

**Advanced Technologies and Oceanic Procedures  
Monitor and Control Position Simulator  
User's Guide**

**(AMCS-UG)**

**Version 2.1**

**DRAFT**

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# 1 Introduction

## 1.1 Scope

This manual is intended to serve as a desk reference and training aid that describes the AMCS system emulation capabilities. The AMCS is designed for personnel that are tasked with monitoring and controlling the operational portion of the Advanced Technologies and Oceanic Procedures (ATOP) system. This manual is not intended to be an exhaustive tutorial on the functionality of the ATOP system and will include excerpts from document "NASP-4509-T1200, Technical Operations Services (TOS) Operator's Manual" as appropriate. Additional ATOP system information can be found in other documents described in Section 1.3 of this document. This manual will describe at a high level the AMCS dialogs and functionality of the ATOP system. It will also point out where ATOP emulation was not deemed necessary or possible because of ATOP system emulation limitations, time and/or cost constraints.

## 1.2 System Identification

The AMCS is a Windows-based application that emulates portions of the AIX-based ATOP M&C position capabilities. It was primarily developed to be a training aid that can be exercised in common Windows-based workplace environments, mitigating the need to secure ATOP lab resources.

ATOP is the Air Traffic Control (ATC) system selected by the Federal Aviation Administration (FAA) to provide automation (hardware and software) for use in the FAA's New York, Oakland, and Anchorage oceanic, offshore and transition airspace. The automation addresses end-of-life issues as well as functional deficiencies and inefficiencies in the current automation, consistent with the FAA's Strategic Plan for Oceanic airspace Enhancements and Separation Reductions. The automation addresses not only ATC requirements but also support-oriented requirements for operating and maintaining the system, training Air Traffic (AT) and Terminal Operations Services (TOS) personnel, and supporting incident analysis and problem determination.

## 1.3 Applicable Documents

The following documents include standards, guidelines, handbooks, and special publications. These documents are applicable only to the extent specified within this document. The documents referred to in the following subsections are for reference information only.

|                  |                                                                     |
|------------------|---------------------------------------------------------------------|
| NASP-4509-T1200  | Technical Operations Services (TOS) Operator's Manual               |
| TI 6110.25       | Adaptation Data Management System Architecture Description (SAD)    |
| FAA-AP-2001-0072 | Adaptation Data Management System Management and Maintenance Manual |
| NASP-4257-T0200  | Adaptation Users Guide                                              |

## ***1.4 System Overview***

The ATOP architecture is described in detail in the Technical Operations Services (TOS) Operator's Manual. This User Guide presents an overview of the AMCS architecture and application's emulated ATOP system capabilities for the Monitor and Control (M&C) user. The AMCS runs on any Windows based PC with a single or dual monitor attached. The AMCS application was developed using Visual Studio.NET and Visual C++.

The AMCS system can emulate the ATOP system's dual channel architecture by allowing the AMCS M&C user to switch back and forth between Channel A and Channel B as necessary to complete test procedures that have been developed to exercise dual channel and other primary ATOP functionality and capabilities. Laboratory training procedures are available for use with the AMCS. These training procedures were initially designed by ATOP classroom instructors. These procedures were examined to determine their feasibility for use in an emulated environment and thus modified as necessary to be constructive training aids.

The AMCS system, as currently designed, will emulate a subset of the ATOP M&C position capabilities. It is believed that this subset comprises enough of the high-level ATOP capabilities to make it a useful training aid before, during, and after more formal ATOP training is provided. The benefits of using the AMCS

## ***1.5 AMCS Benefits***

### **1.5.1 Emulation**

The AMCS application simulates the ATOP M&C position by emulating many of its primary capabilities. The emulated capabilities are presented in Section 2 of this document. Section 3 of this document describes the AMCS Stimulator capabilities.

Because the AMCS is a PC based ATOP M&C simulator that can be run on a trainee desktop computer. The AMCS user may stop and restart the simulated backup and primary channels without fear of impacting ATOP system resources. The front-end or Graphical User Interface (GUI) of the AMCS Training Tool simulates the ATOP system M&C. It will react and respond to user interactions in a realistic manner, albeit there are no actual external system interfaces. There is an AMCS helper application that can be used to simulate processor state changes sent to the AMCS. This helper application is called the AMCS Stimulator and allows the ATOP system instructor to induce simulated component failures and inject any of the entire set of system Alert and Event messages as appropriate. The Stimulator can also be used to record AMCS training scenarios so that they can be played back in the future to ensure training consistency and repeatability.

### **1.5.2 Prescriptive Training Aide**

The AMCS application may be run on a trainees' desktop PC prior to formal instructor led training held at the trainees' site or at the WJHTC. The available training procedures for use with the AMCS application will guide the trainee through the primary ATOP system capabilities while using the AMCS. The procedures are self explanatory and were developed at the AMCS

developed at the Integration and Interoperability Facility in Pomona, New Jersey.

### **1.5.3 Embedded Training Aide**

The AMCS application may become a training aid used in conjunction with more formal classroom training material and presentations. Because ATOP hardware is not utilized by the AMCS application, there is much flexibility regarding where and when the AMCS can be used. If AMCS problem determination scenarios are created by instructors prior to formal training, the AMCS may be used in a classroom environment to augment this very important component of training.

### **1.5.4 Refresher Training Aide**

The AMCS application may also be used at any time after formal training has been completed as a refresher course. Once again, because no ATOP hardware components are required, this application may be exercised at any time by a trainee at his or her desktop.

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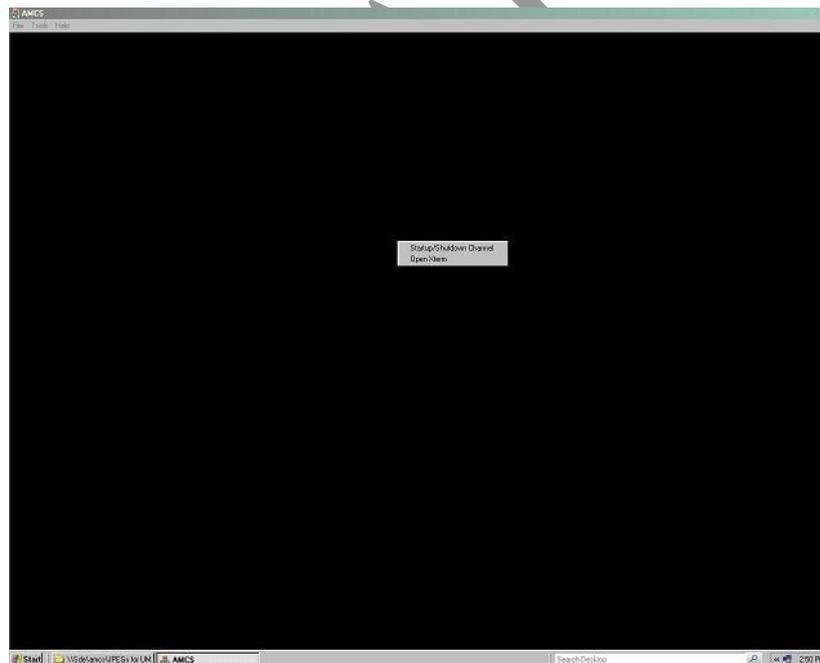
## 2 AMCS Emulation Techniques

### 2.1 *Single vs. Dual Monitor Capabilities*

Upon startup of the AMCS application on a dual monitor system, the student will be asked if a dual or single monitor display configuration is desired. If a single monitor display configuration is selected, all simulated ATOP views that would normally appear on the second monitor in a dual monitor display configuration, will appear on the single main monitor. Note that the application will detect the availability of a dual monitor automatically.

### 2.2 *Dialogs*

AMCS dialogs are also known as views. All AMCS dialogs/views emulate the corresponding ATOP views. They are constructed to look and operate similarly to the ATOP views except where noted. The AMCS application initially presents a black screen that emulates the initial AIX display at the ATOP M&C (**Figure 2.2-1a** AMCS Main View). The popup menu that appears on a right mouse click is easier to see in **Figure 2.2-1b** AMCS Main View.



**Figure 2.2-1a AMCS Main View**

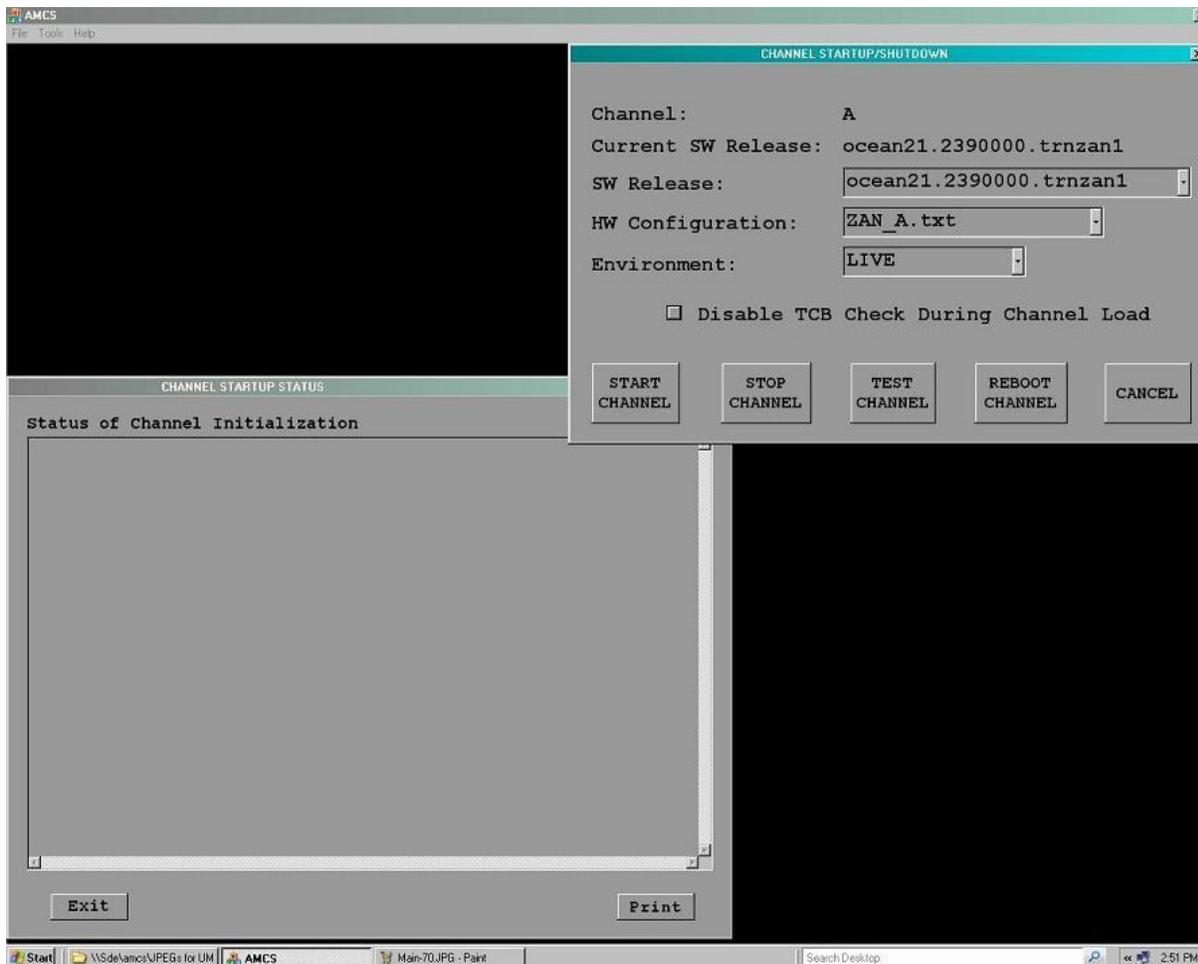


**Figure 2.2-1b AMCS Main View**

If the student right mouse clicks on the initial AMCS application main dialog, a small popup menu is displayed that offers two menu items. The two menu items are Startup/Shutdown Channel and Open Xterm. The Startup/Shutdown Channel selection will cause two AMCS views to appear as described in the next two sections. The Open Xterm selection will cause a command window to appear that is analogous to a UNIX shell window. The command window should not be used for any functional reason in the AMCS application and can be closed immediately if opened. Note that configuration and other ancillary files that are referred to in the following sections are included in appendices to this document when noted.

### **2.2.1 Channel Startup Status View**

The **Channel Startup Status** view is one of the first two dialogs to appear after selecting **Startup/Shutdown Channel** from the small popup menu that appears after a right mouse click. It is initially empty but will soon be filled with information describing the status of processors that are being loaded. See **Figure 2.1.1-1, Channel Startup Status/Channel Startup** views.



**Figure 2.2.1-1 Channel Startup Status/Channel Startup Views**

## 2.2.2 Channel Startup/Shutdown View

As in ATOP, the **Channel Startup/Shutdown** view allows the user to determine the current release as specified by the M&C position, select a different software release (SW Release), hardware configuration (HW), or ATOP Environment type (Environment). See **Figure 2.2.1-1, Channel Startup Status/Channel Startup views**. Additionally, the student may select the “**Disable TCB Check During Channel Load**” checkbox to speed up the loading of the specified channel and associated processors. There are five command buttons at the bottom of this dialog. Only the **START CHANNEL** and the **CANCEL** buttons are functional at this time.

Selecting the **Start Channel** command button on this view will cause messages to be sent to the **Channel Startup Status** view that is simultaneously displayed. The AMCS application will send "LOAD: INFO" messages to the AMCS **Channel Start Status** view for each processor that is being started and at the conclusion of these messages will send a "LOAD: ACTION - Load Completed" message.

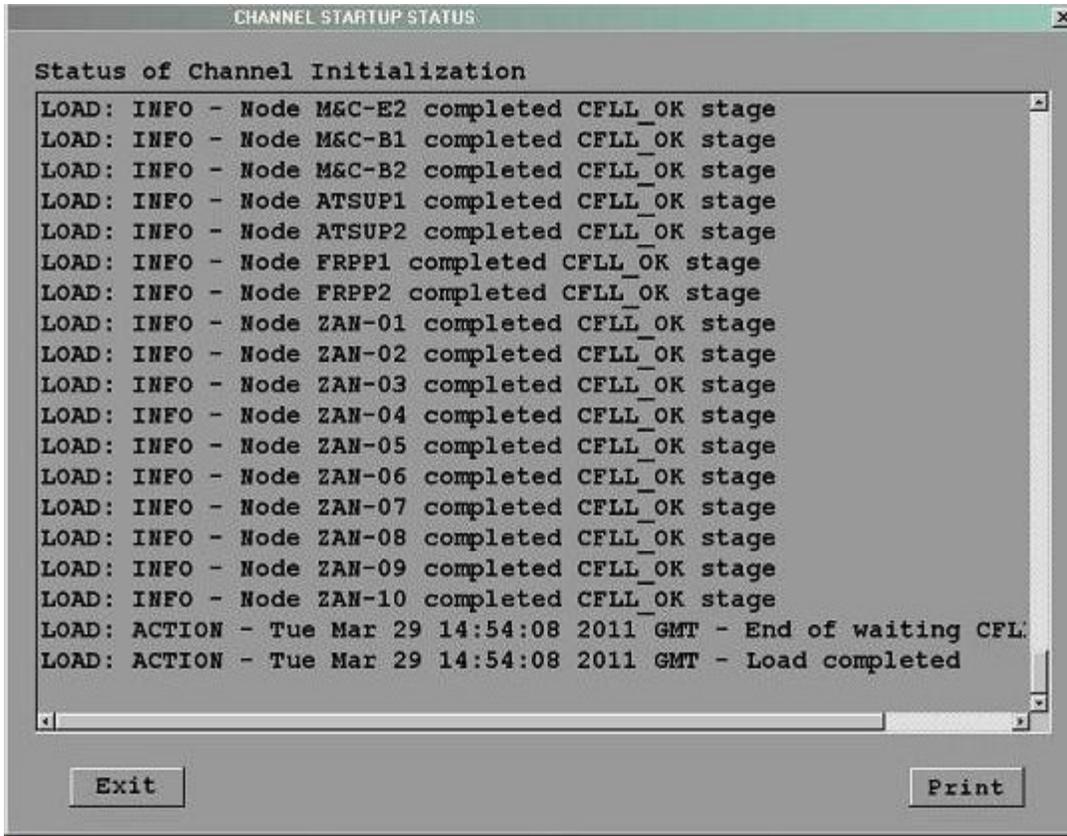


Figure 2.2.2-1 Channel Startup Status/Channel Startup Views

This view will eventually be overlapped by a Default Scene of views while the channel is completing its startup. To view the “Load Completed” message in the **Channel Startup Status** view after the Default Scene of views has overlapped it, focus on either of the overlapping windows and enter <ALT>F3 on the keyboard. Similar to the ATOP <ALT>F3 action, this AMCS action will lower the focused window so that a portion of the **Channel Startup Status** view can be seen. Selecting any visible portion of the **Channel Startup Status** view at this time will provide access to all of its components, including the vertical scrollbar used to view the “Load Completed” message at the bottom of the display panel. Alternatively, once the **M&C Global Menu** (one of the dialogs/views in the Default Scene) is displayed, the student may select the **Other** command button and then the **View Load Status** menu item to cause the Channel Startup Status view to be displayed on top of all other windows.

### 2.2.3 M&C Default Scene View

The Default Scene at the AMCS M&C position is comprised of the following windows:

- a. M&C GLOBAL MENU
- b. CHANNEL STATUS
- c. ALERT LOG
- d. EXTERNAL INTERFACE SUMMARY

## e. SURVEILLANCE

The Default Scene is a minimum set of views displayed at preset locations that give the user an overall status of the system. The AMCS M&C position has up to two physical display monitors connected to a single processor. When two monitors are used, the first four views listed above are displayed on the left-hand monitor and the fifth view, Surveillance, is displayed on the right hand monitor. When a single monitor is used, the Surveillance view is not displayed unless explicitly requested.

When initial channel startup has completed, the AMCS Default Scene is presented with the **Sign On** dialog on top and focused. As in ATOP, a user must sign on with proper authority before any control commands can be issued. The **Default Scene** button on the **M&C Global Menu** can be used to re-display the Default Scene at its default location at any time.

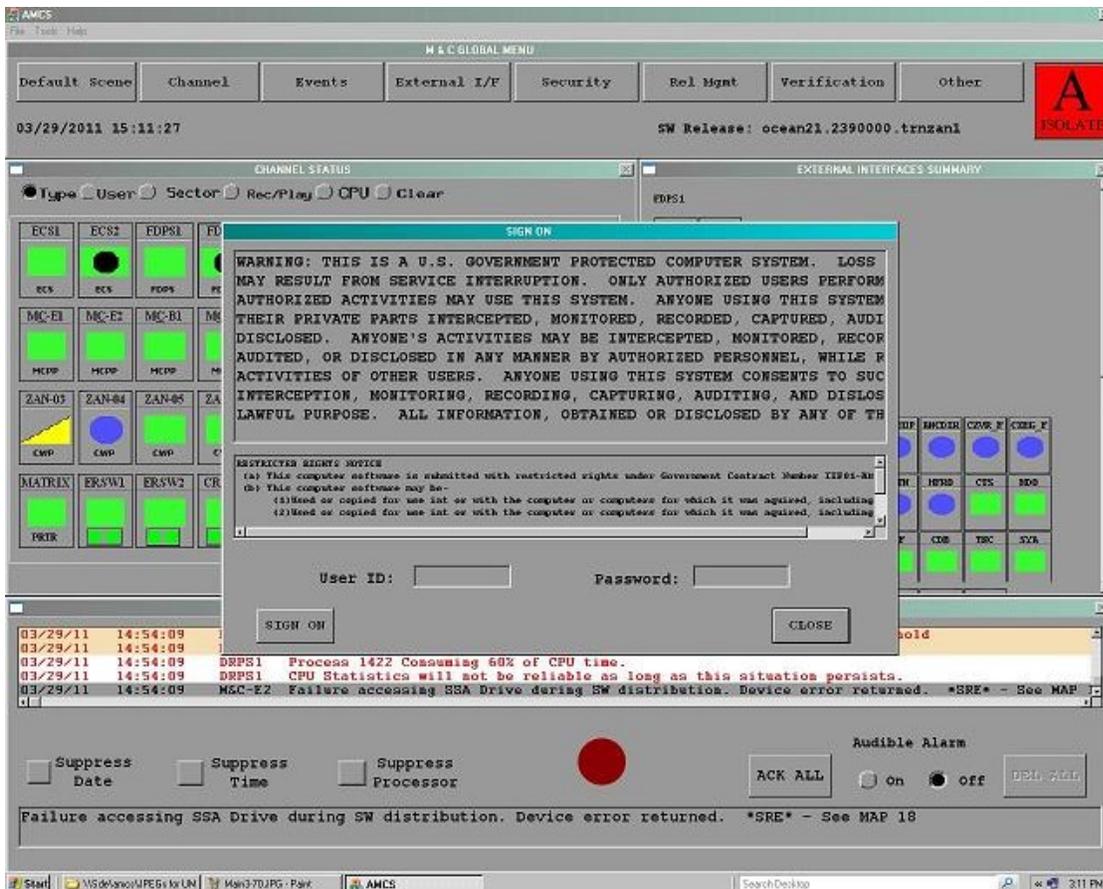


Figure 2.2.3-1, Default Scene with Sign On View

### 2.2.3.1 AMCS Window movement using F12 function key

Similar to the ATOP System, the user can move a window around on the display by selecting the window header or banner and dragging the window to a new location. In a dual monitor

configuration, the user can also move the view between monitors by using the **F12** function key to cause the view to jump to the other display monitor in the pair and then drag it to a new location. When only a single monitor is used, all views will appear on the one and only monitor.

