
DEVELOPER



The **ARRIS Developer** allows the user to compile and archive custom programs and menus within **ARRIS**. It manages the developer environment and provides tools for loading and unloading sigmac and menu libraries.

A [Sigmac](#) is a compiled program within **ARRIS**. It is written in the [Sigmac](#) language hence the name, which stands for "Sigma C". Is a proprietary C-like syntax language which is easy to learn. Sigmacs can be everything from very simple programs which just tie together other **ARRIS** commands, to full blown applications. The sigmac program is written in a source code file which is an ascii text file and uses the .ff extension. The program is then compiled, which creates a machine language version of the program as a .gg file. The compiled .gg file is then archived into a sigmac library (.sm). When a Sigmac library is loaded in **ARRIS**, all compiled sigmac programs within it are available for use. The storage within a library and library loading process is similar to **ARRIS** Repeated Items. Refer to the [Sigmac](#) topic in the **ARRIS** Encyclopedia.

Menus in **ARRIS** are created in a similar way to Sigmac programs. The menu is defined in a source code file which is an ascii text file using the .mt extension. The menu is then compiled, creating a machine language .md file. The .md file is archived into a menu library which has a .ml extension. Like sigmacs, when the menu library is loaded in **ARRIS**, all menus archived within it are available for use. Refer to the [Menus](#) topic of the **ARRIS** Encyclopedia.

This topic describes the tools and methods which may be used to compile and archive Sigmac programs and Menus. It does not discuss the Sigmac language or syntax, or menu syntax used in the source files to create these programs and menus. Refer to the Sigmac Guide for more information on creating these files

The **ARRIS** Developer may be accessed by selecting it from the Plug-ins menu. Refer to the [Plug-ins](#) topic for more information. When the **ARRIS** Developer Plug-in is loaded, the developer commands and menus will be loaded and the **ARRIS Developer** Application Sub-Menu will be displayed.

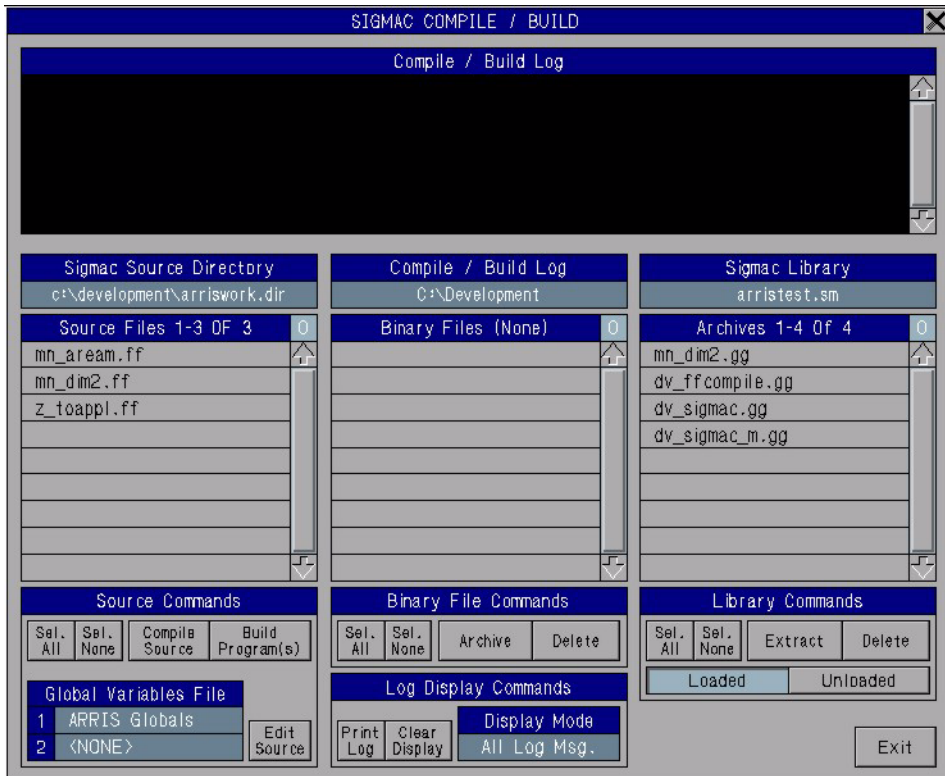
The **ARRIS** Developer menu contains buttons for the Sigmac Compile / Build and Menu Compile / Build programs at the top. Below this is the Sigmac Library section which contains functions for loading, unloading, and viewing the status of Sigmac Libraries. Next is the Menu Library section which contains functions for loading, unloading, and viewing the status of Menu Libraries. Finally is the Utilities section which contains functions for setting default parameters for the Development environment, and utilities for opening the Repeated Item Select and Repeated Item Library Manager, to view and manage Menu graphic Repeated Items.

ARRIS DEVELOPER		
Sigmac Compile / Build		
Menu Compile / Build		
SIGMAC LIBRARY		
Load	Un-Load	Status
MENU LIBRARY		
Load	Un-Load	Status
UTILITIES		
Menu RI Select	Develop. Param.	
Menu RI Manager		

Sigmac Compile / Build

The **SIGMAC COMPILE / BUILD** program allows you to compile Sigmac program source code files (.ff) to create compiled machine language files (.gg) and archive them into a Sigmac Library (.sm). The compile and archive steps may be done separately, or may be done together - a "build" - as a single step.

When The **SIGMAC COMPILE / BUILD** program is started, the **SIGMAC COMPILE / BUILD** pop-up menu will appear.



This menu is divided into 4 areas - Sigmac Source, Working Directory, Sigmac Library, and Compile / Build Log. Each area contains a listing of files or archives and a group of commands for performing functions within that area.

General Commands

EXIT: Selecting this box will exit the **SIGMAC COMPILE / BUILD** feature and clear the menu from the screen.

Sigmac Source Directory

This box displays the directory on your computer file system where your sigmac source code files are stored. You must select this directory to tell **ARRIS** where to look for your source files.

