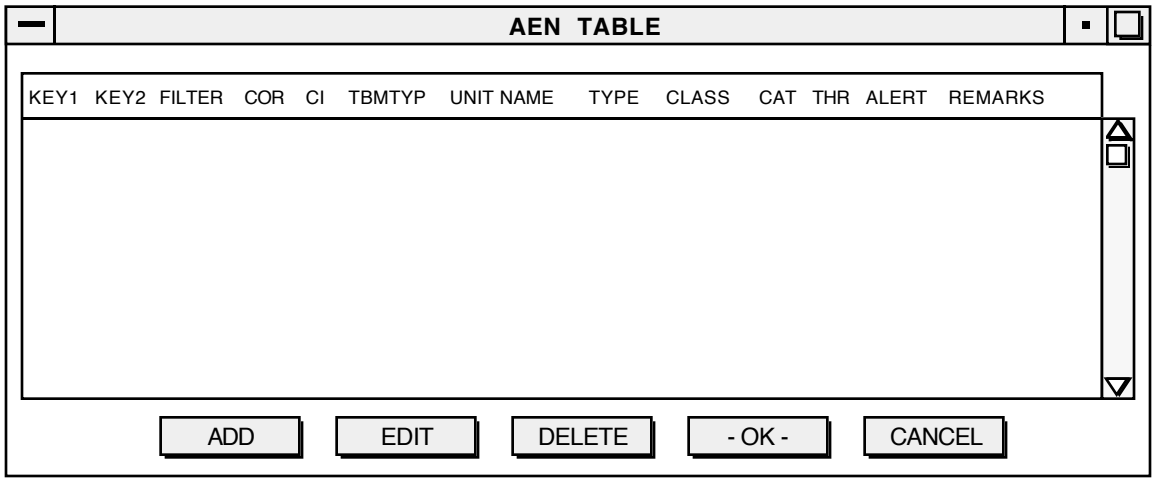


Figure11.23 -4 AEN Table Window

AEN TABLE Window Buttons

ADD—an AEN entry. Described in *Add an AEN Entry*.

EDIT—an AEN record.

1. Select the record from the AEN TABLE window.
2. Click EDIT to open the EDIT AEN window—which is functionally equivalent to the ADD AEN window.
4. Click OK to accept changes, or click CANCEL to discard them. Clicking either button returns to the AEN TABLE window.
5. Changes appear in the AEN TABLE window, but they are not permanently saved until OK has been clicked from the AEN TABLE window.

DELETE—an AEN record.

1. Select the record(s) from the AEN TABLE window.
2. Click DELETE. The record is deleted.
3. Multiple records can be selected by the same method.

OK—save record changes. Clicking OK closes the AEN TABLE window and exits the option.

CANCEL—discard all changes and exit the AEN TABLE option.

AEN TABLE Scroll List

The AEN TABLE window contains a scroll list of all AEN records in the system. Window fields are determined by the information entered in the ADD AEN window. See *ADD AEN Window Fields* for detailed information.

AEN entries are color-coded according to the following threat status:

Light Blue	=	FRI, UAF
Red	=	HOS, UAE
Green	=	NEU
Yellow	=	UNK, UEV

11.23.2.1 Add an AEN Entry

Click ADD to open the ADD AEN window (Figure11.23-5).

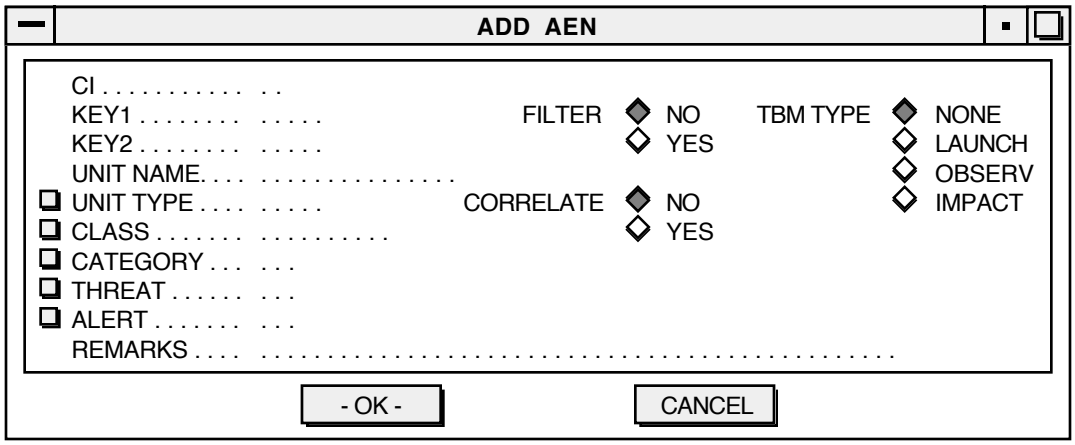


Figure11.23 -5 Add AEN Window

ADD AEN Window Fields

Enter information into the following fields, or click the list box in front of the UNIT TYPE, CLASS, CATEGORY, THREAT, and ALERT fields to show codes available for selection. Highlight the code and click the left trackball button to automatically enter the code into these fields.

CI
Correlation index.

KEY1
First identifier key to uniquely define the object.

KEY2
Second identifier key, if needed, to define the object.

UNIT NAME
Unit name.

UNIT TYPE
Unit type.

CLASS
Class.

CATEGORY
Category.

THREAT
Threat code.

ALERT
Alert code.

REMARKS
Enter any remarks about the AEN entry.

FILTER
Click the YES diamond knob to discard reports that enter the system with an ELNOT value that matches the value entered in the ELNOT field in this window.

Click the NO diamond knob and the report will remain in the system.

Note: ELINT filtering may also be performed from the INPUT GEO FILTERS option from the COMMS menu.

CORRELATE
Click the YES diamond knob to allow reports that match the criteria for this record to go through the correlation process.

Click the NO diamond knob to prevent reports that match the criteria for this record from going through the correlation process.

TBM TYPE
Enter the Theatre Ballistic Missile type, if applicable:

- None
- Launch
- Observed
- Impact

Note: *Only* Observe types have an additional data window available through a pop-up menu. If the TBM type is "Observe," select the DATA option from the ADD AEN window's pop-up menu. If this option is selected for types other than Observe, a warning window is displayed with the information that "only Observe types have added data."

OK—click to accept the entries. Data is not permanently saved until OK has been clicked from this window.

CANCEL—click to discard entries. Clicking either button returns to the AEN TABLE window.

11.23.2.2 AEN TABLE Pop-Up Menu

Options available on the AEN TABLE pop-up menu (ADD, EDIT, DELETE, OK, SELECT ALL, UNSELECT ALL, ARCHIVE, RESTORE, PRINT, and CANCEL), perform as described in *Summary of Common Operations* .

11.23.3 ELINT CONFIGURATION

The ELINT CONFIGURATION window allows an operator to view the various parameters that affect ELINT correlation.

Note: ELINT configuration parameters are preset in the delivered software. Settings can be changed only by an operator experienced with the workings of the correlation algorithm and who has been assigned a specific role and user account by the security administrator.

Select ELINT CONFIGURATION from the TRACK TABLES cascading menu to open the ELINT CONFIGURATION window (Figure11.23-6).

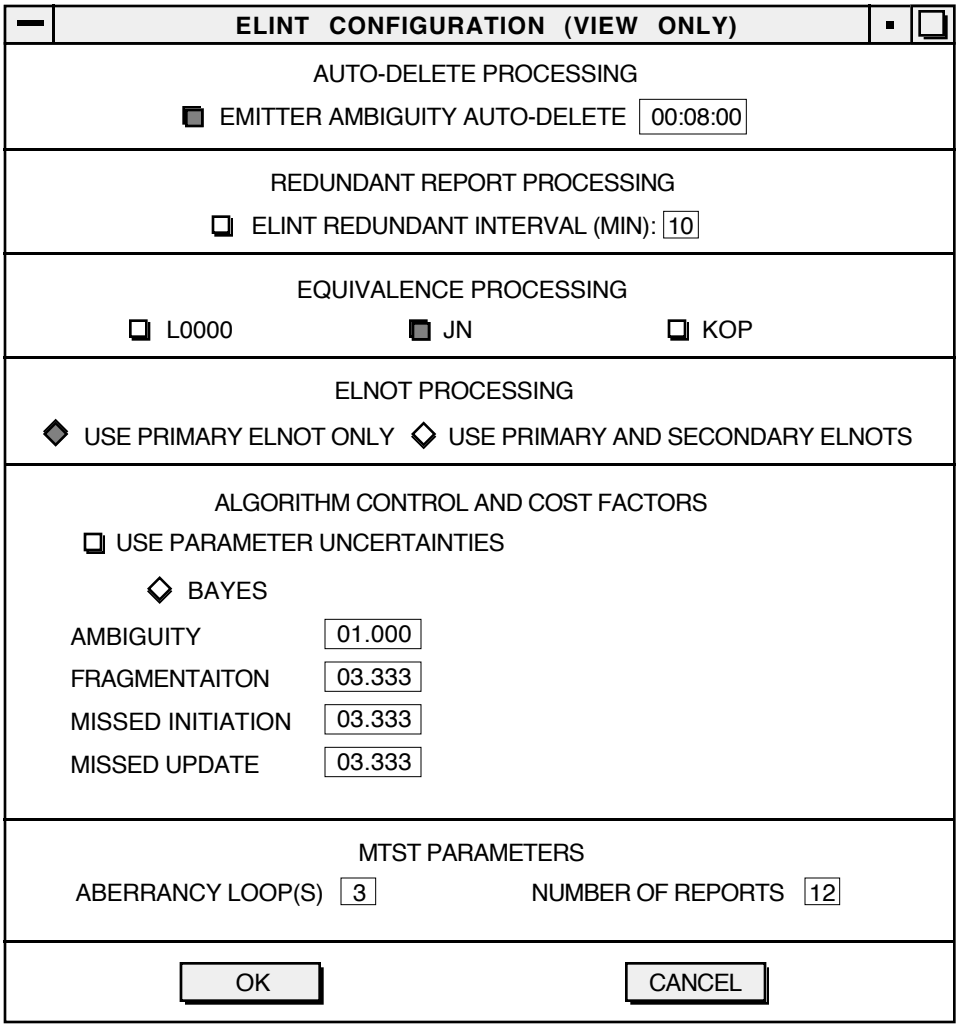


Figure11.23 -6 ELINT Configuration Window

ELINT CONFIGURATION Window Fields

EMITTER AMBIGUITY AUTO-DELETE

Specifies in days, hours, and minutes how long an emitter ambiguity will remain in the track database before automatic deletion.

ELINT REDUNDANT INTERVAL

Specifies the time difference (in minutes) between compatible ELINT reports before they are considered redundant. Redundant reports *are not* stored in the track's history of reports.

EQUIVALENCE PROCESSING

Specifies categories of ELNOTs that are considered equivalent for correlation purposes. A highlighted checkbox indicates equivalence processing is active for that category. Categories are as follows:

L000—if checked, reports with an ELNOT value of L000 will be considered candidates for correlation with every ELINT track in the database.

JN—if checked, reports with ELNOTs that begin with "J" or "N" will be considered candidates for correlation with every other ELINT track beginning with J or N in the database.

KOP—if checked, reports with ELNOTs that begin with K, O, or P will be considered candidates for correlation with every other ELINT track beginning with K, O, or P in the database.

ELNOT PROCESSING

Indicates whether only the primary or both the primary and secondary ELNOTs are used in the correlation process.

ALGORITHM CONTROL AND COST FACTORS

Indicates which algorithm is being used to correlate reports and specify algorithm parameter settings.

MTST PARAMETERS

Parameters affect the MTST algorithm in computing track position, course, and speed.

CANCEL—exit the window. Note: Under normal operating condition, the OK button is ghosted, as changes can be made only by an operator with a specific user role and account.

Elint Configuration Pop-up Menu

In addition to the options described in *Summary of Common Operations* (OK and CANCEL), the ELINT CONFIGURATION pop-up menu also includes:

PARAMETER UNCERTAINTY TABLE

The PARAMETER UNCERTAINTY TABLE window (Figure 11.23-7) contains a list of two-character Correlation Indexes (CI) for certain deviation values.

For example: An ELINT report is received (AA) that does not contain any standard deviations—uncertainties reported for the parameters. In this case, the default from the PARAMETER UNCERTAINTY TABLE is used *if* the USE PARAMETER UNCERTAINTIES checkbox is toggled ON in the ELINT CONFIGURATION window.

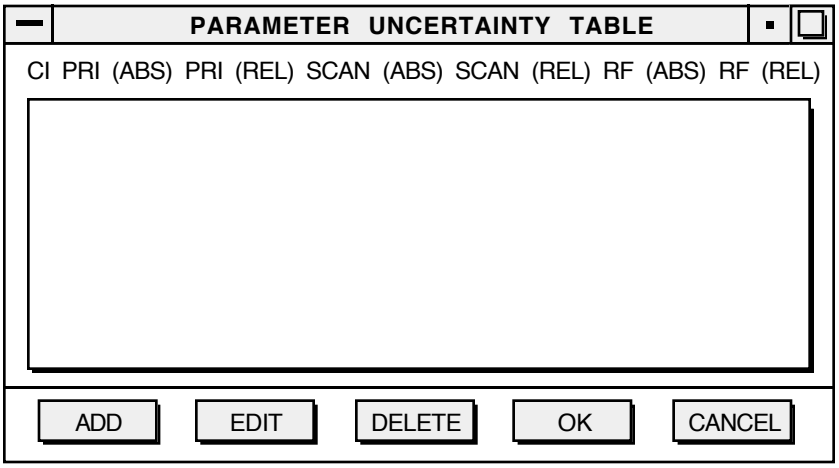


Figure11.23 -7 Parameter Uncertainty Table Window

PARAMETER UNCERTAINTY TABLE Note: An operator must be given permission (via the assigned account role/group) to manipulate information in this window. Without assigned permission, when this window is opened information is view only and all buttons (except CANCEL) are ghosted.

11.23.4 ELNOT SYNONYM TABLE

Use the ELNOT SYNONYM TABLE option to maintain a list of synonyms for ELINT reports.

About the ELNOT SYNONYM TABLE

- When an ELINT report is transmitted, data in the ELNOT field is used to determine whether or not the report is an update to an existing track.
  - Occasionally, a report intended as an update for an existing track will have a different value in the ELNOT field than the existing track.
  - Use this option to assign synonyms for existing ELNOT values, so that reports received with the synonym in the ELNOT field will update the correct track.
- The ELNOT SYNONYM TABLE contains a high and low range for the Pulse Repetition Interval (PRI), the Scan Rate, and the Radio Frequency for each synonym defined in the table.
- If a synonym is received into the system, the PRI, Scan Rate, and Radio Frequency values must be within the ranges listed for the synonym to correlate with its corresponding ELNOT.

Select ELNOT SYNONYM TABLE from the TRACK TABLES cascading menu to open the ELNOT SYNONYM TABLE window (Figure11.23-8).

ELNOT SYNONYM TABLE

ON

ELNOT	SYNONYM	PRI (USEC) LOW	PRI (USEC) HIGH	SCAN (SPR) LOW	SCAN (SPR) HIGH	RF (MHZ) LOW	RF (MHZ) HIGH	TOT BANDS
A3332	W4788	0173.5662	0173.5672	90.30	90.31	18066.51	18066.61	2
A374X	V8704	9884.9675	9884.9685	79.81	79.82	52149.04	52149.14	2
A696X	X598W	2769.5283	2769.5293	54.64	54.65	91831.30	91831.40	1
A6981	L9361	2844.8746	2844.8756	62.49	62.50	65666.83	65666.93	1
A724W	A584S	4814.4546	4814.4556	48.79	48.80	22529.45	22529.55	1
B1622	B4163	3764.6690	3764.6700	42.59	42.60	27348.80	27348.90	1
B4176	E775C	5946.3291	5946.3301	47.05	47.06	00238.37	00238.47	3
B4847	S808W	0657.0830	0657.0840	78.63	78.64	42205.27	42205.37	1
B515C	N1959	1108.4437	1108.4447	41.17	41.18	38894.66	38894.76	1
B5703	R9945	9363.7880	9363.7890	69.52	69.53	32422.55	32422.65	2
B594X	H1501	1371.6349	1371.6359	47.42	47.43	28938.41	28938.51	1

ADD EDIT DELETE - OK - CANCEL

Figure11.23 -8 ELNOT Synonym Table Window

ELNOT SYNONYM TABLE Window Buttons

ADD—an ELNOT synonym. Described in *Add an ELNOT Synonym*.

EDIT—an ELNOT synonym record.

1. Select the record from the ELNOT SYNONYM TABLE window.
2. Click EDIT to open the EDIT ELNOT SYNONYM window—which is functionally equivalent to the ADD ELNOT SYNONYM window.
3. Click OK to accept changes, or click CANCEL to ignore any changes. Clicking either button returns to the ELNOT SYNONYM TABLE window.
4. Changes appear in the ELNOT SYNONYM TABLE window, but are not permanently saved until OK has been clicked from the ELNOT SYNONYM TABLE window.

DELETE—an ELNOT synonym record.

1. Select the record (or records) from the ELNOT SYNONYM TABLE window.
2. Click DELETE. The record or multiple records are deleted.

OK—save the changes, closes the window, and exits the ELNOT SYNONYM TABLE window.

CANCEL—discard changes and exit the ELNOT SYNONYM TABLE option.

ON checkbox—click to check the ELNOT synonym table for incoming ELINT reports.

11.23.4.1 Add an ELNOT Synonym

Click ADD to open the ADD ELNOT SYNONYM window (Figure11.23-9).

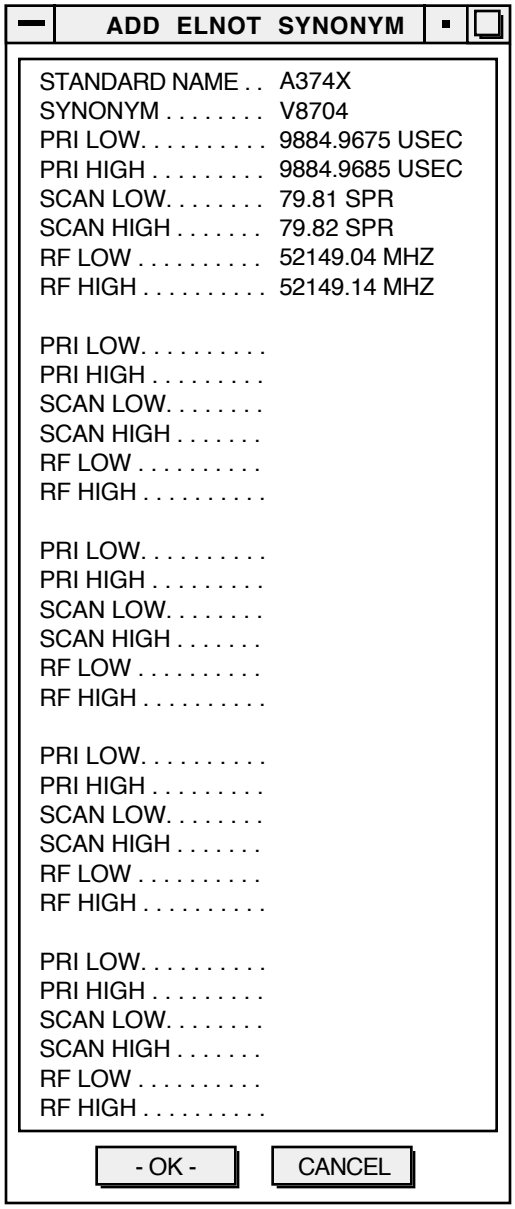


Figure11.23 -9 Add ELNOT Synonym Window

ADD ELNOT SYNONYM Window Fields

Enter data for a new ELNOT synonym into the following fields:

STANDARD NAME
ELINT notation for the track.

SYNONYM
Synonym for the ELINT notation in the STANDARD NAME field.

PRI LOW
Low range for the Pulse Repetition Interval (PRI) for the ELINT emission (in microseconds).

PRI HIGH
High range for the Pulse Repetition Interval (PRI) for the ELINT emission (in microseconds).

SCAN LOW
Low range for the Scan Rate for the ELINT emission (in seconds per revolution).

SCAN HIGH
High range for the Scan Rate for the ELINT emission (in seconds per revolution).

RF LOW
Low range of the Radio Frequency for the ELINT emission (in megahertz).

RF HIGH
High range of the Radio Frequency for the ELINT emission (in megahertz).

OK—accept the entries. New data displayed in the ELNOT SYNONYM TABLE window is not permanently saved until OK has been clicked from the ELNOT SYNONYM TABLE window.

11.23.4.2 ELNOT SYNONYM TABLE Pop-Up Menu

Options available on the ELNOT SYNONYM TABLE pop-up menu (ADD, EDIT, DELETE, OK, SELECT ALL, UNSELECT ALL, ARCHIVE, RESTORE, PRINT, and CANCEL), perform as described in *Summary of Common Operations* .

11.23.5 ELNOT VERSION TABLE

Use the ELNOT VERSION TABLE option to maintain a list of known emitters and their associated emission parameters. This table is used to screen incoming ELINT reports for correlation purposes.

Warning: In most cases, the data for this table is provided with UB software and does not require editing. Unless there is a definite need, *do not* make any editing changes to this table, as doing so may cause serious correlation problems when processing incoming ELINT reports.

Select the ELNOT VERSION TABLE option from the TRACK TABLES cascading menu to open the ELNOT VERSION TABLE window (Figure11.23 -10).