### 2.2.3.2 Hardware Configuration Files

Upon initial installation, The AMCS currently provides six intuitively named hardware configuration files. These text based files reside in the directory “C:\AMCS\HDW“, on the AMCS processor and are named as follows:

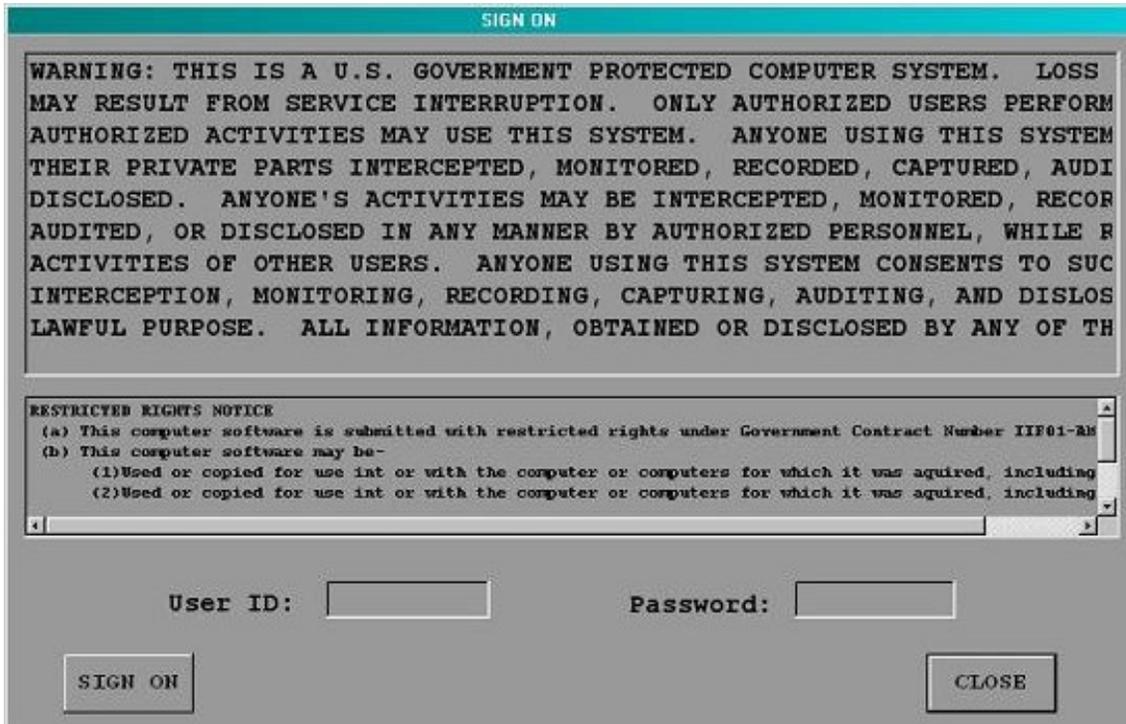
|           |           |           |
|-----------|-----------|-----------|
| ZAN_A.txt | ZNY_A.txt | ZOA_A.txt |
| ZAN_B.txt | ZNY_B.txt | ZOA_B.txt |

The data contained in these files was obtained from ATOP system engineers at the WJHTC. They may be used to emulate the appearance of the **Channel Status** view at each of the three Oceanic centers. The name of the file informs the user what site data is being used as well as the emulated operational channel identifier. When working with the provided AMCS training procedures, the student will be asked to make a specific configuration file selection based on what is required in the procedure. It is up to the student to correctly choose the version of the site hardware configuration file as appropriate to ensure that the AMCS operates as expected.

An example of the Hardware Configuration file is presented in Appendix A.

### 2.2.4 Sign-On View

The **Sign On** window as depicted in **Figure 2.2.4-1** allows the user to sign on to the AMCS M&C position. A user must be signed on before commands can be entered.



**Figure 2.2.4-1 Sign-On View**

The commands that can be entered once the user is signed on will depend upon the user's authorization level as assigned via the User Management view. In ATOP, each individual M&C position must be signed on to independently. AMCS only emulates one ATOP M&C position. Similar to ATOP, signing on to a position will automatically sign off any previous user on that position. The user must sign on each channel separately even if the channels are currently in active and backup modes.

### 2.2.5 M&C Global Menu View

The AMCS **M&C Global Menu** as shown in **Figure 2.2.5-1** is part of the Default Scene. It is automatically displayed and cannot be removed. It will always display on top of any overlapping window and cannot be moved. All AMCS window navigation starts at the **M&C Global Menu**. In addition to its window navigation function, the **M&C Global Menu** contains essential information needed to understand the current state of the system. The current software release is provided in the display area of this view as well as the Channel Identifier and the Mode of the currently displayed channel.

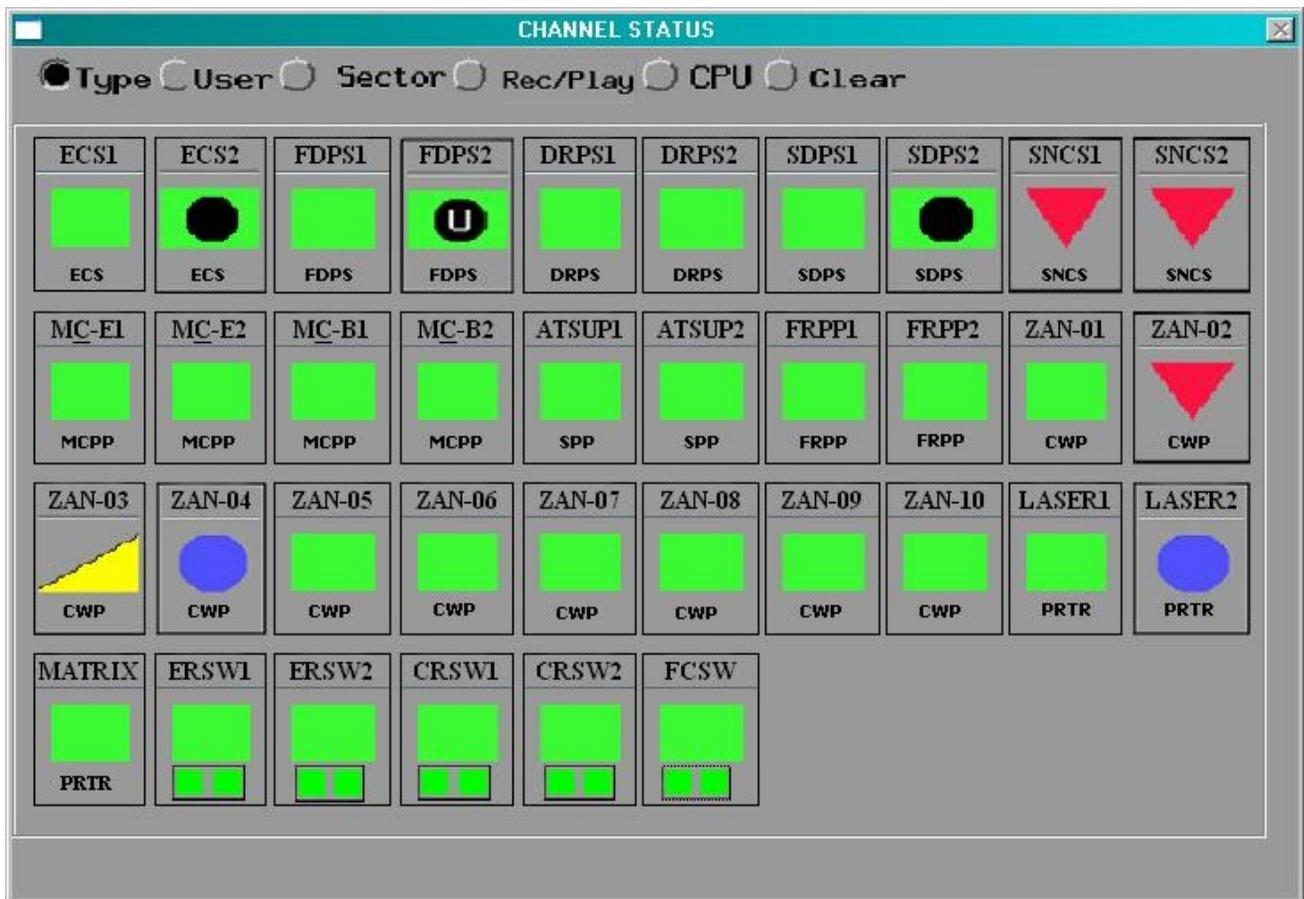


**Figure 2.2.5-1 M&C Global Menu View**

## 2.2.6 Channel Status View

The **Channel Status** view (**Figure 2.2.6-1**) is displayed as a part of the Default Scene. The Default Scene is displayed when a channel is started and at any time the **M&C Global Menu**'s **Default Scene** button is selected. The **Channel Status** view is also displayed by selecting the **Channel** button on the **M&C Global Menu** and then selecting **Channel Status**.

The **Channel Status** view contains an icon for every device (processor, printer, or switch) attached to the channel. Each icon contains the device's adapted name, the "rolled up" device status and a text field that contains information based on the category radio button selected at the top of the view. The status is updated automatically in the **Channel Status** view as device state changes are received or commanded. A right mouse click on any of the devices in the **Channel Status** view will present a popup menu with varied choices depending on the type and state of the device selected.



**Figure 2.2.6-1 Channel Status View**

## 2.2.7 Alert Log View

The **Alert Log** view is displayed as a part of the Default Scene. The Default Scene is displayed when a channel is started and at any time the **M&C Global Menu**'s **Default Scene** button is selected. The Alert Log view is also displayed when the **M&C Global Menu**'s **Events** button is

selected followed by the **Alert Log** menu item option.

The **Alert Log** view (**Figure 2.2.7-1**) contains a filtered set of events that are of special interest to or require attention from the user monitoring the system from the M&C position. These events have Emergency or Urgent severity in the Event Log window. A new alert is added to the bottom of the log and announced via both an audible alarm at the AMCS and flashing red circle on the Alert Log. Acknowledging the alert will stop both the audible alarm and remove the flashing red circle at the AMCS. If an alert arrives when the Alert Log is not being displayed, the audible alarm will still sound unless it has been disabled by the user. The Alert Log will be re-displayed on top and at its last location.



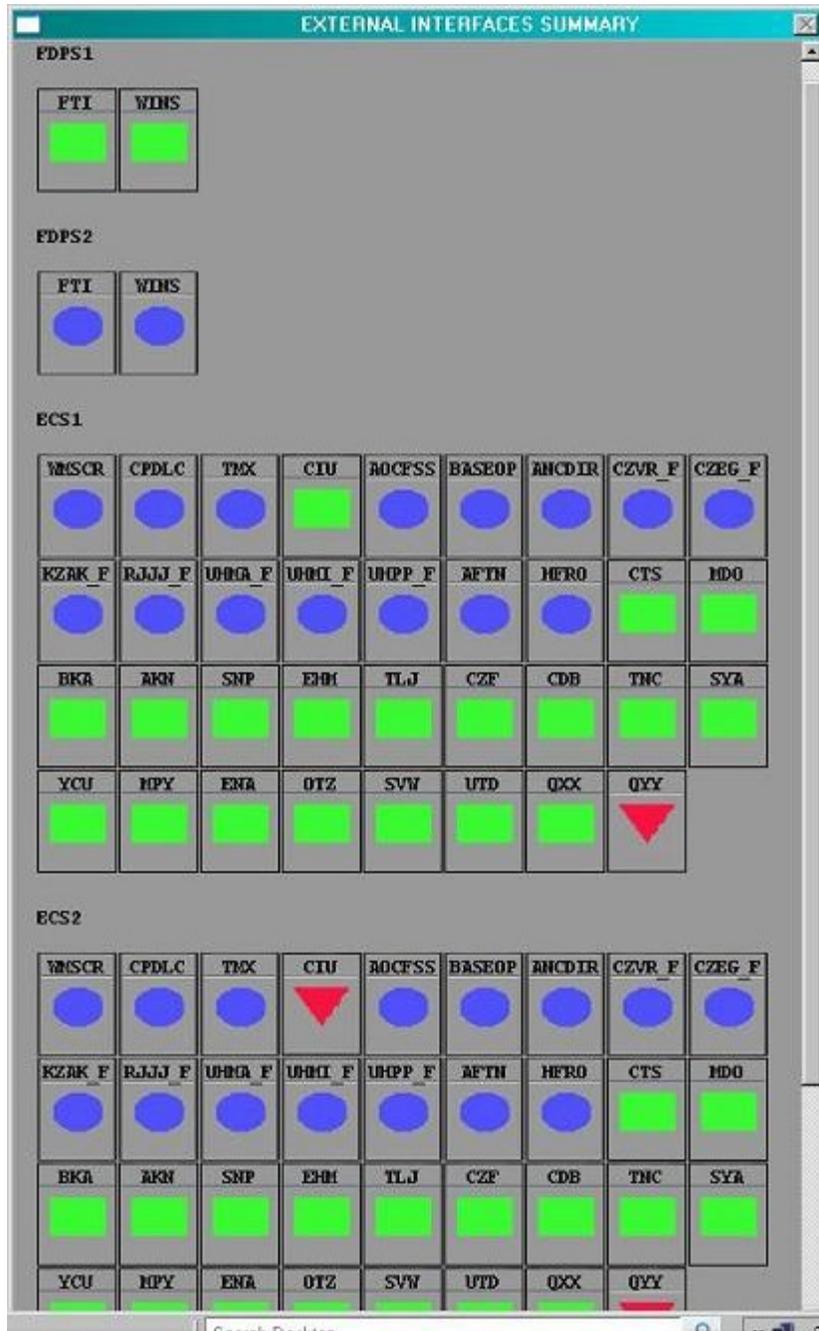
**Figure 2.2.7-1 Alert Log View**

Additionally, all of the command buttons at the bottom of the view are emulated correctly in that they will filter the Alert Log data as expected. The set of filter checkboxes include filters to allow suppression of the Date, Time, and Processor fields. The Alert messages may be acknowledged (ACK'd) and then deleted one at a time by using a right mouse click over the message; or they may all be acknowledged simultaneously by using the ACK ALL ("acknowledge all") and DEL ALL ("delete all") command buttons at the bottom of this view. The red circle at the bottom of the Alert Log view will blink when new alerts are received and an audible alarm will be heard via the PC speaker if the **Audible Alarm ON** radio button is selected.

## 2.2.8 External Interface Summary View

The **External Interfaces Summary** view (**Figure 2.2.8-1**) is displayed as a part of the Default Scene. The Default Scene is displayed when a channel is started and at any time the **M&C Global Menu's Default Scene** button is selected. The **External Interfaces Summary** view is also displayed when the **M&C Global Menu's External I/F** button is selected followed by the **External Interface Summary** menu item option.

The **External Interfaces Summary** view contains a summary icon for each external interface connected to the system through the pair of External Communication System (ECS) or Flight Data Processor System (FDPS) processors. These interfaces include adjacent facilities, radar sites, and NADIN II connected interfaces.



**Figure 2.2.8-1 External Interfaces Summary View**

The ECS processors operate as a pair with primary/secondary (i.e., active/non-active) interfaces reported at an interface level. The expected status for interfaces on a primary ECS is operational status (green square). The expected status for the secondary or non-active “X25” type interfaces is “unknown” status (blue circle). The Control Interface Unit (CIU) is always a “normal” status (green square) for the primary ECS and “down” (inverted red triangle) status for the secondary ECS. Radar icons do not indicate primary or secondary, since Radars can have multiple lines that can independently switch between primary and secondary. The Coded Time Source (CTS) is

primary on each ECS. The primary ECS processor switches which processor has the primary (active) interface as failures occur or user commands are entered. The user can force all the non-failed interfaces back to a single ECS processor by commanding the other ECS processor to stop (and then re-start as the backup). The user can force a single non-failed interface to the other ECS processor using the **Disable Interface** command after a right mouse click on the external interface icon.

The interface status reported is a roll-up of the detailed status received for each interface. The detailed statuses are shown in the **External Interfaces Detail** view. When all reported detail status is 'up', then the interface is reported up (green). If any or all parts of the interface detail status are reported 'down', then the interface status is down (Red). The one exception is for radar. Each radar interface has two or three separate ports per interface, therefore if the ports are a mixed status of up and down, then the radar status is degraded (Yellow). Radar status is only down when all ports are a down status.

The External Interfaces Summary window is displayed in its last location by pressing the External I/F button on the **M&C Global Menu** and selecting External I/F Summary or displayed in its initial position by reselecting Default Scene from the **M&C Global Menu** view.

#### 2.2.8.1 External Interfaces Configuration File

When the ECS pair first starts (e.g., after a channel startup), the External Interfaces configuration file is used to determine the interfaces accessible via the ECS. This file resides in the "C:\AMCS\EXT" directory on the AMCS processor. The file is linked to the selected hardware configuration file via the "EXTIF\_FILE:filename" keyword/keyvalue parameter contained in the selected hardware configuration file. In the default set of AMCS hardware configuration files, the external interface file name is one of the following names:

ZAN\_EXT\_IF.txt    ZNY\_EXT\_IF.txt    ZOA\_EXT\_IF.txt

The external interface file name depends on which hardware configuration file was selected prior to channel startup. An example of the External Interfaces file is presented in Appendix B.

#### 2.2.9 External Interface Detail View

The **External Interfaces Detail** view (**Figure 2.2.9-1**) is displayed when the **M&C Global Menu**'s **External I/F** button is selected followed by the **External Interface Detail** menu item option.

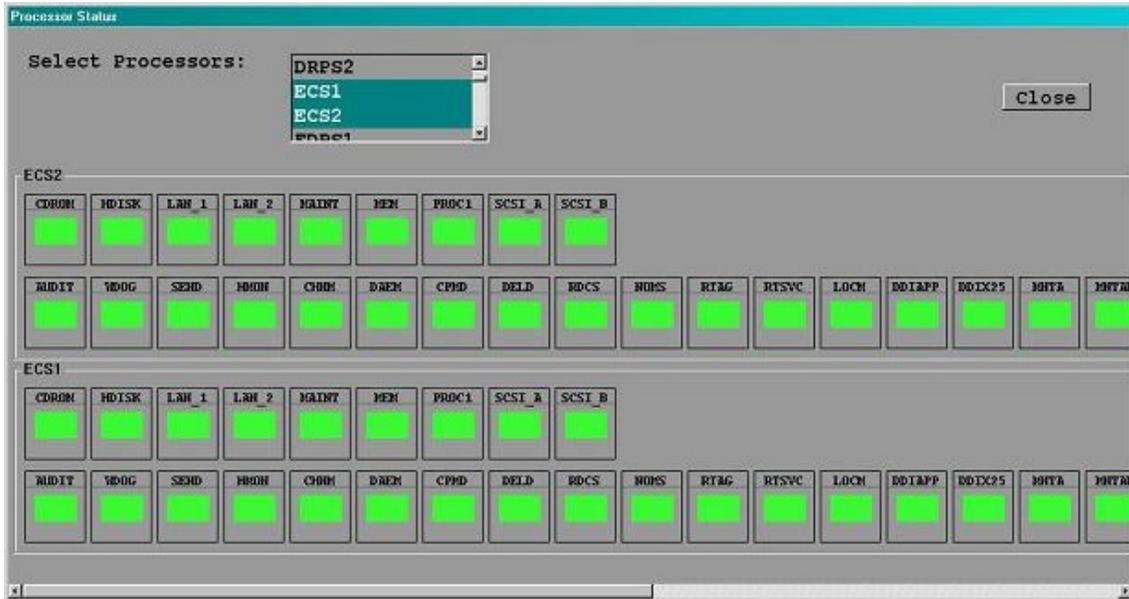
The **External Interface Detail** view contains detailed information for each external interface connected to the ECS1, ECS2, FDPS1, and FDPS2 devices (assuming that each device is in the hardware configuration). The report format requires that one row of detailed information represent the interface status on both the primary and secondary processor that it is connected to. In the case of radar interfaces with multiple ports, when all reported radar port status is 'up', the interface summary status is reported up. If all of the interface ports are reported down, the interface summary status is down.

| EXTERNAL INTERFACES DETAIL |         |      |     |              |     |      |     |              |      |     |      |     |    |      |      |      |
|----------------------------|---------|------|-----|--------------|-----|------|-----|--------------|------|-----|------|-----|----|------|------|------|
| Name                       | Type    | SVR  | Ext | FDPS1 - ECS1 |     |      |     | FDPS2 - ECS2 |      |     |      |     |    |      |      |      |
|                            |         |      |     | Msg Counts   |     | Conn | Rmt | HW           | Link | Act | Conn | Rmt | HW | Link |      |      |
|                            |         |      |     | In           | Out |      |     |              |      |     |      |     |    |      | Card | Port |
| FTI                        | LAN     | FDPS | UP  | -            | -   | -    | -   | -            | -    | -   | -    | A   | 1  | -    | -    | UP   |
| WINS                       | LAN     | FDPS | UP  | -            | -   | -    | -   | -            | -    | -   | -    | A   | 1  | -    | -    | UP   |
| WMSCR                      | X25     | ECS  | UN  | -            | -   | -    | -   | -            | -    | -   | -    | -   | -  | -    | -    | -    |
| CPDLC                      | X25     | ECS  | UN  | -            | -   | -    | -   | -            | -    | -   | -    | -   | -  | -    | -    | -    |
| TMX                        | ETMS    | ECS  | UN  | -            | -   | -    | -   | -            | -    | -   | -    | -   | -  | -    | -    | -    |
| CIU                        | CIU     | ECS  | UP  | -            | -   | A    | -   | -            | UP   | UP  | -    | D   | -  | -    | -    | -    |
| AOCFSS                     | AFTN    | ECS  | UN  | -            | -   | -    | -   | -            | -    | -   | -    | -   | -  | -    | -    | -    |
| BASEOP                     | AFTN    | ECS  | UN  | -            | -   | -    | -   | -            | -    | -   | -    | -   | -  | -    | -    | -    |
| ANCDIR                     | FDP2000 | ECS  | UN  | -            | -   | -    | -   | -            | -    | -   | -    | -   | -  | -    | -    | -    |
| CZVR_F                     | AFTN    | ECS  | UN  | -            | -   | -    | -   | -            | -    | -   | -    | -   | -  | -    | -    | -    |
| CZEG_F                     | AFTN    | ECS  | UN  | -            | -   | -    | -   | -            | -    | -   | -    | -   | -  | -    | -    | -    |
| KZAK_F                     | AFTN    | ECS  | UN  | -            | -   | -    | -   | -            | -    | -   | -    | -   | -  | -    | -    | -    |
| RJJJ_F                     | AFTN    | ECS  | UN  | -            | -   | -    | -   | -            | -    | -   | -    | -   | -  | -    | -    | -    |
| UHNA_F                     | AFTN    | ECS  | UN  | -            | -   | -    | -   | -            | -    | -   | -    | -   | -  | -    | -    | -    |
| UHNI_F                     | AFTN    | ECS  | UN  | -            | -   | -    | -   | -            | -    | -   | -    | -   | -  | -    | -    | -    |
| UHFP_F                     | AFTN    | ECS  | UN  | -            | -   | -    | -   | -            | -    | -   | -    | -   | -  | -    | -    | -    |
| AFTN                       | X25     | ECS  | UN  | -            | -   | -    | -   | -            | -    | -   | -    | -   | -  | -    | -    | -    |
| HFRO                       | AFTN    | ECS  | UN  | -            | -   | -    | -   | -            | -    | -   | -    | -   | -  | -    | -    | -    |
| CTS                        | CTS     | ECS  | UP  | -            | -   | A    | 1   | 3            | UP   | UP  | -    | 1   | 3  | UP   | UP   | UP   |
| HDO1                       | CD      | ECS  | UP  | -            | -   | A    | 1   | 3            | UP   | UP  | -    | 1   | 3  | UP   | UP   | UP   |
| BKA1                       | CD      | ECS  | UP  | -            | -   | A    | 1   | 3            | UP   | UP  | -    | 1   | 3  | UP   | UP   | UP   |
| AKN1                       | MAR     | ECS  | UP  | -            | -   | A    | 1   | 3            | UP   | UP  | -    | 1   | 3  | UP   | UP   | UP   |
| AKN2                       | MAR     | ECS  | UP  | -            | -   | A    | 1   | 3            | UP   | UP  | -    | 1   | 3  | UP   | UP   | UP   |
| SNE1                       | CD      | ECS  | UP  | -            | -   | A    | 1   | 3            | UP   | UP  | -    | 1   | 3  | UP   | UP   | UP   |
| EHM1                       | MAR     | ECS  | UP  | -            | -   | A    | 1   | 3            | UP   | UP  | -    | 1   | 3  | UP   | UP   | UP   |
| EHM2                       | MAR     | ECS  | UP  | -            | -   | A    | 1   | 3            | UP   | UP  | -    | 1   | 3  | UP   | UP   | UP   |
| TLJ1                       | MAR     | ECS  | UP  | -            | -   | A    | 1   | 3            | UP   | UP  | -    | 1   | 3  | UP   | UP   | UP   |
| TLJ2                       | MAR     | ECS  | UP  | -            | -   | A    | 1   | 3            | UP   | UP  | -    | 1   | 3  | UP   | UP   | UP   |
| CZF1                       | MAR     | ECS  | UP  | -            | -   | A    | 1   | 3            | UP   | UP  | -    | 1   | 3  | UP   | UP   | UP   |
| CZF2                       | MAR     | ECS  | UP  | -            | -   | A    | 1   | 3            | UP   | UP  | -    | 1   | 3  | UP   | UP   | UP   |
| CDB1                       | MAR     | ECS  | UP  | -            | -   | A    | 1   | 3            | UP   | UP  | -    | 1   | 3  | UP   | UP   | UP   |
| CDB2                       | MAR     | ECS  | UP  | -            | -   | A    | 1   | 3            | UP   | UP  | -    | 1   | 3  | UP   | UP   | UP   |

Figure 2.2.9-1 External Interfaces Detail View

### 2.2.10 Processor Status View

The **Processor Status** view (Figure 2.2.10-1) is displayed when the **M&C Global Menu**'s **Channel** button is selected followed by the **Processor Status** menu item option. The **Processor Status** view may also be displayed by using the **Processor Status View** option on the **Channel Status View** device right mouse click menu. The **Processor Status** view contains a **Select Processors** list box with all of the processors available to be selected from it and another frame used to display the hardware and software elements of the selected processor. More than one processor may be selected to show details as depicted in Figure 2.2.10-1.