When this box is selected, **ARRIS** will prompt for your source code directory. You can enter the full path to the directory on your file system, or you may select **BROWSE** and browse for it. The Development default Sigmac source directory will also be displayed as a choice for this prompt. The

development default Sigmac source directory is a user specified directory that is set in the Deveopment Parameters. See the [Development Parameters](#) section of this topic below. When the directory is selected, the sigmac source code files (.ff files) located within it will be displayed in the [Source Files](#) list below the [Sigmac Source Directory](#) box.

Note 1: It is highly recommended that you create one or more separate directories in your computer file system to store and manage your sigmac and menu source code files.

Sigmac Source Files List

These boxes display the Sigmac source code files (.ff files) found within the Sigmac Source Directory specified in the box above. The title box will display the number of files currently displayed on the menu and the number of total files found in the directory. If the entire list is too long to display in the available Source File list boxes, the sidebar to the right of the list may be used to page up and down the list. See the [Slidebars](#) discussion in this topic below.

Sigmac source files on the list are selected for further action by left clicking with the mouse on the list box which displays the file name. When a Sigmac source file is selected, it will be highlighted. The small highlighted box to the right of the Source Files title will indicate the number of files on the list currently selected.

Sigmac Source Commands

These boxes perform the specified action on the Sigmac source code files (.ff files) which are selected (highlighted) on the Sigmac Source files list.

SELECT ALL: Selecting this box will select and highlight all Sigmac Source files (.ff files) found on the Sigmac Source Files list. All files will be selected for further action.

SELECT NONE: Selecting this box will unselect and unhighlight all Sigmac Source files (.ff files) found on the Sigmac Source Files list. No further action is allowed on these files.

COMPILE SOURCE FILE(S): Selecting this box will compile all the Sigmac source code file(s) selected on the [Sigmac Source Files](#) list. The machine language .gg file will be created for each source file selected and be placed in the working directory. The .gg file will be added to the [Binary Files](#) list. If a previous binary file (.gg file) exists, it will be replaced by the new compile.

The Compile process will be logged on the [Compile Build Log](#) portion of the

menu. Refer to the [Compile / Build Log](#) discussion in this topic below for more information.

BUILD PROGRAM(S): Selecting this box will "build" all of the Sigmac source code file(s) selected on the [Sigmac Source Files](#) list. The machine language .gg file will be created for each source file selected and then be archived into the selected [Sigmac Library](#). The .gg file will be added to the [Sigmac Library Archive](#) list. If a previous binary file (.gg file) exists in the library, it will be replaced by the new compile. The selected working directory is used to compile and archive the file so if a previous binary (.gg) file exists for the program in the working directory, it will be deleted.

The Build process will be logged on the [Compile Build Log](#) portion of the menu. Refer to the [Compile / Build Log](#) discussion in this topic below for more information.

GLOBAL VARIABLES FILE: This box displays up to 2 [Global Variables files](#) which will be used during the compiling of the Sigmac. A global variables file is a special type of sigmac which names global variables - variables which retain their value across all functions throughout the **ARRIS** session. It may also specifically designate the variable type. When a global variables file is used in the compile, the global variables defined in the file are also defined for the Sigmac being compiled.

Selecting the first box allows you to select the **ARRIS** global variables file for your version of **ARRIS** found in the \ap\sdi.vn\develop.ap (**ARRIS** Developer Application) subdirectory of your **ARRIS** installation, [<NONE>](#) for defining no global variables file, or [BROWSE](#) which allows you to browse your computer file system for the global variable file to use. You may also enter the full path to the global variables file desired at the keyboard.

Selecting the second box allows you to select a second global variables file to be used in compiling sigmacs. This would generally be a custom global variables file that you wish to use in addition to using the **ARRIS** global variables file. The default selection is [<NONE>](#).

EDIT SOURCE: Selecting this box will open the source code file(s) selected on the Sigmac Source Files list in the Development Text Editor. From here the source file may be edited. The editor to be used may be set in the Development Parameters. Refer to the [Development Parameters](#) section of this topic.

Working Directory

This box displays the directory on your computer file system to use as the

working directory for compiling and building Sigmacs. When Sigmac source code files are compiled, the resulting binary file is stored in this directory. When Sigmac source files are built, this directory is used for the creation of the binary file which is then archived to the named Sigmac Library. You must select this directory to tell **ARRIS** where to compile files.

When this box is selected, **ARRIS** will prompt for the working directory. You can enter the full path to the directory on your file system, or you may select BROWSE and browse for it. The Development Parameters default working directory will also be displayed as a choice for this prompt. The Development Parameters default working directory is a user specified directory that is set in the Deveopment Parameters. See the [Development Parameters](#) section of this topic below. When the directory is selected, the compiled sigmac binary files (.gg files) located within it will be displayed in the Binary Files list below the Working Directory box.

Note 1: It is highly recommended that you create a separate directory in your computer file system to be used as your development working directory. It is also recommended that the Working Directory and the Sigmac Source Directory not be the same. It is however OK (or even desirable) to have the source directory as a subdirectory of the working directory.

Sigmac Binary Files List

These boxes display the Sigmac binary files (.gg files) found within the development working directory specified in the box above. The title box will display the number of files currently displayed on the menu and the number of total files found in the directory. If the entire list is too long to display in the available Binary File list boxes, the scrollbar to the right of the list may be used to page up and down the list. See the [Slidebars](#) discussion in this topic below.

Binary files on the list are selected for further action by left clicking with the mouse on the list box which displays the file name. When a binary file is selected, it will be highlighted. The small highlighted box to the right of the Binary Files title will indicate the number of files on the list currently selected.

Binary File Commands

These boxes perform the specified action on the Sigmac binary files (.gg files) which are selected (highlighted) on the Binary Files list.

SELECT ALL: Selecting this box will select and highlight all Sigmac Binary files (.gg files) found on the Binary Files list. All files will be selected for further action.

SELECT NONE: Selecting this box will unselect and unhighlight all Sigmac binary files (.gg files) found on the Binary Files list. No further action is allowed on these files.

ARCHIVE: Selecting this box will archive the selected Sigmac binary file(s) on the Binary Files list into the Sigmac Library shown. If the binary file exists in the Sigmac Library, it will be replaced. The archive process is a "copy" process so the selected Binary files are left in the Working Directory.