ELNOT VERSION TABLE

ELNOT	EMITTER NAME	FC	CAT	THR	#	UEQ	OEQ	CBB	RBB	ABB	SP	SBB	RP	DTIME	PTIME	PNRPT
A318Q	DON KAY 00273	CY	NAV	NEU	5	ON	ON	OFF	OFF	OFF	OFF	ON	ON	048:00	012:00	0002
A3750	DON KAY 00109	PM	AIR	UNK	3	ON	ON	ON	ON	ON	ON	ON	OFF	048:00	012:00	0002
A4216	DON KAY 00300	ZH	SUB	HOS	3	ON	ON	ON	OFF	ON	ON	ON	ON	048:00	012:00	0002
A476H	DON KAY 00374	GV	NAV	FRI	5	ON	ON	ON	OFF	OFF	ON	ON	OFF	048:00	012:00	0002
A5203	DON KAY 00499	JU	NAV	UNK	5	ON	ON	ON	OFF	ON	OFF	OFF	OFF	048:00	012:00	0002
A7254	DON KAY 00134	ZT	UNK	NEU	2	ON	ON	ON	OFF	OFF	ON	OFF	ON	048:00	012:00	0002
A7723	DON KAY 00142	RY	NAV	UAF	5	ON	ON	ON	OFF	OFF	OFF	OFF	OFF	048:00	012:00	0002
A7805	DON KAY 00123	WI	MER	UNK	5	ON	ON	OFF	ON	ON	OFF	ON	OFF	048:00	012:00	0002
A788U	DON KAY 00276	GB	NAV	UAE	5	ON	ON	OFF	ON	ON	ON	OFF	OFF	048:00	012:00	0002
A862F	DON KAY 00474	LP	NAV	UNK	3	ON	ON	ON	ON	ON	OFF	OFF	ON	048:00	012:00	0002
B083R	DON KAY 00211	JJ	UNK	FRI	2	ON	ON	OFF	ON	ON	OFF	ON	OFF	048:00	012:00	0002

ADD EDIT DELETE - OK - CANCEL

Figure11.23 -10 ELNOT Version Table Window

ELNOT VERSION TABLE Window Buttons

ADD—an emitter to the table. Described in *Add an Emitter*.

EDIT—an emitter record.

1. Select the record from the ELNOT VERSION TABLE window.
2. Click EDIT and the EDIT ELNOT VERSION window appears. This window is functionally equivalent to the ADD ELNOT VERSION window.
3. Click OK to accept changes, or click CANCEL to discard them. Clicking either button returns to the ELNOT VERSION TABLE window.
4. Changes appear in the ELNOT VERSION TABLE window, but are not permanently saved until OK has been clicked from this window.

DELETE—an emitter record(s).

1. Select the record (or multiple records) from the ELNOT VERSION TABLE window.
2. Click DELETE and the record is deleted.

OK—accept the new emitter data. New data shown in the ELNOT VERSION TABLE window is not permanently saved until OK has been clicked from this window.

CANCEL—discard the data.

ELNOT VERSION TABLE Window Fields

The following fields of information are shown for each emitter in the table:

ELNOT
ELINT notation. This five digit field begins with an alpha character, followed by three numbers, ending with another alpha character.

EMITTER NAME
Radar name (for example, RAY1500, SPN-43, HEADNET).

FC
Emitter function code.

CAT
Category code for the emitter.

THR
Threat code for the emitter.

#
Number of default tolerance versions that exist for this emitter.

UEQ
Status of L0000 equivalence processing for the emitter.

OEQ
Status of KOP/JN equivalence processing for the emitter.

CBB
Whether or not PRI crystal basebanding is used for this emitter.

RBB
Signify whether or not PRI range basebanding is used for this emitter.

ABB
Signify whether or not adaptive basebanding is used for this emitter.

SP
Shows ON if the PROCESS SCAN checkbox is clicked for this emitter or OFF if the checkbox is blank.

SBB
Signify whether or not scan basebanding is used for this emitter.

RP
Shows ON if the PROCESS RF checkbox is clicked for this emitter, or OFF if the checkbox is blank.

DTIME
Disregard time.

PTIME
Autopurge time.

PNRPT
Number of reports used to determine whether to autopurge or not.

Recommendation: Changes to this table should be made *only* by an expert user and only if there is a definite need to make a change. Incorrect changes can lead to serious correlation problems.

11.23.5.1 Add an Emitter

Click ADD to open the ADD ELNOT VERSION window (Figure11.23 -11).

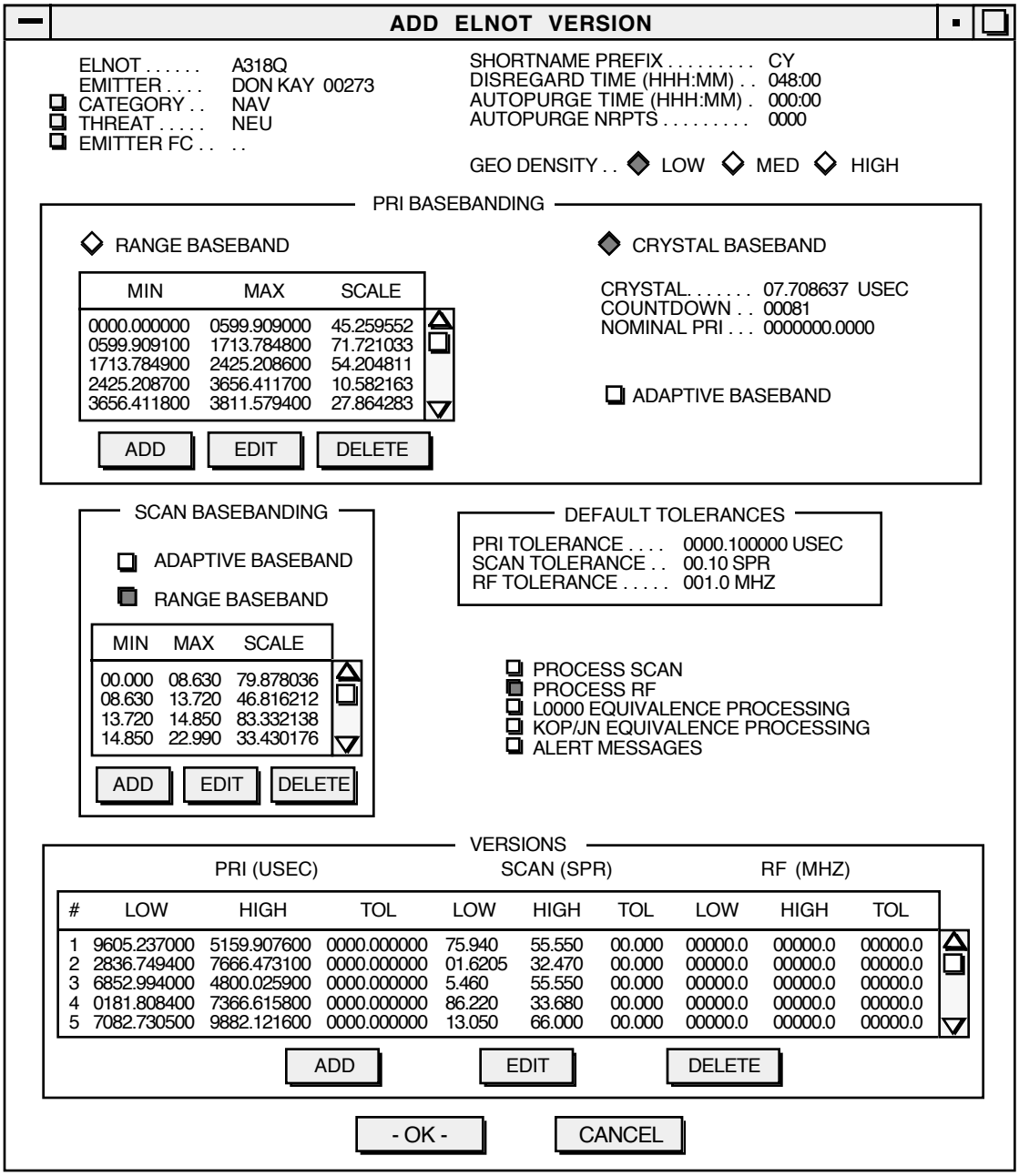


Figure11.23 -11 Add ELNOT Version Window

Use the ADD ELNOT VERSION window to enter data for a new emitter.

General Fields (Top of Window)

ELNOT

ELINT notation. This five digit field begins with an alpha character, followed by three numbers, ending with another alpha character.

EMITTER NAME

Radar name (for example, RAY1500, SPN-43, HEADNET).

CATEGORY

Category code for the emitter.

THREAT

Threat status code for the emitter.

EMITTER FC

Emitter Function Code. This two-letter code is used to identify the function of the radar system.

SHORTNAME PREFIX

Short name for the emitter—used as the track label on the tactical display for some systems.

DISREGARD TIME

The amount of time that a report will be considered a candidate when compared to an existing track.

Example: If the disregard time is set to 8 hours, an existing track is 12 hours old, and a new report is 20 minutes old, the new report will not be considered a candidate because it is more than 8 hours later than the previous report.

AUTOPURGE TIME

Enter the autopurge time in this field—hours and minutes. If the last report for an ELINT track is older than this time (and the value in the AUTOPURGE NRPTS field is also met), the track is automatically deleted from the system.

Note: Automatic deletion of ELINT *ambiguities* can be controlled separately from the ELINT CONFIGURATION option (TRACK TABLES cascading menu).

- If the EMITTER AMBIGUITY AUTO DELETE checkbox is clicked and a time setting entered in the ELINT CONFIGURATION window, ELINT ambiguities are automatically deleted if their most recent report is older than the time specified.
- Settings in the ELINT CONFIGURATION window take precedence over settings in the AUTOPURGE TIME and AUTOPURGE NRPTS fields for ELINT ambiguities.

AUTOPURGE NRPTS

Number of reports needed to keep the track in the system. If the number of reports for an ELINT track is less than the number entered here (and the value in the AUTOPURGE TIME field is also met), the track is automatically deleted from the system.

Note: Automatic deletion of ELINT *ambiguities* can be controlled separately from the ELINT CONFIGURATION option (TRACK TABLES cascading menu).

- If the EMITTER AMBIGUITY AUTO DELETE checkbox is clicked and a time setting entered in the ELINT CONFIGURATION window, ELINT ambiguities are automatically deleted from the system if their most recent report is older than the time specified.
- Settings in the ELINT CONFIGURATION window take precedence over settings in the AUTOPURGE TIME and AUTOPURGE NRPTS fields for ELINT ambiguities.

GEO DENSITY

Click one of the GEO DENSITY diamond knobs to define whether the track is being viewed in a low, medium, or high density environment.

Example: If the track is in port, the HIGH diamond knob should be clicked. If in open ocean, the LOW diamond knob should probably be clicked. The diamond knob chosen is taken into consideration when tracker track calculations are performed for the track.

PRI BASEBANDING Box

Contains RANGE BASEBAND and CRYSTAL BASEBAND diamond knobs and an ADAPTIVE BASEBAND checkbox. Use these fields to:

- Set values for the PRI basebanding calculations.
- Establish a common pulse repetition interval to view the emitter.

If the RANGE BASEBAND diamond knob is selected:

Click ADD to open the ADD PRI BASEBAND RANGE window and enter values to set PRI ranges and scales for basebanding.

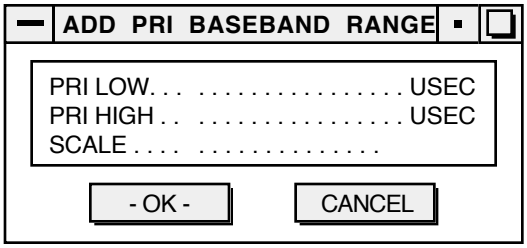


Figure11.23 -12 Add PRI Baseband Range Window

Enter data into the following fields to add a PRI range for the emitter being defined:

PRI LOW
Low range for the Pulse Repetition Interval (PRI) for the ELINT emission (in microseconds).

PRI HIGH
High range for the Pulse Repetition Interval (PRI) for the ELINT emission (in microseconds).

SCALE
Enter a number as a scale for PRI basebanding for the range being defined. The number entered is multiplied with the actual PRI value to determine the basebanded PRI value.

OK—accept the data, or click CANCEL to discard it. Clicking either button returns to the ADD ELNOT VERSION window.

If the CRYSTAL BASEBAND diamond knob is selected,:

Enter values into the following fields:

CRYSTAL
PRI value for the ELINT emission (in microseconds).

COUNTDOWN
Countdown value to be used for the crystal baseband PRI calculations.

NOMINAL PRI
Baseband value for the PRI. This value is automatically calculated and cannot be edited.

If the ADAPTIVE BASEBANDING checkbox is selected:

The data is run through the crystal baseband and adaptive baseband calculations to determine the best fit.

1. Click the ADAPTIVE BASEBAND checkbox and the crystal baseband and adaptive baseband values are calculated for the report.
2. The baseband value that best fits the mean value for the average PRI for the track is chosen as the baseband value to be used.
3. View the track's ELINT SUMMARY window to show which baseband method was used.

SCAN BASEBANDING Box

Use the RANGE BASEBAND or ADAPTIVE BASEBAND checkbox to set a common scan rate to view the emitter.

If the RANGE BASEBAND checkbox is selected:

Use the SCAN BASEBANDING scroll list to establish a list of scan ranges and scales. To add a new entry to the list, click ADD to open the ADD SCAN BASEBAND RANGE window (Figure11.23 -13).

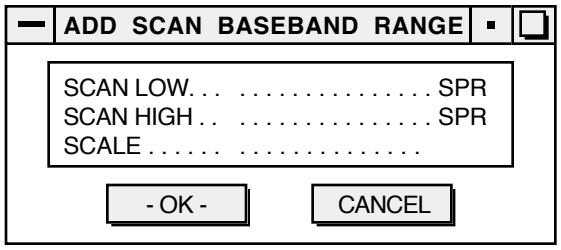


Figure11.23 -13 Add Scan Baseband Range Window

Enter data into the following fields for the emitter being defined:

SCAN LOW
Low range for the Scan Rate for the ELINT emission (in seconds per revolution).

SCAN HIGH
High range for the Scan Rate for the ELINT emission (in seconds per revolution).

SCALE
For the range being defined, enter a number as a scale for scan basebanding. The number entered here will be multiplied with the actual scan value to determine the basebanded scan value.

OK—accept the data, or click CANCEL to discard it. Clicking either button returns to the ADD ELNOT VERSION window.

If the ADAPTIVE BASEBANDING checkbox is selected:

1. Click the ADAPTIVE BASEBAND checkbox.
2. Range baseband and adaptive baseband values are automatically calculated for the report.
3. The baseband value that best fits the mean value for the average scan rate for the track is chosen as the baseband value to be used.

VERSIONS Box

Use the VERSIONS box to build multiple default tolerances for specified ranges of PRI, Scan Rate, and RF—in combination. Raw values for these fields are used for this table, not the basebanded values.

To use default tolerance ranges, the values for an incoming ELINT report must fall within all three ranges defined in this window.

Click ADD to open the ADD ELNOT VERSION window (Figure11.23-14) and add a new default tolerance range.

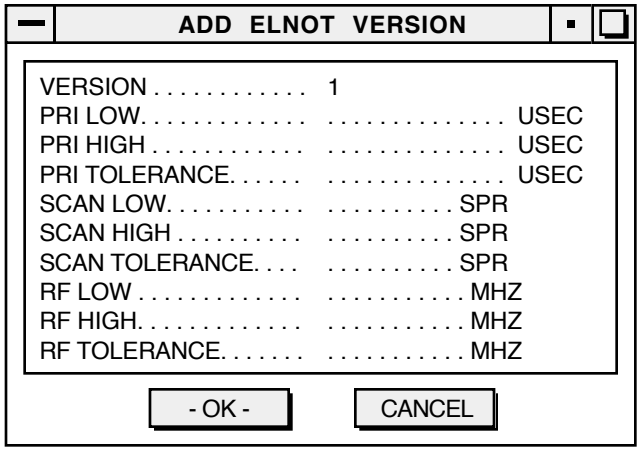


Figure11.23 -14 Add ELNOT Version Window

Enter data for the new default tolerance range in the following window fields:

VERSION
A number is automatically placed in this field, starting at 1, to indicate the version number of this default tolerance range.

PRI LOW
Low range for the Pulse Repetition Interval (PRI) (in microseconds).

PRI HIGH
High range for the PRI (in microseconds).

PRI TOLERANCE
Default PRI tolerance (in microseconds).

SCAN LOW
Low range for the Scan Rate (in seconds per revolution).

SCAN HIGH
High range for the Scan Rate (in seconds per revolution).

SCAN TOLERANCE
Default Scan Rate tolerance (in seconds per revolution).

RF LOW
Low range for the Radio Frequency (RF) (in megahertz).

RF HIGH
High range for the RF (in megahertz).

RF TOLERANCE
Default RF tolerance (in megahertz).

OK—accept the data, or click CANCEL to discard it. Clicking either button returns to the ADD ELNOT VERSION window.

DEFAULT TOLERANCES Box

Fields in the Default Tolerances box are used to establish tolerance values for the emitter. If the PRI, Scan, and RF values for the report are less than the default tolerances, this indicates that the report is more likely to be an update. If they are greater than the default tolerances, this indicates that the report is more likely to represent a new track. Enter default tolerances in the following fields:

PRI TOLERANCE
Default PRI tolerance (in microseconds).

SCAN TOLERANCE
Default Scan Rate tolerance (in seconds per revolution).

RF TOLERANCE
Default RF tolerance (in megahertz).

ON/OFF Checkboxes

The following checkboxes (below the DEFAULT TOLERANCES box) turn ON or OFF various ELINT procedures:

PROCESS SCAN
Click ON to consider the scan rate value when performing track correlation.

PROCESS RF
Click ON to consider the RF value when performing track correlation.

L0000 EQUIVALENCE PROCESSING
Some ELINT notations are considered equivalent to each other.

Click ON for UB to consider L0000 notations equivalent. If this checkbox is blank, equivalence processing is turned off and the ELINT notations must be exactly the same for there to be a match.

KOP/JN EQUIVALENCE PROCESSING
Some ELINT notations are considered equivalent to each other. For example, the K, O, and P notations are considered equivalent. Click to

consider K, O, and P notations and J and N notations equivalent. If this checkbox is blank, equivalence processing is turned off and the ELINT notations must be exactly the same for there to be a match.

ALERT MESSAGES
Click to enable alert messages to be sent for this emitter. Leave this checkbox blank to disable alert messages.

ADD ELNOT VERSION Pop-Up Menu

Options available on the ADD ELNOT VERSION pop-up menu (HELP, OK, PRINT, and CANCEL), perform as described in *Summary of Common Operations.*

11.23.5.2 ELNOT VERSION TABLE Pop-Up Menu

In addition to the options described in *Summary of Common Operations* (ADD, EDIT, DELETE, OK, CANCEL, PRINT, SELECT ALL, UNSELECT ALL, ARCHIVE, and RESTORE), or that function as buttons with the same name, the ELNOT VERSION TABLE pop-up menu also includes:

PRINT DETAIL

This option is not available for the current version of UB.

11.23.6 CI COMPATIBILITY TABLE

The CI (correlation index) COMPATIBILITY TABLE contains a scroll list of compatible correlation indices (“sets”)—used by the ELINT correlation process.

Note: Information in this table should be changed only on receipt of new CI sets. Changes should be done by personnel experienced in CI processes, as this table affects the screening of redundant ELINT reports and the system’s correlation process.

Select the CI COMPATIBILITY TABLE option from the TRACK TABLES cascading menu to open the CI COMPATIBILITY TABLE window (Figure11.23 -15).

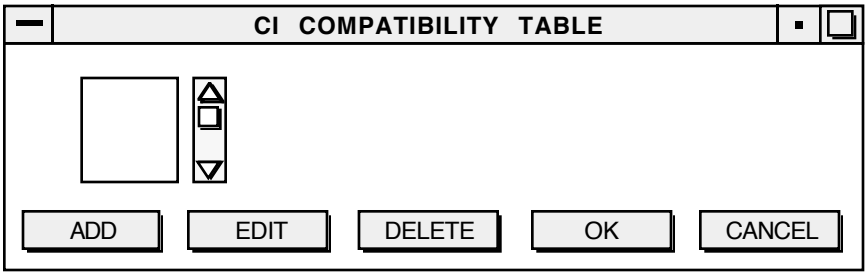


Figure 11.23-15 CI Compatibility Table

CI COMPATIBILITY TABLE Window Buttons

ADD—a new CI compatibility set. Described in *Add CI Compatibility Set*.

EDIT—a selected compatibility set.

1. Select the set in the scroll list.
2. Click EDIT. (Or, double-click the set entry in the scroll list). The EDIT CI COMPATIBILITY SET window opens. This window is functionally equivalent to the ADD CI COMPATIBILITY SET window.
3. Click OK to accept changes to the set, or click CANCEL to discard them.

DELETE—a compatibility set. Select the set from the scroll list and click DELETE.

OK—saves the current table in the scroll list and closes the window.

CANCEL—discards changes made to the table and closes the window. If changes were made and CANCEL is clicked, a warning window appears ". . .do you want to discard the changes?"

11.23.6.1 Add a CI Compatibility Set

Click ADD to open the ADD CI COMPATIBILITY SET window (Figure 11.23-16).

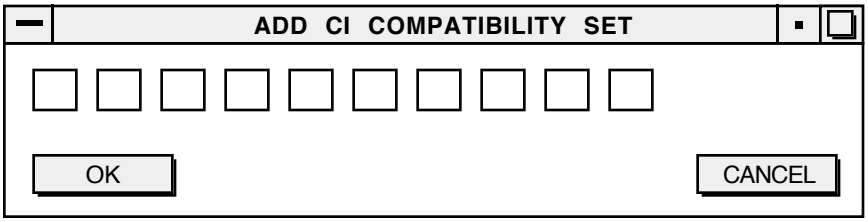


Figure 11.23-16 Add a CI Compatibility Set

Using the ADD CI COMPATIBILITY SET Window

- The window contains 10 “text” fields with a two-character limit per field.
- Up to 10 CIs can be in the set (minimum of two in each set).
- CIs in the new set cannot be members of any other set.
  - For example if the two sets are AA BB CC and DD EE FF GG, a new set containing FF HH II is not allowed as FF is a member of the second set.
- Click OK to save the compatibility set, or click CANCEL to discard the entry.

11.23.6.2 CI COMPATIBILITY SET Pop-Up Menu

In addition to the options described in *Summary of Common Operations* (ADD, EDIT, DELETE, OK, CANCEL, ARCHIVE, and RESTORE), or that function as buttons with the same name, the CI COMPATIBILITY SET pop-up menu also includes:

MASTER DEFAULT

Use this pop-up option to fill the scroll list with the master default table delivered with the software.