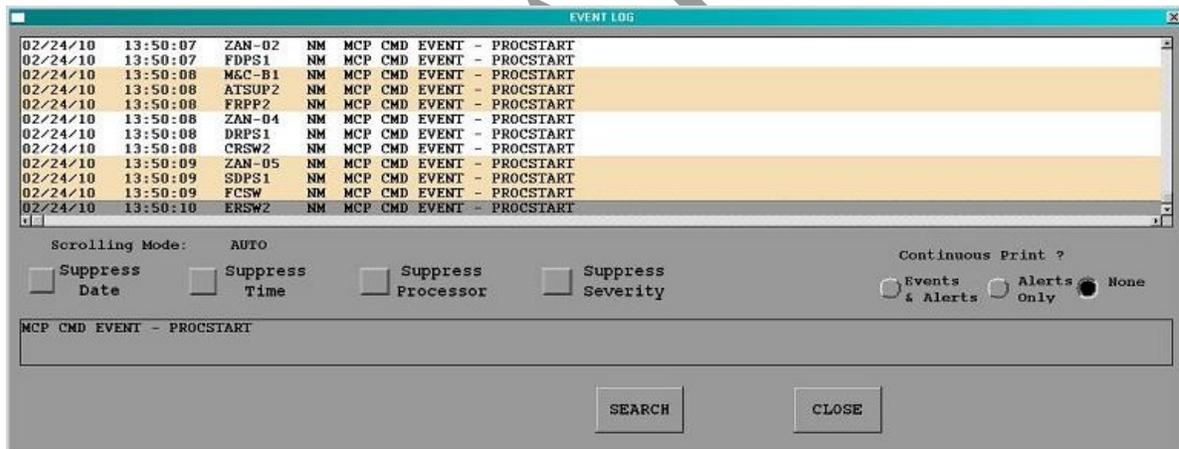
**Figure 2.210-1 Processor Status View**

The **Processor Status** view contains an icon with the name and status of each reporting hardware and software element on the selected processor. For each processor, the hardware icons are displayed on the first line and the software icons are displayed on the second line. Each icon represents a hardware or software element within the selected processor. All element status is unknown (blue circle) initially. Once reported, the element status shown is always the last reported status. When a processor is either reported DOWN or is commanded DOWN, all of the processor's software and hardware elements are reported as DOWN in the Processor Status window. The hardware and software elements defined for a processor can be found in the "C:\AMCS\ADP\AMCS\_Proc\_Elements.txt" file on the AMCS processor. Regardless of site, there is only one AMCS\_Proc\_Elements.txt file.

## 2.2.11 Event Log View

The **Event Log** view (**Figure 2.2.11-1**) is displayed when the **M&C Global Menu**'s **Events** button is selected followed by the **Event Log** menu item option. The **Event Log** view will be displayed on the right monitor of a two monitor AMCS system and on the only monitor in a single monitor AMCS system.

The Event Log contains all noteworthy system events including all state changes, M&C commands and command responses, and security related events. All entries sent to the Alert Log are also copied to the Event Log. New events are placed at the bottom of the Event Log. If the user has scrolled away from the bottom of the log, then the arrival of a new alert does not cause the window to scroll and the Scrolling Mode is displayed as "Manual". The Scrolling Mode is displayed as "Auto" if the user is viewing the bottom of the list (i.e., the most recently added event). When viewing the bottom of the list and a new event arrives, if there are more events than can be seen in the window, the top event is scrolled off when the new event is added at the bottom of the list. Events that are also alerts are displayed with their severity field coded in red. All other events are displayed in the default text color. Additionally, all of the command buttons at the bottom of the view are emulated correctly in that they will filter the Event Log data as expected. The set of filter checkboxes include filters to allow suppression of the **Date**, **Time**, **Processor**, and **Severity** fields.



**Figure 2.2.11-1 Event Log View**

### 2.2.11.1 Event Log Query View

The **Event Log Query** view (**Figure 2.2.11.1-1**) is accessed via the **SEARCH** command button on the **Event Log** view. It allows the student to filter Event Log data based on certain criterion. This view presents a Start and Stop Date and Time, Severity, Processor and Text field to be used as filters. The ATOP system allows all these fields as filters while the AMCS only implements the Severity and Processor filter fields. In either system, when the **APPLY** command button is selected on this view, the selected filters are used to present only the requested messages in a new form called the **Event Log Query Result** view which is very similar to the **Event Log**

view.

EVENT LOG QUERY

Start Date Time: 02/23/10 14 31

Stop Date Time: 02/24/10 14 31

Severity: ALL

Processor: ALL

Text: Not available in AMCS

APPLY CLOSE

Figure 2.2.11.1-1 Event Log Query View

### 2.2.11.2 Event Log Query Result View

The **Event Log Query Result** view (Figure 2.2.11.2-1) is displayed when the **APPLY** button is selected on the **Event Log Query** view as described above. It is nearly functionally equivalent to the **Event Log** view without the radio buttons and **SEARCH** command button. The **PRINT** command button on this view is not implemented in the AMCS.

Event Log Query Result

|          |          |        |    |                           |
|----------|----------|--------|----|---------------------------|
| 02/24/10 | 13:50:08 | M&C-B1 | NM | MCP CMD EVENT - PROCSTART |
| 02/24/10 | 13:50:08 | ATSUP2 | NM | MCP CMD EVENT - PROCSTART |
| 02/24/10 | 13:50:08 | FRPP2  | NM | MCP CMD EVENT - PROCSTART |
| 02/24/10 | 13:50:08 | ZAN-04 | NM | MCP CMD EVENT - PROCSTART |
| 02/24/10 | 13:50:08 | DRPS1  | NM | MCP CMD EVENT - PROCSTART |
| 02/24/10 | 13:50:08 | CRSW2  | NM | MCP CMD EVENT - PROCSTART |
| 02/24/10 | 13:50:09 | ZAN-05 | NM | MCP CMD EVENT - PROCSTART |
| 02/24/10 | 13:50:09 | SDPS1  | NM | MCP CMD EVENT - PROCSTART |
| 02/24/10 | 13:50:09 | FCSW   | NM | MCP CMD EVENT - PROCSTART |

Suppress Date     Suppress Time     Suppress Processor     Suppress Severity

MCP CMD EVENT - PROCSTART

PRINT CLOSE

Figure 2.2.11.2-1 Event Log Query Result View

## 2.2.12 User Account Management View

The **User Management** dialog (**Figure 2.2.12-1**) is displayed by pressing the **Security** button on the M&C Global Menu and selecting the **User Management** menu item from the list of choices. A user must have security authorization to access the **User Management** window. The **User Management** view is used to add, modify, delete, find, and list ATOP user information such as Authorization levels, password expiration dates, account locked state information, and reset passwords for non authorized users.

The screenshot shows a window titled "USER MANAGEMENT" with a close button in the top right corner. The window contains the following elements:

- ACTION:** A dropdown menu currently set to "ADD".
- Authorization:** A dropdown menu with the following options: LIA\_ASSISTANT, LIA\_CONTROLLER, LIA\_DATA\_REPAIR, and LIA\_NAS\_NOM.
- USER ID:** A text input field.
- LOCKED:** A checkbox.
- USER'S NAME:** A text input field.
- PASSWORD:** A text input field.
- PW EXPIRATION DATE:** A text input field.
- PW CONFIRM:** A text input field.

At the bottom of the window, there are four buttons: "OK", "APPLY", "CLEAR", and "CLOSE".

**Figure 2.2.12-1 User Management View**

### 2.2.13 Release Management Views

The **Release Management** views (**List**, **Distribution**, and **Deletion**) are displayed by pressing the **Rel Mgmt** button on the **M&C Global Menu** and selecting the appropriate menu item from the list of choices. They may also be displayed by right mouse clicking on a specific processor in the **Channel Status** view and selecting the appropriate menu item.

The **Release Distribution** view and **Release Deletion** view are used to distribute releases to all processors on a channel, distribute to a single processor, delete a release from all processors on a channel, or delete a release on a specific processor. The status of release distribution and deletion is reported to the Event Log.

The release management (distribution and deletion) process is the same for each release in ATOP. Once commenced, a release distribution must complete before a subsequent distribution can be started. To ensure this sequential processing, the distribution submittal buttons on each of the release management windows are 'grayed out' while a release management function is still in progress. In ATOP, release management command restrictions prevent the user from issuing release management commands to any processor actively participating in ATC operations. This prevents any potential impact release management might have on ATC operations. However, for the AMCS, potential impact on ATC operations is not a concern since ATOP Monitor and Control is the only function being emulated.

#### 2.2.13.1 Distributed Releases View

The **Distributed Releases** view (**Figure 2.2.13.1-1**) is displayed when the student selects the **List Distributed Releases** menu item using either of the methods described in the previous section. This view is used to display the distributed releases on the requested processors that are attached to the channel.

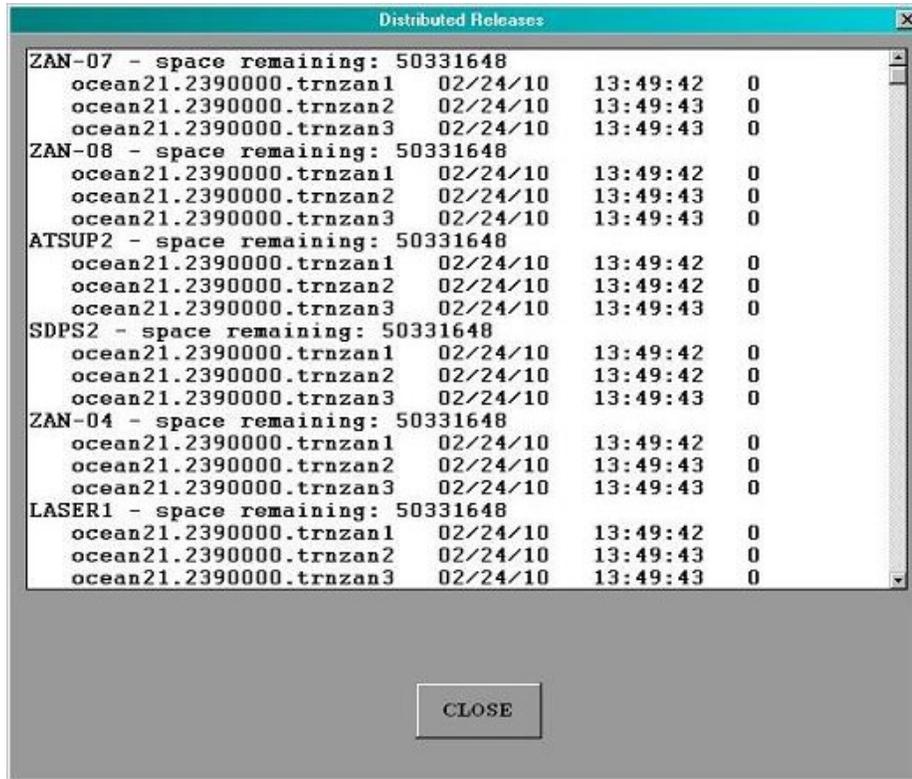


Figure 2.2.13.1-1 Distributed Releases View

### 2.2.13.2 Release Distribution View

The **Release Distribution** view (Figure 2.2.13.2-1) is displayed when the student selects the **Release Distribution** menu item using either of the methods described above. This view is used to select a release from a list of available releases to be distributed to the specified processor.

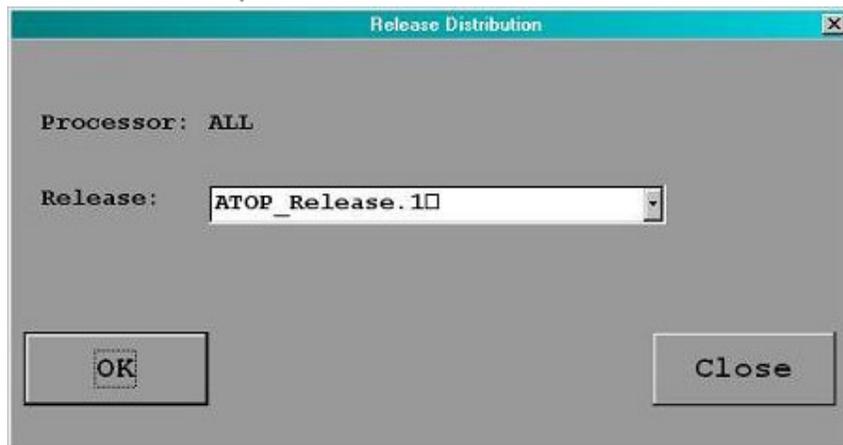


Figure 2.2.13.2-1 Release Distribution View

### 2.2.13.3 Release Deletion View

The **Release Deletion** view (2.2.13.3-1) is displayed when the student selects the **Release Deletion** menu item using either of the methods described above. This view is used to select a release from a list of previously distributed releases so that it can be deleted from the specified processor.

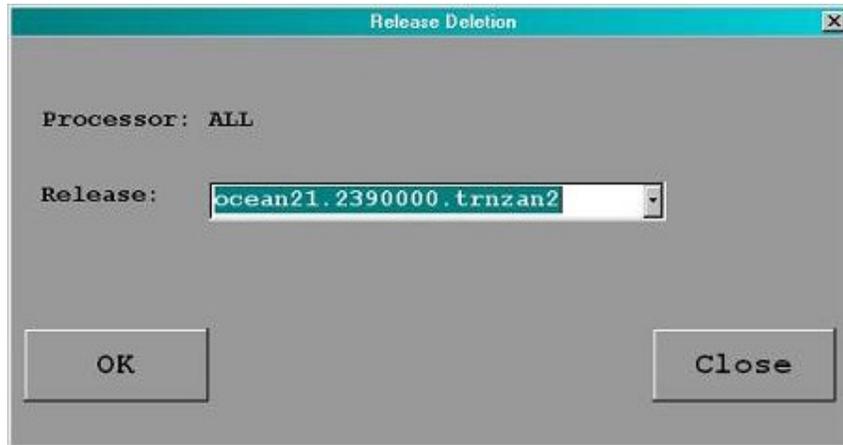


Figure 2.2.13.3-1 Release Deletion View

### 2.2.14 Surveillance View

The **Surveillance Processing** view (Figure 2.2.14-1) is displayed by pressing the **External Interface I/F** button on the **M&C Global Menu** and selecting the **Surveillance Processing** menu item from the list of choices. In ATOP, this window is used to monitor Micro-EARTS, which interprets radar and ADS-B data and sends it to the oceanic system. This view is divided into three distinct areas.

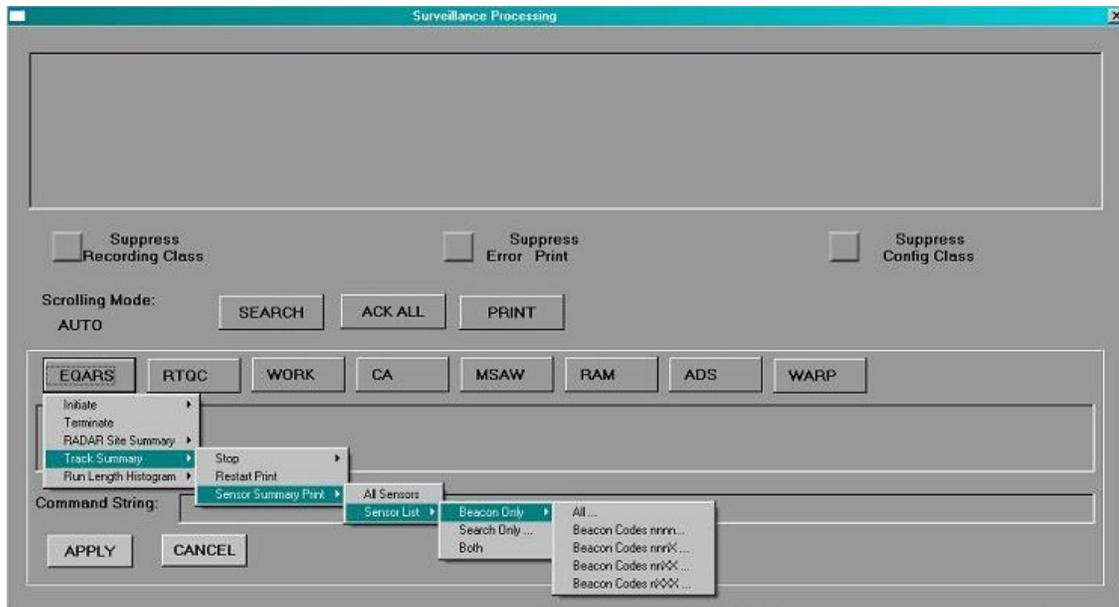
The largest area, which is on the top part of the view, is the MEARTS message area. Whenever MEARTS sends text messages for display, they appear in this area. New text is added to the bottom and old text scrolls off the top of the viewing area.

The user has the ability to scroll to view some of the older data. When the window is scrolled to look at older data, the **Scrolling Mode** changes to "Manual"; when the user is viewing current data, the **Scrolling Mode** is set to "Auto". In ATOP, if the user has scrolled into "Manual" mode, after a period of time without scrolling (currently five minutes), the scrolling mode is returned to "Auto". This design keeps the most current data displayed. Note that this DOES NOT currently occur in the AMCS. Once set to "Manual" mode, Scrolling Mode will not automatically return to "Auto" mode. Additionally, the **PRINT** capability was not implemented in the AMCS application.

The **Command String** area is used for command composition. Commands are issued to:

- Enable/disable periodic reports

- Request summary data
- Enable/disable EARTS functions



**Figure 2.2.14-1 Surveillance View**

Command composition is accomplished via a series of selection menus starting with selection of one of the Command Menu selection buttons. When a Command Menu selection button is selected, the **Command String** area is cleared (i.e. any incomplete or non-entered command is erased) and the appropriate syntax is echoed for the current selection. As each sub-menu selection is made, the associated command syntax is echoed in the **Command String** area. As the user continues through the layers of cascading menus, the command syntax will grow with each selection until a complete command is composed.

The user can compose the entire command via menu selections or can enter all or some of the parameters via the keyboard in the **Command String** area. At this time, when erroneous commands are entered via the **APPLY** button or the ENTER key on the keyboard there are no AMCS system responses displayed in the third window area, the **Command Response Feedback** area. Although not fully functional, the AMCS **Surveillance Processing** view will allow the trainee to examine automatically created messages as a result of command buttons and sub menu selections.

## 2.2.15 Channel Management View

The **Channel Management** view (**Figure 2.2.15-1**) is displayed by pressing the **Channel** button on the **M&C Global Menu** and selecting the **Channel Management** menu item from the list of choices. The **Channel Management** view specifies the currently display channel and the current mode of the channel and allows the user to change the mode if necessary. Certain channel mode changes are commanded while others are directed as a result of a channel mode change of the alternative channel. Sometimes channel mode changes are enabled or disabled depending upon whether or not the ATOP Synch Server Processors are operational. This view functions exactly like the ATOP- equivalent view.



**Figure 2.2.15-1 Channel Management View**

## 2.2.16 RMT2 Channel Switch View

The **RMT2 Channel Switch** (Figure 2.2.16-1) view is displayed by pressing the <F1> key at any time while the AMCS is running. The Channel Switch is an AMCS-only view and represents the physical ATOP channel switch device that is co-located with the ATOP M&C. When this view is displayed, the user may switch the M&C monitor(s) from one channel to the other by selecting the appropriate radio button labeled “Channel A” or “Channel B”. The RMT2 CHANNEL SWITCH view will be displayed until a selection is made. Once a radio button is selected, the view will automatically be removed after 2 seconds.



Figure 2.2.16-1 Channel Switch View

### 2.2.17 Change Password View

The **Change Password** view (**Figure 2.2.17-1**) is accessed by pressing the **Security** button on the **M&C Global Menu** and selecting the **Change Password** menu item from the list of choices. This view functions exactly like the ATOP equivalent view.



The image shows a dialog box titled "CHANGE PASSWORD" with a close button (X) in the top right corner. The dialog box has a grey background and contains four text input fields, each preceded by a label: "User ID:", "Old Password:", "New Password:", and "Confirmation:". At the bottom of the dialog box, there are two buttons: "OK" on the left and "CLOSE" on the right.

**Figure 2.2.17-1 Change Password View**

## 2.2.18 Global Menu Navigation

The **Global Menu** view provides the primary navigation methods of the ATOP and AMCS system. The **Global Menu** view of both systems is identical in appearance and operation. The **Global Menu** view contains 8 command buttons. They are labeled as follows and will be described in more detail in the following sections.

- **Default Scene**
- **Channel**
- **Events**
- **External I/F**
- **Security**
- **Rel Mgmt**
- **Verification**
- **Other**



Figure 2.2.18-1 M&C Global Menu View

### 2.2.18.1 Default Scene

The **Default Scene** command button has no submenu and when selected causes the set of windows defined to be in the Default Scene to be (re)displayed at their original default positions regardless of where they may have been moved to or even if previously closed.

## 2.2.18.2 Channel

The **Channel** command button has a submenu (**Figure 2.2.18.2-1**) with the following menu items.