DELETE: Selecting this box will delete the selected Sigmac binary file(s) on the Binary Files list from the disk.

Note 1: Once the Sigmac binary file is archived into a Sigmac library, it is no longer needed on the disk and may be deleted. If it is needed for some reason, such as archiving into a different library, it may always be extracted from the library containing it.

Sigmac Library

This box displays the current Sigmac Library into which Sigmac Binary files may be archived or built. The Sigmac Library must be located in the Working Directory shown on the **SIGMAC COMPILE / BUILD** Menu for the compile or build process. If needed it may be copied to another location on your computer for ultimate loading and use. If the named Sigmac library does not exist in the working directory, it will be created there when a Sigmac is built or archived to it.

When this box is selected, **ARRIS** will prompt for the Sigmac Library name. You can enter the library name at the keyboard or you may select the **BROWSE** box and browse the working directory for it. The sigmac libraries "file.sm" and "user.sm" will be displayed as choices for the Sigmac Library. These are standard default user sigmac library names. When the Sigmac Library is selected, the archived sigmac binary files (.gg files) located within it will be displayed in the Archives list below the Sigmac Library box.

Note 1: User Sigmac programs should *never* be archived into an **ARRIS** or Plug-In sigmac library. There are safeguards in the **SIGMAC COMPILE / BUILD** function that prevent this. User programs should be kept in a separate user library. If a user altered sigmac has the same name as an **ARRIS** command and the user library is loaded after the **ARRIS** library, on execution the user command will be used instead of the **ARRIS** command.

Sigmac Library Archives List

These boxes display the Sigmac binary files (.gg files) archived within the

Sigmac library specified in the box above. The title box will display the number of archives currently displayed on the menu and the number of total archives found in the library. If the entire list is too long to display in the available Archive list boxes, the sidebar to the right of the list may be used to page up and down the list. See the [Slidebars](#) discussion in this topic below.

Binary files on the list are selected for further action by left clicking with the mouse on the list box which displays the archive name. When an archive is selected, it will be highlighted. The small highlighted box to the right of the Archives title will indicate the number of archives on the list currently selected.

Sigmac Library Commands

These boxes perform the specified action on the archived binary files (.gg files) which are selected (highlighted) on the Archives list.

SELECT ALL: Selecting this box will select and highlight all Sigmac Binary files (.gg files) found on the Archives list. All files will be selected for further action.

SELECT NONE: Selecting this box will unselect and unhighlight all Sigmac binary files (.gg files) found on the Archives list. No further action is allowed on these files.

EXTRACT: Selecting this box will extract the selected Sigmac binary file(s) in the Sigmac Library to the Working Directory. If the binary file exists in the working directory, it will be replaced. The archive extraction process is a "copy" process so the selected Binary archive(s) are left inside the Sigmac Library.

DELETE: Selecting this box will delete the selected Sigmac binary file archive(s) from the Sigmac Library.

LOADED: If this box is highlighted, the named Sigmac library is currently loaded in your **ARRIS** session. This means that the Sigmacs archived within it are available for execution. Selection of this box will load the Sigmac library, or reload it if it is already loaded.

Note 1: The Sigmac Library may have new archives added or existing archives updated while it is loaded. This means you can build to the library while it is loaded. If a program is changed and recompiled (rebuilt), the library must be reloaded in order for the changed program to be available. This may be done by clicking on the [Loaded](#) button.

UNLOADED: If this box is highlighted, the named Sigmac library is not currently loaded in your **ARRIS** session. This means that the Sigmacs archived within it are not available for execution. Selection of this box will unload the Sigmac library.

Compile / Build Log

When a Sigmac is compiled or built, the compile process will create a log to indicate the steps being performed and any errors that are encountered. These are displayed in the Compile / Build Log portion of the **SIGMAC COMPLE / BUILD** menu. If the log is too long to display in the available boxes, the sidebar to the right of the log may be used to page up and down the log. See the [Slidebars](#) discussion in this topic below.

In the Compile / Build log, standard information messages such as "Compiling" are shown in green. Warnings in the compile process are shown in purple. Errors are shown in red. Note that the program may still compile even with warnings and non-fatal errors. Be sure to check and see if the compiled binary .gg file was added to the list in a Compile or added to the Sigmac Library for a Build. During a build if the program has errors and does not compile, it will not be archived in the Sigmac Library.

Log Display Commands

These boxes perform the specified action on the Sigmac Compile / Build log.

DISPLAY MODE: The Sigmac Compile / Build log display has 3 different modes. These are All Log Messages, Error Messages Only, and .sm Library Long Display. The current mode is displayed in this box. Selecting the box allows you to set the mode.

All Log Messages displays all messages sent to the log. This includes information messages such as "Compiling <filename>" and "Archiving <filename>", as well as error messages and warnings.

Error Messages Only displays only error messages in the compile. This is useful when compiling only 1 program in early compiles where there is more likely to be errors.

.sm Library Long Display displays a more verbose list of all of the Sigmac binary files archived in the Sigmac Library. The verbose listing includes the size of the file, the date and time it was compiled, and the file name.

When the log display mode is set, the Log Display will update to reflect the setting.

CLEAR DISPLAY: Selecting this button clears the Compile / Build Log display.

PRINT LOG: Selecting this button sends the text of the Compile / Build Log to the default text printer. This is useful for debugging particularly long lists of errors.

Slidebars

The menu slidebars contained within the **SIGMAC COMPILE / BUILD** Menu allow the user to quickly browse through lists of Source Files, Binary Files, Sigmac Library Archives, and the Compile / Build Log Pages when the list is longer than the menu available to display it. These slidebars are located on the menu on the right side of the list for which they function. A sidebar consists of an up arrow at the top, a down arrow at the bottom, and a sidebar in between. The sidebar shows the proportion of, and relative location within the entire list of the portion of the list currently displayed in the menu. Refer to the [Slidebars](#) topic for more information. Sidebar commands are as follows:

UP ARROW: A left click selection on the [Up Arrow](#) moves the display of the list up 1 item. A right click selection on the [Up Arrow](#) moves the display of the list up 1 menu page.