11.23.7 RADAR FUNCTION TABLE

Use the RADAR FUNCTION TABLE option to maintain a database of radar function codes. These codes are used with the ELNOT VERSION TABLE option, also found in the TRACK TABLES cascading menu.

Select RADAR FUNCTION TABLE from the TRACK TABLES cascading menu to open the RADAR FUNCTION CODE TABLE window (Figure11.23 -17).

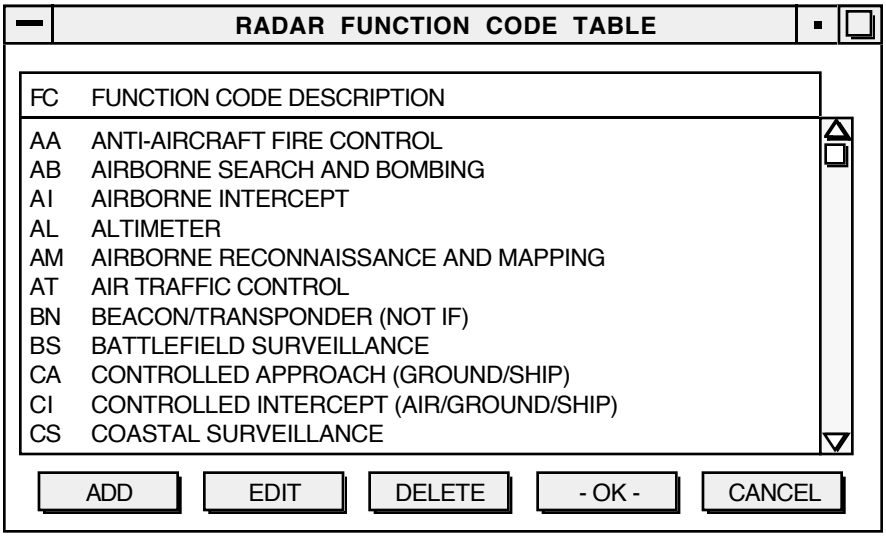


Figure11.23 -17 Radar Function Code Table Window

The RADAR FUNCTION CODE TABLE window lists all the radar function codes in the system.

RADAR FUNCTION CODE TABLE Window Buttons

ADD—a new radar function code. Described in *Add a Radar Function Code*.

EDIT—a radar function code record.

1. Select the record from the RADAR FUNCTION CODE TABLE window.
2. Click EDIT to open the EDIT RADAR FUNCTION CODE window—which is functionally equivalent to the ADD RADAR FUNCTION CODE window.
3. Click OK to accept changes, or click CANCEL to discard the changes. Clicking either button returns to the RADAR FUNCTION CODE TABLE window.

DELETE—a radar function record.

1. Select the record or multiple records from the RADAR FUNCTION CODE TABLE window.
2. Click DELETE. The record or records are deleted.

OK—save the changes to the record. All changes are saved and the RADAR FUNCTION CODE TABLE window closes.

CANCEL—discard all changes and exit the RADAR FUNCTION TABLE option.

11.23.7.1 Add a Radar Function Code

Click ADD to open the ADD RADAR FUNCTION CODE window (Figure11.23 -18).

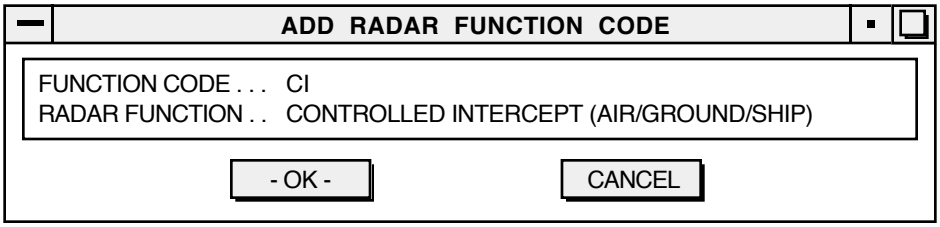


Figure11.23 -18 Add Radar Function Code Window

Use the ADD RADAR FUNCTION CODE window to enter new data into the following fields.

FUNCTION CODE
Two-character radar function code to identify the purpose of the radar.

RADAR FUNCTION
Full name of the radar function.

Click OK to accept the entry, or click CANCEL to discard it. Clicking either button returns to the RADAR FUNCTION CODE TABLE window.

11.23.7.2 RADAR FUNCTION CODE TABLE Pop-Up Menu

Options available on the RADAR FUNCTION CODE TABLE pop-up menu (ADD, EDIT, DELETE, OK, SELECT ALL, UNSELECT ALL, ARCHIVE, RESTORE, PRINT, and CANCEL), perform as described in *Summary of Common Operations* .

11.23.8 RF DON'T CARE TABLE

Use the RF DON'T CARE TABLE option to create and maintain a file of radio frequencies (bandcenters) that are to be ignored by the UB system track correlator.

When a track report is received with values that match an entry in the RF DON'T CARE TABLE, the table instructs the correlator to ignore the RF field for reports containing any of the RF bandcenters listed.

Select RF DON'T CARE from the TRACK TABLES cascading menu to open the RF DON'T CARE TABLE window (Figure11.23-19).

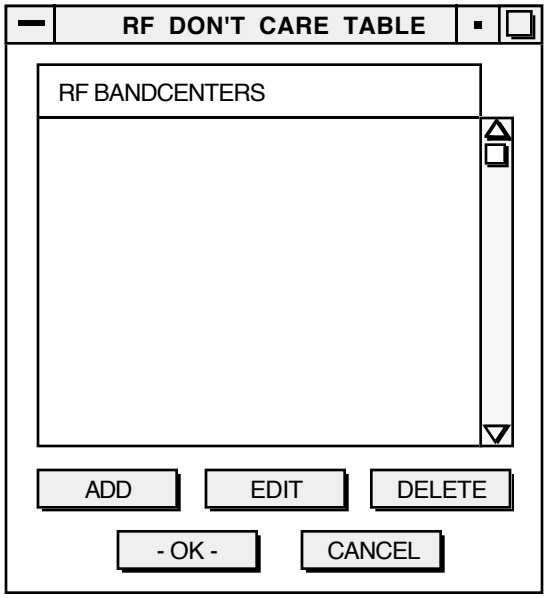


Figure11.23 -19 RF Don't Care Table

RF DON'T CARE TABLE Window Buttons

ADD—a record. Described in *Add Records—RF Don't Care Table.*

EDIT—a record.

1. Select the record line from the RF DON'T CARE TABLE window.
2. Click EDIT to open the EDIT RF BC window—which is functionally equivalent to the ADD RF BC window.
3. Click OK to accept changes, or click CANCEL to discard them. Clicking either button returns to the RF DON'T CARE TABLE window.
4. Changes appear in the RF DON'T CARE TABLE window, but are not permanently saved until OK has been clicked from this window.

DELETE—a record.

1. Select the record line or multiple lines from the RF DON'T CARE TABLE.
2. Click DELETE. The record or records are deleted.

OK—save the changes. Data shown is not permanently saved until OK has been clicked from this window.

CANCEL—discard all changes and exit the RF DON'T CARE option.

11.23.8.1 Add Records—RF Don't Care Table

Click ADD to open the ADD RF BC window (Figure11.23-20).

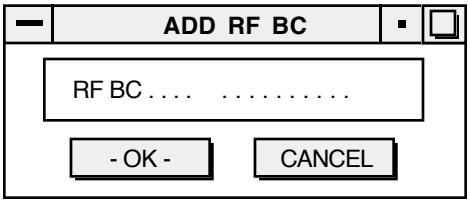


Figure11.23 -20 Add RF BC Window

The ADD RF BC window contains a single data entry field:

RF BC
Enter a radio frequency bandcenter.

Click OK to accept the entry or click CANCEL to discard. Clicking either button returns to the RF DON'T CARE TABLE window.

11.23.8.2 RF DON'T CARE TABLE Pop-Up Menu

Options available on the RF DON'T CARE TABLE pop-up menu (ADD, EDIT, DELETE, OK, SELECT ALL, UNSELECT ALL, ARCHIVE, RESTORE, PRINT, and CANCEL), perform as described in *Summary of Common Operations* .

11.23.9 SCAN TYPE TABLE

Use the SCAN TYPE TABLE option to maintain a database of scan type codes. The following codes identify the type of electronic scanner used to gather the information for an ELINT report:

RADB code—a four-character code for the scanner type.

RAD code—a single-letter code.

Scan codes that enter UB in either RADB or RAD format are recognized as the same, and are displayed in RADB format throughout the system.

Select the SCAN TYPE TABLE option from the TRACK TABLES cascading menu to open the SCAN TYPE window (Figure11.23-21).

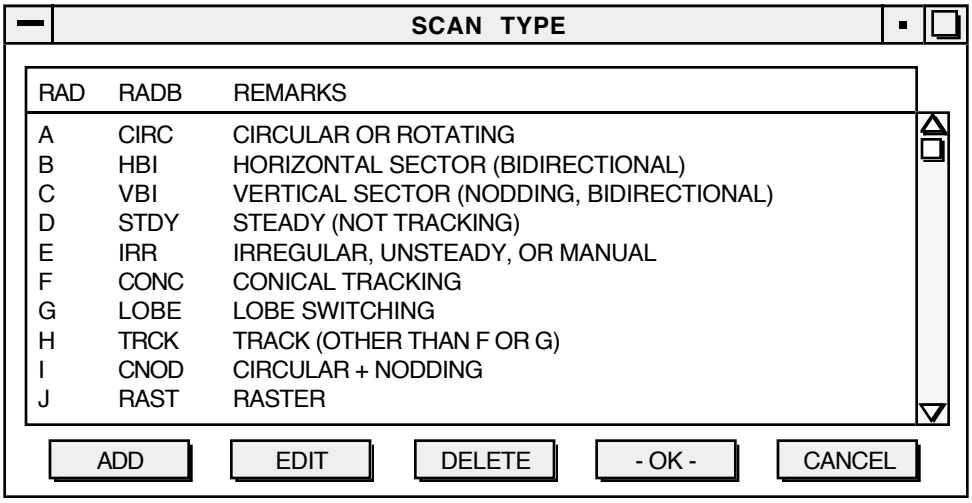


Figure11.23 -21 Scan Type Window

SCAN TYPE Window Buttons

ADD—a scan type code. Described in *Add a Scan Type Code*.

EDIT—a scan type record.

1. Select the record from the SCAN TYPE window.
2. Click EDIT to open the EDIT SCAN TYPE window—which is functionally equivalent to the ADD SCAN TYPE window.
3. Click OK to accept changes, or click CANCEL to discard them. Clicking either button returns to the SCAN TYPE window.
4. Changes appear in the SCAN TYPE window, but they are not permanently saved until the OK button has been clicked from this window.

DELETE—a scan type record.

1. Select a record or multiple records from the SCAN TYPE window.
2. Click DELETE. The record or records are deleted.

OK—save the changes. New or changed data shown in the SCAN TYPE window is not permanently saved until OK has been clicked from this window.

CANCEL—discard all changes and exit the SCAN TYPE TABLE option.

11.23.9.1 Add a Scan Type Code

Click ADD to open the ADD SCAN TYPE window (Figure11.23 -22).

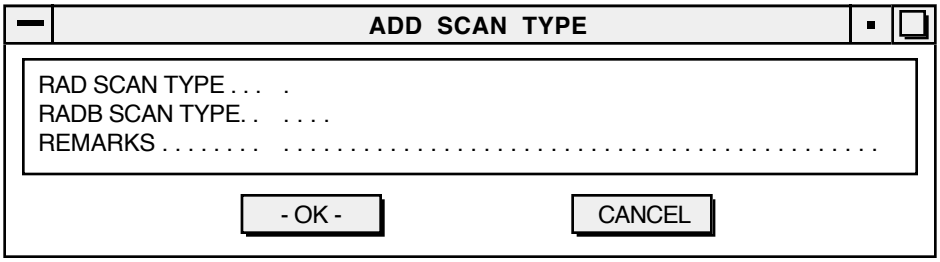


Figure11.23.-22 Add Scan Type Window

Enter new data into the following fields:

RAD SCAN TYPE
Single character RAD code to identify the scan type.

RADB SCAN TYPE
Four-character RADB code to identify the scan type.

REMARKS
Description for the electronic scanner.

Click OK to accept the entry, or click CANCEL to discard it. Clicking either button returns to the SCAN TYPE window.

11.23.9.2 SCAN TYPE Pop-Up Menu

Options available on the SCAN TYPE pop-up menu (ADD, EDIT, DELETE, OK, SELECT ALL, UNSELECT ALL, ARCHIVE, RESTORE, PRINT, and CANCEL), perform as described in *Summary of Common Operations* .

11.23.10 CALLSIGN DON'T CARE

Use the CALLSIGN DON'T CARE option to create and maintain a file of callsigns that are to be ignored by the UB system track correlator.

How the CALLSIGN DON'T CARE option works

- When a track enters the system with values that match an entry in the CALLSIGN DON'T CARE TABLE, the callsign for that track is ignored when the track is being correlated. For example:
  - Reports are received from two different ships, but contain the same callsigns.
  - To prevent the ships from being incorrectly correlated as the same ship on the tactical display, create an entry in the CALLSIGN DON'T CARE TABLE for *one* of the ships

Select CALLSIGN DON'T CARE from the TRACK TABLES cascading menu to open the CALLSIGN DON'T CARE TABLE window (Figure11.23 -23):

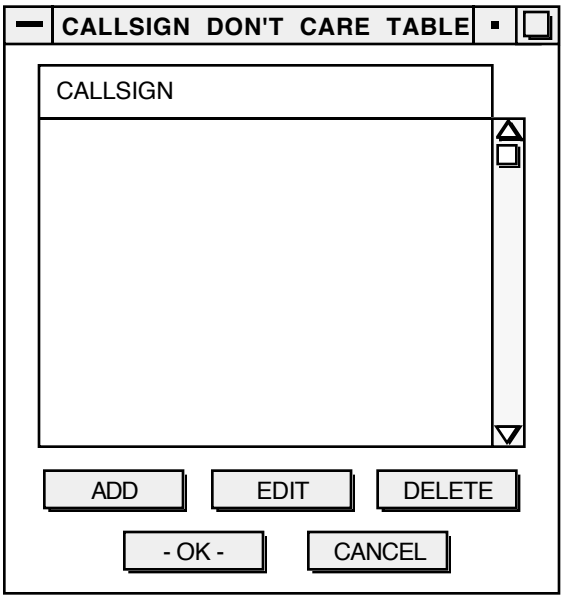


Figure11.23 -23 Callsign Don't Care Table

CALLSIGN DON'T CARE TABLE Window Buttons

ADD—a call sign record. Described in *Add Records—CALLSIGN Don't Care Table*.

EDIT—a record.

1. Select the record line from the CALLSIGN DON'T CARE TABLE window.
2. Click EDIT to open the EDIT CALLSIGN window—which is functionally equivalent to the ADD CALLSIGN window.
3. Click OK to accept changes, or click CANCEL to discard them. Clicking either button returns to the CALLSIGN DON'T CARE TABLE window.
4. Changes appear in the CALLSIGN DON'T CARE TABLE, but they are not permanently saved until OK has been clicked from this window.

DELETE—a record.

1. Select the record line (or multiple records) from the CALLSIGN DON'T CARE TABLE.
2. Click DELETE. The record or records are deleted.

OK—save changes to a record. New or changed data shown in the CALLSIGN DON'T CARE TABLE is not permanently saved until OK has been clicked from this window.

CANCEL—discard all changes and exit the option.

11.23.10.1 Add Records—CALLSIGN Don't Care Table

Click ADD to open the ADD CALLSIGN window (Figure11.23 -24) and add data to the table.

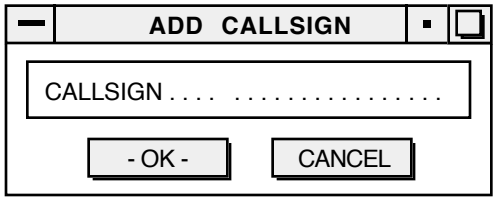


Figure11.23 -24 Add Callsign Window

The ADD CALLSIGN window contains a single data entry field:

CALLSIGN
Enter a callsign.

Click OK to accept the entry or click CANCEL not to accept it. Clicking either button returns to the CALLSIGN DON'T CARE TABLE.

11.23.10.2 CALLSIGN DON'T CARE Pop-Up Menu

Options available on the CALLSIGN DON'T CARE pop-up menu (ADD, EDIT, DELETE, OK, SELECT ALL, UNSELECT ALL, ARCHIVE, RESTORE, PRINT, and CANCEL), perform as described in *Summary of Common Operations* .

11.23.11 PIF DON'T CARE

Use the PIF DON'T CARE option to create and maintain a file of PIF (Pseudo-Identification Feature) numbers that are to be ignored by the UB system track correlator.

How the PIF Don't Care option works

- When a track enters the system with a Mode 2 IFF (PIF) value that matches an entry in the PIF DON'T CARE TABLE, the PIF number for that track is ignored when the track is being correlated.
  - For example, reports are received from two different ships, but contain the same PIF number.

- An entry can be created in the PIF DON'T CARE TABLE for one of the ships to prevent them from being incorrectly correlated as the same ship on the tactical display.

Select PIF DON'T CARE from the TRACK TABLES cascading menu to open the PIF DON'T CARE TABLE window (Figure11.23-25).

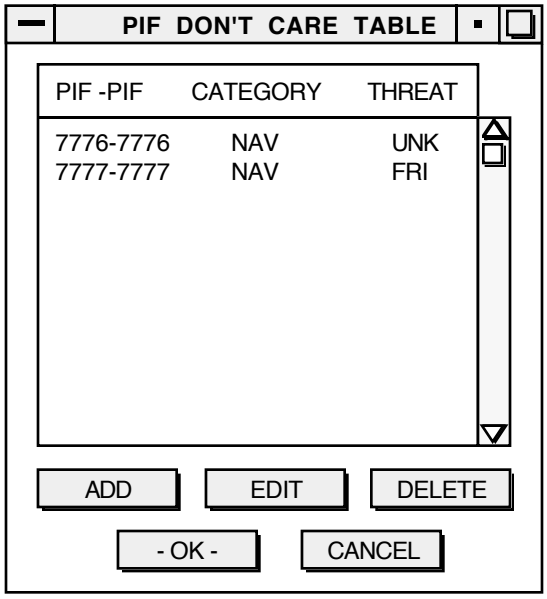


Figure11.23 -25 PIF Don't Care Table

This window shows a range of PIF numbers, their category, and threat level. The PIF table filters out the contacts that contain PIF numbers that are not of concern.

PIF DON'T CARE TABLE Window Buttons

ADD—a new PIF record. Described in *Add Records—PIF Don't Care Table*.

EDIT—a record.

1. Select the record line from the PIF DON'T CARE TABLE window.
2. Click EDIT to open the EDIT PDC window—which is functionally equivalent to the ADD PDC window.
3. Click OK to accept changes, or click CANCEL to discard them. Clicking either button returns to the PIF DON'T CARE TABLE window.
4. Changes made appear in the PIF DON'T CARE TABLE, but are not permanently saved until OK has been clicked from the PIF DON'T CARE TABLE window.

DELETE—a record.

1. Select the record line (or multiple records) from the PIF DON'T CARE TABLE.
2. Click DELETE. The record or records are deleted.

OK—save changes. New/changed data shown in the PIF DON'T CARE TABLE is not permanently saved until OK has been clicked from this window.

CANCEL—discard all changes and exit the PIF DON'T CARE option.

11.23.11.1 Add Records—PIF Don't Care Table

Click ADD to open the ADD PDC window (Figure11.23 -26).

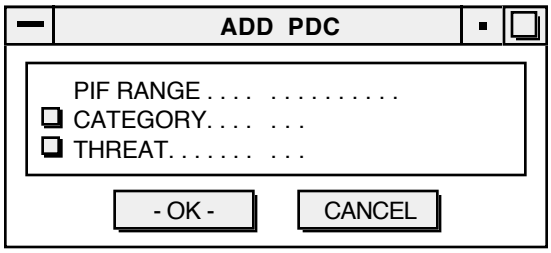


Figure11.23 -26 Add PDC Window

The ADD PDC window contains three data entry fields:

PIF RANGE
Range of PIF numbers.

CATEGORY
Category code for the PIF range.

Click the list box in front of CATEGORY to show category codes. Highlight the code from the list and click the left trackball button to automatically enter the code into this field.

THREAT
Threat code for the PIF range.

Click the list box in front of THREAT to show threat codes. Highlight the code from the list and click the left trackball button to automatically enter the code into this field.

Click OK to accept the entries, or click CANCEL to discard them. Clicking either button returns to the PIF DON'T CARE TABLE.

11.23.11.2 PIF DON'T CARE Pop-Up Menu

Options available on the PIF DON'T CARE pop-up menu (ADD, EDIT, DELETE, OK, SELECT ALL, UNSELECT ALL, ARCHIVE, RESTORE, PRINT, and CANCEL), perform as described in *Summary of Common Operations* .

11.23.12 PIF NICKNAMES

Use the PIF NICKNAMES option to assign and maintain a list of PIF numbers and their corresponding nicknames.

About the PIF Nicknames option

- Nicknames are used to quickly identify the type of craft being reported from a Link report. This option is used *for Link tracks only* and has no effect on other track types.
- If a Link track enters the system with a Mode 2 IFF (PIF) number that matches a number in the PIF nickname table, the nickname in the table is assigned to the SHORT NAME field for the track.
- Tracks are frequently plotted on the display based on the SHORT NAME field.
- If a PIF nickname exists, it is shown; if there is no PIF nickname, the NTDS track number is displayed instead.
- A PIF nickname is often more meaningful than the NTDS track number.

Select the PIF NICKNAMES option from the TRACK TABLES cascading menu to open the IFF-2 NICKNAMES window (Figure11.23-27).