- **Channel Status** - displays the Channel Status view
- **Processor Status** - displays the Processor Status view
- **Channel Management** - displays the Channel Management view
- **Stop Channel** - requires confirmation to command the Channel to Stop
- **GI to All** - this capability is not implemented in AMCS



**Figure 2.2.18.2-1 Channel Menu**

### 2.2.18.3 Events

The **Events** command button has a submenu (**Figure 2.2.18.3-1**) with the following menu items.

- **Event Log** - displays the Event Log view
- **Alert Log** - displays the Alert Log view



**Figure 2.2.18.3-1 Events Menu**

## 2.2.18.4 External Interfaces

The **External I/F** command button has a submenu (**Figure 2.2.18.4-1**) with the following menu items.

- **External I/F Summary** - displays the External I/F Summary view
- **External I/F Detail** - displays the External I/F Detail view
- **Surveillance Processing** - displays the Surveillance Processing view
- **ABS-B/WARP** - this capability is not implemented in AMCS

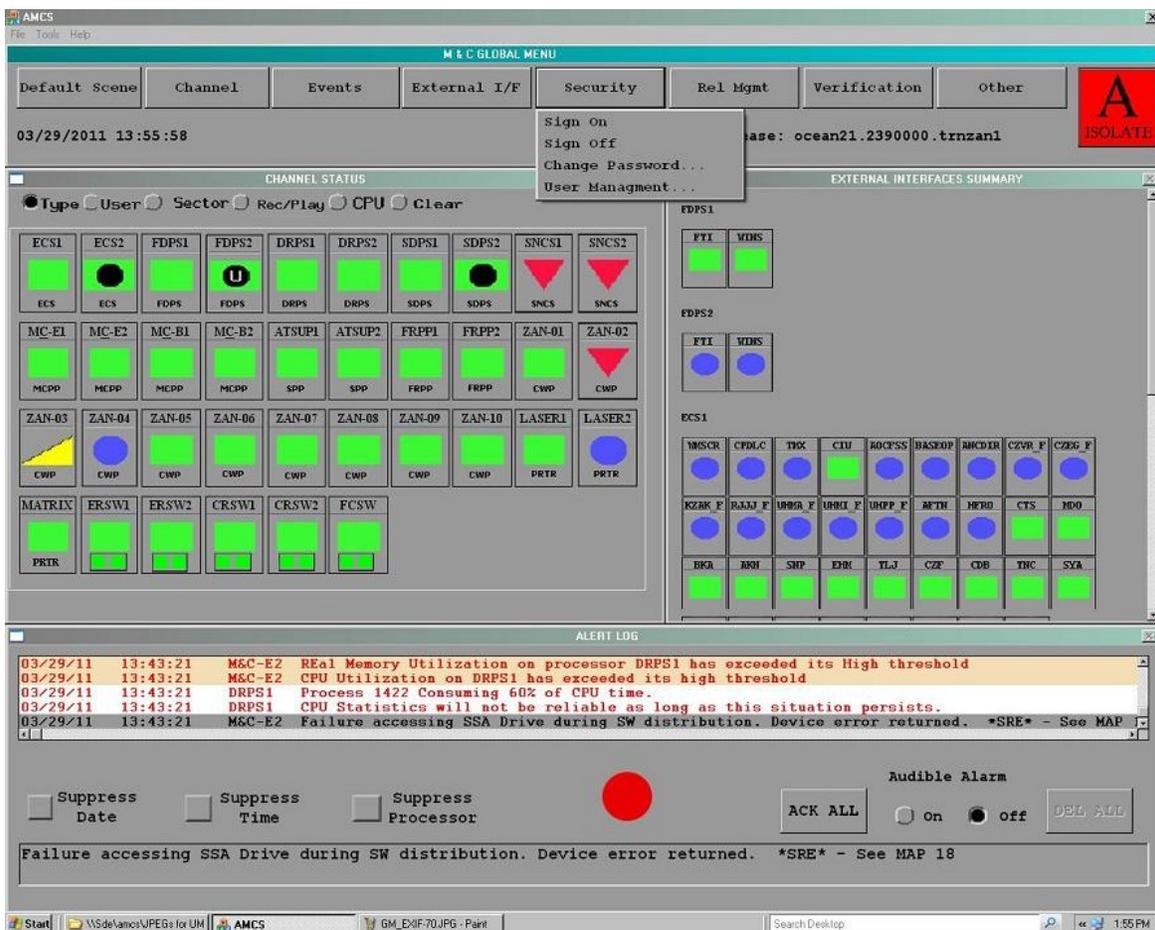


Figure 2.2.18.4-1 External I/F Menu

## 2.2.18.5 Security

The **Security** command button has a submenu (**Figure 2.2.18.5-1**) with the following menu items.

- **Sign On** - displays the Sign On view
- **Sign Off** - requires confirmation to sign off of the AMCS M&C
- **Change Password** - displays the Change Password view
- **User Management** – displays the User Management view

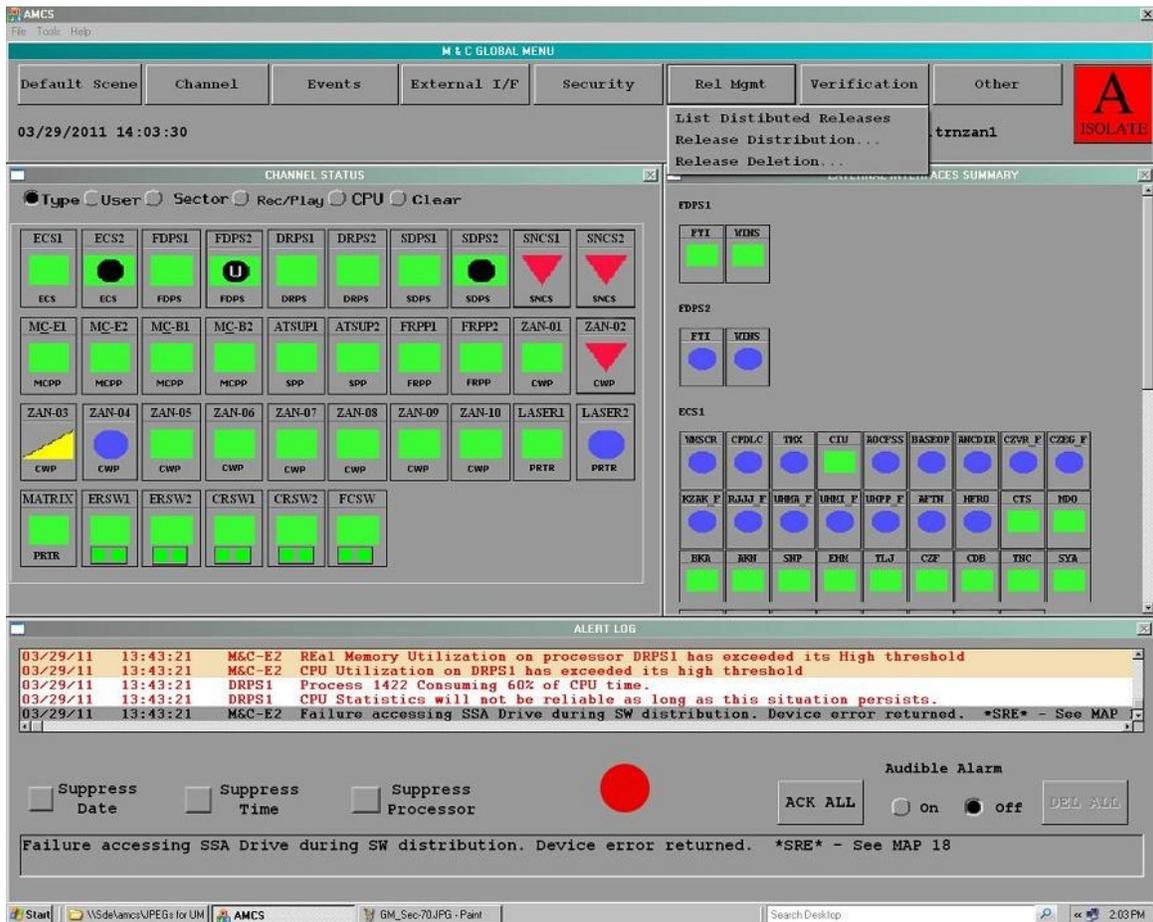


**Figure 2.2.18.5-1 Security Menu**

## 2.2.18.6 Release Management

The **Rel Mgmt** command button has a submenu (**Figure 2.2.18.6-1**) with the following menu items.

- **List Distributed Releases** - displays the Distributed Releases view
- **Release Distribution** - displays the Release Distribution view
- **Release Deletion** - displays the Release Deletion view



**Figure 2.2.18.6-1 Release Management Menu**

## 2.2.18.7 Verification

The Verification command button has a submenu (Figure 2.2.18.7-1) with the following menu items.

- **Simulation Verification Tool** – displays the Simulation Verification view
- **Operational EXercisor (OPEX)** – displays the OPEX view
- **Scripted Commands** - displays the Scripted Commands view



Figure 2.2.18.7-1 Verification Menu

## 2.2.18.8 Other

The Other command button has a submenu (**Figure 2.2.18.8-1**) with the following menu items.

- **SAR Gates** – displays the SAR Gates view
- **VSPs** – displays the VSPs view
- **NetView Topology** - this capability is not implemented in AMCS
- **Command Line** - this capability is not implemented in AMCS
- **Xterm** - this capability is not implemented in AMCS
- **View Load Status** – displays the Channel Status view
- **Current System** - this capability is not implemented in AMCS



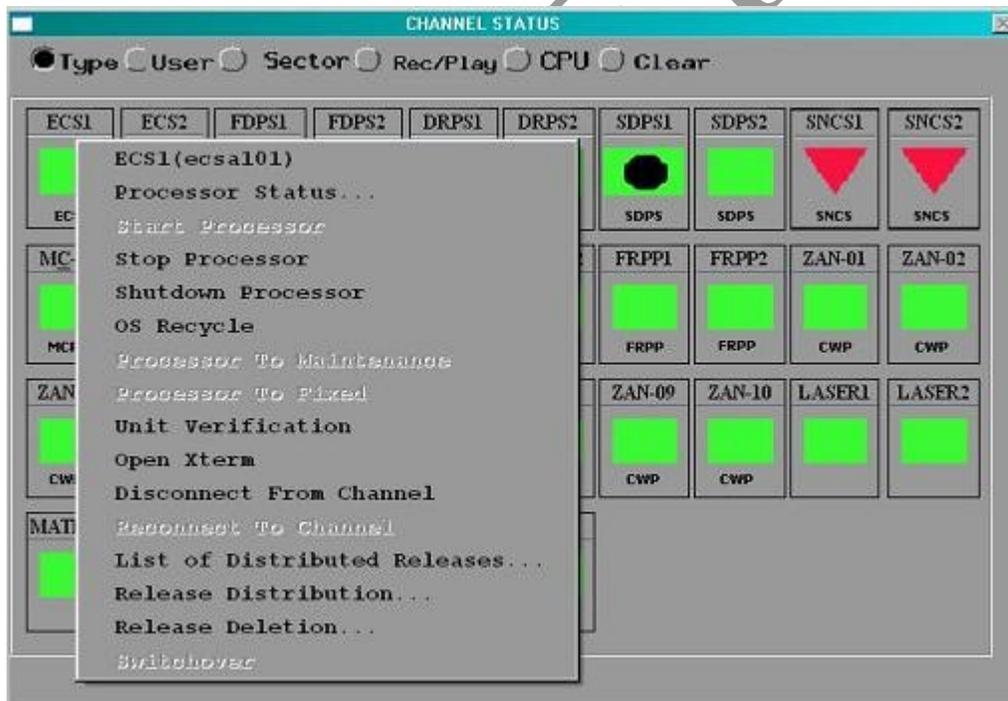
**Figure 2.2.18.8-1 Other Menu**

## 2.2.19 Other Popup Menus

Other popup menus used to provide functionality and capability are displayed when a right mouse click is entered over a device icon in the **Channel Status** view, over an external interface icon in the **External Interface Summary** view, or over a software or hardware element in the **Processor Status** view. The contents of these popup menus are described below. Each menu item will indicate whether or not the associated functionality has been implemented in the AMCS.

### 2.2.19.1 Channel Status View Popup Menu

The **Channel Status** view popup menu (**Figure 2.2.19.1-1**) will appear to have different contents depending on which device icon the right mouse click is presented on. There are a number of base menu items which are common to all device types. They will be presented first followed by the unique menu items associated with the various device icon types. Additionally, some of the menu item entries will appear enabled or disabled depending on the state of the device selected when the right mouse click is performed.



**Figure 2.2.19.1-1 Channel Status View Popup Menu**

The **Channel Status** view popup menu always contains the following items:

- **Processor Status** – displays the Processor Status view for the selected device
- **Start Processor** – causes the selected processor to load and transition to OPER
- **Stop Processor** – causes the selected processor to stop and transition to DOWN
- **OS Recycle** – causes selected processor to recycle and transition DOWN/OPER

- **Proc To Maintenance** – causes the processor to stop and transition to MAINT
- **Proc To Fixed** – causes the processor to stop and transition to Fixed
- **Unit Verification** – displays the Unit Verification view for the selected processor
- **Open Xterm** – this function is not implemented in AMCS
- **Disconnect from Channel** – this function is not implemented in AMCS
- **Reconnect to Channel** – this function is not implemented in AMCS
- **List Distributed Releases** – causes the Distributed Releases view to appear for the selected processor
- **Release Distribution** – causes the Release Distribution view to appear for the selected processor
- **Release Deletion** – causes the Release Deletion view to appear for the selected processor

The **Channel Status** view popup menu may also contain the following unique menu item entries depending on the processor or device type.

*[ECS or SDPS or Sync Server]*

- **Switchover** – causes switchover of the SAS processor to a PAS processor.

*[CWP or M&C or ATSUP]*

- **GI Message** – this function is not implemented in AMCS

*[FDPS]*

- **List of Distributed Scenarios** – this function is not implemented in AMCS

*[DRPS]*

- **Display Record/Playback Window** – this function is not implemented in AMCS
- **Playback from Other Media Window** – this function is not implemented in AMCS

*[CWP only]*

- **Enable Display Playback** – this function is not implemented in AMCS

*[Synch Server (SS)]*

- **Initialize Sync Server Pair** – initializes the SS pair
- **Stop Sync Server Pair** – stops the SS pair
- **Print Test Strips** – this function is not implemented in AMCS
- **Print Blank Strips** – this function is not implemented in AMCS
- **Print Strips** – this function is not implemented in AMCS
- **Reconstitute Synchronization Data** – this function is not implemented in AMCS
- **Clear Synchronization Data** – this function is not implemented in AMCS

### 2.2.19.2 External Interface Summary View Popup Menu

The **External Interface Summary** view popup menu (**Figure 2.2.19.2-1**) will appear to have

different contents depending on which interface icon the right mouse click is presented on. There are a number of base menu items which are common to all interface types. They will be presented first.

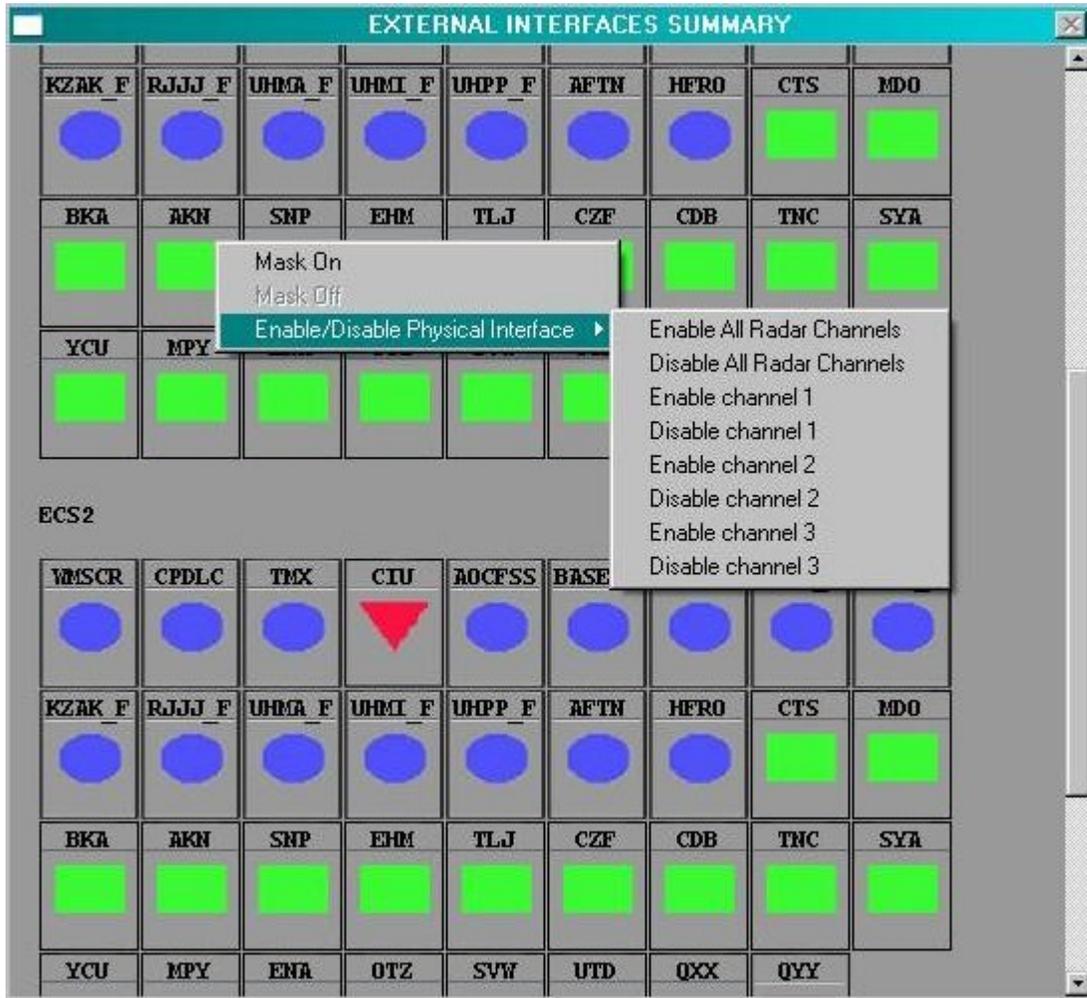


Figure 2.2.19.2-1 External Interfaces Summary View Popup Menu

Base Menu Items:

- **Mask On** – causes the status of the selected interface to be masked
- **Mask Off** – causes the status of the selected interface to be unmasked

The **External Interface Summary** view Popup Menu will also contain the following unique combination of menu item entries depending on the interface type.

*[X25 and AFTN interfaces types, (eg. WMSCR, CPDLC, AOCFSS, BASEOP)]*

- **Enable/Disable Physical Interface** – starts/stops external interface
- **Op Service** - this function is not implemented in AMCS
- **NoOp Service** - this function is not implemented in AMCS

[ETMS types (eg. TMX)]

- **Enable/Disable Physical Interface** – starts/stops external interface
- **Test Device** - this function is not implemented in AMCS
- **Enable TZ** - this function is not implemented in AMCS
- **Disable TZ** - this function is not implemented in AMCS

[FDP2000 types (eg. ANCDIR)]

- **Enable/Disable Physical Interface** – starts/stops external interface
- **Test Device** - this function is not implemented in AMCS
- **General Information Message** - this function is not implemented in AMCS
- **Op Service** - this function is not implemented in AMCS
- **NoOp Service** - this function is not implemented in AMCS

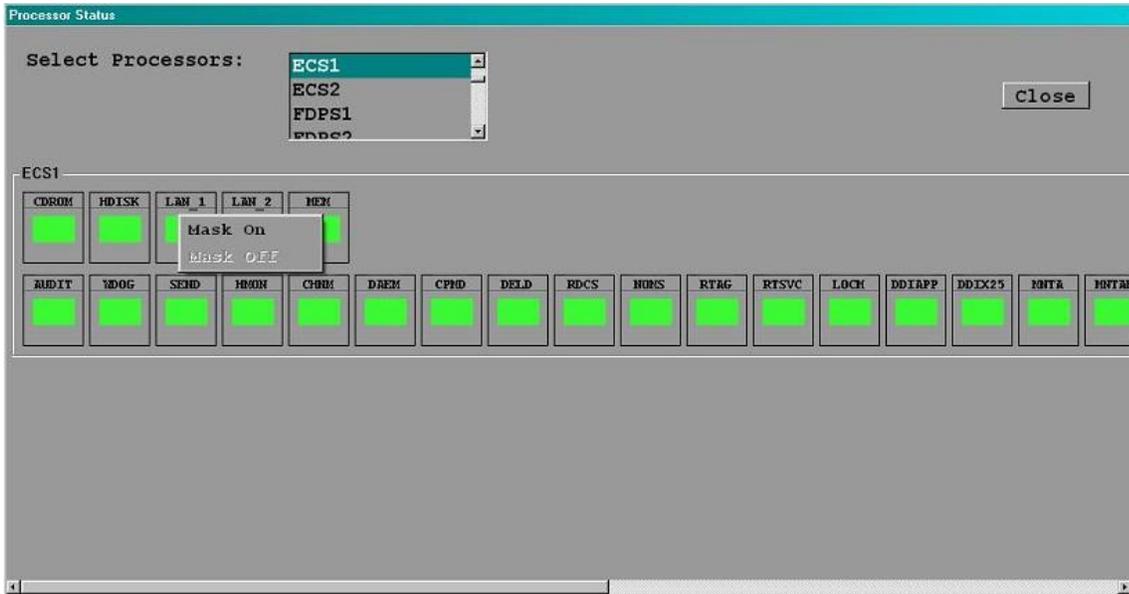
[Radar devices only]

The radar interfaces may be allocated more than one port. The aggregate status of all ports for a radar interface in the **External Interface Detail** view will display as the interface icon status for that radar on the **External Interface Summary Status** view. When a right mouse click is performed on a radar interface, the following menu item will display:

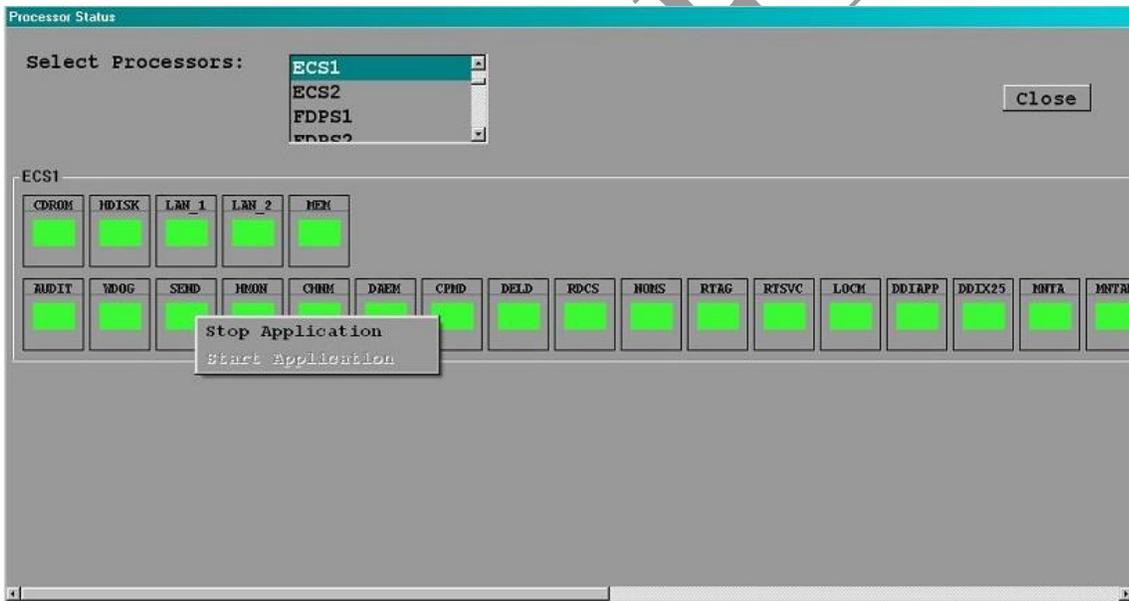
**Enable/Disable Physical Interface** – starts/stops external interface. This menu item has a submenu of its own that allows the student to enable or disable one, some, or all of the ports for the selected interface.