DOWN ARROW: A left click selection on the [Down Arrow](#) moves the display of the list down 1 item. A right click selection on the [Down Arrow](#) moves the display of the list down 1 menu page.

SLIDEBAR: Selecting on the [Slidebar](#) moves the portion of the list displayed in the menu to the relative position of the selection on the sidebar.

Permissions

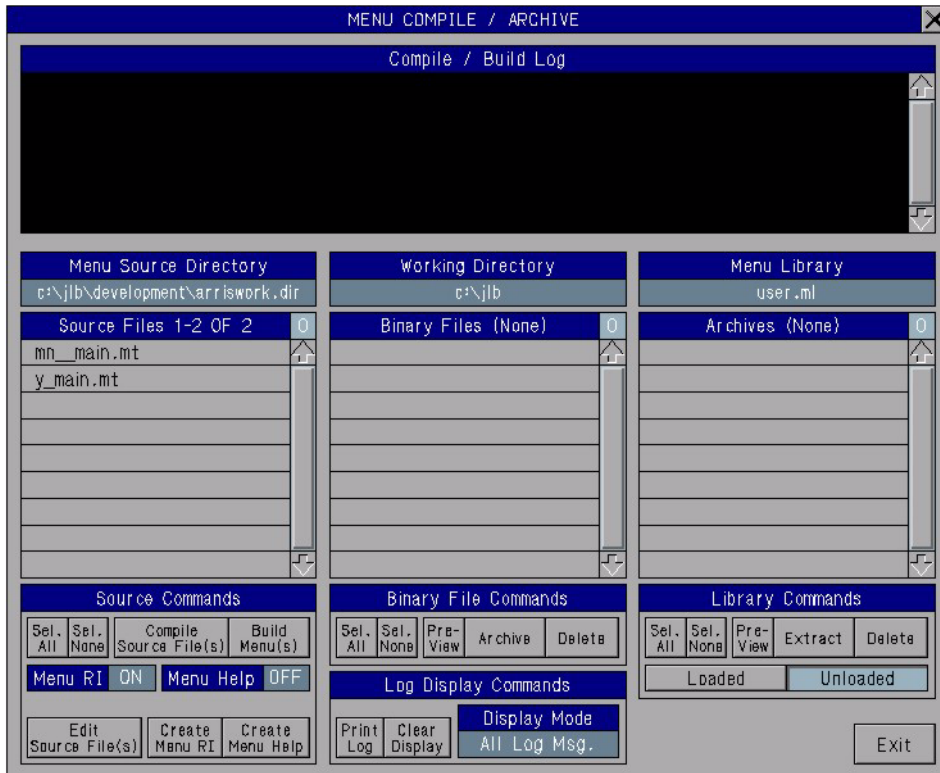
Access to Extract, Delete, or Build programs into a sigmac library can be limited to specific users. The **SIGMAC COMPILE / BUILD** feature uses the **ARRIS** Permissions feature to determine user permissions for an individual Sigmac library. The blockname to be used for user permissions for the **SIGMAC COMPILE / BUILD** program is the Sigmac Library name (i.e. "user.sm"). Refer to the [File Permissions](#) portion of the [Permissions](#) topic in the **ARRIS** Encyclopedia.

Menu Compile / Build

The **MENU COMPILE / BUILD** program allows you to compile custom **ARRIS** menu source code files (.mt) to create compiled machine language files (.md) and archive them into a Menu Library (.ml). The compile and archive steps may be done separately, or may be done together - a "build" - as a single step. The process is very similar to the Sigmac compile / build process described

above.

When The **MENU COMPILE / BUILD** program is started, the **MENU COMPILE / BUILD** pop-up menu will appear.



Similar to the **SIGMAC COMPILE / BUILD** menu, this menu is divided into 4 areas - Menu Source, Working Directory, Menu Library, and Compile / Build Log. Each area contains a listing of files or archives and a group of commands for performing functions within that area.

General Commands

EXIT: Selecting this box will exit the **MENU COMPILE / BUILD** feature and clear the menu from the screen.

Menu Source Directory

This box displays the directory on your computer file system where your custom menu source code files are stored. You must select this directory to tell **ARRIS** where to look for your source files.

When this box is selected, **ARRIS** will prompt for your source code directory. You can enter the full path to the directory on your file system, or you may select **BROWSE** and browse for it. The Development default Menu source directory will also be displayed as a choice for this prompt. The development default Menu source directory is a user specified directory that is set in the Deveopment Parameters. See the [Development Parameters](#) section of this topic below. When the directory is selected, the menu source code files (.mt files) located within it will be displayed in the [Source Files](#) list below the [Menu Source Directory](#) box.

Note 1: It is highly recommended that you create one or more separate directories in your computer file system to store and manage your sigmac and menu source code files.

Menu Source Commands

These boxes perform the specified action on the Menu source code files (.mt files) which are selected (highlighted) on the Menu Source files list.

SELECT ALL: Selecting this box will select and highlight all Menu Source files (.mt files) found on the Menu Source Files list. All files will be selected for further action.

SELECT NONE: Selecting this box will unselect and unhighlight all Menu Source files (.mt files) found on the Menu Source Files list. No further action is allowed on these files.

COMPILE SOURCE FILE(S): Selecting this box will compile all the Menu source code file(s) selected on the [Menu Source Files](#) list. The machine language .md file will be created for each source file selected and be placed in the working directory. The .md file will be added to the [Binary Files](#) list. If a previous binary file (.md file) exists, it will be replaced by the new compile.

The Compile process will be logged on the [Compile Build Log](#) portion of the menu. Refer to the [Compile / Build Log](#) discussion in this topic below for more information.

BUILD MENU(S): Selecting this box will "build" all of the Menu source code file(s) selected on the [Menu Source Files](#) list. The machine language .md file will be created for each source file selected and then be archived into the selected [Menu Library](#). The .md file will be added to the [Menu Library Archive](#) list. If a previous binary file (.md file) exists in the library, it will be replaced by the new compile. The selected working directory is used to compile and archive the file so if a previous binary (.md) file exists for the program in the working directory, it will be deleted.