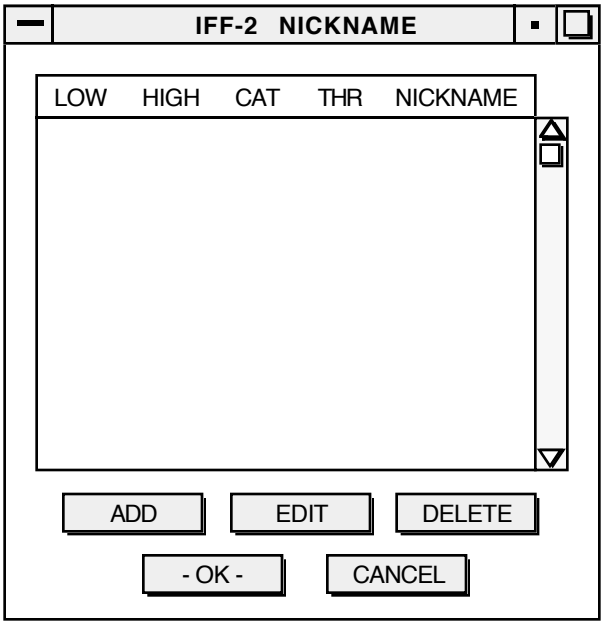


Figure11.23 -27 IFF-2 Nicknames Window

IFF-2 NICKNAME Window Buttons

ADD—a nickname record. Described in *Add PIF Nickname*.

EDIT—a PIF nickname.

1. Select the PIF nickname record line from the IFF-2 NICKNAMES window.
2. Click EDIT to open the EDIT IFF-2 NICKNAME window—which is functionally equivalent to the ADD IFF-2 NICKNAME window.
3. Click OK to accept the changes, or click CANCEL to discard them. Clicking either button returns to the IFF-2 NICKNAMES window.
4. Changes appear in the IFF-2 NICKNAMES window, but they are not permanently saved until OK has been clicked from this window.

DELETE—a PIF nickname record.

1. Select the PIF nickname record (or records) from the IFF-2 NICKNAMES window.
2. Click DELETE. The record or records are deleted.

OK—save changes to PIF nickname records. New/changed data shown in the IFF-2 NICKNAMES window is not permanently saved until OK has been clicked from this window.

CANCEL—discard all changes and exit the PIF NICKNAMES option.

11.23.12.1 Add PIF Nickname

Click ADD to open the ADD IFF-2 NICKNAME window (Figure11.23-28).

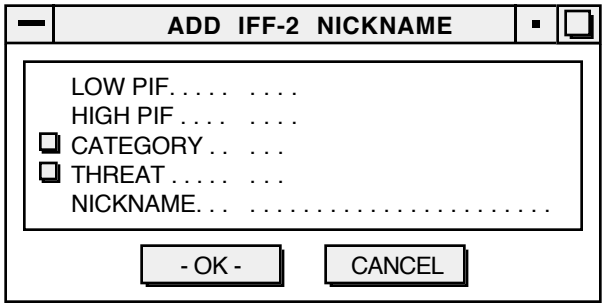


Figure11.23 -28 Add IFF-2 Nickname Window

Use the following fields in the ADD IFF-2 NICKNAME window to enter new data:

LOW PIF
Number on the low end of a range of PIF numbers.

HIGH PIF
Number on the high end of a range of PIF numbers.

CATEGORY
Category code for the PIF range.

Click the list box in front of CATEGORY to show category codes. Highlight the code from the list and click the left trackball button to automatically enter the code into this field.

THREAT
Threat code for the PIF range.

Click the list box in front of THREAT to show category codes. Highlight the code from the list and click the left trackball button to automatically enter the code into this field.

NICKNAME
PIF nickname.

Only one nickname can be entered for the same PIF number. If more than one nickname is entered, a WARNING window appears.

Click OK to accept the entries, or click CANCEL to discard them. Clicking either button returns to the IFF-2 NICKNAMES window.

PIF NICKNAMES Pop-Up Menu

In addition to the options described in *Summary of Common Operations* (ADD, EDIT, DELETE, OK, CANCEL, ARCHIVE, and RESTORE), or that function as buttons with the same name, the PIF NICKNAMES pop-up menu also includes:

ADD AIRWING

Use the ADD AIRWING pop-up option to automatically add PIF nickname records for all standard aircraft types from a particular aircraft carrier.

Choose ADD AIRWING to open the ADD AIRWING window (Figure11.23 -29).

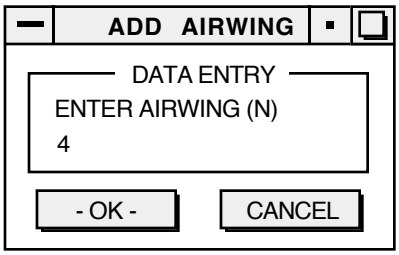


Figure11.23 -29 Add Airwing Window

1. Enter the first digit of the standard PIF code range for the airwing.
2. Click OK to automatically add the PIF nickname records for all standard aircraft types from the airwing chosen to the PIF nickname list. Or, click CANCEL to discard the action. Clicking either OK or CANCEL returns to the IFF-2 NICKNAME window.
3. If OK was clicked, the PIF nickname records for all standard aircraft types are listed in the IFF-2 NICKNAME window.
4. Airwing PIF nickname records shown in the IFF-2 NICKNAMES window are not permanently saved until OK has been clicked from the this window.

11.23.13 DI NICKNAMES

Use the DI NICKNAMES option to assign and maintain a list of Discrete Identifier (DI) numbers and their corresponding nicknames.

About the DI Nicknames option

- Nicknames quickly identify the type of craft reported from a Link report. This option is *for Link tracks only* and has no effect on other track types.
- If a Link track enters the system with a DI number that matches a number in the DI nickname table, the nickname in the table is assigned to the SHORT NAME field for the track.

- Tracks are often plotted based on the SHORT NAME field; however, if a DI nickname exists, it will be displayed.
- If there is no DI nickname, the NTDS track number will be displayed.
- DI nicknames are often more meaningful than the NTDS track number.

Note: If a track contains a MODE 2 IFF value that matches a value in the PIF NICKNAMES table *and* a DI value that matches a value in the DI NICKNAMES table, the PIF NICKNAME will take precedence and will appear in the SHORT NAME field.

Select the DI NICKNAMES option from the TRACK TABLES cascading menu to open the DI NICKNAME window (Figure11.23 -30).

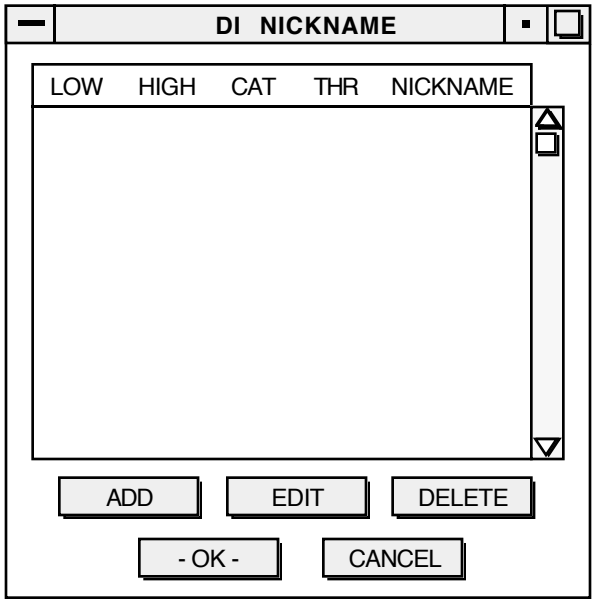


Figure11.23 -30 DI Nickname Window

DI NICKNAME Window Buttons

ADD—a DI nickname record. Described in *Add DI Nickname*.

EDIT—a DI nickname record.

1. Select the DI nickname record line from the DI NICKNAME window.
2. Click EDIT to open the EDIT DI NICKNAME window—which is functionally equivalent to the ADD DI NICKNAME window.
3. Click OK to accept changes, or click CANCEL to discard them. Clicking either button returns to the DI NICKNAME window.

DELETE—a DI nickname record.

1. Select the DI nickname record (or multiple records) from the DI NICKNAMES window.
2. Click DELETE and the record or records are deleted.

OK—save changes to DI nickname records. New/changed data shown in the DI NICKNAME window is not permanently saved until OK has been clicked from this window.

CANCEL—discard all changes and exit the DI NICKNAMES option.

11.23.13.1 Add DI Nickname

Click ADD to open the ADD DI NICKNAME window (Figure11.23-31).

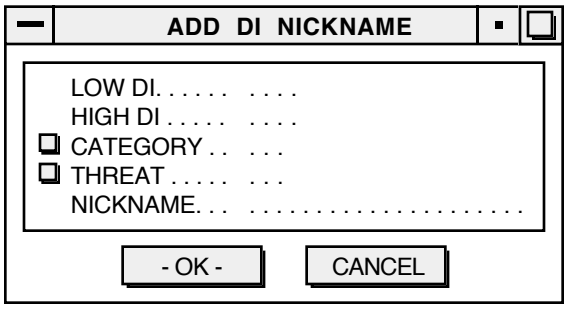


Figure11.23 -31 Add DI Nickname Window

Use the following fields in the ADD DI NICKNAME window to enter new data:

LOW DI
Number on the low end of a range of DI numbers.

HIGH DI
Number on the high end of a range of DI numbers.

CATEGORY
Category code for the DI range.

Click the list box in front of CATEGORY to show category codes. Highlight the code from the list and click the left trackball button to automatically enter the code into this field.

THREAT
Threat code for the DI range.

Click the list box in front of THREAT to show category codes. Highlight the code from the list and click the left trackball button to automatically enter the code into this field.

NICKNAME

DI nickname.

Only one nickname can be entered for the same DI number. If more than one nickname is entered, a WARNING window appears.

Click OK to accept the entries, or click CANCEL to discard them. Clicking either button returns to the DI NICKNAME window.

11.23.13.2 DI Nickname Pop-Up Menu

Options available on the DI NICKNAME pop-up menu (ADD, EDIT, DELETE, OK, SELECT ALL, UNSELECT ALL, ARCHIVE, RESTORE, PRINT, and CANCEL), perform as described in *Summary of Common Operations* .

11.23.14 SHIP SYNONYMS

Use the SHIP SYNONYMS option to maintain a list of *possible* reported names for ships—along with their preferred names—as they should appear on the tactical display.

How the SHIP SYNONYMS option works

- The synonym table provides a way to correlate update and position reports for a ship that has been reported by a name other than its proper reporting name, as outlined and designated in the STAR (Standard Attribute Reference Manual).
  - For example, the track of a certain ship is plotted as "STANLEY WH," but reports for the ship might come in as "USS STANLEY," "STANLY," "WILLIAM H STANLEY," "WHS," and "USS WILLIAM H. STANLEY."
  - To ensure the ship always appears on the tactical display as "STANLEY WH," enter all reported names as synonyms to "STANLEY WH" with this option.

Select the SHIP SYNONYMS option from the TRACK TABLES cascading menu to open the SYNONYM TABLE window (Figure11.23 -32).

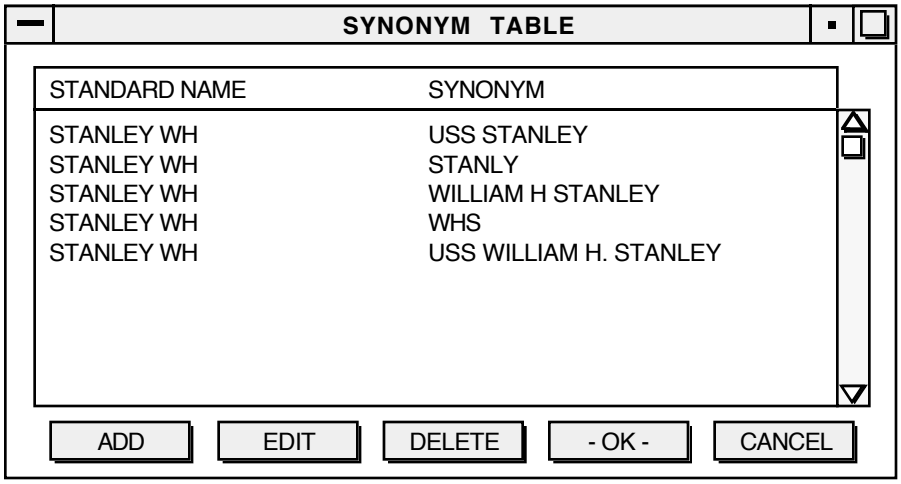


Figure11.23 -32 Synonym Table Window

SYNONYM TABLE Window Buttons

ADD—a ship synonym. Described in *Add Ship Synonym*.

EDIT—a ship synonym record.

1. Select the ship synonym record from the SYNONYM TABLE window.
2. Click EDIT to open the EDIT SYNONYM window—which is functionally equivalent to the ADD SYNONYM window.
3. Click OK to accept changes, or click CANCEL to discard them. Clicking either button returns to the SYNONYM TABLE window.

DELETE—a ship synonym record.

Select the ship synonym record (or multiple records) from the SYNONYM TABLE window.

Click DELETE. The record or records are deleted.

OK—save changes to ship synonym records. New/changed data in the SYNONYM TABLE window is not permanently saved until OK is clicked from this window.

CANCEL—discard changes and exit the option.

11.23.14.1 Add Ship Synonym

Click ADD to open the ADD SYNONYM window (Figure11.23 -33).

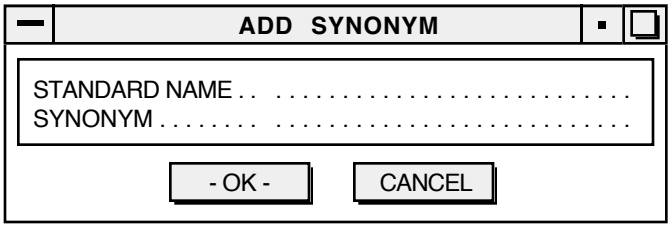


Figure11.23 -33 Add Synonym Window

Use the following fields in the ADD SYNONYM window to enter new data:

STANDARD NAME
Enter the ship's name as is it plotted on the tactical display.

SYNONYM
Synonym to assign to the standard name.

More than one synonym can be entered for the same standard name on separate lines, but only one standard name can be entered for the same synonym.

If a different standard name is entered for a synonym already in the list a warning appears: "Identical Synonym Entry For Different Standard Name." If this window displays, click OK to continue.

Click OK from the ADD SYNONYM window to accept entries, or click CANCEL to discard them. Clicking either button returns to the SYNONYM TABLE window.

11.23.14.2 SHIP SYNONYM Pop-Up Menu

Options available on the SHIP SYNONYM pop-up menu (ADD, EDIT, DELETE, OK, SELECT ALL, UNSELECT ALL, ARCHIVE, RESTORE, PRINT, and CANCEL), perform as described in *Summary of Common Operations* .

11.23.15 SOURCE XREF TABLE

Use the SOURCE XREF TABLE option to view and modify a table displaying source indicators.

How the SOURCE XREF TABLE option works

- When a message enters UB, this table is checked for a match between the Command sending the message and a Command listed in the table.
  - If a match is found, the XREF code in the table for the matching Command is assigned to the message.
  - This XREF code is shown in many UB windows to identify the source of messages.

- The XREF code is also used as a message filter in FOTC Participant mode.
  - Messages arriving from the FOTC controller contain the code XX.
  - If a message that would create a new track arrives from somewhere other than the FOTC controller, it will normally be filtered out and not accepted into the track database.
  - An exception to this is if the message comes from a source that has been assigned an XREF code *other than* the letter X. Entries in the SOURCE XREF table that do not begin with "X" seem to have no effect.
  - Those that begin with the single letter "X" (for example XJ) function the same as XX codes.

Select the SOURCE XREF TABLE option from the TRACK TABLES cascading menu to open the XREF TABLE window (Figure11.23-34).

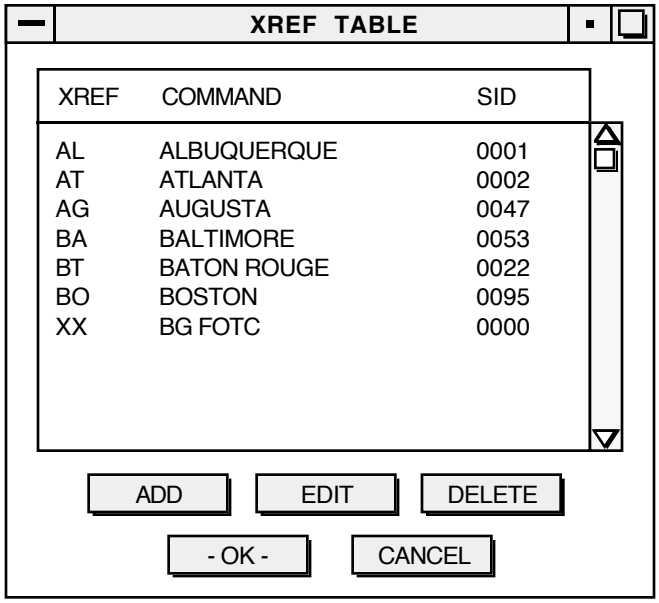


Figure11.23 -34 XREF Table Window

XREF TABLE Window Buttons

ADD—a new source indicator cross-reference record. Described in *Add Cross Reference Record*.

EDIT—a source indicator cross-reference record.

1. Select an entry from the list.
2. Click EDIT from the XREF TABLE window to open the EDIT XREF window—which is functionally equivalent to the ADD XREF window.

3. Click OK to accept changes, or click CANCEL to discard them. Clicking either button returns to the XREF TABLE window.
4. Changes appear in the XREF TABLE window, but they are not permanently saved until OK is clicked from this window.

DELETE—a source indicator cross-reference record.

1. Select the source indicator record (or multiple records) from the XREF TABLE window.
2. Click OK. The record or records are deleted.

OK—save changes to source indicator cross reference records. New/changed data in the XREF TABLE window is not permanently saved until OK is clicked from this window.

CANCEL—discard changes and exit the option.

11.23.15.1 Add Cross Reference Record

Click ADD to open the ADD XREF window (Figure11.23 -35).

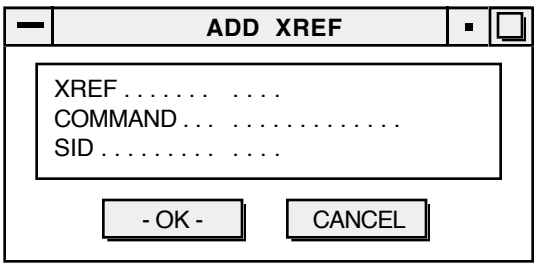


Figure11.23-35 Add XREF Window

Use the following fields in the ADD XREF window to enter new data:

XREF
Cross reference code.

COMMAND
Cross reference command.

SID
Subscriber ID (SID).

Click OK to accept entries, or click CANCEL to discard them. Clicking either button returns to the XREF TABLE window.

Notes about XREF Setup for FOTC Participant Mode:

Entries in the XREF table are very important in determining whether incoming track reports are added to the track database.

- The FOTC Controller should always be assigned an XREF code of XX. Messages assigned an XREF code of XX will be accepted into the system when in FOTC Participant mode.
- To accept messages from other sources, in addition to the FOTC Controller, those sources must be assigned an XREF code beginning with the letter X. For example, to accept messages from the POST Command, assign the POST Command an XREF code of XP.
- The SID field in the XREF table is used as a secondary check.
  - If an incoming message has a matching Command and SID with an entry in the XREF table, it is accepted into the system.
  - If the Command matches but the SID does not match, the message is not accepted.
  - To ignore this secondary check, set the SID field in the XREF table to 0000, and this check will not take place.
- Problems commonly occur when the spelling of the Command in the XREF table does not match the Command spelling in the incoming message. If messages are not received in a timely manner, check the spelling of the Command in the XREF table.

11.23.15.2 SOURCE XREF TABLE Pop-Up Menu

Options available on the SOURCE XREF TABLE pop-up menu (ADD, EDIT, DELETE, OK, SELECT ALL, UNSELECT ALL, ARCHIVE, RESTORE, PRINT, and CANCEL), perform as described in *Summary of Common Operations* .

11.23.16 FLAG-THREAT TABLE

Use the FLAG-THREAT TABLE option to maintain a table of flag codes and threat types for all countries.

Select FLAG-THREAT TABLE from the TRACK TABLES cascading menu to open the FLAG THREAT window (Figure11.23-36).

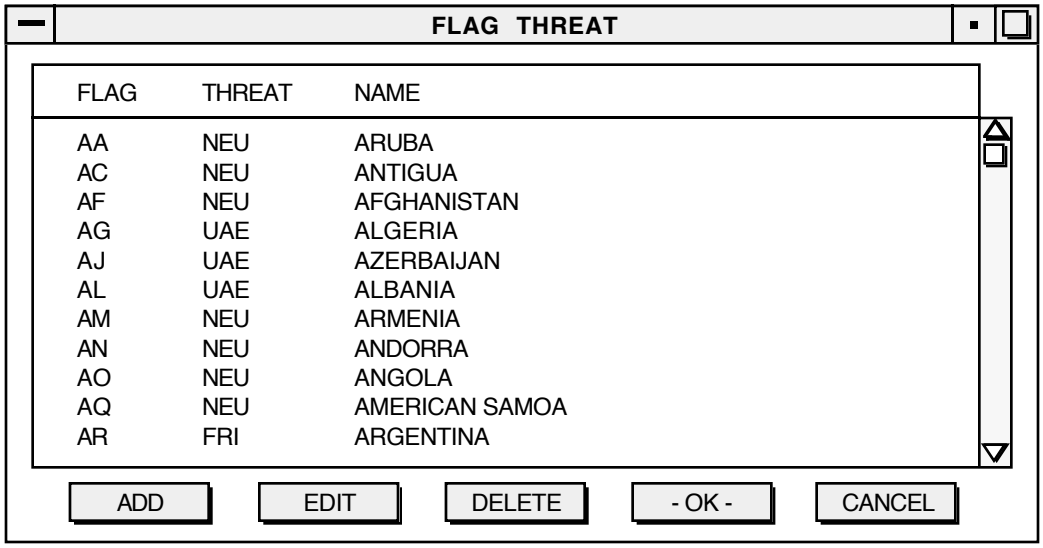


Figure11.23 -36 Flag Threat Window

FLAG THREAT Window Buttons

ADD—a flag threat record. Described in *Add Flag Threat Record*.

EDIT—a flag threat record.