### 2.2.19.3 Processor Status View Popup Menu

The **Processor Status** view popup menu (**Figure 2.2.19.3-1**) will have different contents depending on whether the right click is positioned on a HW or SW element of the processor. In the Processor Status view, the first row of elements associated with a particular processor contains the HW elements of the processor and the second row of elements contains the SW elements of the processor. A right click on an operational HW element will produce the popup menu depicted in Figure 2.2.19.3-1. A right click on an operational SW element will produce the popup menu depicted in Figure 2.2.19.3-2.



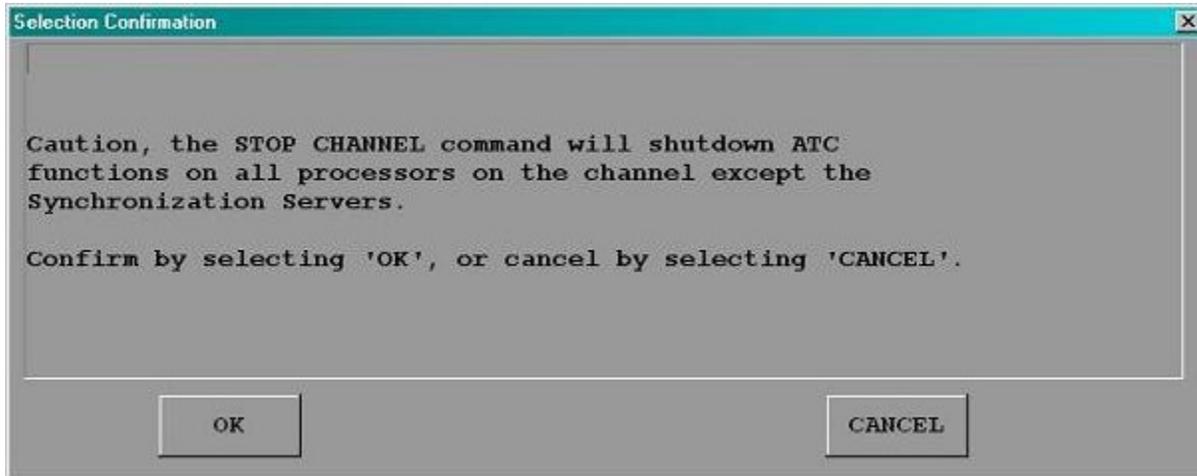
**Figure 2.2.19.3-1 Processor Status View HW Element Popup Menu**



**Figure 2.2.19.3-2 Processor Status View SW Element Popup Menu**

### 2.2.20 AMCS Confirmation Dialogs

To emulate the ATOP more accurately, the AMCS will also display confirmation dialogs at the appropriate time in functional threads to allow the student to escape from an unintended action. The confirmation dialogs may look slightly different in appearance from their ATOP counterparts, however they will contain the same text messages and the same command buttons to permit confirmation or cancellation of the action.



**Figure 2.2.20-1, Select Confirmation View**

## **2.3 AMCS STIMulator Application**

The AMCS is a very useful training aide that can be used to familiarize the student with the operational capabilities of the ATOP M&C. In some cases, ATOP and AMCS training procedures require the observance and examination of a particular Event or Alert message in order to determine the appropriate corrective action. The AMCS package provides an instructor with the capability to inject messages in a real-time classroom training environment with an application called the STIMulator. The STIMulator can be used to effect the state of AMCS displayed processors, hardware and software elements, and external interfaces. The STIMulator can also submit Event and Alert log messages for display in the AMCS Event or Alert log.

Additionally, STIMulator application interactions may be recorded so that “training scenarios” can be constructed. Introducing the AMCS STIMulator into the training environment allows the student to experience the result of handcrafted scenarios that can be replayed through the STIMulator’s scenario playback capability. These training scenarios ensure repeatability of external stimuli. The can be helpful in a training environment that includes problem determination lab exercises.

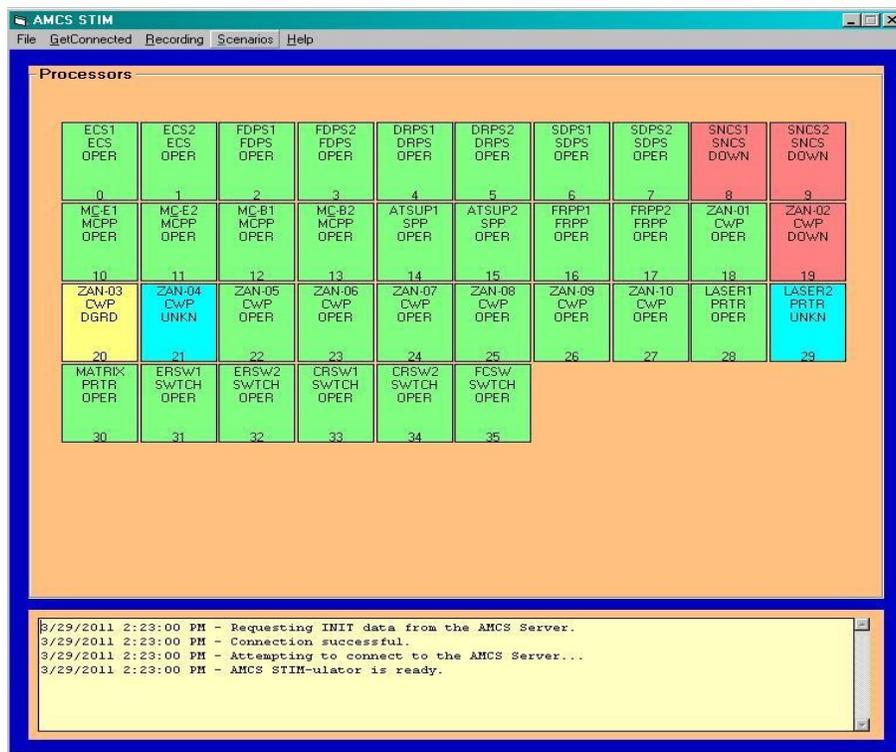
### **2.3.1 STIMulator Design**

The AMCS application is the “server” peer and the STIMulator is the “client” peer in this server/client relationship. Upon initialization, the STIMulator requests a connection with AMCS. Upon connecting, the AMCS provides data to the STIMulator so that it can present (mimic) the state of processors and other ATOP devices and interfaces, and then the two peers keep each other in synch by exchanging directives and state information.

The STIMulator is started by selecting the AMCS application’s “Tools” main menu bar menu item and then the “AMCS STIMulator” choice in the pop down submenu.

### 2.3.2 STIMulator Graphical User Interface (GUI)

The GUI of the **AMCS STIMulator (Figure 2.3.2-1 AMCS STIMulator View)** consists of a primary graphical display area and a smaller text display area. When the STIMulator application is started, it will appear on the right-hand display of a dual monitor AMCS configuration or on top of the AMCS views in a single monitor configuration. On the graphical display area of the STIMulator main form, icons representing all of the processors and other devices presented in the **Channel Status** view of the AMCS application will be displayed. The color coding/status of the objects should be the same as those in the AMCS application **Channel Status** view; however some of the detailed markings are not the same. For example, red and yellow triangles and blue ovals are not displayed to represent the state of the device. Only the color is provided for status. Additionally, the three line label information provided in the Stimulator icon indicates the device name, type, and state.



**Figure 2.3.2-1 AMCS STIMulator View**

As commanded or directed state changes take place at the AMCS application, similar state changes will be reflected at the STIMulator application in real time. This is accomplished via the use of specific messages transmitted between the two applications. The text based message viewer on the lower portion of the STIMulator allows the trainer to see date and time stamped messages. These messages correspond to events that have occurred in the AMCS STIMulator application (notification of message sent/received, connection status to the AMCS, etc).

The STIMulator also provides right mouse click interactions as well as a main menu bar pull-down menu access methods to accommodate various STIMulator capabilities. Right mouse click

popup menu methods include viewing/changing the hardware and software elements of a particular device (processor) or viewing/changing the external interface status of an ECS and/or FDPS device. Main menu bar pull-down menu capabilities include connect/disconnect to/from the AMCS, start/stop recording for scenario generation, and scenario file viewing and playback.

### 2.3.3 Interface Control Specification

#### 2.3.3.1 STIMulator to AMCS Messages

The following messages are sent from the STIMulator to the AMCS application:

**INIT!!**

The INIT message is generated by the STIMulator to request startup data from the AMCS application. The AMCS will respond with PROC\_INIT, PROC\_COMP, ELEM\_INIT, and EXIF\_INIT messages (Section 2.3.3.2).

**ALERT##chnid##text!!**

**EVENT##chnid##text!!**

ALERT and EVENT message are generated by the STIMulator when the Message Inject function (located on the Scenarios pull down menu) is exercised. The AMCS will place the text of these messages into the Event and/or Alert log as appropriate.

**PROC\_PWROFF##chnid##deviceName!!**

**PROC\_PWRON##chnid##deviceName!!**

PROC\_PWROFF and PROC\_PWRON messages are sent to the AMCS by the STIMulator when the “Power Off” and “Power On” pop up menu items are selected, respectively, after a right click on any of the objects in the STIMulator main form view. The PROC\_PWROFF message is used to simulate “pulling the plug” on switch or printer devices or “shutting down” server or workstation processors. The state of devices after a PROC\_PWROFF command will be unknown (blue circle). The PROC\_PWRON message is used to simulate “restoring power” to switch or printer devices or “powering on” server or workstation processors. The state of switch or printer devices after a PROC\_PWRON command will be operational (green square). The state of server or workstation processors after a PROC\_PWRON command will be down (red triangle).

**PROC\_STOP##chnid##deviceName!!**

**PROC\_PWROFF##chnid##deviceName!!**

PROC\_STOP and PROC\_START messages are sent to the AMCS by the STIMulator when the “Stop Proc” and “Start Proc” pop up menu items are selected, respectively, after a right click on any of the objects in the STIMulator main form

view, **with the exception of** printer and switch devices since there is no software that can be controlled remotely on these devices. Sending the PROC\_STOP message from the STIMulator to the AMCS is identical in functionality to the Stop Processor commanded action available from the AMCS Channel Status view. The state of a server or workstation processor after a PROC\_STOP command will be down (red triangle). Sending the PROC\_START message from the STIMulator to the AMCS is identical in functionality to the Start Processor commanded action available from the AMCS Channel Status view. The state of a server or workstation processor after a PROC\_START command will be operational (green square).

### 2.3.3.2 AMCS to STIMulator Messages

The following messages are sent from the AMCS application to the STIMulator:

```
PROC_INIT##chnid##pname##pstate##ptype!!  
ELEM_INIT##chnid##pname##etype##ename##estate##emask!!  
EXIF_INIT##chnid##pname##etype##ename##estate##emask!!
```

The PROC\_INIT, ELEM\_INIT, and EXIF\_INIT messages are generated by the AMCS to convey current state information to the STIMulator for a particular device, device hardware/software element, or device external interface.

```
PROC_COMP!!
```

The PROC\_COMP message is used to convey to the STIMulator that the end of the PROC\_INIT data has been reached.

### 2.3.3.3 Exchanged AMCS / STIMulator Messages

The following messages are exchanged between the AMCS application and the STIMulator. They represent the subset of messages used to convey commanded status changes that may be performed by either application. Note that if the STIMulator initiates any of these messages (via a STIMulator commanded action), status is not changed until a status change message is received from the AMCS indicating that the status change was processed by the AMCS. This ensures that the AMCS GUI and the STIMulator GUI remain in synch.

#### Processor-Element-External Interface State Directives

When the STIMulator is used to fail or restore hardware or software element of a particular processor, the STIMulator will send xxxx\_STAT directives to the AMCS containing the channel identifier, the processor name, and the element type, name, and state, or the processor state, as appropriate. These messages contain all of the data required to be shared between these two applications to ensure that they remain in synch.

```

PROC_STAT##chnid##pname##pstate!!
ELEM_STAT##chnid##pname##etype##ename##estate!!
EXIF_STAT##chnid##pname##ename##estate!!

```

### 2.3.4 Message Injection

STIMulator Message Injection to the AMCS is provided by selecting the STIMulator’s main menu bar “Scenario” option and then selecting Message Injection. When this is performed, a panel of Event and Alert messages is displayed (**Figure 2.3.4-1 Stimulator Message Injection View**) from which the trainer can select one or more messages to be sent to the AMCS. The complete set of Event and Alert message found in Appendix A of the ATOP Technical Operations Services (TOS) Operator’s Manual was incorporated into the STIMulator’s message selection panels. Because of the large number of messages provided, the messages are arranged into categories to make searching for a particular message faster and easier. The choice of a source identifier (source of the event/alert which will appear in the AMCS View) for each message is also provided in this panel.

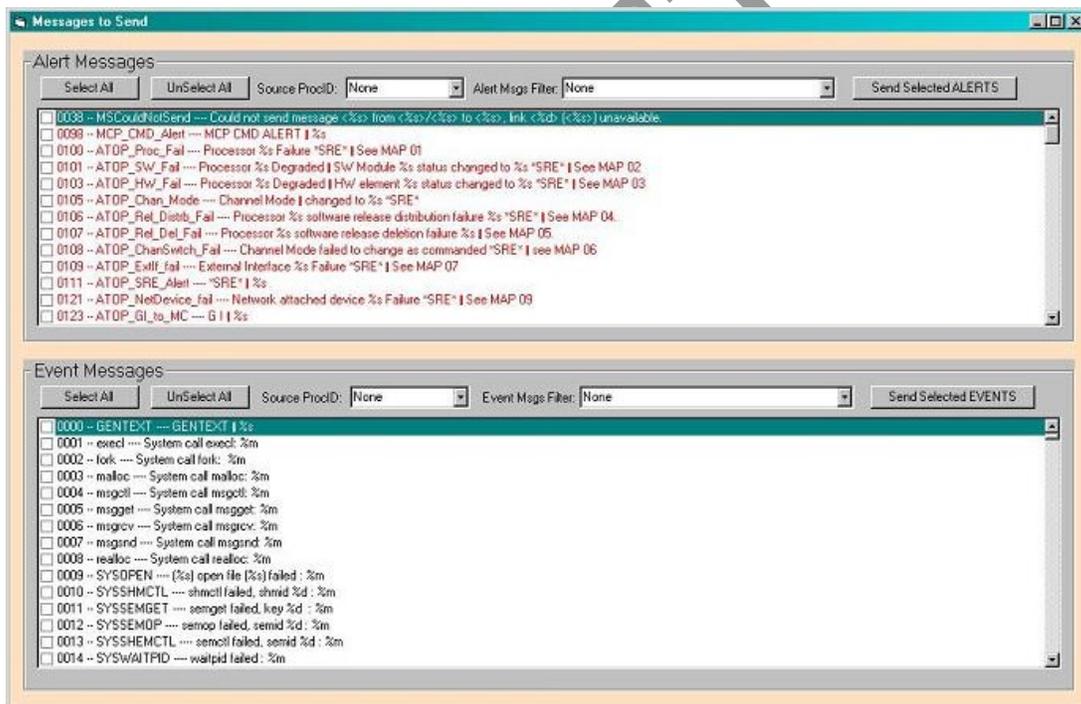


Figure 2.3.4-1 Stimulator Message Injection View

The Message Injection View is displayed in this way is because the expectation is that ATOP System trainers will be familiar with the types and number of messages that should appear as the result of particular component failures or device reset. The STIMulator provides the maximum flexibility regarding the generation and sending of these messages.

### 2.3.5 Scenario Creation and Replay

STIMulator scenarios are created when the user selects the STIMulator’s main menu bar **Recording** option and then selects the **Start Recording** menu item. When recording is started, all directives and messages leaving the STIMulator bound for the AMCS are time stamped and placed into a file on the AMCS processor located at “C:\AMCS\SCENARIOS\newRecording.txt”. While recording is active, a flashing “\*\*RECORDNG\*\*” banner is presented on the STIMulator GUI. To stop recording, select the STIMulator’s main menu bar **Recording** option and then select the **Stop Recording** menu item.

When recording is stopped, the scenario file is closed. At this time it can be renamed and/or modified via the STIMulator’s main menu bar **Scenarios** option and then selecting the **View/Edit** menu item. Previously recorded and modified files may be selected for playback via the STIMulator’s main menu bar **Scenarios** option and then selecting the **Playback** menu item. These files reside in the directory “C:\AMCS\SCENARIOS\“. This directory is opened when the Playback option is selected from Scenarios man menu bar option and from it the user may select one of the previously recorded/created scenario files.

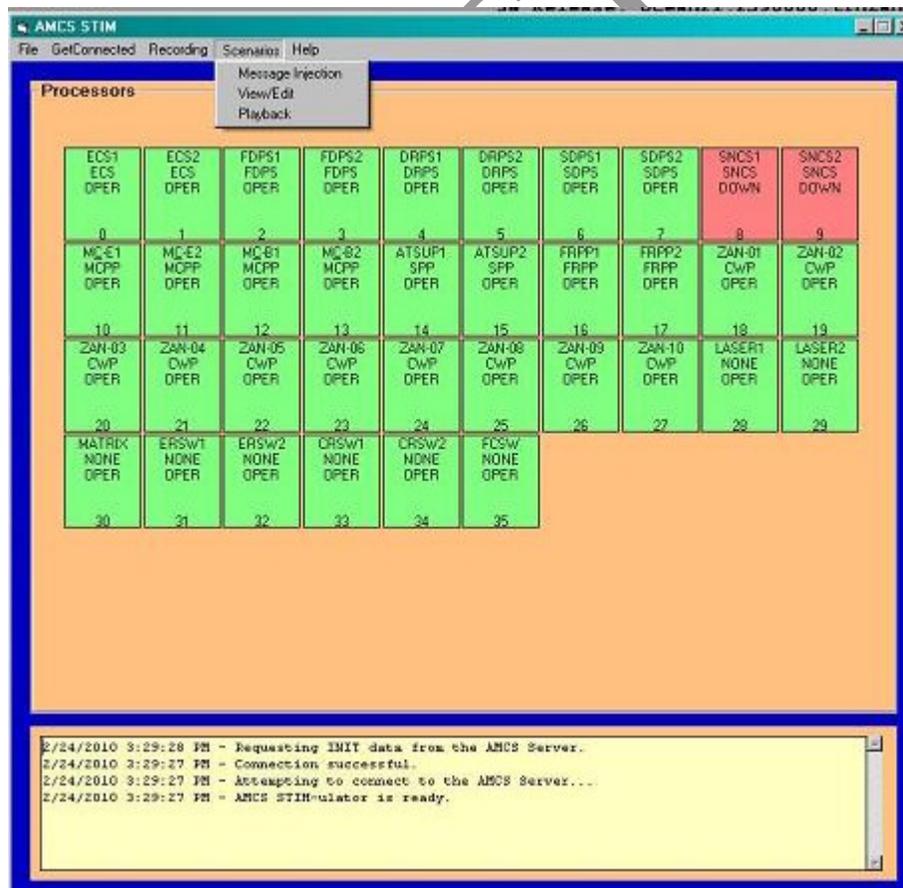


Figure 2.3.5-1 Stimulator Scenario View/Playback Menu

## 2.4 AMCS Configurator Application

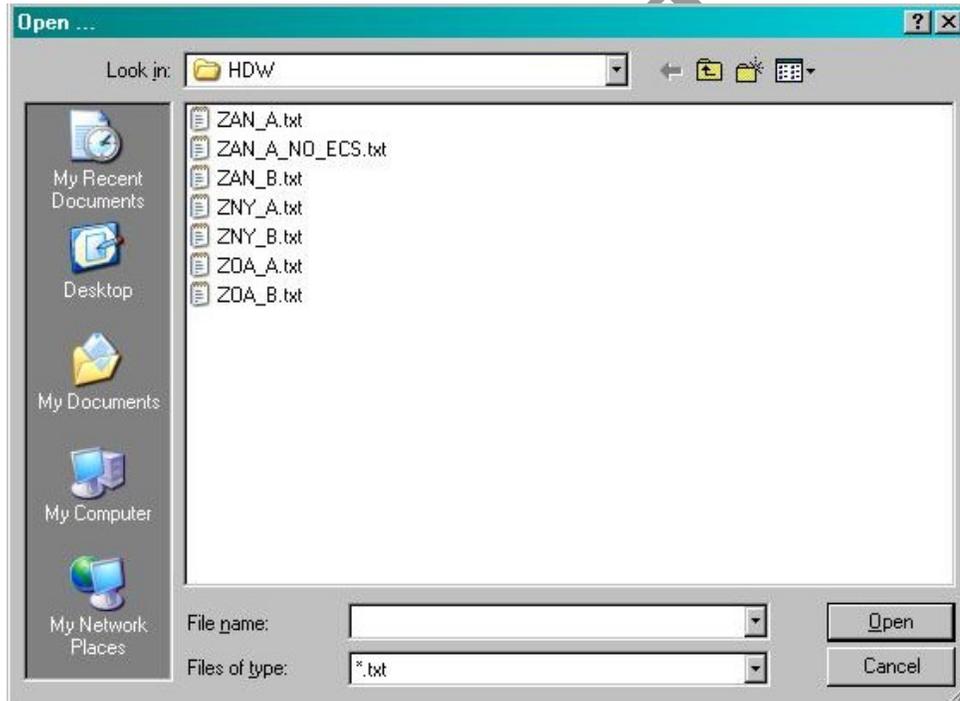
The AMCS Configurator application allows the user to create or modify configuration files for use by the AMCS. AMCS configuration files that can be modified by the AMCS Configurator application include the files that reside in the following directories:

**C:\AMCS\HDW\** - includes processor configuration files

**C:\AMCS\EXT\** - includes external interface files

The AMCS Configurator application provides conversion of Graphical User Interface (GUI) to text based configuration data files to support viewing, modifying, and saving changes to these files.