The Build process will be logged on the [Compile Build Log](#) portion of the menu. Refer to the [Compile / Build Log](#) discussion in this topic below for more information.

MENU RI: Selection of this box toggles the Create Menu RI In Compile function [ON](#) and [OFF](#).

In order to completely create the menu, a Repeated Item is used for the graphic of the menu. This RI is normally created automatically from the menu source code file at the time the menu is compiled. The RI is named the same as the menu and stored by default in mnlbt.ri (or in the library specified in the Development Parameters). This is the process when this function is set to [ON](#).

If this function is set to [OFF](#), **ARRIS** will look in loaded repeated item libraries for a repeated item which matches the menu name. If one is found, it is used as the graphics of the menu. In this way the "look" of the menu may be customized by creating the menu graphic Repeated Item independently of the menu.

MENU HELP: Selection of this box toggles the Create Menu Help File In Compile function [ON](#) and [OFF](#).

When this function is set to [ON](#), during the menu compile or build process the menu source code file is read for help entries (HELPTX) for the various menu boxes and a menu help (.mh) file is created for the menu. This file is named with the same base name as the menu and is created in the menu Development Working Directory. When this file is placed in the "menuhelp" directory in the Standards directory (for user customized menus), the "menuhelp" directory inside an ARRIS Application directory (for application menus) or the \$ARRIS\lib\menuhelp directory, the help for the menu becomes available in the Middle Mouse Button Help feature. Refer to the [Help](#) topic for more information.

EDIT SOURCE FILE(S): Selecting this box will open the source file(s) selected on the Menu Source Files list in the Development Text Editor. From here the source file may be edited. The editor to be used may be set in the Development Parameters. Refer to the [Development Parameters](#) section of this topic.

CREATE MENU RI: Selecting this box will read the Menu source code file(s) and automatically generate the Repeated item which is used to create the graphics of the menu(s). The Repeated Item is stored in the Menu Graphic Repeated Item Library as defined in the Development Parameters. Refer to the [Development Parameters](#) section of this topic for setting the Menu Graphic Repeated Item Library.

Creating the repeated item used as the menu graphic is normally part of the compile process. This function allows you to create the RI from the source file without actually compiling the menu. In this way you can debug and fine tune the menu graphics alone.

CREATE MENU HELP: Selecting this box will read the Menu source code file(s) for help entries (HELPTX) for the various menu boxes and generate a menu help file (.mh) for the menu(s). The files will be named using the same base name as the menu(s) and will be created in the Development Working Directory. Refer to the [Help](#) topic for more information on menu help.

Creating the menu help file is normally part of the compile process. This function allows you to create the help file from the source file without actually compiling the menu. In this way you can debug and fine tune the menu help alone, or recompile just the help file if that is all that changed in the menu.

Working Directory

This box displays the directory on your computer file system to use as the working directory for compiling and building Menus. When Menu source code files are compiled, the resulting binary file is stored in this directory. When Menu source files are built, this directory is used for the creation of the binary file which is then archived to the named Menu Library. You must select this directory to tell **ARRIS** where to compile files.

When this box is selected, **ARRIS** will prompt for the working directory. You can enter the full path to the directory on your file system, or you may select [BROWSE](#) and browse for it. The Development Parameters default working directory will also be displayed as a choice for this prompt. The Development Parameters default working directory is a user specified directory that is set in the Deveopment Parameters. See the [Development Parameters](#) section of this topic below. When the directory is selected, the compiled menu binary files (.md files) located within it will be displayed in the [Binary Files](#) list below the [Working Directory](#) box.

Note 1: It is highly recommended that you create a separate directory in your computer file system to be used as your development working directory. It is also recommended that the Working Directory and the Menu Source Directory not be the same. It is however OK (or even desirable) to have the source directory as a subdirectory of the working directory.

Menu Binary Files List

These boxes display the Menu binary files (.md files) found within the development working directory specified in the box above. The title box will display the number of files currently displayed on the menu and the number

of total files found in the directory. If the entire list is too long to display in the available Binary File list boxes, the sidebar to the right of the list may be used to page up and down the list. See the [Slidebars](#) discussion in this topic below.

Binary files on the list are selected for further action by left clicking with the mouse on the list box which displays the file name. When a binary file is selected, it will be highlighted. The small highlighted box to the right of the Binary Files title will indicate the number of files on the list currently selected.

Binary File Commands

These boxes perform the specified action on the Menu binary files (.md files) which are selected (highlighted) on the Binary Files list.

SELECT ALL: Selecting this box will select and highlight all Menu Binary files (.md files) found on the Binary Files list. All files will be selected for further action.

SELECT NONE: Selecting this box will unselect and unhighlight all Menu binary files (.md files) found on the Binary Files list. No further action is allowed on these files.

PRE-VIEW: Selecting this box will display the menu graphic repeated item for the selected Binary file if the RI can be found in a currently loaded RI library. The program will automatically load the **ARRIS** menu RI library and the Default Menu Graphic RI library as set in the Development Defaults menu. The menu graphic RI is displayed in a pop-up menu which may be cleared from the screen by selecting the [Clear](#) button.



ARCHIVE: Selecting this box will archive the selected Menu binary file(s) on the Binary Files list into the Menu Library shown. If the binary file exists in the Menu Library, it will be replaced. The archive process is a "copy" process so the selected Binary files are left in the Working Directory.

DELETE: Selecting this box will delete the selected Menu binary file(s) on the Binary Files list from the disk.

Note 1: Once the Menu binary file is archived into a Menu library, it is no longer needed on the disk and may be deleted. If it is needed for some reason,

such as archiving into a different library, it may always be extracted from the library containing it.

Menu Library

This box displays the current Menu Library into which Menu Binary files may be archived or built. The Menu Library must be located in the Working Directory shown on the **MENU COMPILE / BUILD** Menu for the compile or build process. If needed it may be copied to another location on your computer for ultimate loading and use. If the named Menu library does not exist in the working directory, it will be created there when a Menu is built or archived to it.