1. Select the record from the FLAG THREAT window.
2. Click EDIT to open the EDIT FLAG THREAT window—which is functionally equivalent to the ADD FLAG THREAT window.
3. Click OK to accept changes, or click CANCEL to discard them. Clicking either button returns to the FLAG THREAT window.
4. Changes appear in the FLAG THREAT window, but are not permanently saved until OK is clicked from the FLAG THREAT window.

DELETE—a flag threat record.

1. Select the flag threat record (or multiple records) from the FLAG THREAT window.
2. Click DELETE. The record or records are deleted.

Note: Do not delete all the entries from the table, as doing this will cause major problems and force a reinstall of the UB software.

OK—save changes to flag threat records. New/changed data in the FLAG THREAT window is not permanently saved until OK is clicked from this window.

CANCEL—discard changes and exit the option.

11.23.16.1 Add Flag Threat Record

Click ADD to open the ADD FLAG THREAT window (Figure11.23 -37).

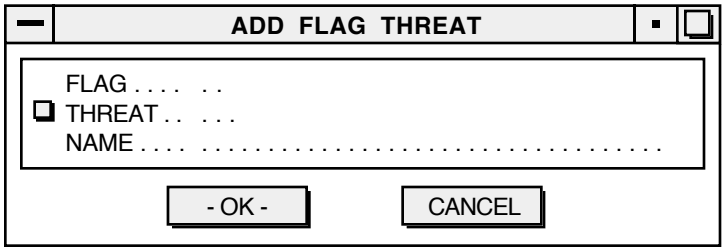


Figure11.23 -37 Add Flag Threat Window

Use the following fields in the ADD FLAG THREAT window to enter new data:

FLAG
Two-character flag code for the country.

THREAT
Threat code for the country.

Click the list box in front of THREAT to show threat codes. Highlight the code from the list and click the left trackball button to automatically enter the code into this field.

NAME
Country name.

Click OK to accept entries, or click CANCEL to ignore them. Clicking either button returns to the FLAG THREAT window.

11.23.16.2 FLAG THREAT Pop-Up Menu

Options available on the FLAG THREAT pop-up menu (ADD, EDIT, DELETE, OK, SELECT ALL, UNSELECT ALL, ARCHIVE, RESTORE, PRINT, and CANCEL), perform as described in *Summary of Common Operations* .

11.23.17 TYPE-CATEGORY TABLE

Use the TYPE-CATEGORY TABLE option to maintain a table of unit type codes and categories for all unit types.

Select the TYPE-CATEGORY TABLE option from the TRACK TABLES cascading menu to open the UNIT TYPES window (Figure11.23 -38).

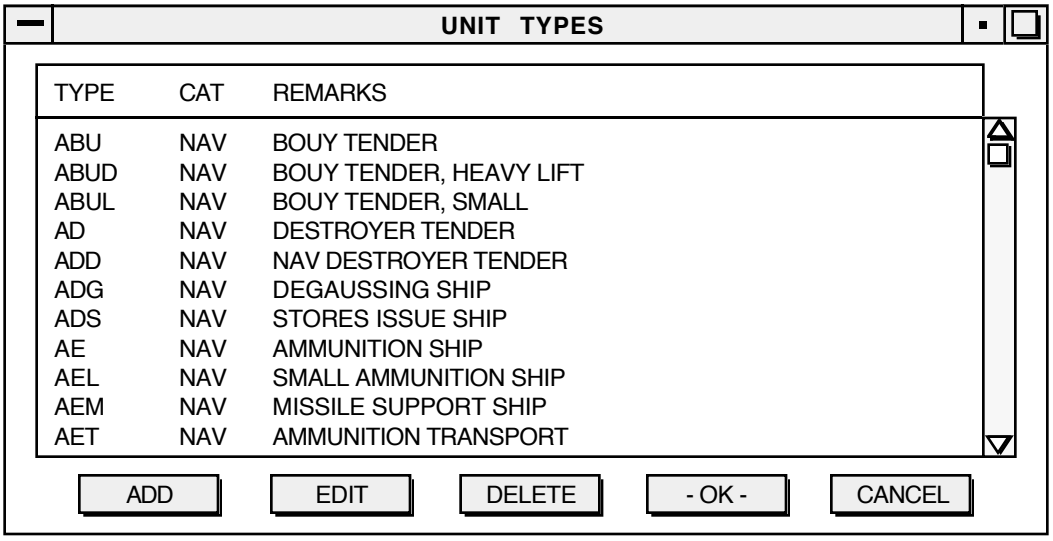


Figure11.23 -38 Unit Types Window

UNIT TYPES Window Buttons

ADD—a new unit type record. Described in *Add Unit Type Record*.

EDIT—a unit type record.

1. Select the unit type record from the UNIT TYPES window.
2. Click EDIT to open the EDIT UNIT TYPE window—which is functionally equivalent to the ADD UNIT TYPE window.
3. Click OK to accept changes, or click CANCEL to discard them. Clicking either button returns to the UNIT TYPES window.
4. Changes appear in the UNIT TYPES window, but are not permanently saved until OK is clicked from this window.

DELETE—a unit type record.

1. Select the unit type record (or multiple records) from the UNIT TYPES window.
2. Click DELETE. The record or records are deleted.

OK—save changes to unit type records. New/changed data appears in the UNIT TYPES window, but is not permanently saved until OK is clicked from this window.

CANCEL—discard changes and exit the option.

11.23.17.1 Add Unit Type Record

Click ADD to open the ADD UNIT TYPE window (Figure11.23-39).

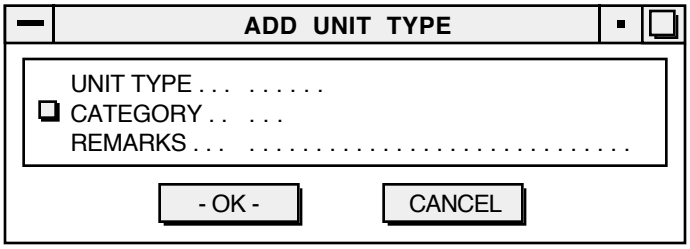


Figure11.23 -39 Add Ship Type Window

Use the following fields in the ADD UNIT TYPE window to enter new data:

UNIT TYPE
Unit type code.

CATEGORY
Category code.

Click the list box in front of CATEGORY to show category codes. Highlight the code from the list and click the left trackball button to automatically enter the code into this field.

REMARKS
Full name of the unit type.

Click OK to accept entries, or click CANCEL to discard them. Clicking either button returns to the UNIT TYPES window.

11.23.17.2 UNIT TYPES Pop-Up Menu

Options available on the UNIT TYPES pop-up menu (ADD, EDIT, DELETE, OK, SELECT ALL, UNSELECT ALL, ARCHIVE, RESTORE, PRINT, and CANCEL), perform as described in *Summary of Common Operations* .

11.23.18 SHIP CLASS TABLE

Use the SHIP CLASS TABLE option to maintain a table of ship class codes and categories for all ship types.

- This table is shown as a list of available choices for the CLASS field in the EDIT window for tracks.

Select SHIP CLASS TABLE from the TRACK TABLES cascading menu to open the SHIP CLASS window (Figure11.23-40).

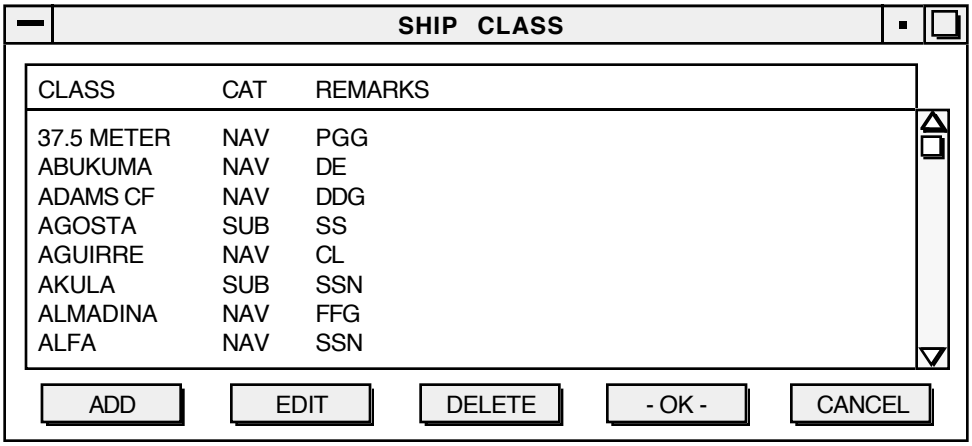


Figure11.23 -40 Ship Class Window

SHIP CLASS Window Buttons

ADD—a ship class record. Described in *Add Ship Class Record*.

EDIT—a ship class record.

1. Select the ship class record from the SHIP CLASS window.
2. Click EDIT to open the EDIT SHIP CLASS window—which is functionally equivalent to the ADD SHIP CLASS window.
3. Click OK to accept changes, or click CANCEL to discard them. Clicking either button returns to the SHIP CLASS window.
4. Changes appear in the SHIP CLASS window, but are not permanently saved until OK is clicked from this window.

DELETE—a ship class record.

1. Select the ship class record (or multiple records) from the SHIP CLASS window.
2. Click DELETE. The record or records are deleted.

OK—save changes to unit type records. New/changed data appears in the SHIP CLASS window, but is not permanently saved until OK is clicked from this window.

CANCEL—discard changes and exit the option.

11.23.18.1 Add Ship Class Record

Click ADD to open the ADD SHIP CLASS window (Figure11.23-41).

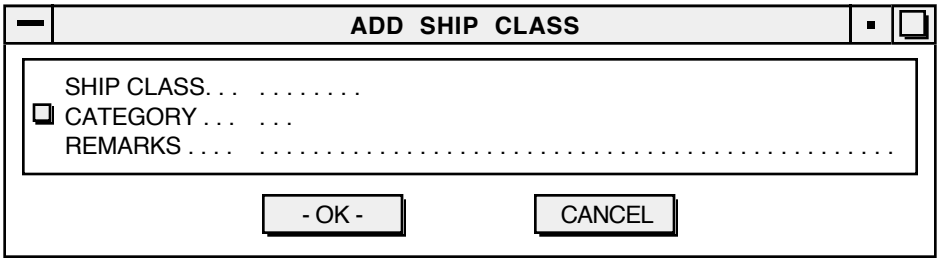


Figure11.23 -41 Add Ship Class Window

Use the following fields in the ADD SHIP CLASS window to enter new data:

SHIP CLASS
Name of the ship class.

CATEGORY
Appropriate category code for the track from the following list:

Code	Meaning
AIR	Aircraft
NAV	Naval
SUB	Submarine
MER	Merchant
FSH	Fishing Vessel
LND	Land Unit
UNK	Unknown

Click the list box in front of CATEGORY to display a list of category codes. Highlight the code from the list and click the left trackball button to automatically enter the code into this field.

REMARKS
Additional information to further identify the ship class.

Click OK to accept entries or click CANCEL to discard them. Clicking either button returns to the SHIP CLASS window.

11.23.18.2 SHIP CLASS Pop-Up Menu

Options available on the SHIP CLASS pop-up menu (ADD, EDIT, DELETE, OK, SELECT ALL, UNSELECT ALL, ARCHIVE, RESTORE, PRINT, and CANCEL), perform as described in *Summary of Common Operations* .

11.23.19 SENSOR TABLE

Use the SENSOR TABLE option to maintain a table of sensor codes.

- These codes identify the type of sensor used to detect a track for a report.
- This table is shown as a list of available choices for the SENSOR field when entering a position report for tracks.

Select SENSOR TABLE from the TRACK TABLES cascading menu to open the SENSOR TABLE window (Figure11.23 -42).

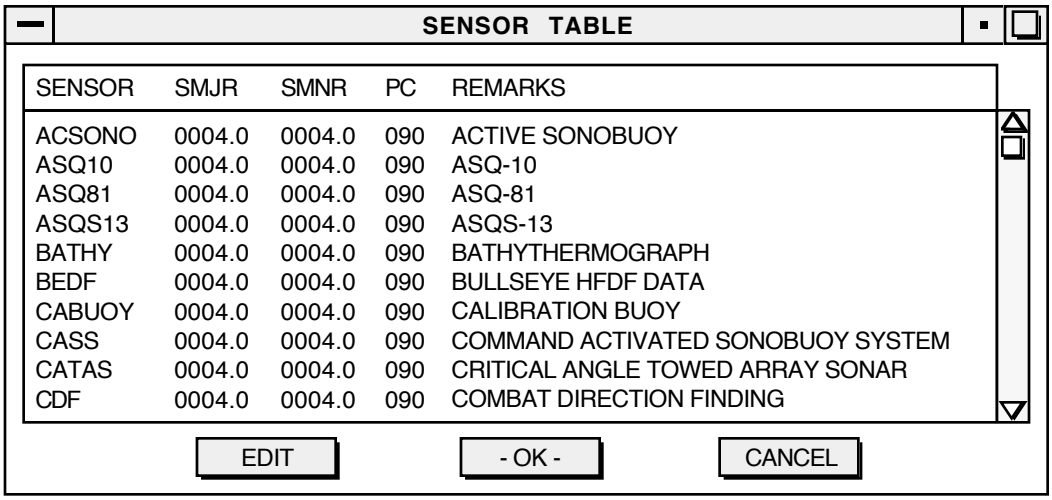


Figure11.23 -42 Sensor Table Window

SENSOR TABLE Window Buttons

EDIT—a sensor record. Described in *Edit Sensor Record.*

OK—save changes to sensor records. New/changed data appears in the SENSOR TABLE window, but is not permanently saved until OK is clicked from this window.

CANCEL—discard changes and exit the option.

11.23.19.1 Edit Sensor Record

Select a record from the SENSOR TABLE scroll list and click EDIT to open the EDIT SENSOR window (Figure11.23-43).

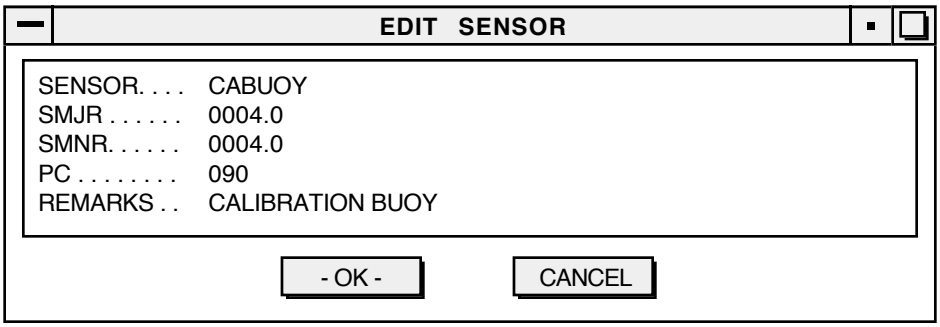


Figure11.23 -43 Add Sensor Window

Use the EDIT SENSOR window to edit the AOU ellipse data for a sensor. The following fields are shown in the window:

SENSOR
Name of the sensor. This field cannot be edited.

SMJR
Semi-major axis for the area of uncertainty associated with this sensor.

SMNR
Semi-minor axis for the area of uncertainty associated with this sensor.

PC
Percent containment value. The percentage of time (90%) that the estimated area of uncertainty will "cover" the true position of the track.

REMARKS
Shows any comments about the sensor, such as the full name of the sensor. This field cannot be edited.

Click OK to accept changes or click CANCEL to discard them. Clicking either button returns to the SENSOR TABLE window.

11.23.19.2 SENSOR TABLE Pop-Up Menu

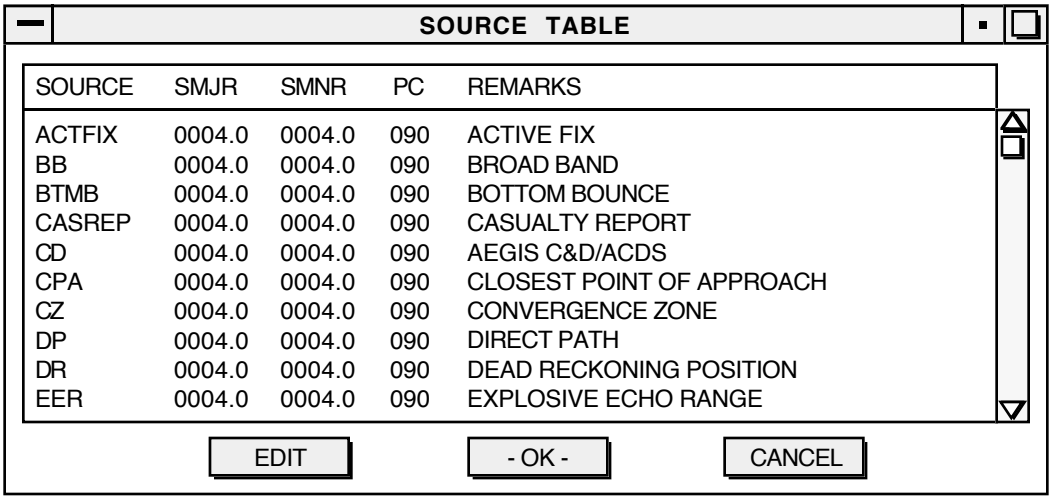
Options available on the SENSOR TABLE pop-up menu (ADD, EDIT, DELETE, OK, SELECT ALL, UNSELECT ALL, ARCHIVE, RESTORE, PRINT, and CANCEL), perform as described in *Summary of Common Operations.*

11.23.20 SOURCE CODE TABLE

Use the SOURCE CODE TABLE option to maintain a table of source codes.

- Codes identify the source of information used to detect a track for a report.
- This table is shown as a list of available choices for the SOURCE field when entering a position report for tracks.

Select SOURCE CODE TABLE from the TRACK TABLES cascading menu to open the SOURCE TABLE window (Figure11.23-44).



SOURCE	SMJR	SMNR	PC	REMARKS
ACTFIX	0004.0	0004.0	090	ACTIVE FIX
BB	0004.0	0004.0	090	BROAD BAND
BTMB	0004.0	0004.0	090	BOTTOM BOUNCE
CASREP	0004.0	0004.0	090	CASUALTY REPORT
CD	0004.0	0004.0	090	AEGIS C&D/ACDS
CPA	0004.0	0004.0	090	CLOSEST POINT OF APPROACH
CZ	0004.0	0004.0	090	CONVERGENCE ZONE
DP	0004.0	0004.0	090	DIRECT PATH
DR	0004.0	0004.0	090	DEAD RECKONING POSITION
EER	0004.0	0004.0	090	EXPLOSIVE ECHO RANGE

Figure11.23 -44 Source Table Window

SOURCE TABLE Window Buttons

EDIT—a sensor record. Described in *Edit Source Record*.

OK—save changes to source records. New/changed data appears in the SOURCE TABLE window, but is not permanently saved until OK is clicked from this window.

CANCEL—discard changes and exit the option.

11.23.20.1 Edit Source Record

Select a record from the SOURCE TABLE window and click EDIT to open the EDIT SOURCE window (Figure11.23 -45).

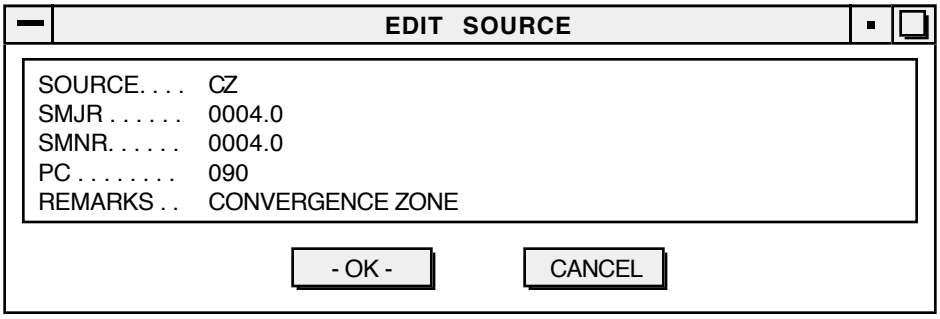


Figure11.23 -45 Add Source Window

Use the following fields in the EDIT SOURCE window to edit the AOU ellipse data for a source:

SOURCE
Name of the source. This field cannot be edited.

SMJR
Semi-major axis for the area of uncertainty associated with this source.

SMNR
Semi-minor axis for the area of uncertainty associated with this source.

PC
Percent containment value. The percentage of time (90%) that the estimated area of uncertainty will "cover" the true position of the track.

REMARKS
Shows any comments about the source code, such as the full name of the source. This field cannot be edited.

Click OK to accept changes or click CANCEL to discard them. Clicking either button returns to the SOURCE TABLE window.

11.23.20.2 SOURCE TABLE Pop-Up Menu

Options available on the SOURCE TABLE pop-up menu (ADD, EDIT, DELETE, OK, SELECT ALL, UNSELECT ALL, ARCHIVE, RESTORE, PRINT, and CANCEL), perform as described in Summary of Common Operations .

11.24 LINK CONTROLS

Use the LINK CONTROLS option to perform such Link track operations as:

- Specify reference points for Link communications.
- Archive Link track reports.
- Set times to autodelete Link tracks.
- View the status of Link tracks in the system.

Select LINK CONTROLS from the TRACKS pull-down menu and choose one of the following options from the LINK CONTROLS cascading menu: LINK DLRPs, LINK ARCHIVE, LINK AUTODELETE, LINK STATUS and LINK FILTER.

11.24.1 LINK DLRPS

Use the LINK DLRPS option to specify a Data Link Reference Point (DLRP) for each of the four available Link communications networks.

Note: DLRP A must be used for ACDS, EDO, and IHEAD LINK 11 data. Only this DLRP will allow the STN and IFF data to be passed to the parent track when the operator NU TRACKs a LINK track.

DLRP B, C, and D may be used to display LINK tracks, but they cannot be NU TRACKED to be OTH tracks.

Select LINK DLRPS from the LINK CONTROLS cascading menu to open the LINK DLRP'S Window (Figure11.24-1).