To start the AMCS Configurator application, select the "c:\AMCS\AMCS\_CNFG.exe" executable file. An Open common dialog will appear that is initialized to the "c:\AMCS\HDW" directory.



**Figure 2.4-1 AMCS Configurator Open Common Dialog**

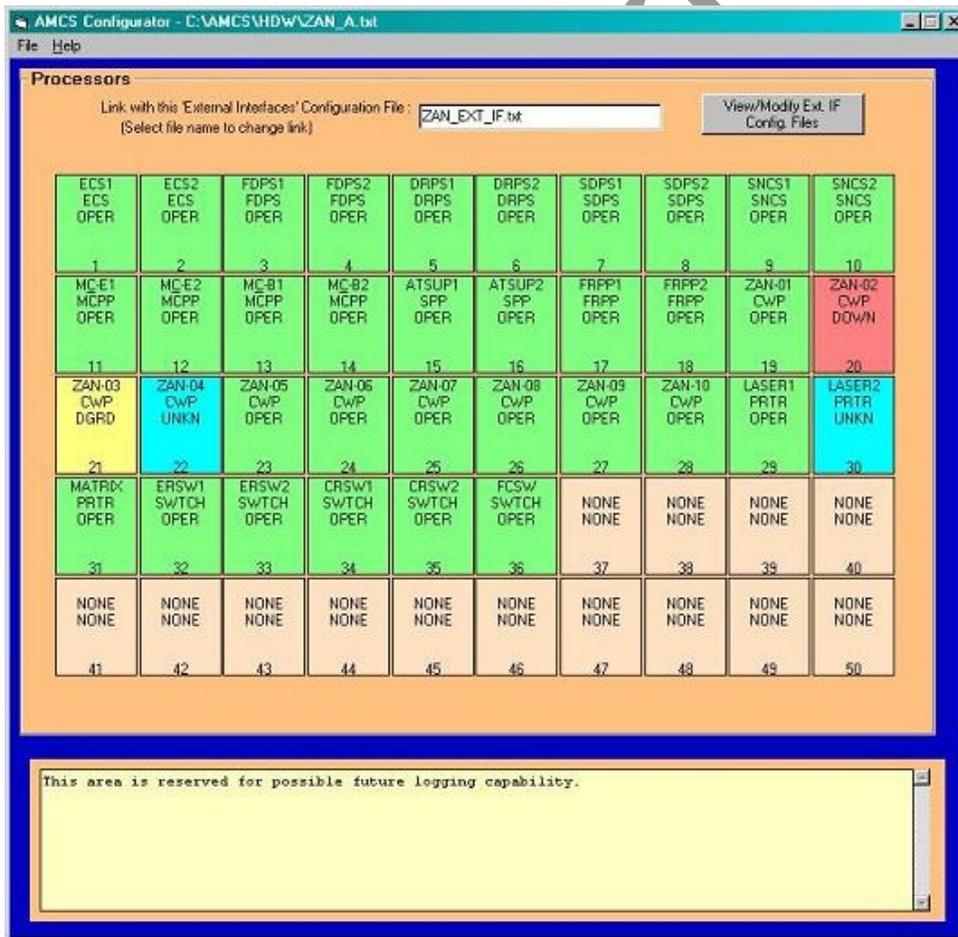
The dialog requires the selection of one of the AMCS configuration files contained therein. When the selected file is opened, a GUI is presented to the user depicting the placement and initial state of the devices that are specified in the selected configuration file.

The configuration files found in the "c:\AMCS\HDW\" directory contain device data that is read by the AMCS Configurator application. The correct syntax of the underlying text based file is ensured when using the AMCS Configurator application to make modifications.

The AMCS Configurator application generates a graphical representation of the device data found in the selected configuration file. The data corresponds to what will be displayed by the AMCS application in the Channel Status window when it reads the configuration file at initialization. This makes it easy for the AMCS Configurator user to configure the placement of the devices and what their initial state will be when the AMCS application initializes with this file.

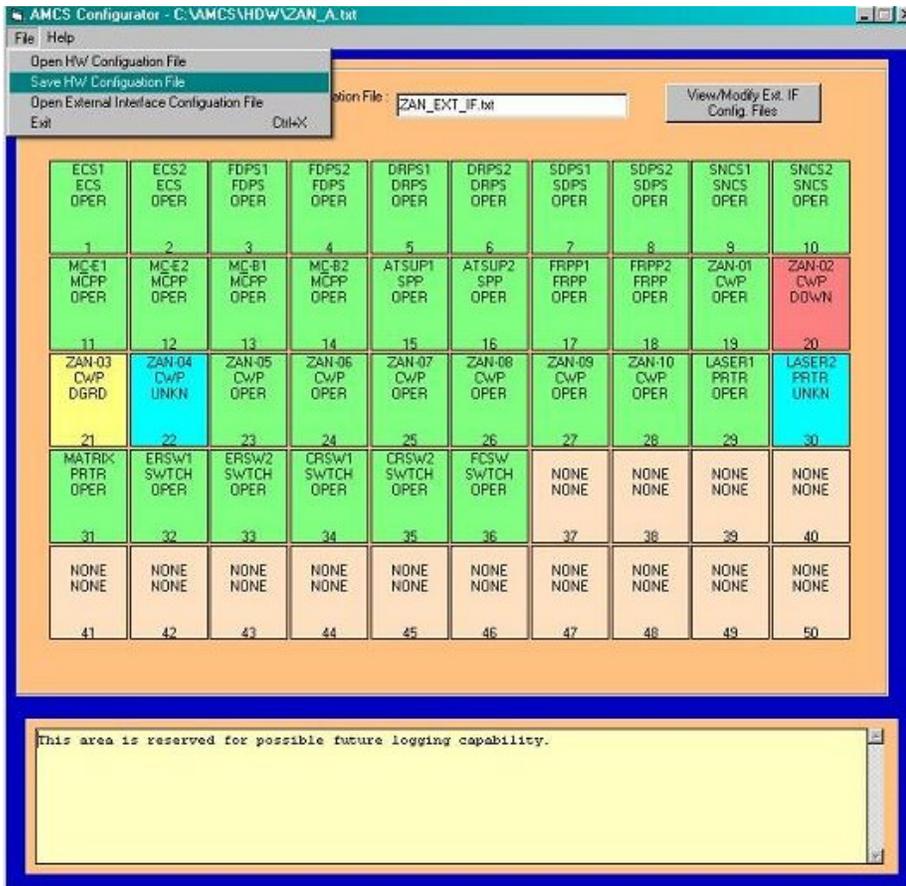
### 2.4.1 Main Form

The AMCS Configurator application main form (**Figure 2.4.1-1 AMCS Configurator Main Form**) contains a number of objects contained within a dialog frame. At the top of the main form there is a main menu bar which includes “File” and “Help” menu items. Just below the main menu is a text box and command button. The majority of the rest of the main form contains GUI objects that represent all of the devices found in the selected AMCS configuration file. There is also a reserved area at the bottom of the form that may be used for future logging functionality.



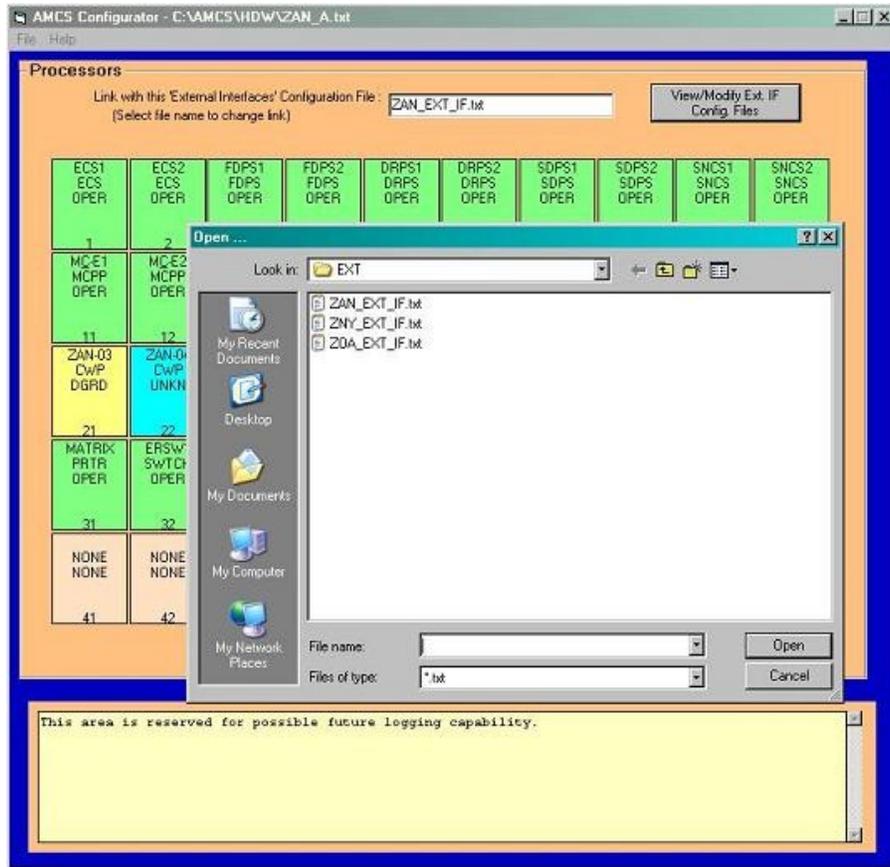
**Figure 2.4.1-1 AMCS Configurator Main Form**

The text box contains a link to an external interfaces file that will be used to populate the “External Interfaces Summary” and ‘External Interfaces Detail” dialog windows of the AMCS application. This link may be changed to a different file by clicking on it and selecting another file from the ‘Select’ common dialog that appears. This link information will be written to the AMCS configuration file when then main menu bar selection “File->Save HWConfiguration File” is selected (**Figure 2.4.1-2**).



**Figure 2.4.1-2 AMCS Configurator Save HW Configuration File**

Selecting the “View/Modify Ext. IF Config. Files” command button causes an ‘Open’ common dialog to appear. See **Figure 2.4.1-3**. This dialog is used to select one of the displayed External Interface configuration files. Opening one of these files provides access to a GUI representation of the syntax of the selected AMCS External Interface configuration file and will be presented in a later section.



**Figure 2.4.1-3 AMCS Configurator Open Dialog for External Interface Files**

On the AMCS Configurator main form (**Figure 2.4.1-1**); the GUI objects representing the devices found in the selected AMCS configuration file are displayed in colors that represent the initial state of the device that was contained in the selected AMCS hardware configuration file. These values indicate how the device will be represented when the AMCS is initialized with this configuration file. The states are as follows:

- Green is an operational processor.
- Red is a down processor.
- Yellow is a degraded processor.
- Blue is an unknown processor.
- Tan is a processor that has not been specified in the selected hardware configuration file and is available for configuration.

A device label is also displayed on each icon. This reflects the Processor Name, Type and State of each device record found in the AMCS configuration file.

To change the initial state of a processor in the selected hardware configuration file, right mouse click on the processor object and select one of the popup menu options labeled “Select initial state to ...” (**Figure 2.4.1-3**). The object will change to the appropriate color and the new state

will be written to the specified processor configuration file when the main menu bar selection “File->Save HW Configuration File” is selected. The user may request to have these changes overwrite the currently selected file or may create a new file that represents a derivative of the initially selected configuration file.

If you want to create another device within the configuration file, right mouse click on the device object and select the popup menu option “Copy“ and then right mouse click on another processor object and select the popup menu option “Paste”. The new processor will be written to the current or new processor configuration file when main menu bar selection “File->Save HW Configuration File” is selected.

If you want to remove a processor, right mouse click on the processor object and select the popup menu option “Cut“. The processor will be removed from the processor configuration file when main menu bar selection “File->Save HW Configuration File” is selected.

If you want to view or modify a device’s detailed syntax, right mouse click on the device object and select the popup menu option item “View/Modify Proc Data“(Figure 2.4.1-4).

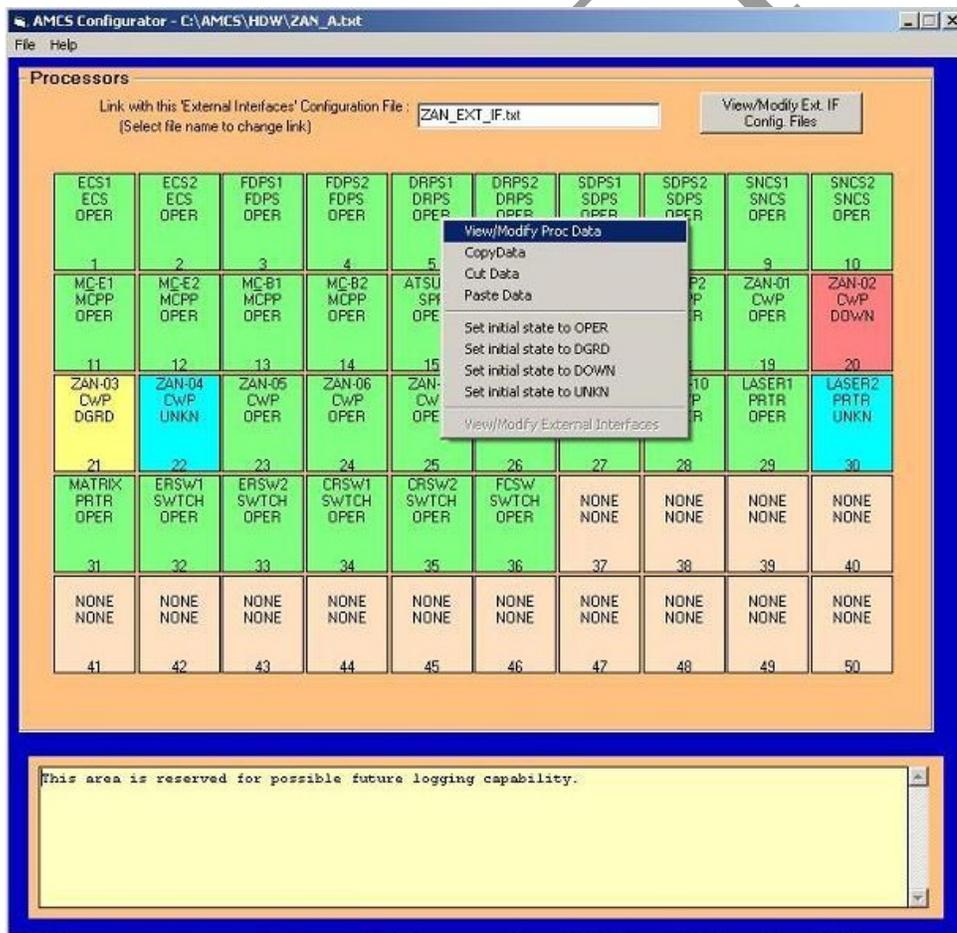


Figure 2.4.1-4 AMCS Configurator Popup Menu

## 2.4.2 Processor Configuration Data Form

The “Processor Configuration Data” form will appear graphically when the student right mouse clicks on the device object and selects the popup menu option item “View/Modify Proc Data”. This form depicts, by default, the data fields from ALL of the records currently found in the selected hardware configuration file (**Figure 2.4.2-1**). The “Index” field of the device on which the right mouse click was performed will be highlighted. Subsequent mouse clicks in other device fields will turn the associated “Index” field light blue to allow the user to more easily determine the context of the selected data.

| Index | Name   | Type | HostName    | State | Sector # | User | RecPlay |
|-------|--------|------|-------------|-------|----------|------|---------|
| 1     | ECS1   | ECS  | ECSA101     | OPER  | NONE     | NONE | NONE    |
| 2     | ECS2   | ECS  | ECSA102     | OPER  | NONE     | NONE | NONE    |
| 3     | FDPS1  | FDPS | FDPSA101    | OPER  | NONE     | NONE | NONE    |
| 4     | FDPS2  | FDPS | FDPSA102    | OPER  | NONE     | NONE | NONE    |
| 5     | DRPS1  | DRPS | DRPSA101    | OPER  | NONE     | NONE | NONE    |
| 6     | DRPS2  | DRPS | DRPSA102    | OPER  | NONE     | NONE | NONE    |
| 7     | SDPS1  | SDPS | SDPSA101    | OPER  | NONE     | NONE | NONE    |
| 8     | SDPS2  | SDPS | SDPSA102    | OPER  | NONE     | NONE | NONE    |
| 9     | SNCS1  | SNCS | SYNCSRVA101 | OPER  | NONE     | NONE | NONE    |
| 10    | SNCS2  | SNCS | SYNCSRVA102 | OPER  | NONE     | NONE | NONE    |
| 11    | M&C-E1 | MCFF | MCFFA101    | OPER  | NONE     | NONE | NONE    |
| 12    | M&C-E2 | MCFF | MCFFA102    | OPER  | NONE     | NONE | NONE    |

**Figure 2.4.2-1 AMCS Configurator Processor Configuration Data Form**

To see a subset of the processors, you may select one of the radio buttons near the top of this form. The alternative processor classes are “Servers”, “Workstations”, “Switches”, and “Other”. When these radio buttons are selected, the contents of the form will change to include only the processors in the selected processor class. Scroll bars will be presented when necessary.

The modifiable data for each of the displayed processor records includes:

- **Name** - The “Name” field represents the string that will be displayed in the label of the device GUI item in the AMCS applications.
- **Type** - The ATOP device “Type” field is represented by a combo box that offers the only valid choices for this field. AMCS application software depends on this value being one of the offered choices.
- **HostName** - The “HostName” field is a string that will be displayed by the AMCS application as necessary.
- **State** - The device “State” field is represented by a combo box that offers the only valid choices for this field. AMCS Simulator application software depends on this value being one of the offered choices.
- **Sector#** - The ATOP “Sector#” field is a string that will be displayed by the AMCS application when the user selects the “Sector” radio button in the Channel Status View of the AMCS application.
- **User** - The “User” field is a string that will be displayed by the AMCS Simulator application when the user selects the “User” radio button in the Channel Status window of the AMCS Simulator application.
- **RecPlay** - The “RecPlay” field is a string that will be displayed by the AMCS Simulator application when the user selects the “Rec/Play” radio button in the Channel Status window of the AMCS Simulator application.

After all fields have been modified as needed, the user can save the changes to local memory by selecting the “Save Changes” command button near the top of this form. If the “Name”, “Type”, or “State” field has been changed in any of the records of the “Processor Configuration Data” form, the change will cause a graphical difference to the processor GUI item on the main form. The modified records will only be written to the current or newly specified processor configuration file when the form’s main menu bar selection “File->Save HW Configuration File” is selected.

The “Close” command button on the top of this form will close the form without saving any changes unless the “Save Changes” command button was already selected.

### 2.4.3 External Interface Data Form

The modifiable data for external interface file records can be accessed by various methods. One method is to select the main form’s main menu bar item “File->Open External Interface Configuration File”. A second method is to right mouse click on either of the FDPS or ECS devices and select the popup menu item “View/Modify External Interfaces”. A third method is to select the main form’s “View/Modify Ext. IF Config. Files” command button near the top of the form. All three of these methods will cause an “Open” common dialog to appear requesting the selection of an existing external interface file (see **Figure 2.4.1-3**).

After the selected file is opened, an External Interfaces Detail form is displayed (**Figure 2.4.3-1**). It includes two commands buttons, 4 radio buttons, and multiple rows of external interface detail information. The radio buttons allow the user to display the records associated with the FDPS1, FDPS2, ECS1, or ECS2 processor. FDPS1 data is displayed by default. ECS1 data can be

shown by selecting the ECS1 radio button as depicted in the figure below. Any changes to the records of one of these external interfaces must be saved using the “Write Changes to File” command button prior to selecting a different radio button. When the “Write changes to File” command button is selected, the user is given the opportunity to save the changes to the current or a new file. Close the form using the “Close” command button when all changes have been made. The “Index” field is NOT highlighted on this form.

| Index | Name   | Type    | Radar # | Card | Port |
|-------|--------|---------|---------|------|------|
| 1     | WMSCE  | X25     | 0       | 1    | 2    |
| 2     | CPDLC  | X25     | 0       | 1    | 1    |
| 3     | TMX    | ETMS    | 0       | 1    | 3    |
| 4     | CIU    | CIU     | 0       | -    | -    |
| 5     | AOCFSS | AFTN    | 0       | 1    | 3    |
| 6     | BASEOP | AFTN    | 0       | 1    | 3    |
| 7     | ANCDIB | FDP2000 | 0       | 1    | 3    |
| 8     | CEVR_F | AFTN    | 0       | 1    | 3    |
| 9     | CZEG_F | AFTN    | 0       | 1    | 3    |
| 10    | EZAK_F | AFTN    | 0       | 1    | 3    |
| 11    | RJJJ_F | AFTN    | 0       | 1    | 3    |
| 12    | UEMA_F | AFTN    | 0       | 1    | 3    |
| 13    | UEMI_F | AFTN    | 0       | 1    | 3    |
| 14    | UEPP_F | AFTN    | 0       | 1    | 3    |
| 15    | AFTN   | X25     | 0       | 1    | 1    |
| 16    | BFRO   | AFTN    | 0       | 1    | 3    |
| 17    | CTS    | CTS     | 0       | 1    | 3    |
| 18    | MDO    | CD      | 1       | 1    | 3    |
| 19    | EKA    | CD      | 1       | 1    | 3    |
| 20    | AKN    | MAR     | 1       | 1    | 3    |
| 21    | AKN    | MAR     | 2       | 1    | 3    |
| 22    | SNP    | CD      | 1       | 1    | 3    |
| 23    | EEM    | MAR     | 1       | 1    | 3    |
| 24    | EEM    | MAR     | 2       | 1    | 3    |

**Figure 2.4.3-1 AMCS Configurator External Interface Data form**

The “External Interfaces Detail” form includes the following fields:

- **Name** - The “Name” field represents the string that will be displayed in the label of the device icon in the AMCS application.
- **Type** - The “Type” field is represented by a combo box that offers the only valid choices for this field. AMCS Simulator application software depends on this value being one of the offered choices.
- **Radar#** - The “Radar#” field is a string value that represents the radar channel number of the associated radar interface. Its value should always be ‘0’ for non-radar interfaces, but can be ‘1’, ‘2’, or ‘3’ for radar interfaces. Notice the “AKN” interface in the example file contain in Appendix B. The “Name” and “Radar#” field data will be combined into a unique identifier for the interface in the “External Interface Detail” form when presented by the AMCS application.

- Card/Port - The “Card” and “Port” fields are strings that will be also be displayed by the AMCS application in the “External Interface Detail” form.

Note that there is not a way to specify the initial state of an external interface in the External Interfaces file. The states of external interfaces are initialized automatically by the AMCS Simulator application. An example of the ZAN\_EXT\_IF.txt file is presented in Appendix B.