When this box is selected, **ARRIS** will prompt for the Menu Library name. You can enter the library name at the keyboard or you may select the **BROWSE** box and browse the working directory for it. The menu library "user.ml" will be displayed as a choice for the Menu Library. This is a standard default user menu library name. When the Menu Library is selected, the archived menu binary files (.md files) located within it will be displayed in the Archives list below the Menu Library box.

Note 1: User Menus should *never* be archived into an **ARRIS** or Plug-In menu library. There are safeguards in the **MENU COMPILE / BUILD** function that prevent this. User menus should be kept in a separate user library. If a user altered menu has the same name as an **ARRIS** menu and the user library is loaded after the **ARRIS** library, on execution the user menu will be used instead of the **ARRIS** menu.

Menu Library Archives List

These boxes display the Menu binary files (.md files) archived within the Menu library specified in the box above. The title box will display the number of archives currently displayed on the menu and the number of total archives found in the library. If the entire list is too long to display in the available Archive list boxes, the scrollbar to the right of the list may be used to page up and down the list. See the Slidebars discussion in this topic below.

Binary files on the list are selected for further action by left clicking with the mouse on the list box which displays the archive name. When an archive is selected, it will be highlighted. The small highlighted box to the right of the Archives title will indicate the number of archives on the list currently selected.

Menu Library Commands

These boxes perform the specified action on the archived binary files (.md files) which are selected (highlighted) on the Archives list.

SELECT ALL: Selecting this box will select and highlight all Menu Binary files (.md files) found on the Archives list. All files will be selected for further action.

SELECT NONE: Selecting this box will unselect and unhighlight all Menu binary files (.md files) found on the Archives list. No further action is allowed on these files.

PRE-VIEW: Selecting this box will display the menu graphic repeated item for the selected Menu Archive binary file if the RI can be found in a currently loaded RI library. The program will automatically load the **ARRIS** menu RI library and the Default Menu Graphic RI library as set in the Development Defaults menu. The menu graphic RI is displayed in a pop-up menu which may be cleared from the screen by selecting the Clear button.



EXTRACT: Selecting this box will extract the selected Menu binary file(s) in the Menu Library to the Working Directory. If the binary file exists in the working directory, it will be replaced. The archive extraction process is a "copy" process so the selected Binary archive(s) are left inside the Menu Library.

DELETE: Selecting this box will delete the selected Menu binary file archive(s) from the Menu Library.

LOADED: If this box is highlighted, the named Menu library is currently loaded in your **ARRIS** session. This means that the Menus archived within it are available for execution. Selection of this box will load the Menu library, or reload it if it is already loaded.

Note 1: Unlike Sigmac libraries, menu libraries should not be loaded when new archives are added or exiting archives are updated, extracted, or deleted. This means you should unload the library when building or archiving to it. The library can then be reloaded after the build / archive process. If a menu is changed and recompiled (rebuilt), the library must be reloaded in order for the changed menu to be available. This may be done by clicking on the Loaded button.

UNLOADED: If this box is highlighted, the named Menu library is not currently loaded in your **ARRIS** session. This means that the Menus

archived within it are not available for execution. Selection of this box will unload the Menu library.

Compile / Build Log

When a Menu is compiled or built, the compile process will create a log to indicate the steps being performed and any errors that are encountered. These are displayed in the Compile / Build Log portion of the **MENU COMPILE / BUILD** menu. If the log is too long to display in the available boxes, the sidebar to the right of the log may be used to page up and down the log. See the [Slidebars](#) discussion in this topic below.

In the Compile / Build log, standard information messages such as "Compiling" are shown in green. Warnings in the compile process are shown in purple. Errors are shown in red. Note that the menu may still compile even with warnings and non-fatal errors. Be sure to check and see if the compiled binary .md file was added to the list in a Compile or added to the Menu Library for a Build. During a build if the menu has errors and does not compile, it will not be archived in the Menu Library.

Log Display Commands

These boxes perform the specified action on the Menu Compile / Build log.

DISPLAY MODE: The Menu Compile / Build log display has 3 different modes. These are All Log Messages, Error Messages Only, and .ml Library Long Display. The current mode is displayed in this box. Selecting the box allows you to set the mode.

All Log Messages displays all messages sent to the log. This includes information messages such as "Compiling <filename>" and "Archiving <filename>", as well as error messages and warnings.

Error Messages Only displays only error messages in the compile. This is useful when compiling only 1 menu in early compiles where there is more likely to be errors.

.ml Library Long Display displays a more verbose list of all of the Menu binary files archived in the Menu Library. The verbose listing includes the size of the file, the date and time it was compiled, and the file name.

When the log display mode is set, the Log Display will update to reflect the setting.

CLEAR DISPLAY: Selecting this button clears the Compile / Build Log display.

PRINT LOG: Selecting this button sends the text of the Compile / Build Log

to the default text printer. This is useful for debugging particularly long lists of errors.

Slidebars

The menu slidebars contained within the **MENU COMPILE / BUILD** Menu allow the user to quickly browse through lists of Source Files, Binary Files, Menu Library Archives, and the Compile / Build Log Pages when the list is longer than the menu available to display it. These slidebars are located on the menu on the right side of the list for which they function. A sidebar consists of an up arrow at the top, a down arrow at the bottom, and a sidebar in between. The sidebar shows the proportion of, and relative location within the entire list of the portion of the list currently displayed in the menu. Refer to the [Slidebars](#) topic for more information. Sidebar commands are as follows:

UP ARROW: A left click selection on the [Up Arrow](#) moves the display of the list up 1 item. A right click selection on the [Up Arrow](#) moves the display of the list up 1 menu page.

DOWN ARROW: A left click selection on the [Down Arrow](#) moves the display of the list down 1 item. A right click selection on the [Down Arrow](#) moves the display of the list down 1 menu page.

SLIDEBAR: Selecting on the [Slidebar](#) moves the portion of the list displayed in the menu to the relative position of the selection on the sidebar.

Permissions

Access to Extract, Delete, or Build menus into a menu library can be limited to specific users. The **MENU COMPILE / BUILD** feature uses the **ARRIS** Permissions feature to determine user permissions for an individual Menu library. The blockname to be used for user permissions for the **MENU COMPILE / BUILD** program is the Menu Library name (i.e. "user.ml"). Refer to the [File Permissions](#) portion of the [Permissions](#) topic in the **ARRIS** Encyclopedia.