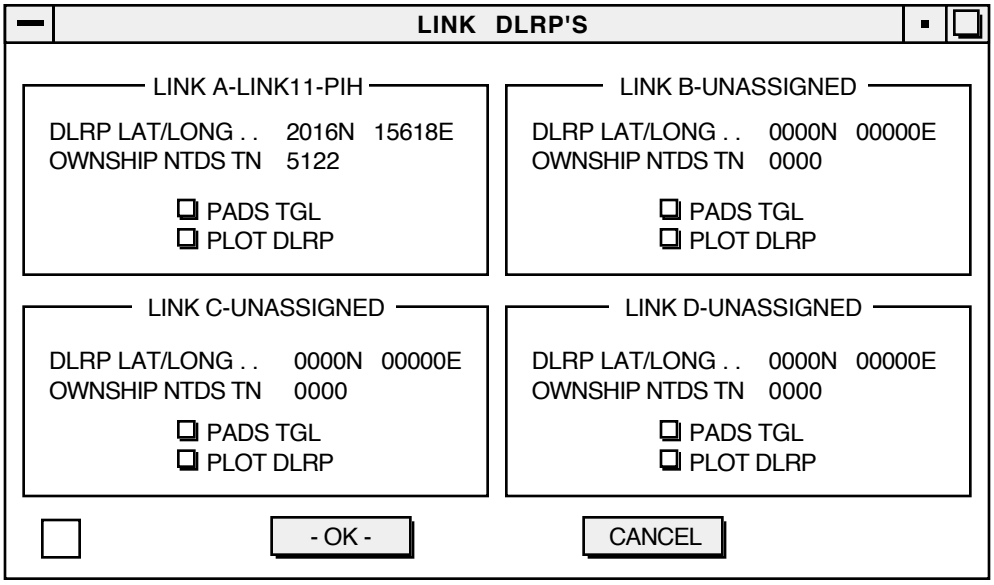


Figure11.24 -1 Link DLRPs Window

11.24.1.1 LINK DLRP Window Fields

For each of the Link communications networks in use, enter the appropriate Link DLRP information in the following fields of the associated Link box:

DLRP LAT/LONG

Latitude and longitude coordinates for the DLRP associated with the Link being defined.

OWNSHIP NTDS TN

Ownship Naval Tactical Display System (NTDS) track number (TN) for the reporting unit track.

- If Ownship is an active participant, then the PU number will be 1-76, or 100-176 for RUs.
- If Ownship is not an active participant in the Link, the track number will be from 200-7776.

Note: Closely monitor the track number representing Ownship on the Link. If an incorrect number is entered, the Link picture will not be accurately displayed.

PADS TGL

Click this checkbox ON to set an automatic pad to correct position errors.

If the reported track positions, relative to the DLRP, are slightly off the mark from their actual positions, toggle the PADS TGL checkbox ON to set an automatic pad to compensate for the error. (If the checkbox is left blank, errors will not be corrected.)

PLOT DLRP

Click this checkbox ON for the DLRP to appear on the tactical display.

A DLRP symbol with four colored boxes appears in the DLRP position, The appropriate Link letter (A, B, C, or D) is plotted above the symbol.

11.24.1.2 Edit Link DLRP Data

Edit existing Link DLRP data using one of the following methods:

- Select the LINK DLRPS option from the LINK CONTROLS cascading menu to open the LINK DLRP'S window.
- Double-click on a DLRP symbol to engage the LINK DLRP'S window.

Click OK to accept changes, or click CANCEL to discard them.

11.24.1.3 LINK DLRP'S Pop-Up Menu

Options available on the LINK DLRP'S pop-up menu (OK, ARCHIVE, RESTORE, PRINT, and CANCEL), perform as described in *Summary of Common Operations* .

11.24.2 LINK ARCHIVE

Use the LINK ARCHIVE option to archive Link tracks after a specified time period.

About the LINK ARCHIVE option

- Link track positions are not placed in the track database, as they come in to the system very rapidly and in abundance.
- Use the LINK ARCHIVE option to archive Link reports from various categories and threat status, and/or special Link-11 symbols at user-specified intervals.
  - For example, Link-11 might report several ships in the area with updates as often as every five seconds.
  - Using this option, an operator can set time periods to archive the ship positions for a specific interval, such as every ten minutes.
- The LINK ARCHIVE option contains a cascading menu with CAT/THREAT and MISC. LINK11 options.
  - CAT/THREAT—ACDS/Link tracks that use cat/threat symbology.
  - MISC. LINK11—Link-11 tracks that use special Link-11 symbology.

11.24.2.1 Cat/Threat Symbology—Link Archive Option

Select the CAT/THREAT cascading menu option from the LINK ARCHIVE cascading menu (LINK CONTROLS option) to open the LINK ARCHIVE window for Cat/Threat (Figure11.24-2).

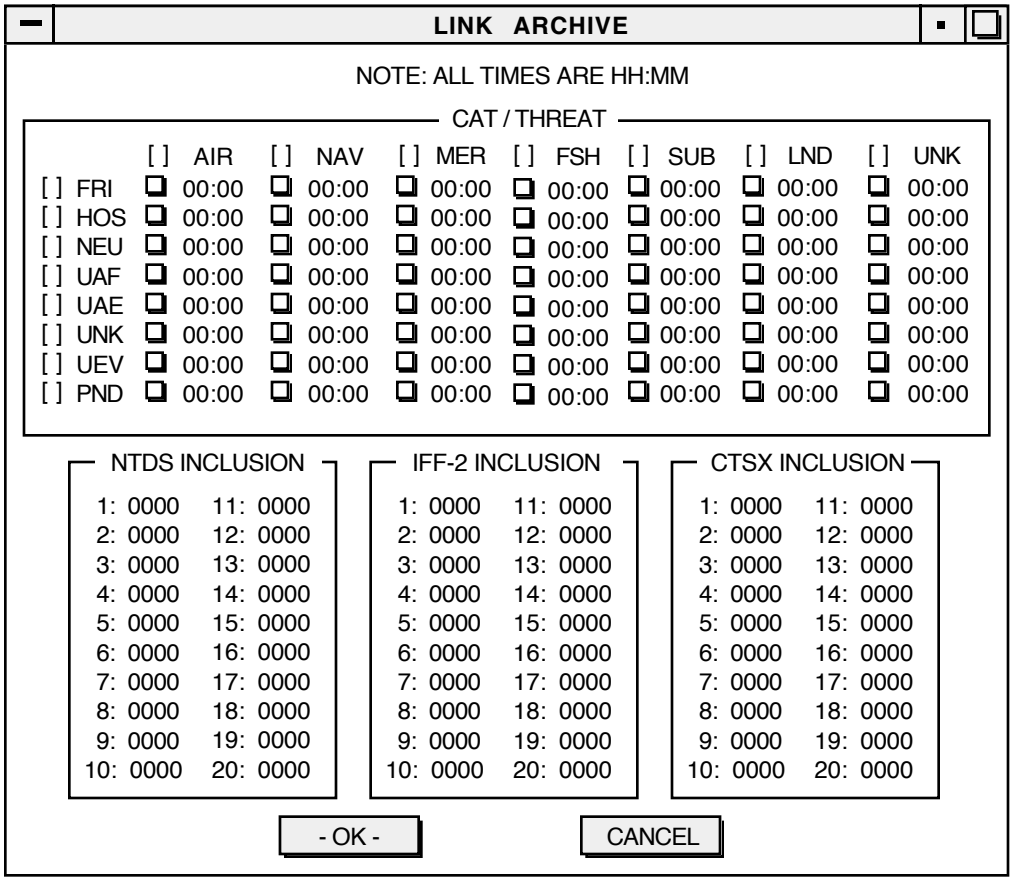


Figure11.24 -2 Link Archive Window

How to use the LINK ARCHIVE Window

1. For each of the categories in the CAT/THREAT box, click the checkbox to archive history reports only at specified time intervals. To select an entire column, click the column heading.
2. Enter the time period (HH:MM) that must elapse before a report is archived.
3. To archive reports for a specific track or tracks:
   - Enter the NTDS track numbers in the NTDS INCLUSION box.
   - Enter the track's PIF numbers in the IFF-2 INCLUSION box.
   - Enter the Link data provider's (e.g., ACDS, 2L11, C&D, etc.) internal track numbers in the CTSX INCLUSION box.
4. Enter the time periods that must elapse before the reports are archived for the chosen tracks in the time slots in the LINK ARCHIVE time boxes. For example, to archive reports for only one friendly ship every 15 minutes:
   a. Enter the NTDS Track Number for that ship in one of the fields in the NTDS INCLUSION box.

b. Enter 00:15 in the NAV FRI time field of the LINK ARCHIVE time box *without* checking the NAV FRI checkbox.

5. Click OK to save entries, or click CANCEL to discard them.

LINK ARCHIVE Pop-Up Menu—Cat/Threat

In addition to the options described in *Summary of Common Operations* (OK, CANCEL, PRINT, ARCHIVE, and RESTORE), the LINK ARCHIVE pop-up menu also includes:

SET ALL

Use the SET ALL pop-up option to automatically set all the time values in the LINK ARCHIVE time box to a specified time.

Select SET ALL to open the LINK ARCHIVE SET ALL window (Figure11.24 -3).

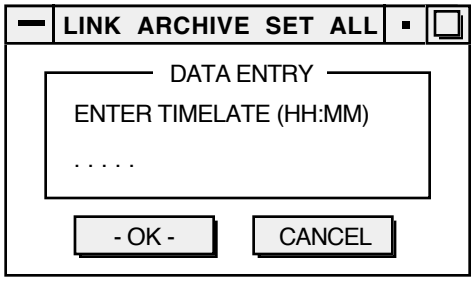


Figure11.24 -3 Link Archive Set All Window

How to set all time values:

1. Enter the time in the ENTER TIMELATE field (HH:MM).
2. Click OK to accept the entry, or CANCEL to discard it. Clicking either button returns to the LINK ARCHIVE window.
3. If OK is clicked, the time entered is displayed in every time field in the LINK ARCHIVE window. Note: Click the appropriate checkboxes to activate any or all fields.

11.24.2.2 Misc. Link11 Symbology—Link Archive Option

Select the MISC. LINK11 cascading menu option from the LINK ARCHIVE cascading menu (LINK CONTROLS option) to open the LINK ARCHIVE window for LINK11 (Figure11.24 -4).

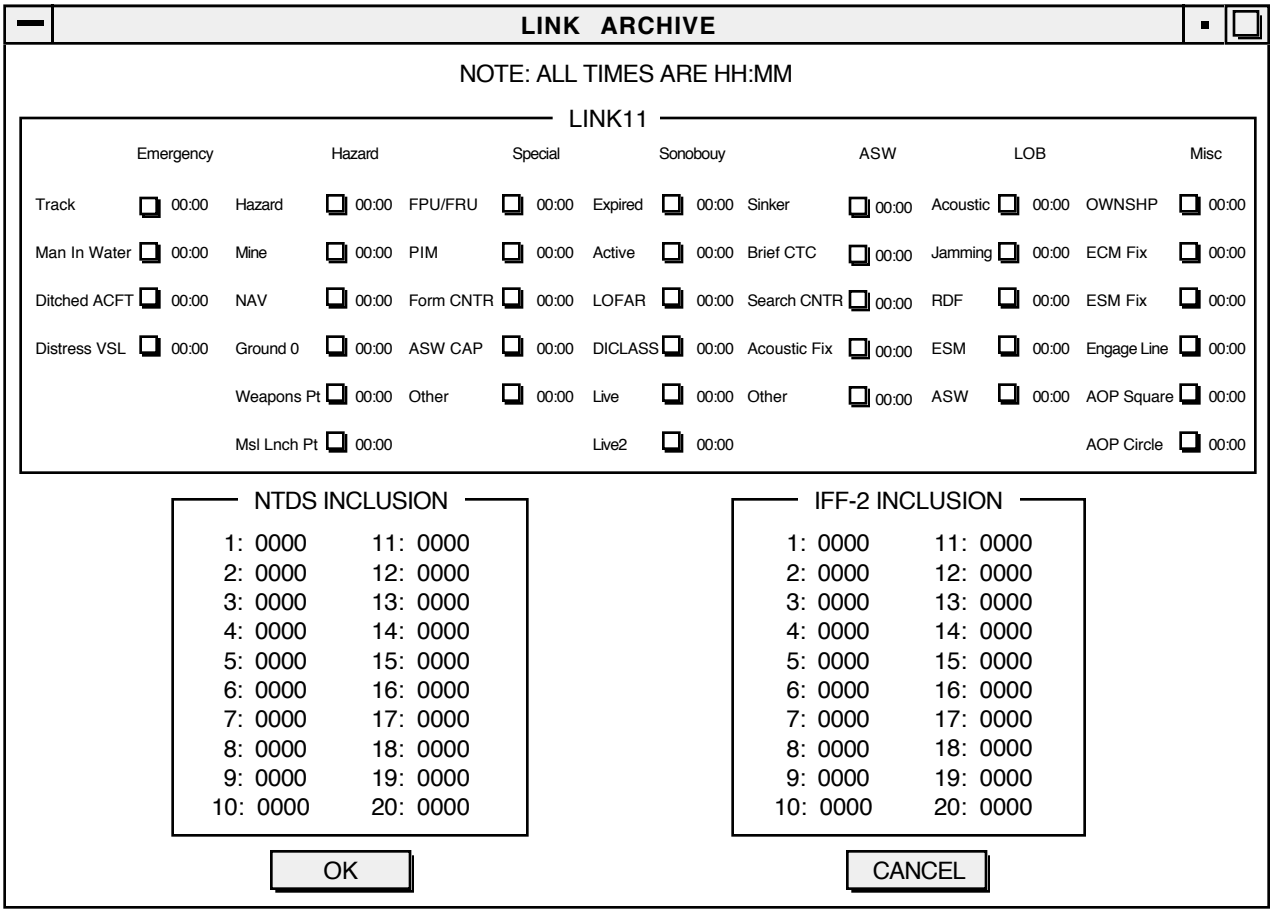


Figure 11.24-4 Link Archive Window—Link11 Symbology

How to use the LINK ARCHIVE Window for Misc. Link11

1. Click the appropriate checkbox to archive the specific Link-11 track types.
2. Enter the time interval to elapse after the last track update before the specified track type is automatically archived.
3. To specify a default time for *all* tracks, use the SET ALL pop-up option.

Note: See *Cat/Threat Symbology—Link Archive Option* for a more detailed description of the SET ALL pop-up option.

11.24.3 LINK AUTODELETE

The LINK AUTODELETE option is used to set times for the automatic delete feature for Link tracks and other special track types.

About the LINK AUTODELETE option

- When this option is activated, tracks are automatically deleted from the system when no new updates are received for a specified length of time.
- If Link tracks are associated with Platform tracks, the Link portion of the Platform track is deleted at autodelete time.
  - When the Link track returns, it is not automatically merged with the previous Platform track, *except* Ownship.
  - To delete the Link track for Ownship, the association must first be broken.

The LINK AUTODELETE option contains a cascading menu with CAT/THREAT and MISC. LINK11 options.

- CAT/THREAT—for ACDS/Link tracks that use cat/threat symbology.
- MISC. LINK11—for Link-11 tracks that use special Link-11 symbology.

11.24.3.1 Link Autodelete for Cat/Threat

Select the CAT/THREAT option from the LINK AUTODELETE cascading menu to open the Cat/Threat AUTO-DELETE TABLE window (Figure11.24 -5).

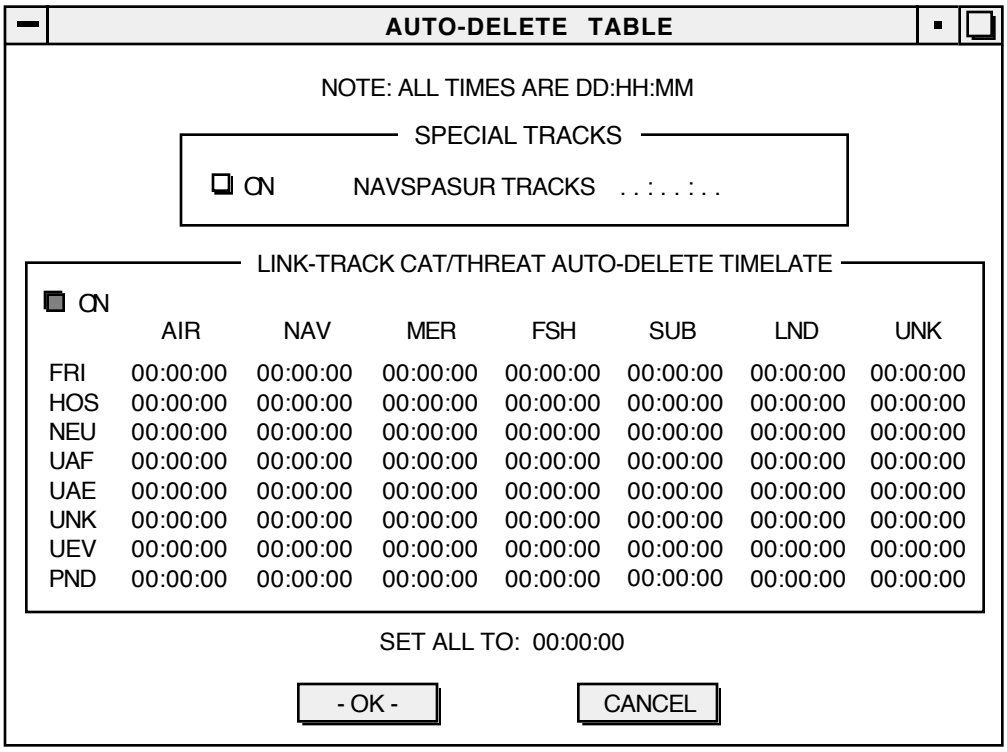


Figure11.24 -5 Auto-Delete Table Window

There are two boxes in this window:

- SPECIAL TRACKS box—set a time for automatic deletion of NAVSPASUR tracks.
- LINK-TRACK CAT/THREAT AUTO-DELETE TIMELATE box—set times for automatic deletion of Link tracks by threat/category.

To use the AUTO-DELETE option

1. Enter the amount of time (HH:MM) to elapse after the last track update before a specified track type is automatically deleted.
2. Enter a time value in the SET ALL field to specify a default time for *all* tracks.
3. Press the RETURN key for this value to take effect.
4. For the SPECIAL TRACKS box and the LINK-TRACK AUTO-DELETE TIMELATE box, click the ON checkbox to have the times entered take effect (or, leave the checkbox blank to turn this option off).
5. Click OK to save changes, or click CANCEL to discard them and exit the window.

11.24.3.2 Link Autodelete for Link-11

Select MISC. LINK11 from the LINK AUTODELETE cascading menu to open the Link-11 AUTO-DELETE TABLE window (Figure11.24-6).

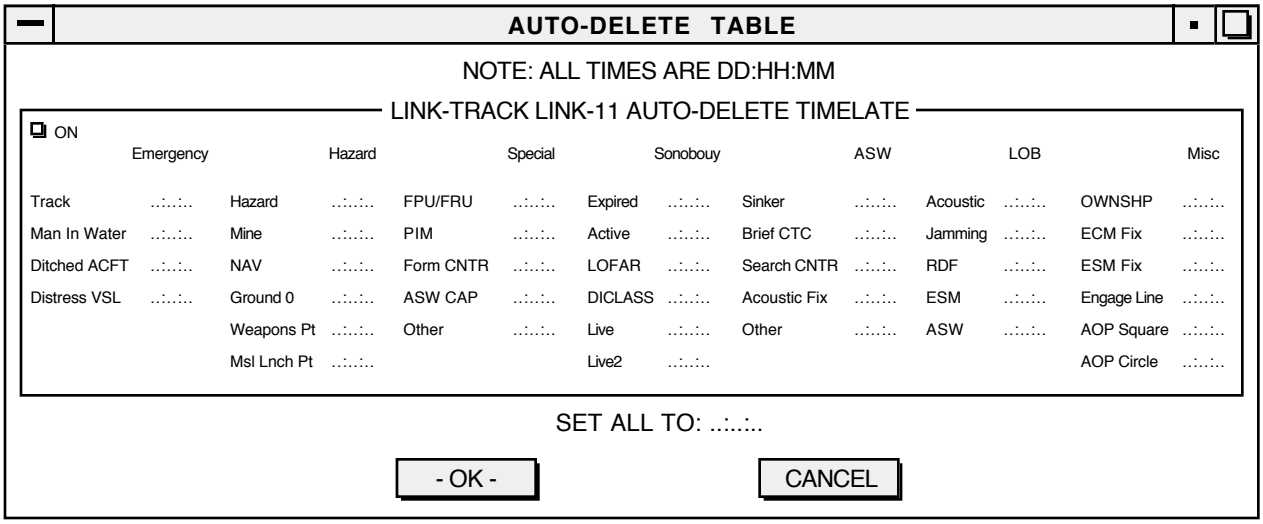


Figure11.24 -6 Auto-Delete Table Window

Note: For small monitors, this entire window does not appear. Scroll bars are available to view any items not visible.

How to use the AUTO-DELETE TABLE window:

1. Enter the amount of time to elapse after the last track update before a specified track type is automatically deleted.
2. Enter a time value in the SET ALL field to specify a default time for *all* tracks.
3. After entering a time in the SET ALL field, press the RETURN key for this value to take effect.
4. Click the ON checkbox to have the entered times take effect, or leave the checkbox blank to turn this option off.
5. Click OK to save changes, or click CANCEL to discard them and exit the window.

11.24.3.3 AUTO-DELETE TABLE Pop-Up Menu

Options available on the AUTO-DELETE TABLE pop-up menu (OK, ARCHIVE, RESTORE, PRINT, and CANCEL), perform as described in *Summary of Common Operations* .

11.24.4 LINK STATUS

Use the LINK STATUS option to:

- View the status of Link tracks in the system.
- View the number of Link tracks
- See detailed information about the tracks broken down by PU (Participating Unit).

Select LINK STATUS from the LINK CONTROLS cascading menu to open the LINK STATUS window (Figure11.24 -7).

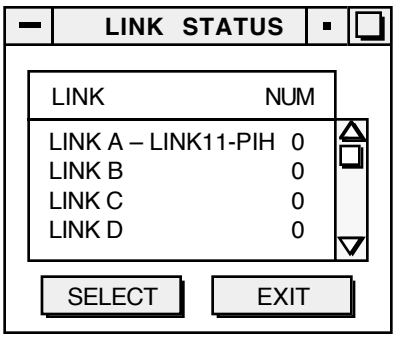


Figure11.24 -7 Link Status Window

The LINK STATUS window shows the total number (NUM) of Link tracks contained in each LINK communications network (A, B, C, and D) in the system.