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## Appendix A – AMCS Hardware Configuration Files

The list of AMCS configuration files includes hardware and adaptation files that are used by the AMCS to display views with meaningful content, such as the Channel Status view with all of the processors and other external devices presented or the External Interfaces Summary view with all of the ECS or FDPS external interfaces presented. The list of hardware configuration files includes a file for each site (ZAN, ZNY, and ZOA), for each channel (A and B). These are the base files from which new configuration files may be derived. These files are located on the PC where the AMCS application was installed in the “C:\AMCS\HDW\” folder. The files are named as follows:

|           |           |           |
|-----------|-----------|-----------|
| ZAN_A.txt | ZNY_A.txt | ZOA_A.txt |
| ZAN_B.txt | ZNY_B.txt | ZOA_B.txt |

One difference among the site configuration files is the value of the EXTIF\_FILE parameter. The value of the EXTIF\_FILE parameter is the name of an external interfaces file that resides in the “C:\AMCS\EXT\” folder.

Below the EXTIF\_FILE line of the file is an embedded comment that describes the syntax of the records included. The Channel B configuration files are identical with the exception of the HostName parameter. The HostName is the fourth item in a colon-separated list on each processor entry line.

| <u>Parameter</u> | <u>Title</u>          |
|------------------|-----------------------|
| Proc_Index       | Processor Index       |
| Proc_Name        | Processor Name        |
| Proc_Type        | Processor Type        |
| HostName         | Host Name             |
| State            | Initial State         |
| Sec_Num          | Sector Number         |
| User             | Default User Name     |
| RecPlay          | Record/Playback State |

The content of the site’s hardware configuration files for only Channel A is presented below.

### *ZAN\_A.txt*

```
#
#File: C:\AMCS\HDW\ZAN_A.txt created on: 1/13/2011 11:29:28
#
EXTIF_FILE:ZAN_EXT_IF.txt
#
#Proc_Index:Proc_Name:Proc_Type:HostName:State:Sec_Num>User:RecPlay
```

#  
1:ECS1:ECS:ECSA101:OPER:NONE:NONE:NONE  
2:ECS2:ECS:ECSA102:OPER:NONE:NONE:NONE  
#  
3:FDPS1:FDPS:FDPSA101:OPER:NONE:NONE:NONE  
4:FDPS2:FDPS:FDPSA102:OPER:NONE:NONE:NONE  
#  
5:DRPS1:DRPS:DRPSA101:OPER:NONE:NONE:NONE  
6:DRPS2:DRPS:DRPSA102:OPER:NONE:NONE:NONE  
#  
7:SDPS1:SDPS:SDPSA101:OPER:NONE:NONE:NONE  
8:SDPS2:SDPS:SDPSA102:OPER:NONE:NONE:NONE  
#  
9:SNCS1:SNCS:SYNCSRVA101:OPER:NONE:NONE:NONE  
10:SNCS2:SNCS:SYNCSRVA102:OPER:NONE:NONE:NONE  
#  
11:M&C-E1:MCPP:MCPPA101:OPER:NONE:NONE:NONE  
12:M&C-E2:MCPP:MCPPA102:OPER:NONE:NONE:NONE  
13:M&C-B1:MCPP:MCPPA103:OPER:NONE:NONE:NONE  
14:M&C-B2:MCPP:MCPPA104:OPER:NONE:NONE:NONE  
#  
15:ATSUP1:SPP:SPPA101:OPER:NONE:NONE:NONE  
16:ATSUP2:SPP:SPPA102:OPER:NONE:NONE:NONE  
#  
17:FRPP1:FRPP:FRPPA101:OPER:NONE:NONE:NONE  
18:FRPP2:FRPP:FRPPA102:OPER:NONE:NONE:NONE  
#  
19:ZAN-01:CWP:CWPA101:OPER:12:MANNY:BOTH\_OPER  
20:ZAN-02:CWP:CWPA102:DOWN:10:MOE:BOTH\_DOWN  
21:ZAN-03:CWP:CWPA103:DGRD:11:JACK:BOTH\_OPER  
22:ZAN-04:CWP:CWPA104:UNKN:NONE:FRED:BOTH\_UNKN  
23:ZAN-05:CWP:CWPA105:OPER:NONE:NONE:BOTH\_OPER  
24:ZAN-06:CWP:CWPA106:OPER:NONE:NONE:BOTH\_OPER  
25:ZAN-07:CWP:CWPA107:OPER:NONE:NONE:BOTH\_OPER  
26:ZAN-08:CWP:CWPA108:OPER:NONE:NONE:BOTH\_OPER  
27:ZAN-09:CWP:CWPA109:OPER:NONE:NONE:BOTH\_OPER  
28:ZAN-10:CWP:CWPA110:OPER:NONE:NONE:BOTH\_OPER  
#  
29:LASER1:PRTR:QLEXA1:OPER:NONE:NONE:NONE  
30:LASER2:PRTR:QLEXA2:UNKN:NONE:NONE:NONE  
31:MATRIX:PRTR:MATRIX:OPER:NONE:NONE:NONE  
#  
32:ERSW1:SWTCH:CISCOAPRI:OPER:NONE:NONE:NONE  
33:ERSW2:SWTCH:CISCOASEC:OPER:NONE:NONE:NONE  
34:CRSW1:SWTCH:CISCOBPRI:OPER:NONE:NONE:NONE  
35:CRSW2:SWTCH:CISCOBSEC:OPER:NONE:NONE:NONE  
36:FCSW:SWTCH:FCSW:OPER:NONE:NONE:NONE

## ZNY\_A.txt

```
#
#File: C:\AMCS\HDW\ZNY_A.txt created on: 1/13/2011 11:39:07
#
EXTIF_FILE:ZNY_EXT_IF.txt
#
#Proc_Index:Proc_Name:Proc_Type:HostName:State:Sec_Num>User:RecPlay
#
1:SDPS1:SDPS:SDPSA101:OPER:NONE:NONE:NONE
2:SDPS2:SDPS:SDPSA102:OPER:NONE:NONE:NONE
#
3:FDPS1:FDPS:FDPSA101:OPER:NONE:NONE:NONE
4:FDPS2:FDPS:FDPSA102:OPER:NONE:NONE:NONE
#
5:DRPS1:DRPS:DRPSA101:OPER:NONE:NONE:NONE
6:DRPS2:DRPS:DRPSA102:OPER:NONE:NONE:NONE
#
7:ECS1:ECS:ECSA101:OPER:NONE:NONE:NONE
8:ECS2:ECS:ECSA102:OPER:NONE:NONE:NONE
#
9:SNCS1:SNCS:SDPSA101:OPER:NONE:NONE:NONE
10:SNCS2:SNCS:SDPSA102:OPER:NONE:NONE:NONE
#
11:01-825:CWP:CWPA101:OPER:16:MANNY:BOTH_OPER
12:02-817:CWP:CWPA102:DOWN:17:MOE:BOTH_OPER
13:03-813:CWP:CWPA103:DGRD:NONE:JACK:BOTH_OPER
14:04-809:CWP:CWPA104:UNKN:NONE:FRED:BOTH_UNKN
15:05-805:CWP:CWPA105:OPER:NONE:NONE:BOTH_OPER
16:06-801:CWP:CWPA106:OPER:NONE:NONE:BOTH_OPER
17:07-804:CWP:CWPA107:OPER:NONE:NONE:BOTH_OPER
18:08-808:CWP:CWPA108:OPER:NONE:NONE:BOTH_OPER
19:09-824:CWP:CWPA109:OPER:NONE:NONE:BOTH_OPER
20:10-828:CWP:CWPA110:OPER:NONE:NONE:BOTH_OPER
#
21:M&C-E1:MCPP:MCPPA101:OPER:NONE:NONE:NONE
22:M&C-E2:MCPP:MCPPA102:OPER:NONE:NONE:NONE
23:M&C-B1:MCPP:MCPPA103:OPER:NONE:NONE:NONE
24:M&C-B2:MCPP:MCPPA104:OPER:NONE:NONE:NONE
#
25:ATSUP1:SPP:SPPA101:OPER:NONE:NONE:NONE
26:ATSUP2:SPP:SPPA101:OPER:NONE:NONE:NONE
#
27:ERSW1:SWTCH:CISCOAPRI:OPER:NONE:NONE:NONE
28:ERSW2:SWTCH:CISCOASEC:OPER:NONE:NONE:NONE
29:CRSW1:SWTCH:CISCOBPRI:OPER:NONE:NONE:NONE
```

30:CRSW2:SWTCH:CISCOBSEC:OPER:NONE:NONE:NONE  
31:FCSW:SWTCH:FCWS:UNKN:NONE:NONE:NONE

### **ZOA\_A.txt**

#  
#File: C:\AMCS\HDW\ZOA\_A.txt created on: 1/13/2011 11:38:29  
#  
EXTIF\_FILE:ZOA\_EXT\_IF.txt  
#  
#Proc\_Index:Proc\_Name:Proc\_Type:HostName:State:Sec\_Num>User:RecPlay  
#  
1:ECS1:ECS:ECSA101:OPER:NONE:NONE:NONE  
2:ECS2:ECS:ECSA102:OPER:NONE:NONE:NONE  
#  
3:FDPS1:FDPS:FDPSA101:OPER:NONE:NONE:NONE  
4:FDPS2:FDPS:FDPSA102:OPER:NONE:NONE:NONE  
#  
5:DRPS1:DRPS:DRPSA101:OPER:NONE:NONE:NONE  
6:DRPS2:DRPS:DRPSA102:OPER:NONE:NONE:NONE  
#  
7:SDPS1:SDPS:SDPSA101:OPER:NONE:NONE:NONE  
8:SDPS2:SDPS:SDPSA102:OPER:NONE:NONE:NONE  
#  
9:SNCS1:SNCS:SYNCSRVA101:OPER:NONE:NONE:NONE  
10:SNCS2:SNCS:SYNCSRVA102:OPER:NONE:NONE:NONE  
#  
11:M&C-E1:MCPP:MCPPA101:OPER:NONE:NONE:NONE  
12:M&C-E2:MCPP:MCPPA102:OPER:NONE:NONE:NONE  
#  
13:ATSUP1:SPP:SPPA101:OPER:NONE:NONE:NONE  
14:ATSUP2:SPP:SPPA102:OPER:NONE:NONE:NONE  
#  
15:OAK-01:CWP:CWPA101:OPER:07:MANNY:BOTH\_OPER  
16:OAK-02:CWP:CWPA102:DOWN:08:MOE:BOTH\_OPER  
17:OAK-03:CWP:CWPA103:DGRD:NONE:JACK:BOTH\_OPER  
#  
18:ERSW1:SWTCH:CISCOAPRI:OPER:NONE:NONE:NONE  
19:ERSW2:SWTCH:CISCOASEC:OPER:NONE:NONE:NONE  
20:CRSW1:SWTCH:CISCOBPRI:OPER:NONE:NONE:NONE  
21:CRSW2:SWTCH:CISCOBSEC:OPER:NONE:NONE:NONE  
22:FCSW:SWTCH:FCSW:UNKN:NONE:NONE:NONE

---

## Appendix B – AMCS External Interface Files

The list of adaptation configuration files includes a file for each site (ZAN, ZNY, and ZOA). These files contain the data required to build the External Interfaces Detail view. The status presented on the External Interfaces Detail view is rolled up into the status of external interfaces on the External Interfaces Summary view. Each file contains an embedded comment that describes the syntax of the records included. The initial set of files is named as follows:

ZAN\_EXT\_IF.txt

ZNY\_EXT\_IF.txt

ZOA\_EXT\_IF.txt

These files are located on the PC where the AMCS application was installed in the “C:\AMCS\EXT\” folder. The content of these files is presented below.

### *ZAN\_EXT\_IF.txt*

```
#Proc_Name:IF_Name:IF_ChnInd:IF_Type:IF_SVR:IF_Card:IF_Port
#
#ZAN IF SUMMARY
#
FDPS1:FTI:0:LAN:FDPS:1:-
FDPS1:WINS:0:LAN:FDPS:1:-
#
FDPS2:FTI:0:LAN:FDPS:1:-
FDPS2:WINS:0:LAN:FDPS:1:-
#
ECS1:WMSCR:0:X25:ECS:1:2
ECS1:CPDLC:0:X25:ECS:1:1
ECS1:TMX:0:ETMS:ECS:1:3
ECS1:CIU:0:CIU:ECS:-:-
ECS1:AOCFSS:0:AFTN:ECS:1:3
ECS1:BASEOP:0:AFTN:ECS:1:3
ECS1:ANCDIR:0:FDP2000:ECS:1:3
ECS1:CZVR_F:0:AFTN:ECS:1:3
ECS1:CZEG_F:0:AFTN:ECS:1:3
ECS1:KZAK_F:0:AFTN:ECS:1:3
ECS1:RJJJ_F:0:AFTN:ECS:1:3
ECS1:UHMA_F:0:AFTN:ECS:1:3
ECS1:UHMI_F:0:AFTN:ECS:1:3
ECS1:UHPP_F:0:AFTN:ECS:1:3
ECS1:AFTN:0:X25:ECS:1:1
ECS1:HFRO:0:AFTN:ECS:1:3
```

ECS1:CTS:0:CTS:ECS:1:3  
ECS1:MDO:1:CD:ECS:1:3  
ECS1:BKA:1:CD:ECS:1:3  
ECS1:AKN:1:MAR:ECS:1:3  
ECS1:AKN:2:MAR:ECS:1:3  
ECS1:SNP:1:CD:ECS:1:3  
ECS1:EHM:1:MAR:ECS:1:3  
ECS1:EHM:2:MAR:ECS:1:3  
ECS1:TLJ:1:MAR:ECS:1:3  
ECS1:TLJ:2:MAR:ECS:1:3  
ECS1:CZF:1:MAR:ECS:1:3  
ECS1:CZF:2:MAR:ECS:1:3  
ECS1:CDB:1:MAR:ECS:1:3  
ECS1:CDB:2:MAR:ECS:1:3  
ECS1:TNC:1:MAR:ECS:1:3  
ECS1:TNC:2:MAR:ECS:1:3  
ECS1:SYA:1:CD:ECS:1:3  
ECS1:YCU:1:CD:ECS:1:3  
ECS1:MPY:1:MAR:ECS:1:3  
ECS1:MPY:2:MAR:ECS:1:3  
ECS1:ENA:1:CD:ECS:1:3  
ECS1:ENA:2:CD:ECS:1:3  
ECS1:OTZ:1:RADAR:ECS:1:3  
ECS1:OTZ:2:RADAR:ECS:1:3  
ECS1:SVW:1:CD:ECS:1:3  
ECS1:SVW:2:CD:ECS:1:3  
ECS1:UTD:1:CD:ECS:1:3  
ECS1:UTD:2:CD:ECS:1:3  
ECS1:QXX:1:CD:ECS:1:3  
ECS1:QXX:2:CD:ECS:1:3  
ECS1:QYY:1:RADAR:ECS:1:3  
ECS1:QYY:2:RADAR:ECS:1:3  
#  
ECS2:WMSR:0:X25:ECS:1:2  
ECS2:CPDLC:0:X25:ECS:1:1  
ECS2:TMX:0:ETMS:ECS:1:3  
ECS2:CIU:0:CIU:ECS:-:-  
ECS2:AOCFSS:0:AFTN:ECS:1:3  
ECS2:BASEOP:0:AFTN:ECS:1:3  
ECS2:ANCDIR:0:FDP2000:ECS:1:3  
ECS2:CZVR\_F:0:AFTN:ECS:1:3  
ECS2:CZEG\_F:0:AFTN:ECS:1:3  
ECS2:KZAK\_F:0:AFTN:ECS:1:3  
ECS2:RJJJ\_F:0:AFTN:ECS:1:3  
ECS2:UHMA\_F:0:AFTN:ECS:1:3  
ECS2:UHMI\_F:0:AFTN:ECS:1:3  
ECS2:UHPP\_F:0:AFTN:ECS:1:3

ECS2:AFTN:0:X25:ECS:1:1  
ECS2:HFRO:0:AFTN:ECS:1:3  
ECS2:CTS:0:CTS:ECS:1:3  
ECS2:MDO:1:CD:ECS:1:3  
ECS2:BKA:1:CD:ECS:1:3  
ECS2:AKN:1:MAR:ECS:1:3  
ECS2:AKN:2:MAR:ECS:1:3  
ECS2:SNP:1:CD:ECS:1:3  
ECS2:EHM:1:MAR:ECS:1:3  
ECS2:EHM:2:MAR:ECS:1:3  
ECS2:TLJ:1:MAR:ECS:1:3  
ECS2:TLJ:2:MAR:ECS:1:3  
ECS2:CZF:1:MAR:ECS:1:3  
ECS2:CZF:2:MAR:ECS:1:3  
ECS2:CDB:1:MAR:ECS:1:3  
ECS2:CDB:2:MAR:ECS:1:3  
ECS2:TNC:1:MAR:ECS:1:3  
ECS2:TNC:2:MAR:ECS:1:3  
ECS2:SYA:1:CD:ECS:1:3  
ECS2:YCU:1:CD:ECS:1:3  
ECS2:MPY:1:MAR:ECS:1:3  
ECS2:MPY:2:MAR:ECS:1:3  
ECS2:ENA:1:CD:ECS:1:3  
ECS2:ENA:2:CD:ECS:1:3  
ECS2:OTZ:1:RADAR:ECS:1:3  
ECS2:OTZ:2:RADAR:ECS:1:3  
ECS2:SVW:1:CD:ECS:1:3  
ECS2:SVW:2:CD:ECS:1:3  
ECS2:UTD:1:CD:ECS:1:3  
ECS2:UTD:2:CD:ECS:1:3  
ECS2:QXX:1:CD:ECS:1:3  
ECS2:QXX:2:CD:ECS:1:3  
ECS2:QYY:1:RADAR:ECS:1:3  
ECS2:QYY:2:RADAR:ECS:1:3

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**ZNY\_EXT\_IF.txt**

```
#Proc_Name:IF_Name:IF_ChnInd:IF_Type:IF_SVR:IF_Card:IF_Port
#
#ZNY IF SUMMARY
#
FDPS1:FTI:0:LAN:FDPS:1:-
#
FDPS2:FTI:0:LAN:FDPS:1:-
#
ECS1:CTS:0:CTS:ECS:19:-
ECS1:NORD-T:0:NORAD:ECS:4:2
ECS1:WMSCR:0:X25:ECS:1:3
ECS1:CPDLC:0:X25:ECS:1:2
ECS1:TMX:0:ETMS:ECS:4:3
ECS1:ZCJ:0:NAS:ECS:4:5
ECS1:ZCR:0:NAS:ECS:4:6
ECS1:ZCN:0:NAS:ECS:4:4
ECS1:ZCW:0:NAS:ECS:4:8
ECS1:ZSU:0:NAS:ECS:1:8
ECS1:CZQM:0:AFTN:ECS:1:9
ECS1:CZQX:0:AFTN:ECS:1:10
ECS1:LPPO_F:0:AFTN:ECS:1:11
ECS1:TTZP_F:0:AFTN:ECS:1:12
ECS1:AFTN:0:X25:ECS:1:1
ECS1:AOCFSS:0:AFTN:ECS:1:14
ECS1:HFRO:0:AFTN:ECS:1:4
ECS1:BASEOP:0:AFTN:ECS:1:15
ECS1:TXKF:0:AFTN:ECS:4:7
ECS1:HFROT:0:AFTN:ECS:-:-
ECS1:SAR101:0:TAPE:ECS:17:-
ECS1:SAR102:0:TAPE:ECS:-:-
ECS1:CIU:0:CIU:ECS:-:-
ECS1:QGV:1:CD:ECS:3:-
ECS1:QGV:2:CD:ECS:-:-
ECS1:QGV:3:CD:ECS:-:-
ECS1:QBA:1:CD:ECS:-:-
ECS1:QBA:2:CD:ECS:-:-
ECS1:QXX:1:CD:ECS:-:-
ECS1:QYY:1:RADAR:ECS:-:-
ECS1:QGV: :CD:ECS:-:-
ECS1:QBA: :CD:ECS:-:-
ECS1:QXX: :CD:ECS:-:-
ECS1:QYY: :RADAR:ECS:-:-
#
ECS2:CTS:0:CTS:ECS:19:-
```

ECS2:NORD-T:0:NORAD:ECS:4:2  
ECS2:WMSCR:0:X25:ECS:1:3  
ECS2:CPDLC:0:X25:ECS:1:2  
ECS2:TMX:0:ETMS:ECS:4:3  
ECS2:ZCJ:0:NAS:ECS:4:5  
ECS2:ZCR:0:NAS:ECS:4:6  
ECS2:ZCN:0:NAS:ECS:4:4  
ECS2:ZCW:0:NAS:ECS:4:8  
ECS2:ZSU:0:NAS:ECS:1:8  
ECS2:CZQM:0:AFTN:ECS:1:9  
ECS2:CZQX:0:AFTN:ECS:1:10  
ECS2:LPPO\_F:0:AFTN:ECS:1:11  
ECS2:TTZP\_F:0:AFTN:ECS:1:12  
ECS2:AFTN:0:X25:ECS:1:1  
ECS2:AOCFSS:0:AFTN:ECS:1:14  
ECS2:HFRO:0:AFTN:ECS:1:4  
ECS2:BASEOP:0:AFTN:ECS:1:15  
ECS2:TXKF:0:AFTN:ECS:4:7  
ECS2:HFROT:0:AFTN:ECS:-:-  
ECS2:SAR101:0:TAPE:ECS:17:-  
ECS2:SAR102:0:TAPE:ECS:-:-  
ECS2:CIU:0:CIU:ECS:-:-  
ECS2:QGV:1:CD:ECS:3:-  
ECS2:QGV:2:CD:ECS:-:-  
ECS2:QGV:3:CD:ECS:-:-  
ECS2:QBA:1:CD:ECS:-:-  
ECS2:QBA:2:CD:ECS:-:-  
ECS2:QXX:1:CD:ECS:-:-  
ECS2:QYY:1:RADAR:ECS:-:-  
ECS2:QGV: :CD:ECS:-:-  
ECS2:QBA: :CD:ECS:-:-  
ECS2:QXX: :CD:ECS:-:-  
ECS2:QYY: :RADAR:ECS:-:-