Sigmatic Library

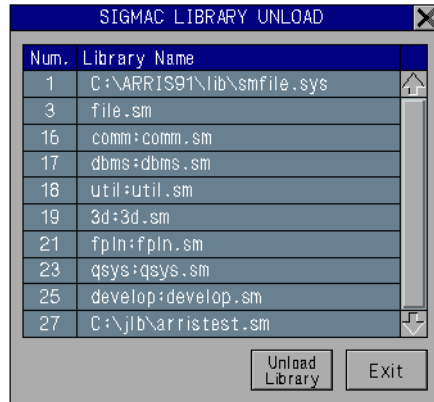
The [Sigmac Library](#) section contains functions for loading, unloading, and checking the status of Sigmac libraries.

Commands

LOAD: Selecting this button will load a sigmac library (.sm), making all cus-

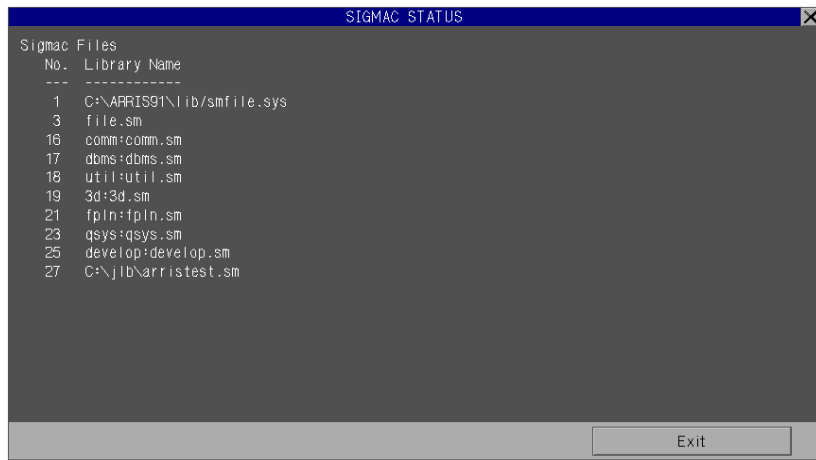
tom **ARRIS** sigmac commands within it available for use. **ARRIS** will prompt for the Sigmac library to load. The default libraries given on the Choice menu at the prompt are file.sm and user.sm. These are standard names for user sigmac libraries. The library may be any name. Selecting the **BROWSE** choice allows you to browse the file system for the Sigmac library (.sm) file.

UNLOAD: Selecting this button brings up the **LIBRARY UNLOAD** Menu. The currently loaded Sigmac libraries which may be unloaded will be listed on the menu by name and library table number. Select the library or libraries to be unloaded. As each is selected, it will be highlighted. When all libraries to be unloaded are highlighted, then select the **Unload Library** button to unload them.



Note 1: **ARRIS** System and Plug-In Sigmac libraries which are loaded are listed on the **LIBRARY UNLOAD** Menu. Caution should be used as the System Sigmac libraries in particular are required for **ARRIS** to function properly. The intent of the **LIBRARY UNLOAD** Menu is to manage user Sigmac libraries.

STATUS: Selecting this button will bring up the **SIGMAC STATUS** menu. This menu reports the table number and name of each Sigmac library that is currently loaded.



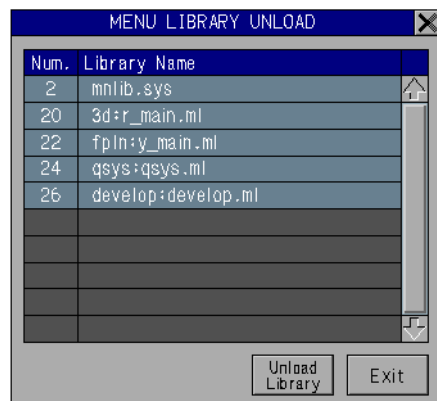
Menu Library

The Menu Library section contains functions for loading, unloading, and checking the status of Menu libraries.

Commands

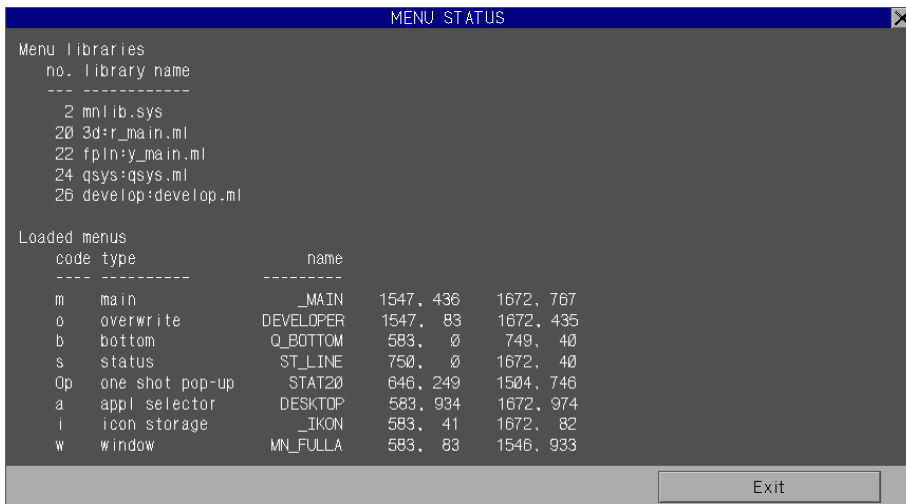
LOAD: Selecting this button will load a menu library (.ml), making all custom **ARRIS** Menus within it available for use. **ARRIS** will prompt for the Menu library to load. The default library given on the Choice menu at the prompt is user.ml. This is a standard name for a user menu library. The library may be any name. Selecting the BROWSE choice allows you to browse the file system for the Menu library (.ml) file.

UNLOAD: Selecting this button brings up the **LIBRARY UNLOAD** Menu. The currently loaded Menu libraries which may be unloaded will be listed on the menu by name and library table number. Select the library or libraries to be unloaded. As each is selected, it will be highlighted. When all libraries to be unloaded are highlighted, then select the Unload Library button to unload them.