Select a Link from the scroll list and click SELECT to open the LINK window (Figure11.24 -8) for the applicable network. Note: This example uses LINK A.

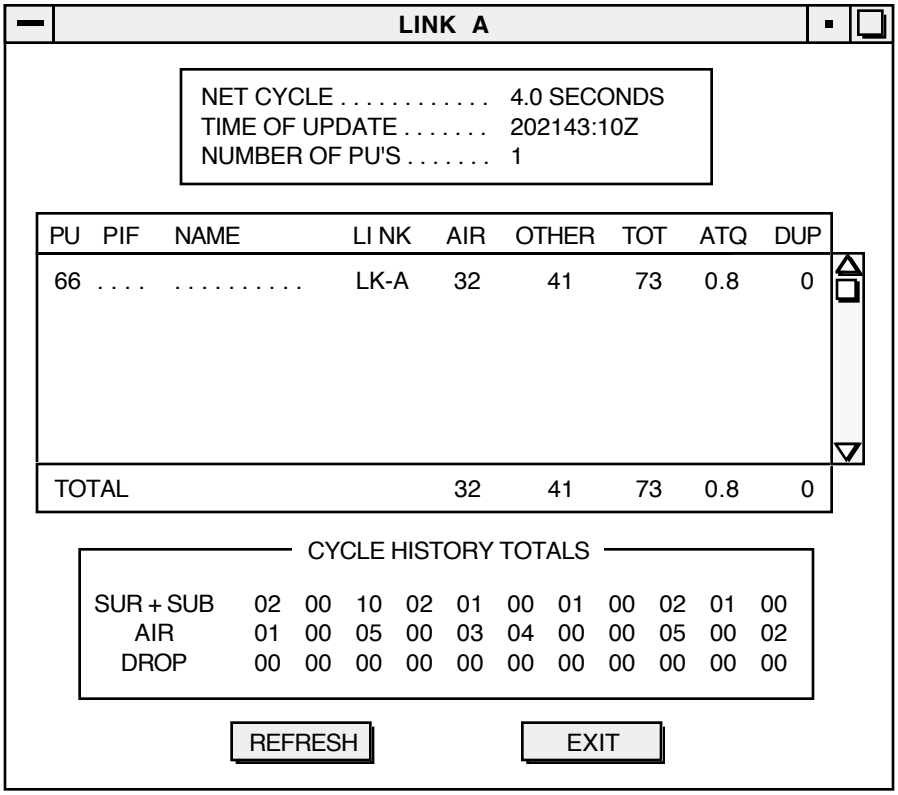


Figure11.24 -8 Link Window

LINK Window Fields

The LINK window contains information areas—general information box, scroll list, and a CYCLE HISTORY TOTALS box .

General Information Box:

NET CYCLE
Number of seconds between Link cycles. The amount of time that elapses before the next batch of Link updates take effect in the system.

TIME OF UPDATE
Time of the last Link update.

NUMBER OF PUs
Number of participating units (PUs) reporting Link information for the chosen Link communications network.

Scroll List:

For each of the PUs reporting on this Link communications network, the scroll list shows the following fields of information:

PU
PU number.

PIF
PIF number for the PU.

NAME
Name of the PU. A name appears in this column *only* if the Link track has been merged with an Intel track.

LINK
Name of the Link communications network that the PU is using to broadcast Link updates information.

AIR
Number of AIR tracks being reported by the PU.

OTHER
Number of non-AIR tracks being reported by the PU.

TOT
Total number of tracks being reported by the PU.

ATQ
Average Track Quality (ATQ) for the tracks being reported. For real-time tracks, track quality is a number between 1 and 7, with 7 being the best quality and 1 the worst. For non real-time tracks, the track quality is 0.

DUP
Number of duplicate tracks being reported. Duplicates occur when two different tracks with the same PIF number are being monitored.

Totals at the bottom of the scroll list represent totals for all PUs:

- AIR—number of AIR tracks.
- OTHER—number of non-AIR tracks.
- TOT—total number of tracks.

- ATQ—average track quality for all tracks in this Link.
- DUP—number of duplicates for this Link.

CYCLE HISTORY TOTALS Box:

- Eleven columns of numbers represent the number of tracks being reported for the last eleven Link cycles.
- For each Link cycle, this box displays:
  - number of SUR + SUB tracks reported
  - number of AIR tracks reported
  - number of tracks that were dropped (no longer being reported)
- The far left column shows numbers for the most recent Link cycle. The next column to the right shows the numbers for the previous Link cycle—and so on.
- Information in the Link window automatically updates whenever a new net cycle time occurs.
  - For example, if the NET CYCLE is set to 20.0 seconds, an update occurs every 20 seconds.
  - To view up-to-date information sooner, click REFRESH.

To view individual track information for a particular PU, double-click the PU line of interest in the scroll list. The PU window appears (Figure11.24 -9).

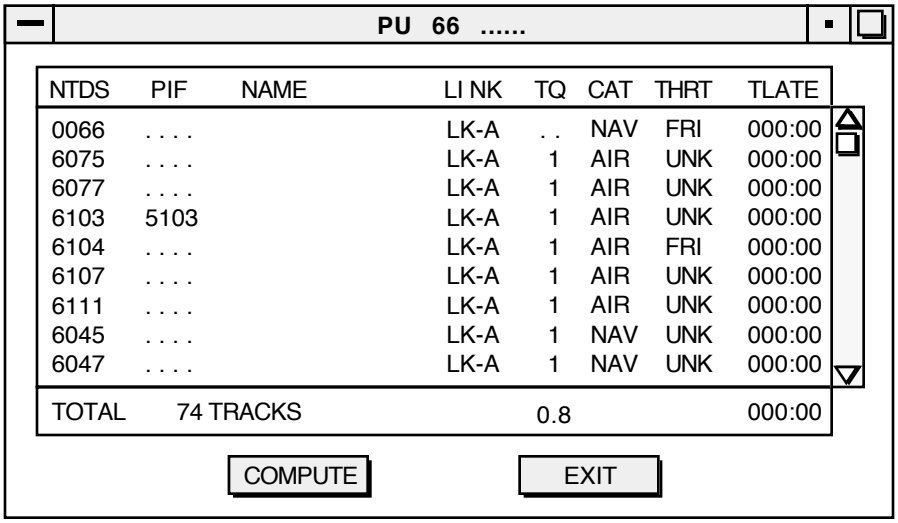


Figure11.24 -9 PU Window

PU Window Buttons:

COMPUTE—click to reflect new, incoming information.

EXIT—close the window and exit the LINK STATUS option.

PU Window Fields

The PU window lists the following fields of information for each track reported by the selected PU:

NTDS
NTDS track number for the track.

PIF
Pseudo Identification Feature (PIF) number; a four digit code that provides an exact ID for the ship or aircraft. Friendly military only.

NAME
Name of the track. A name appears *only* if the track has been merged with an Intel track.

LINK
Name of the Link communications network being used.

TQ
Track quality number for the track.

Real-time tracks—track quality is numbered between 1 and 7, with 7 being the best quality and 1 the worst.

Non real-time tracks—the track quality is 0. Track quality represents the quality of the radar hit on the track.

CAT
Category code for the track.

THRT
Threat code for the track.

TLATE
Amount of elapsed time since the track was last updated.

TOTAL Information Area:

Some totals appear at the bottom of the scroll list:

- total number of tracks being reported by the PU
- average track quality
- average timelate

11.24.5 LINK FILTER

Use the LINK FILTER option to discard Link and ACDS tracks, based on track category and threat.

When a Link filter is set for a cat/threat type:

- Tracks entering the system that meet the chosen filter criteria are not plotted on the tactical display.
- "Filtered" tracks are not stored anywhere within the system.

The LINK FILTER option contains a cascading menu with CAT/THREAT and MISC. LINK11 options.

- CAT/THREAT—set Link filters for ACDS/Link tracks that use cat/threat symbology.
- MISC. Link-11—set Link filters for Link-11 tracks that use special Link-11 symbology.

11.24.5.1 Link Filters for Cat/Threat

Select the CAT/THREAT option from the LINK FILTER cascading menu to open the Cat/Threat EXCLUSION FILTERS window (Figure11.24 -10).

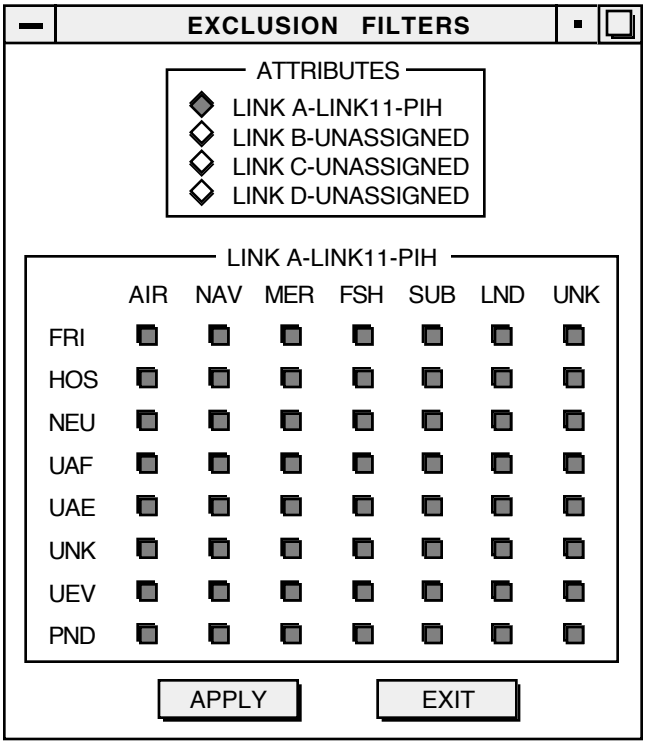


Figure11.24 -10 Cat/Threat Exclusion Filters Window

The EXCLUSION FILTERS window contains a top box (ATTRIBUTES) and a bottom box whose title changes—depending on which diamond knob is selected in the ATTRIBUTES box.

How to use the Cat/Threat EXCLUSION FILTERS window:

1. Click the applicable diamond knob in the ATTRIBUTES box for the Link communications network.
2. Toggle ON the associated checkboxes for each Link threat/category type to discard.
   - For example, if the FRI/AIR checkbox in toggled ON, friendly air tracks will not appear on the tactical display for the selected Link.
3. Click a column heading label to turn ON all the checkboxes in that column.
4. Similarly, click a row label to turn ON all the checkboxes in that row.
5. Click APPLY to accept changes, or click EXIT to discard them. After clicking APPLY to accept changes, click EXIT to leave this option.

11.24.5.2 Link Filters for Misc. Link-11

Select the MISC LINK11 option from the LINK FILTER cascading menu to open the Link-11 EXCLUSION FILTERS window (Figure11.24-11).

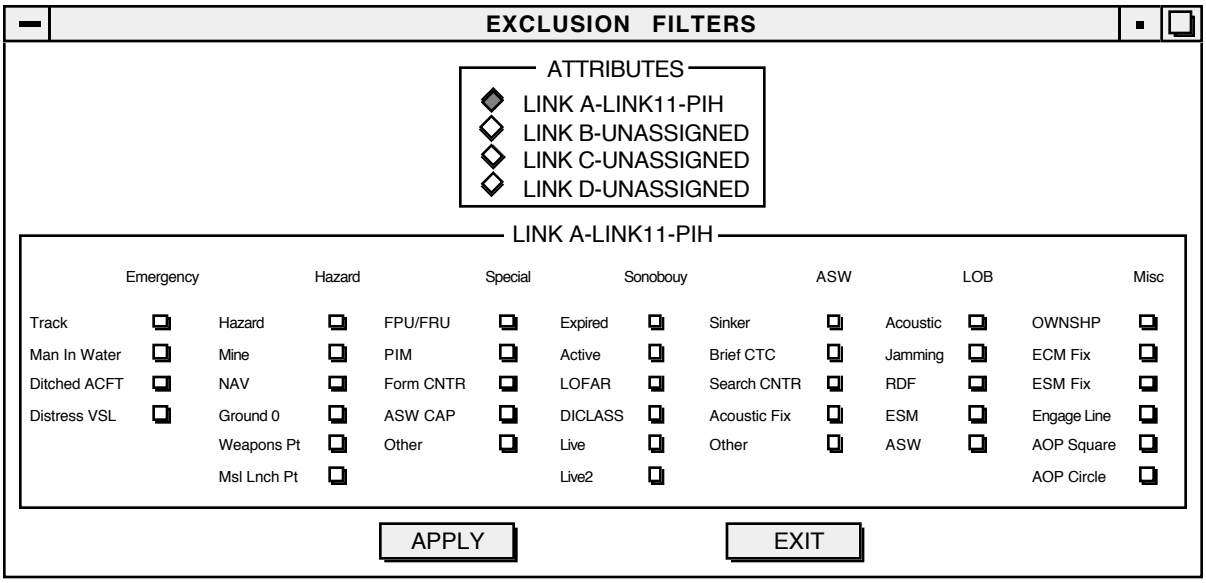


Figure11.24 -11 Link-11 Exclusion Filters Window

The EXCLUSION FILTERS window contains a top box (ATTRIBUTES) and a bottom box whose title changes—depending on which diamond knob is selected in the ATTRIBUTES box.

How to use the Link11 EXCLUSION FILTERS window:

1. Click the applicable diamond knob in the ATTRIBUTES box for the Link communications network.
2. Toggle ON the associated checkboxes for each Link threat/category type to discard.
   - For example, if the LOB/RDF checkbox is toggled ON, LOB/RDF tracks will not appear on the tactical display for the selected Link.
3. Click a column heading label to turn ON all the checkboxes in that column.
4. Similarly, click a row label to turn ON all the checkboxes in that row.
5. Click APPLY to accept changes, or click EXIT to discard them and leave this option.

Note: For small monitors, this entire window does not appear. Scroll bars are available to view any items not visible.

11.25 TRACK POP-UP MENU

Use the "track pop-up menu" to perform functions on individual tracks. Several options (SELECTED SUMMARY, SPEED LEADER, AOU, 10-PT. HISTORY, CUSTOM HISTORY, DEAD RECKON, DR TRAILER, and MTST HISTORY) affect not only the initially selected track, but also all other selected tracks on the tactical display.

To access the track's pop-up menu:

1. Place the pointer on a track.
2. Hold down the right trackball button to open a pop-up menu for the track.
3. While holding down the trackball button, move the pointer on top of a menu option.
4. Release the trackball button to access the selected option.

The pop-up menu provides the following options for track manipulation:

(TITLE)
Shows the track name and the number of reports received on the track.

QUICK REPORT
Create an abbreviated new report on the track.

SELECTED SUMMARY
Display a summary of information for the selected tracks.

XMIT
Transmit the track to a remote site in a GOLD message.

NU TRACK
Convert an ambiguity to a track.

COPY
Make a duplicate copy of the track.

DELETE
Delete the track.

NIPS UPDATE
If connected directly to NIPS, accesses the NIPS CDBS.

TRACK CONTROL
Set plot control options for the track which override default settings.

RANGE CIRCLES
Specify and plot circles around the track.

TRACK TO PIM
Turn the history points for a track into a PIM track.

SPEED LEADER
Set the display status for the track's speed leader .

AOU
Set the display status for the track's AOU.

10-PT. HISTORY
Set the display status for plotting track history reports.

CUSTOM HISTORY
Display user-selected information for each history point.

DEAD RECKON
Set the display status for the track's dead reckoned position.

DR TRAILER
Set the display status for the track's DR trailer .

MTST HISTORY
Set the display status for plotting the an MTST history.

11.25.1 TITLE

The first line in the TRACK pop-up menu shows the name of the selected track and the number of reports received for the track. For example: T4027 : 11.

11.25.2 QUICK REPORT

Use the QUICK REPORT option to enter an abbreviated report for the track.

1. Select the QUICK REPORT track-menu option.
2. Select the type of report (POSIT, LOB, or BRG BOX) from the TYPE window.
3. Enter data in the QUICK REPORT window.
   - This window is similar to the ENTER FIRST REPORT window.
   - Fields in the window depend on (a) the type of track being updated and (b) which report type button was selected.
   - See the NEW TRACK option from the TRACKS pull-down menu for more information about the fields in this window.

11.25.3 SELECTED SUMMARY

Use the SELECTED SUMMARY option to display a summary of information for a track or a selected group of tracks (Figure 11.25-1).

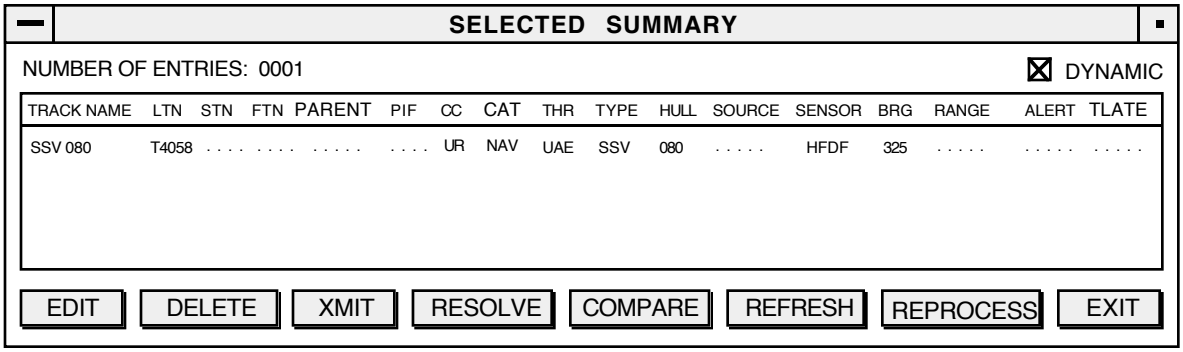


Figure 11.25-1 Selected Summary Window

The SELECTED SUMMARY window is the same as the TRACK SUMMARY window, with the following exception:

DYNAMIC (checkbox)
Allows another track to be added to the window without "regrouping" the previous tracks selected.

For example, if three tracks are selected from the display and a fourth needs to be added later, click on the "new" tracks symbol to add it to the SELECTED SUMMARY window. This feature allows the user to closely monitor information on a particular group of tracks.

Information on tracks shown in this window is continually updated.

See the TRACK SUMMARIES option (TRACKS pull-down menu) for more information about the fields and buttons in this window.

11.25.4 XMIT

Use the XMIT option to transmit the track to other sites.

- Only Platform and Unit tracks, with a scope of OTH, may be transmitted. Ambiguities cannot be transmitted.
- The most recent track report is sent, including track attribute information.
- Track history can be sent; the number of history reports is operator specified.
- Messages are sent in GOLD format, over one or more operator-specified comms channels.

This option works the same as the XMIT option from the TRACKS pull-down menu.

11.25.5 NU TRACK

Use the NU TRACK option to create a new track out of an ambiguity.

- This option is available only if the selected track is an ambiguity.
- Track Numbers change from numbers preceded by an "A" (ambiguity) to numbers preceded by a "U" (unit track).

11.25.6 COPY

Use the COPY option to create a duplicate copy of an existing track. This option works the same as the COPY option in the TRACKS pull-down menu.

11.25.7 DELETE

Use the DELETE option to remove the selected track from the system. This option works the same as the DELETE option from the TRACKS pull-down menu.

Note: This option cannot be used for tracks with a value of HIT or TGT in the ALERT field of the EDIT window.

11.25.8 NIPS UPDATE

Note: The NIPS UPDATE option is available only on UB workstations that are connected directly to the NIPS Central Database Server.

About the NIPS UPDATE option

- Use the NIPS UPDATE option to access the Navy Intelligence Processing System (NIPS) Central Database Server (CDBS) for additional information about the selected track.
- The NIPS CDBS is a central database server for the entire NTCS Afloat system.
- NIPS provides UB with additional information about a selected track—UB also provides updated information to NIPS.
- The NIPS UPDATE option associates a selected UB track with a NIPS data element.
  - The selected track *must* be a land unit, and its type must be either EMITTER/ELINT or PLATFORM.
  - If the type is PLATFORM, the track must have one or more ELNOT associations.

Select a track from the tactical display and choose NIPS UPDATE from the TRACK pop-up menu to open the NIPS CANDIDATES window (Figure11.25 -2).

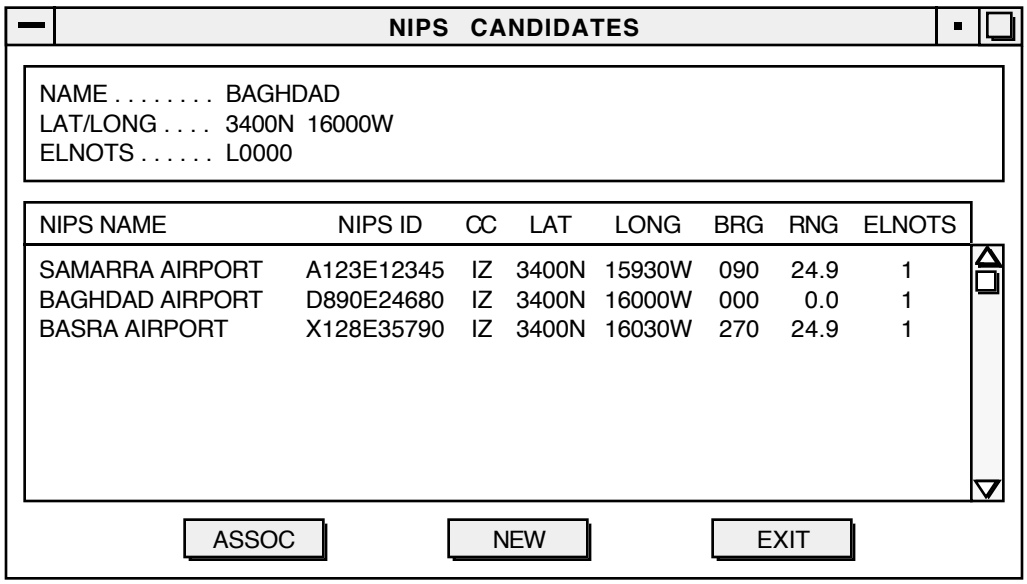


Figure11.25 -2 NIPS Candidates Window

NIPS CANDIDATES Window Buttons

ASSOC—the selected UB track with a NIPS data element.