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## **ZOA\_EXT\_IF.txt**

#Proc\_Name:IF\_Name:IF\_ChnInd:IF\_Type:IF\_SVR:IF\_Card:IF\_Port

#

#ZOA IF SUMMARY

#

FDPS1:FTI:0:LAN:FDPS:1:-

FDPS1:WINS:0:LAN:FDPS:1:-

#

FDPS2:FTI:0:LAN:FDPS:1:-

FDPS2:WINS:0:LAN:FDPS:1:-

#

ECS1:NORD-T:0:NORAD:ECS:4:2

ECS1:WMSCR:0:X25:ECS:1:3

ECS1:CPDLC:0:X25:ECS:1:2

ECS1:TMX:0:ETMS:ECS:4:3

ECS1:ZCV:0:NAS:ECS:4:7

ECS1:ZCL:0:NAS:ECS:4:5

ECS1:ZCO:0:NAS:ECS:4:4

ECS1:ZCE:0:NAS:ECS:1:22

ECS1:ZCS:0:NAS:ECS:4:6

ECS1:PAZN\_F:0:AFTN:ECS:1:7

ECS1:AYPY\_F:0:AFTN:ECS:1:9

ECS1:CZVR\_F:0:AFTN:ECS:1:10

ECS1:MZZT\_F:0:AFTN:ECS:1:11

ECS1:NTTT\_F:0:AFTN:ECS:1:12

ECS1:NFFF\_F:0:AFTN:ECS:1:13

ECS1:NZZO\_O:0:AFTN:ECS:1:14

ECS1:PGZU\_C:0:AFTN:ECS:1:15

ECS1:RJJJ\_F:0:AFTN:ECS:1:16

ECS1:RORG\_F:0:AFTN:ECS:1:17

ECS1:RPHI\_F:0:AFTN:ECS:1:18

ECS1:WAAZ\_F:0:AFTN:ECS:1:19

ECS1:AFTN:0:X25:ECS:1:1

ECS1:WABZ\_F:0:AFTN:ECS:1:20

ECS1:HFRO:0:X25:ECS:1:4

ECS1:YBBB\_F:0:AFTN:ECS:1:21

ECS1:AOCFSS:0:AFTN:ECS:1:23

ECS1:BASEOP:0:AFTN:ECS:1:24

ECS1:ZCO-O:0:NAS-O:ECS:-:-

ECS1:ZCL-O:0:NAS-O:ECS:-:-

ECS1:ZCS-O:0:NAS-O:ECS:-:-

ECS1:ZCV-O:0:NAS-O:ECS:-:-

ECS1:PAZA\_F:0:AFTN:ECS:1:5

ECS1:SAR101:0:TAPE:ECS:17:-

ECS1:SAR102:0:TAPE:ECS:-:-

ECS1:CIU:0:CIU:ECS:-:-  
ECS1:ZCO-T:0:NAS-T:ECS:-:-  
ECS1:ZCL-T:0:NAS-T:ECS:-:-  
ECS1:ZCS-T:0:NAS-T:ECS:-:-  
ECS1:ZCV-T:0:NAS-T:ECS:-:-  
ECS1:QXX:1:CD:ECS:-:-  
ECS1:QXX:2:CD:ECS:-:-  
ECS1:QXX:3:CD:ECS:-:-  
ECS1:QYY:1:CD:ECS:-:-  
ECS1:QYY:2:CD:ECS:-:-  
ECS1:QYY:3:CD:ECS:-:-  
ECS1:CTS:0:CTS:ECS:19:-  
#  
ECS2:NORD-T:0:NORAD:ECS:4:2  
ECS2:WMSCR:0:X25:ECS:1:3  
ECS2:CPDLC:0:X25:ECS:1:2  
ECS2:TMX:0:ETMS:ECS:4:3  
ECS2:ZCV:0:NAS:ECS:4:7  
ECS2:ZCL:0:NAS:ECS:4:5  
ECS2:ZCO:0:NAS:ECS:4:4  
ECS2:ZCE:0:NAS:ECS:1:22  
ECS2:ZCS:0:NAS:ECS:4:6  
ECS2:PAZN\_F:0:AFTN:ECS:1:7  
ECS2:AYPY\_F:0:AFTN:ECS:1:9  
ECS2:CZVR\_F:0:AFTN:ECS:1:10  
ECS2:MZZT\_F:0:AFTN:ECS:1:11  
ECS2:NTTT\_F:0:AFTN:ECS:1:12  
ECS2:NFFF\_F:0:AFTN:ECS:1:13  
ECS2:NZZO\_O:0:AFTN:ECS:1:14  
ECS2:PGZU\_C:0:AFTN:ECS:1:15  
ECS2:RJJJ\_F:0:AFTN:ECS:1:16  
ECS2:RORG\_F:0:AFTN:ECS:1:17  
ECS2:RPHI\_F:0:AFTN:ECS:1:18  
ECS2:WAAZ\_F:0:AFTN:ECS:1:19  
ECS2:AFTN:0:X25:ECS:1:1  
ECS2:WABZ\_F:0:AFTN:ECS:1:20  
ECS2:HFRO:0:X25:ECS:1:4  
ECS2:YBBB\_F:0:AFTN:ECS:1:21  
ECS2:AOCFSS:0:AFTN:ECS:1:23  
ECS2:BASEOP:0:AFTN:ECS:1:24  
ECS2:ZCO-O:0:NAS-O:ECS:-:-  
ECS2:ZCL-O:0:NAS-O:ECS:-:-  
ECS2:ZCS-O:0:NAS-O:ECS:-:-  
ECS2:ZCV-O:0:NAS-O:ECS:-:-  
ECS2:PAZA\_F:0:AFTN:ECS:1:5  
ECS2:SAR101:0:TAPE:ECS:17:-  
ECS2:SAR102:0:TAPE:ECS:-:-

ECS2:CIU:0:CIU:ECS:-:-  
ECS2:ZCO-T:0:NAS-T:ECS:-:-  
ECS2:ZCL-T:0:NAS-T:ECS:-:-  
ECS2:ZCS-T:0:NAS-T:ECS:-:-  
ECS2:ZCV-T:0:NAS-T:ECS:-:-  
ECS2:QXX:1:CD:ECS:-:-  
ECS2:QXX:2:CD:ECS:-:-  
ECS2:QXX:3:CD:ECS:-:-  
ECS2:QYY:1:CD:ECS:-:-  
ECS2:QYY:2:CD:ECS:-:-  
ECS2:QYY:3:CD:ECS:-:-  
ECS2:CTS:0:CTS:ECS:19:-

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## Appendix C – Processor Element Configuration File

The hardware and software elements of each processor type are defined in a file called “AMCS\_Proc\_Elements.txt” located on the PC where the AMCS application was installed in the “C:\AMCS\ADP\” folder. The first line of this file is an embedded comment that describes the syntax of the records included. Each record identifies the list of software or hardware elements of the processor name identified in the first field. The second field specifies whether software or hardware elements follow. Note that records that end with “...” have been truncated to make this file more readable in this document. The content of this file is presented below.

```
#ProcName:ElementType:ElementName:ElementName:ElementName:ElementName
#
SNCS:SW:AUDIT:WDOG:CSMCP:SEND:HMON:DARA:XFER:CFCE:QMAN:SYSRV...
SNCS:HW:CDROM:FSP:HDISK:LAN_1A:LAN_1B:LAN_1S:LAN_2A:LAN_2B:LAN_2S...
#
SDPS:SW:MEARTS:AUDIT:WDOG:SEND:HMON:DARA:XFER:DAEM:CPMD:DELD...
SDPS:HW:CDROM:HDISK:LAN_1:LAN_2:MAINT:MEM:PROC1:SCSI_A:SCSI_B:SSA...
#
DRPS:SW:AUDIT:WDOG:SEND:HMON:DAEM:CPMD:DELD:RDCS:NOMS:RTAG...
DRPS:HW:CDROM:HDISK:LAN_1:LAN_2:MAINT:MEM:PROC1:SCSI_A:SCSI_B:TA...
#
FRPP:SW:AUDIT:WDOG:SEND:HMON:DISP:DAEM:CPMD:DELD:RDCS:NOMS:RT...
FRPP:HW:CDROM:HDISK:KB_IF:LAN_1:LAN_2:MEM:MS_IF:PROC1:SCSI_A:SCSI_B
#
FDPS:SW:MCSNC:AUDIT:WDOG:CSMCP:SEND:IPIF:HMON:QFCE:QMAN:SYCLI...
FDPS:HW:CDROM:HDISK:LAN_1:LAN_2:MAINT:MEM:PROC1:PROC2:PROC3:PR...
#
ECS:SW:AUDIT:WDOG:SEND:HMON:CHNM:DAEM:CPMD:DELD:RDCS:NOMS:R...
ECS:HW:CDROM:HDISK:LAN_1:LAN_2:MAINT:MEM:PROC1:SCSI_A:SCSI_B
#
MCP:SW:AUDIT:WDOG:SEND:HMON:MCP:DAEM:CPMD:DELD:RDCS:NOMS:R...
MCP:HW:ALARM:CDROM:HDISK:KB_IF:LAN_1:LAN_2:MAINT:MEM:MS_IF:PR...
#
SPP:SW:MXDISP:AUDIT:WDOG:SEND:HMON:DISP:DAEM:CPMD:DELD:RDCS:N...
SPP:HW:CDROM:HDISK:KB_IF:LAN_1:LAN_2:MEM:MS_IF:PROC1:SCSI_A:SCSI_B
#
CWP:SW:MXDISP:AUDIT:WDOG:SEND:HMON:DISP:DAEM:CPMD:DELD:RDCS:NO...
CWP:HW:ALARM:CDROM:HDISK:KB2_IF:KB_IF:LAN_1:LAN_2:MEM:MS2_IF:MS_...
```

---

## Appendix D – Log Files

AMCS log files are produced as a part of the normal operating procedures of the AMCS application. An example excerpt of the date and time stamped contents is provided below.

```
02/25/10 13:41:19 - Init: *****
02/25/10 13:41:19 - Init:     Initializing Client
02/25/10 13:41:19 - Init: *****
02/25/10 13:41:25 - Sent: ELEM_STAT####ECS1##SW##AUDIT##DOWN!!
02/25/10 13:41:25 - Sent: PROC_STAT####ECS1##DOWN!!
02/25/10 13:41:25 - Sent: ELEM_STAT####ECS1##SW##WDOG##DOWN!!
02/25/10 13:41:25 - Sent: ELEM_STAT####ECS1##SW##SEND##DOWN!!
02/25/10 13:41:25 - Sent: ELEM_STAT####ECS1##SW##HMON##DOWN!!
02/25/10 13:41:25 - Sent: ELEM_STAT####ECS1##SW##CHNM##DOWN!!
02/25/10 13:41:25 - Sent: ELEM_STAT####ECS1##SW##DAEM##DOWN!!
02/25/10 13:41:25 - Sent: ELEM_STAT####ECS1##SW##CPMD##DOWN!!
02/25/10 13:41:25 - Sent: ELEM_STAT####ECS1##SW##DELD##DOWN!!
02/25/10 13:41:25 - Sent: ELEM_STAT####ECS1##SW##RDCS##DOWN!!
02/25/10 13:41:25 - Sent: ELEM_STAT####ECS1##SW##NOMS##DOWN!!
```

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## Appendix E – Event/Alert Messages

The list of AMCS Event and Alert messages was generated from Appendix A of the NASP-4509-T1200, Technical Operations Services (TOS) Operator’s Manual. The messages were exported from an RTF format of this appendix into a 4 column spreadsheet and from the spreadsheet into a tab delimited text file. The tab delimited text file is read by the AMCS Stimulator application and used to populate the Message Injection views. An excerpt from the contents of the text file is included here.

| ID | Error Name    | Text Recorded and Displayed     | Event/Alert |
|----|---------------|---------------------------------|-------------|
| 0  | GENTEXT       | GENTEXT — %s                    | EVENT       |
| 1  | execl         | System call execl: %m           | EVENT       |
| 2  | fork          | System call fork: %m            | EVENT       |
| 3  | malloc        | System call malloc: %m          | EVENT       |
| 4  | msgctl        | System call msgctl: %m          | EVENT       |
| 5  | msgget        | System call msgget: %m          | EVENT       |
| 6  | msgrcv        | System call msgrcv: %m          | EVENT       |
| 7  | msgsnd        | System call msgsnd: %m          | EVENT       |
| 8  | realloc       | System call realloc: %m         | EVENT       |
| 9  | SYSOPEN       | (%s) open file (%s) failed : %m | EVENT       |
| 10 | SYSSHMCTL     | shmctl failed, shmid %d : %m    | EVENT       |
| 11 | SYSSEMGET     | semget failed, key %d : %m      | EVENT       |
| 12 | SYSSEMOP      | semop failed, semid %d : %m     | EVENT       |
| 13 | SYSSHEMCTL    | semctl failed, semid %d : %m    | EVENT       |
| 14 | SYSWAITPID    | waitpid failed : %m             | EVENT       |
| 20 | SYSSIGACTION  | sigaction failed : %m           | EVENT       |
| 21 | SYSSIGBLOCK   | sigblock failed : %m            | EVENT       |
| 22 | SYSSIGSETMASK | sigsetmask failed : %m          | EVENT       |
| 23 | SYSGETTIME    | gettimeofday failed : %m        | EVENT       |
| 24 | SYSKILL       | kill failed : %m                | EVENT       |

---

## Appendix F – Tool Tip Text File

The AMCS Tool Tips file is located on the PC where the AMCS application was installed in the “C:\AMCS\ADP\” folder. The file is named “ToolTips.txt”. It includes, at the top, a “Readme” narrative that explains the contents of the file and how the contents may be modified to support the AMCS application. The file contents are grouped by AMCS application dialog to simplify searching for the object to which Tool Tips may be added. As explained below, object IDs may not be modified. They correspond to software descriptor names, and therefore, new object IDs may not be added without software changes to support them. This initial version of this file was created to provide the most flexible method for user based modification of AMCS application object tool tips. The display of tool tips may be turned on/off via a new application main menu bar item named “Tools”. If “Tools” is selected, the user may turn the display of tool tips on or off using the pull down menu. The content of the text file is included below.

```
###
### README
###
### This configuration file (ToolTips.txt) has the following format:
### ObjectID:ToolTipText, where ObjectID is composed of initials of all but the last
### word in the dialog title, then initials of all but the last word in the object title.
### For example, ALogDAll corresponds to the "Delete All" button in the
### "Alert Log" dialog. The user must not change the ObjectID, but can change
### the ToolTipText by simply typing the desired text after the colon of the
### corresponding ObjectID, e.g. to add a tooltip to the blinking red light in the Alert
### Log, just scroll down to the Alert Log section, find the red light's ObjectID,
### place the cursor at the end of the line, and start typing (see the example below in
### the Alert Log section).
###
### Additional Notes
### 1. New lines may be inserted automatically or manually
###   Automatic: After a predefined number of characters, text is
###     is wrapped to a new line with no user intervention required,
###     (just type and the program will handle the TooTipText formatting)
###   Manual: If you need to press <ENTER> key, STOP! Instead type
###     the sequence "\n\" (without quotes) where the new line
###     (ie <ENTER> key) is needed. This is equivalent to pressing
###     the <ENTER> key, so do not surround the sequence with spaces
###     unless you want those spaces to appear (see the example below).
###   NEVER press the <ENTER> key or the <TAB> key in ToolTipText.
###
### 2. Any line that BEGINS with the '#' symbol indicates a comment in
###   this file (as you may have noticed), so feel free to leave notes for yourself.
###
### 3. ToolTips are displayed only on objects that are enabled with the application.
###
```

##### ADS-B/WARP #####

AWARPADSB:  
AWARPWARP:  
AWARPText:  
AWARPCCounts:  
AWARPClose:

##### Alert Log ##### EXAMPLES

ALogLog:  
ALogSDate:  
ALogSTime:  
ALogSProcessor:  
ALogRLight: This is a blinking red light?  
ALogAAll:  
ALogAAlarm: AN ALARM\n\nOn: Enables the alarm\n\nOff: Disables the alarm  
ALogDAll:  
ALogText:

##### Change Password #####

CPwdUID:  
CPwdOPassword:  
CPwdNPassword:  
CPwdConfirmation:  
CPwdOK:  
CPwdClose:

##### Channel Management #####

CMgmtChannel:  
CMgmtSCMode:  
CMgmtActive:  
CMgmtBackup:  
CMgmtIsolate:  
CMgmtOK:  
CMgmtClose:

##### Channel Startup/Shutdown #####

CSSStopChannel:  
CSSStopCRelease:  
CSSStopSRelease:  
CSSStopHConfiguration:  
CSSStopEnvironment:  
CSSStopTCB:  
CSSStopStart:  
CSSStopStop:

CSSStopTest:  
CSSStopReboot:  
CSSStopCancel:

##### Channel Startup Status #####

CSSStatStatus:  
CSSStatLog:  
CSSStatExit:  
CSSStatPrint:

##### Channel Status #####

CStatType:  
CStatUser:  
CStatSector:  
CStatRPlay:  
CStatCPU:  
CStatClear:

CStatProc00:  
CStatProc01:  
CStatProc02:  
CStatProc03:  
CStatProc04:  
CStatProc05:  
CStatProc06:  
CStatProc07:  
CStatProc08:  
CStatProc09:

CStatProc10:  
CStatProc11:  
CStatProc12:  
CStatProc13:  
CStatProc14:  
CStatProc15:  
CStatProc16:  
CStatProc17:  
CStatProc18:  
CStatProc19:

CStatProc20:  
CStatProc21:  
CStatProc22:  
CStatProc23:  
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CStatProc25:  
CStatProc26:  
CStatProc27:  
CStatProc28:  
CStatProc29:

CStatProc30:  
CStatProc31:  
CStatProc32:  
CStatProc33:  
CStatProc34:  
CStatProc35:  
CStatProc36:  
CStatProc37:  
CStatProc38:  
CStatProc39:

##### Distributed Releases #####

DRelText:  
DRelClose:

##### Event Log #####

ELogLog:  
ELogSMode:  
ELogSDate:  
ELogSTime:  
ELogSProcessor:  
ELogSSeverity:  
ELogCPrint:  
ELogText:  
ELogSearch:  
ELogClose:

##### Event Log Query #####

ELQueryADTime:  
ELQueryADDdate:  
ELQueryADHour:  
ELQueryADMinute:  
ELQueryODTime:  
ELQueryODDate:  
ELQueryODHour:  
ELQueryODMinute:  
ELQuerySeverity:  
ELQueryProcessor:

ELQueryText:  
ELQueryApply:  
ELQueryClose:

##### Event Log Query Result #####

ELQResultResult:  
ELQResultSDate:  
ELQResultSTime:  
ELQResultSProcessor:  
ELQResultSSeverity:  
ELQResultText:  
ELQResultPrint:  
ELQResultClose:

##### External Interfaces Detail #####

EIDetailName:  
EIDetailType:  
EIDetailSVR:  
EIDetailExt:  
EIDetailMCounts:  
EIDetailFECS:  
EIDetailAct:  
EIDetailCCard:  
EIDetailRPort:  
EIDetailHW:  
EIDetailLink:  
EIDetailText:  
EIDetailReset:  
EIDetailClose:

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##### List of User's Authorization Levels #####

LUALevelsUID:  
LUALevelsUName:  
LUALevelsAuthorization:  
LUALevelsEDate:  
LUALevelsLocked:  
LUALevelsText:  
LUALevelsClose:

##### M&C Global Menu #####

MCGMenuDScene:  
MCGMenuChannel:  
MCGMenuEvents:

MCGMenuEIF:  
MCGMenuSecurity:  
MCGMenuRMgmt:  
MCGMenuVerification:  
MCGMenuOther:  
MCGMenuCMode:  
MCGMenuDTStamp:  
MCGMenuSRelease:

##### OPEX #####

OPEXProcessor:  
OPEXResults:  
OPEXLTRun:  
OPEXText:  
OPEXROpex:  
OPEXClose:

##### Release Deletion #####

RDelProcessor:  
RDelRelease:  
RDelOK:  
RDelClose:

##### Release Distribution #####

RDistProcessor:  
RDistRelease:  
RDistOK:  
RDistClose:

##### RTQC Command Data Window #####

RCDWndSensor:  
RCDWndSList:  
RCDWndRDeviation:  
RCDWndRDMin:  
RCDWndRDMax:  
RCDWndADeviation:  
RCDWndADMin:  
RCDWndADMax:  
RCDWndNPeriod:  
RCDWndNPMIn:  
RCDWndNPUnit:  
RCDWndSSize:  
RCDWndSSMin:

RCDWndOK:  
RCDWndCancel:

##### SAR Gates #####

SGatesDEBUG:  
SGatesTDDPO:  
SGatesMSGSEND:  
SGatesTDFPI:  
SGatesTDAMI:  
SGatesTDFPM:  
SGatesTDAMM:  
SGatesTDFPO:  
SGatesTDAMO:  
SGatesTDMCPI:  
SGatesTDCRI:  
SGatesTDMCPM:  
SGatesTDCRM:  
SGatesTDGOI:  
SGatesTDCRO:  
SGatesTDGOO:  
SGatesTDCSI:  
SGatesTDMCPO:  
SGatesTDCSM:  
SGatesTDSYI:  
SGatesTDCSO:  
SGatesTDSYM:  
SGatesTDDPI:  
SGatesTDSYO:  
SGatesTDDPM:  
SGatesTPERFM:

SGatesAC:  
SGatesEX:  
SGatesMR:  
SGatesQC:  
SGatesST:  
SGatesAF:  
SGatesFC:  
SGatesMV:  
SGatesRA:  
SGatesTB:  
SGatesAT:  
SGatesIF:  
SGatesNC:  
SGatesRB:  
SGatesTD:

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SGatesBT:  
SGatesKF:  
SGatesNR:  
SGatesRT:  
SGatesTP:  
SGatesCA:  
SGatesMA:  
SGatesPF:  
SGatesRV:  
SGatesTY:  
SGatesCP:  
SGatesMD:  
SGatesPM:  
SGatesSM:  
SGatesWX:

##### Scripted Commands #####

SCmdText:  
SCmdOK:  
SCmdClose:

##### Sign On #####

SOnDisclosure:  
SOnNotice:  
SOnUID:  
SOnPassword:  
SOnSOn:  
SOnClose:

##### Simulation Verification #####

SVToolText:  
SVToolASInjection:  
SVToolOSInjection:  
SVToolCancel:

##### Surveillance Processing #####

SProcMessages:  
SProcSRClass:  
SProcSEPrint:  
SProcSCClass:  
SProcSMode:  
SProcSearch:  
SProcAAlarms:

SProcPrint:  
SProcEqars:  
SProcRtqc:  
SProcWork:  
SProcCa:  
SProcMsaw:  
SProcRam:  
SProcAds:  
SProcWarp:  
SProcCResponse:  
SProcCString:  
SProcCRequest:  
SProcApply:  
SProcCancel:

##### Surveillance Processing Query #####

SPQueryATime:  
SPQueryATHour:  
SPQueryATMinute:  
SPQueryOTime:  
SPQueryOTHour:  
SPQueryOTMinute:  
SPQueryText:  
SPQueryApply:  
SPQueryClose:

##### Surveillance Processing Query Result #####

SPQResultATime:  
SPQResultOTime:  
SPQResultSearch:  
SPQResultText:  
SPQResultPrint:  
SPQResultClose:

##### Unit Verification #####

UVerTProcessor:  
UVerDTime:  
UVerText:  
UVerPrint:  
UVerClose:

##### User Management #####

UMgmtAction:  
UMgmtUID:

UMgmtLocked:  
UMgmtUName:  
UMgmtPassword:  
UMgmtPCConfirm:  
UMgmtPEDate:  
UMgmtAuthorization:  
UMgmtOK:  
UMgmtApply:  
UMgmtClear:  
UMgmtClose:

##### VSPs #####

VSPsType:  
VSPsName:  
VSPsValue:  
VSPsPrevious:  
VSPsMin:  
VSPsMax:  
VSPsDTime:  
VSPsText:  
VSPsFMVParameter:  
VSPsVName:  
VSPsVType:  
VSPsCValue:  
VSPsNValue:  
VSPsSearch:  
VSPsApply:  
VSPsClear:  
VSPsClose:

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