Note 1: **ARRIS** System and Plug-In Menu libraries which are loaded are listed on the **LIBRARY UNLOAD** Menu. Caution should be used as the System Menu libraries in particular are required for **ARRIS** to function properly. The intent of the **LIBRARY UNLOAD** Menu is to manage user Menu libraries.

STATUS: Selecting this button will bring up the **MENU STATUS** menu. This menu reports the table number and name of each Menu library that is currently loaded.

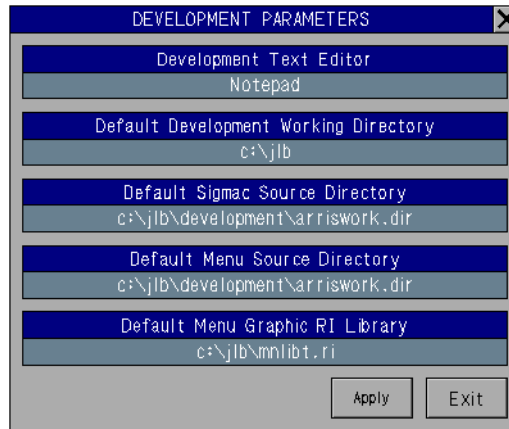


Utilities

Development Parameters

The **ARRIS Developer** has 5 *Developer Environment* parameters which are user definable. These are designed to be set by the user to customize the environment and make using the **ARRIS Developer** easier. These are the Development Text Editor, the Default Development Working Directory, the Default Sigmac Source Directory, the Default Menu Source Directory, and the Default Menu Graphic Repeated Item Library.

Selecting the Develop. Param. button brings up the **DEVELOPMENT PARAMETERS** menu.



Development Text Editor

This box displays the text editing program that is used to write Sigmac and menu source code files. The default is Notepad. The program specified as the Development Text Editor will be launched with the source code file when the Edit Source File button in either the **SIGMAC COMPILE / BUILD** or **MENU COMPILE / BUILD** menus is pressed.

The Development Text Editor should be a program that is capable of manipulating pure ascii text files. While some word processing programs may be used, they generally save more information than just the text, such as font and control data. This type of information should NOT be saved in a sigmac or menu source code file. Suggested programs are VI Editor, Notepad, or Wordpad.

When the Development Text Editor button is pressed, **ARRIS** will prompt for the program. You may enter the full path to the program executable at the keyboard, or select the BROWSE option and browse your computer file system for the program.

Default Development Working Directory

This box displays the directory on your computer file system that will be used as the working directory for Sigmac and Menu compiles. It is here that the compile functions will create the sigmac .gg or menu .md files. These compiled files are archived to the respective libraries from this directory, and if extracted from the library, they are extracted to this directory. The sigmac or menu libraries must be located in this directory for use with the **SIGMAC COMPILE / BUILD** or **MENU COMPILE / BUILD** menus.

When the Default Development Working Directory button is pressed,

ARRIS will prompt for the working directory. You may enter the full path to the desired working directory at the keyboard, or select the BROWSE option and browse your computer file system for the directory.

Default Sigmac Source Directory

This box displays the directory on your computer file system that will be used as the default storage directory for Sigmac source code files. This directory is used by the **SIGMAC COMPILE / BUILD** menu to list sigmac source code files for selection to compile.

When the Default Sigmac Source Directory button is pressed, **ARRIS** will prompt for the sigmac source directory. You may enter the full path to the desired directory at the keyboard, or select the BROWSE option and browse your computer file system for the directory.

Default Menu Source Directory

This box displays the directory on your computer file system that will be used as the default storage directory for Menu source code files. This directory is used by the **MENU COMPILE / BUILD** menu to list menu source code files for selection to compile.

When the Default Menu Source Directory button is pressed, **ARRIS** will prompt for the menu source directory. You may enter the full path to the desired directory at the keyboard, or select the BROWSE option and browse your computer file system for the directory. The prompt also gives the choice of using the same directory as the Sigmac Source Directory.

Default Menu Graphic RI Library

This box displays the Repeated Item library on your computer that will be used as the default storage library for Menus. When a menu is compiled, the graphic image of the menu is created as a Repeated Item. This RI is then in turn incorporated into the compiled menu .md file. The RI library named here is the one that will be used to store menu Repeated Items that are created by the **MENU COMPILE / BUILD** menu. This menu is also used in the Menu RI Select and Menu RI Manager functions described below.

Note 1: It is very strongly suggested that you keep a separate Repeated Item Library for menu graphic Repeated Items. While there is no technical restriction with storing these Repeated Items in a library with other RIs, it is good practice to keep them separate.

Note 2: If you create menu graphic Repeated Items separately, you may use the same Default Menu Graphic RI Library to store these items. If the same library is used, you should be very cautious when compiling the menu, setting the "Create Menu RI" function to off or the custom RI you have

created will be overwritten during the compile process by the graphics as defined in the menu source code file.

When the Default Menu Graphic RI Library button is pressed, **ARRIS** will prompt for the library name. You may enter the name of the desired library at the keyboard, or select the BROWSE option and browse your computer file system for the library. If the RI library is not in the Development working directory, the full path name to the RI Library is required.

APPLY: Applies any changes made on the **DEVELOPMENT PARAMETERS** Menu and writes them to disk. No changes are saved until this button is selected. If changes have been made on the **DEVELOPMENT PARAMETERS** Menu, the "Apply" text in this button appears yellow, warning that there are unsaved changes.

Commands

MENU RI SELECT: Selecting this button will load the Default Menu Graphic RI Library, making it the current library and then open the **RI SELECT** menu, displaying this library for RI Selection. This function makes it easier to select and place menu graphic Repeated Items that have been created for review and possible revision.

MENU RI MANAGER: Selecting this button will load the Default Menu Graphic RI Library, making it the current library and then open the **RI LIBRARY MANAGER**, displaying this library. This function makes it easier to rename, move, or delete a menu graphic Repeated Item.

See Also

[Sigmac](#), [Menus](#), [Libraries](#), [Help](#), [Plug-ins](#), and [Permissions](#).