1. Select the NIPS data element from the NIPS CANDIDATES window.
2. Click ASSOC.
   a. NIPS updates the following track attributes for the UB track: TRACK NAME, FLAG, SCONUM, and BE NUMBER.
   b. UB automatically sends the latest reported information on the track and its emitter tracks to NIPS—using the BE number and category as the NIPS key.
3. When an association takes place, the NIPS UPDATE option is automatically exited.

NEW—create a new NIPS data element for the selected track. If there are no NIPS candidates (or to not associate the UB track to any of the current NIPS candidates):

1. Click NEW to generate a new land track data element in NIPS for the UB track.
2. The land track is assigned a unique land track ID with a "J" prefix.
3. The latest reported information on the UB track and its emitter tracks is sent to NIPS using the LAND TRACK ID as the NIPS key.
4. When a new NIPS data element is created, the NIPS UPDATE option is automatically exited.

EXIT—exit the NIPS UPDATE option without creating a NIPS association.

NIPS CANDIDATES Window Fields

NAME
Name of the track.

LAT/LONG
Position of the track, as last reported.

ELNOTS
List of all associated ELNOTs for the track in the UB track database.

Scroll List

Lists the candidates contained in the NIPS database for the selected track. Candidates are determined based on:

- BE number (if available)
- SCONUM (if available and BE is not)

- Country Code (if available)
- ELINT notation (ELNOT)
- Rough geofeasibility (a 25 NM cookie cutter around the last contact report for the track).

The following fields of information are shown for each candidate:

NIPS NAME
Name of the NIPS data element in the NIPS database.

NIPS ID
NIPS data element's land track ID, site ID, or BE number. The SCONUM is used to match the last five characters of the BE number in NIPS.

CC
Country code of the NIPS data element.

LAT
Latitude of the NIPS data element.

LONG
Longitude of the NIPS data element.

BRG
Bearing from the NIPS data element to the UB track.

RNG
Range from the NIPS data element to the UB track.

ELNOTS
Number of associated ELNOTs for the NIPS data element.

11.25.8.1 View Additional Information for a NIPS Candidate

Double-click a candidate to open the AMPLIFY NIPS CANDIDATE window (Figure11.25 -3).

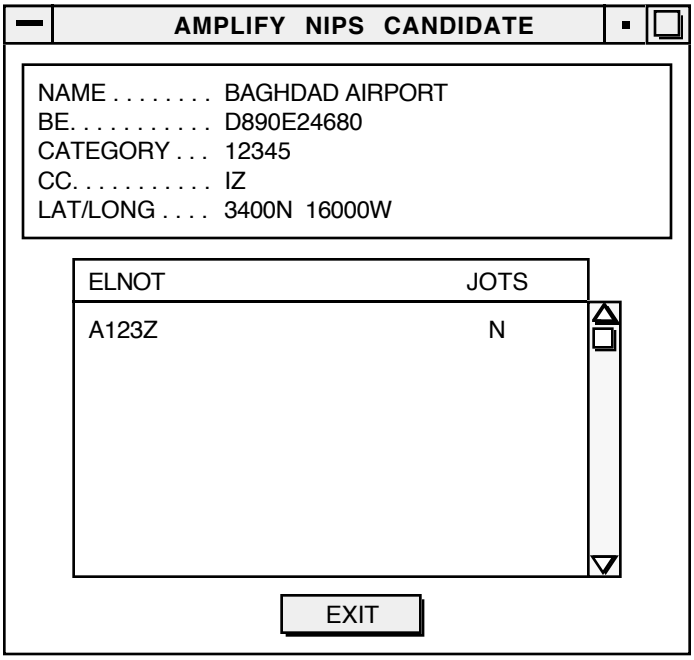


Figure11.25 -3 Amplify NIPS Candidate Window

The AMPLIFY NIPS CANDIDATE window contains general information about the NIPS data element and a scroll list with all the associated ELNOTs.

AMPLIFY NIPS CANDIDATE Window Fields

NAME
Name of the NIPS data element.

BE
BE number for the NIPS data element.

CATEGORY
Category code or FUNCL code of the NIPS data element.

CC
Country code of the NIPS data element.

LAT/LONG
Position of the NIPS data element.

Scroll List

Contains the following fields to describe the ELNOTs associated with the NIPS data element:

ELNOT
ELINT notation. This five digit field begins with an alpha character, followed by three numbers, ending with another alpha character.

JOTS
Shows a Y if the ELNOT is associated with the selected UB track or an N if not.

11.25.9 TRACK CONTROL

The TRACK CONTROL option allows an operator to specify plotting and symbol annotation of tracks on an individual basis.

Default settings, set by options on the PLOT CONTROL pull-down menu, can be overridden for individual tracks.

Select a track from the display, then select TRACK CONTROL from the TRACK pop-up menu to open the TRACK CONTROL window (Figure11.25-4).

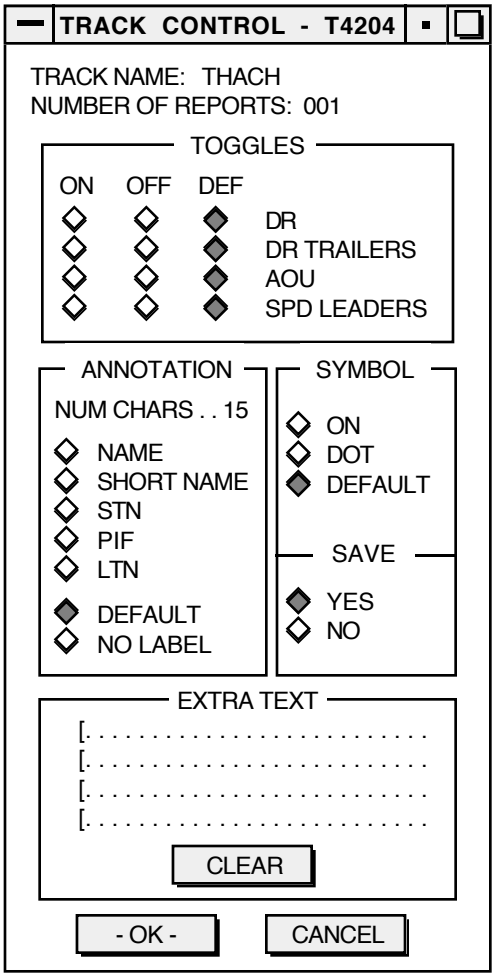


Figure11.25 -4 Track Control Window

The TRACK CONTROL window shows the name and the number of reports received for the track.

TRACK CONTROL Window Fields

TOGGLES Box

Use the diamond knobs to override the track display settings for DR (dead reckoning), DR TRAILERS, AOU (areas of uncertainty), and SPD LEADERS (speed leaders) for the selected track. Settings entered here override the default settings entered with the ATTRIBUTE TOGGLES option. Click the following diamond knobs for the selected track:

ON

Turn ON the option for the selected track, regardless of default settings.

OFF
Turn OFF the option for the selected track, regardless of default settings.

DEF
Use the default setting for the option.

SYMBOL Box

Click the appropriate diamond knob to specify how the track symbol should be plotted:

ON
Plotted on the tactical display.

DOT
Plotted as a dot on the display.

DEFAULT
Toggle ON to use the track's default symbol setting.

SAVE Box

YES
Save the symbol settings.

NO
Ignore the symbol settings.

ANNOTATION Box

The number of characters and label type chosen with this option overrides the default settings entered with the SYMBOL LABELS option.

NUM CHARS
Enter the maximum number of characters to display for the text label.

NAME
Name of the track.

SHORT NAME
Name for the track that meaningful only within the local network. This name is not transmitted to other locations.

STN
System track number. This is also known as the Naval Tactical Display System (NTDS) track number.

PIF
Code that provides an exact ID for the ship or aircraft. PIF (also known as Mode 2 IFF) is for friendly military only.

LTN
Local UB track number. This number is used internally by the system for track identification.

DEFAULT
Use the default label type entered with the SYMBOL LABELS option.

NO LABEL
The track is not labeled.

EXTRA TEXT Box

Enter up to four lines of text to appear next to the track on the tactical display.

CLEAR
Remove all the text in the EXTRA TEXT box.

OK—accept changes, or click CANCEL to discard them. If OK is clicked, any changes made to the track symbol or label appear on the tactical display.

11.25.10 RANGE CIRCLES

Use the RANGE CIRCLES option from the TRACK pop-up menu to plot range circles around the selected track.

For example, the RANGE CIRCLES option can be applied to show weapons ranges and sensor ranges around naval combatants or military aircraft.

Select RANGE CIRCLES from the TRACK pop-up menu to open the RANGE CIRCLES window (Figure11.25 -5).

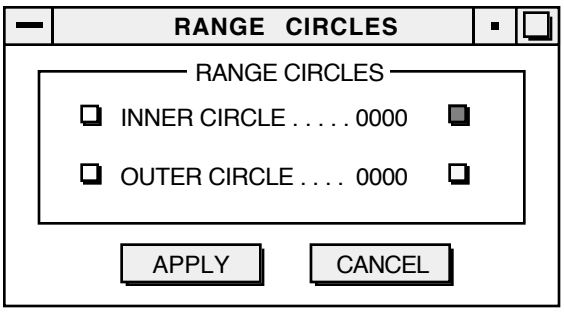


Figure11.25 -5 Range Circles Window

Use the RANGE CIRCLES window to specify the radius and color of the two range circles, and to turn this option ON or OFF.

How to use the RANGE CIRCLES option:

1. Enter radius values (in NM) for the inner and outer circles for the selected track.
2. Click the appropriate color box to open a LIST window with color choices.
3. Click the checkbox in front of either range circle setting to turn ON that range circle.
4. Click APPLY to accept the entries, or CANCEL to discard them.
5. Range circles appear around the track after APPLY has been clicked.

11.25.11 TRACK TO PIM

The TRACK TO PIM option provides a way to convert the history points for a track into a PIM track.

1. Select the TRACK TO PIM option.
2. The PIMTRACKS window opens with the name of the selected track listed as an inactive PIM track.
3. If activated, this PIM track will appear on the display with PIM track legs extending between the history points of the track.
4. Use the PIMTRACKS options to make any changes to the new PIM track. (Refer to the PIMTRACKS option in the SUPPORT TDA'S chapter for detailed information.)

11.25.12 SPEED LEADER

Use the SPEED LEADER option to turn ON or turn OFF the plotting of speed leaders for the selected track—and all other tracks selected on the display. This option overrides the default speed leader setting entered with the ATTRIBUTE TOGGLES option.

About the SPEED LEADER option

- When this option is viewed on the menu, either ON or OFF is listed after the SPEED LEADER menu name.
- When this option is selected, the current speed leader setting changes to the opposite setting for the selected track.

- If other tracks are selected on the tactical display, their speed leader setting either changes or stays the same to match the new setting for the selected track.

11.25.13 AOU

Use the AOU option to turn ON or turn OFF AOU plotting for the selected track—and all other tracks selected on the display when this option is used. This option overrides the default AOU setting entered with the ATTRIBUTE TOGGLES option.

About the AOU option

- When this option is viewed on the menu, either ON or OFF is listed after the AOU menu name.
- When this option is selected, the current AOU setting changes to the opposite setting for the selected track.
- If other tracks are selected on the tactical display, their AOU setting either changes or stays the same to match the new setting for the selected track.

11.25.14 10-PT. HISTORY

Display a history plot for the track by using the 10-PT. HISTORY option from the TRACK pop-up menu. The history plot shows a line on the tactical display that connects the points for the last 10 history reports for the track. If there are less than 10 reports in the system, all history points are plotted.

About the 10-PT HISTORY option

- When viewing this option on the menu, either ON or OFF is listed after the 10-PT HISTORY menu name.
- When this option is selected, the current history plot setting changes to the opposite setting for the selected track.
- If other tracks are selected on the display when this option is used, their history plot setting either changes or stays the same to match the new setting for the selected track.

Figure11.25 -6 shows an example of a history plot for a sample track.

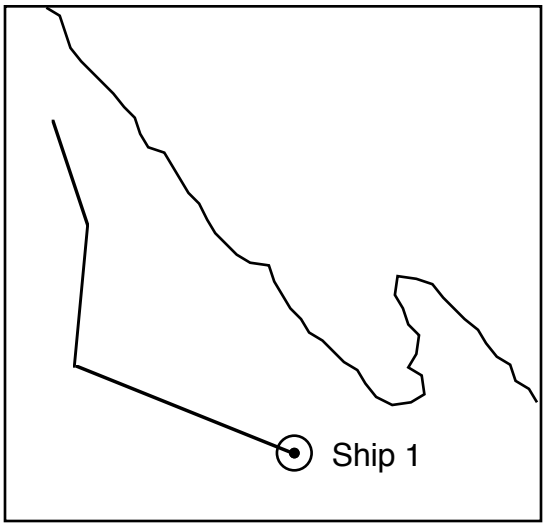


Figure11.25 -6 A History Plot Example

11.25.15 CUSTOM HISTORY

Use the CUSTOM HISTORY option to display track history points for one or more selected tracks with user-specified information for each point.

Select one or more tracks on the display and choose CUSTOM HISTORY from the track pop-up menu.

- If one track was selected, the CUSTOM HISTORY window opens (Figure11.25-7).
- If more than one track was selected, a SELECT TRACKS TO PLOT HISTORY window opens.
  - Highlight one or more tracks in the scroll list.
  - Click OK to open CUSTOM HISTORY window.

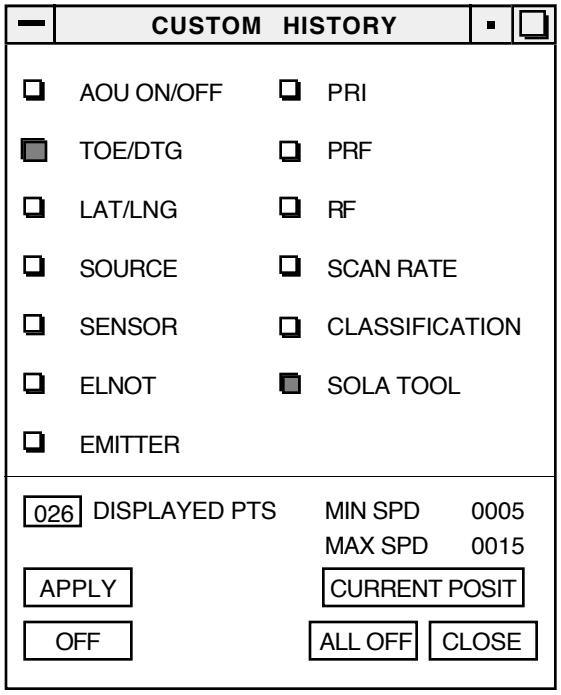


Figure 11.25-7 Custom History Window

How to use the CUSTOM HISTORY option:

To turn ON the display of custom history information (for selected tracks only):

1. Toggle checkboxes ON to choose the information plotted with each track's history.
2. Set the maximum number of points for each track in the DISPLAYED PTS field.
3. If the SOLA TOOL is toggled ON, set the minimum and maximum speeds. The segment colors indicate the track's relative speed compared to these values (described in *SOLA Tool*).
   - White— within set range.
   - Red—exceeds maximum speed.
   - Green—slower than minimum speed.
4. Click APPLY to show information with each history point, or click CURRENT POSIT to display only the current position with its information.
   - Selected information appears to the left of each point.
   - Track symbol label remains plotted to the right of the current position.
   - Selected information unavailable for a track is shown as ///.

5. Click CLOSE to close the window and exit the option.

Turn OFF the custom history in one of two ways:

- Click OFF to remove history points and information for currently selected tracks only.
- Click ALL OFF to remove history points and information for all tracks.

CUSTOM HISTORY Window Fields

Settings are retained when the window is closed, and will appear toggled ON when the window is reopened. All checkboxes reset to OFF *only* when JMCIS is restarted.

AOU ON/OFF
Area of uncertainty—toggle either ON or OFF.

TOE/DTG
Date and time of track observation.

LAT/LNG
Latitude and longitude.

SOURCE
Two-letter OTCIXS station source code (for example, AM=America). Letters are taken from the Source XREF Table, which can be viewed from the SOURCE XREF TABLE option (MISC menu); can also be used to show a 6-character, alphanumeric entry for the reporting source or system. (Examples: CASREP, MOVREP, Wizard.)

SENSOR
Sensor type used to detect the track at its last reported position.

ELNOT
An acronym for ELINT Notation, the electronic emitter code assigned to a radar by the detecting sensor.

This five digit field begins with an alpha character, followed by three numbers, ending with another alpha character.

EMITTER
Radar name (for example, RAY1500, SPN-43, HEADNET).

PRI
Pulse repetition interval, measured in microseconds. (ELINT tracks only.)

RF
Radio frequency, measured in megahertz (MHZ). (ELINT tracks only.)

SCAN RATE
Scan rate, measured in seconds per rotation (SPR). (ELINT tracks only.)

CLASSIFICATION
Classification level. (Not currently implemented.)

SOLA TOOL
Speed of Logical Advance. (Described in *SOLA Tool*.)

DISPLAYED PTS
Maximum number of points displayed for each track.

MIN SPD
Minimum speed, in KTS (for SOLA tool).

MAX SPD
Maximum speed, in KTS (for SOLA tool).

11.25.15.1 SOLA Tool

The Speed of Logical Advance (SOLA) tool is used to detect tracks with abnormal speeds. For example, the SOLA tool can be used to identify ships or aircraft moving too slow or too fast to be consistent with commercial traffic.

How to use the SOLA Tool:

1. In the CUSTOM HISTORY window, toggle the SOLA checkbox ON.
2. Enter values in MIN SPD and MAX SPD fields (default values are 5 and 15 KTS).
3. Click APPLY.
4. Speed for each segment will be displayed in colors that indicate the relative speed of the track for that segment (Figure11.25-8).
   - White—within the range set.
   - Green—slower than the minimum speed set.
   - Red—exceeds the maximum speed set.

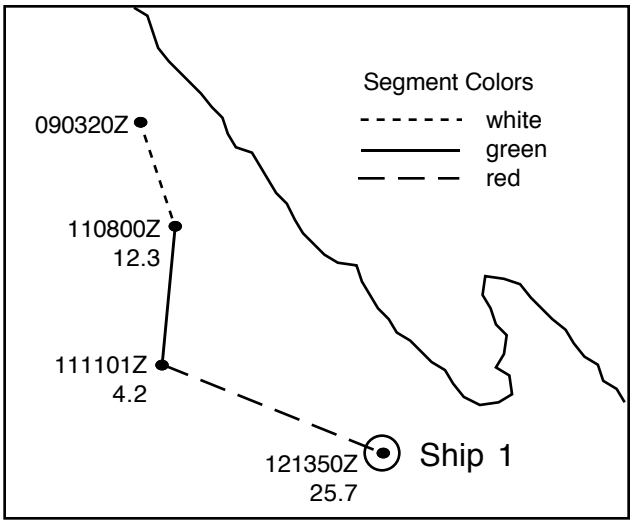


Figure 11.25-8 Custom History Display with TOE/DTG and SOLA Selected.

11.25.16 DEAD RECKON

Use the DEAD RECKON option to turn on or turn off Dead Reckoning (DR) for the selected track—and all other tracks that are selected on the tactical display when this option is used. This option overrides the default DR setting entered with the ATTRIBUTE TOGGLES option.

About the DEAD RECKON option

- When viewing this option on the menu, either ON or OFF is listed after the DEAD RECKON menu name.
- When this option is selected, the current DEAD RECKON setting changes to the opposite setting for the selected track.
- If any other tracks are selected on the display when this option is used, their DEAD RECKON setting either changes or stays the same to match the new setting for the selected track.

11.25.17 DR TRAILERS

Use the DR TRAILERS option to turn on or turn off the plotting of DR Trailers for the selected track—and all other tracks that are selected on the tactical display when this option is used. This option overrides the default DR Trailer setting entered with the ATTRIBUTE TOGGLES option.

About the DR TRAILERS option

- When viewing this option on the menu, either ON or OFF is listed after the DR TRAILERS menu name.

- When this option is selected, the current DR Trailer setting changes to the opposite setting for the selected track.
- If any other tracks are selected on the display when this option is used, their DR Trailer setting either changes or stays the same to match the new setting for the selected track.

11.25.18 MTST HISTORY

The MTST history plots dots on the screen for the calculated MTST history points and shows lines connecting these points from the starting point to the current track position. Use the MTST HISTORY option to turn ON or OFF the MTST history plot for the selected track and all other tracks that are selected on the tactical display when this option is used.

About the MTST HISTORY option

- When viewing this option on the menu, either ON or OFF is listed after the MTST HISTORY menu name.
- When this option is selected, the current MTST history plot setting changes to the opposite setting for the selected track.
- If any other tracks are selected on the display when this option is used, their MTST history plot setting either changes or stays the same to match the new setting for the selected track.

Figure11.25 -8 shows an example of an MTST history plot for a sample track.

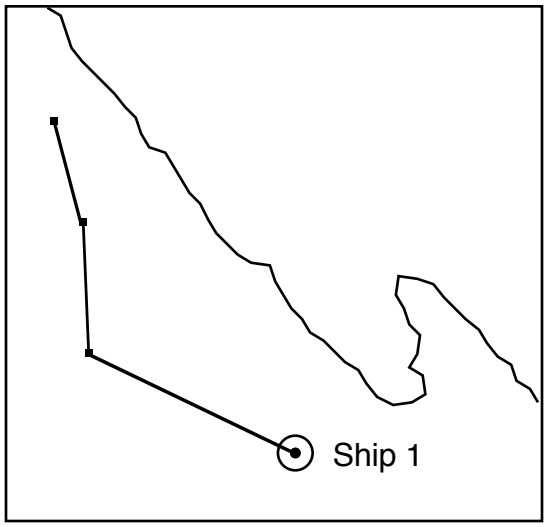


Figure11.25 -8 An MTST History Plot Example

Notes

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