

New Features Guide



CONTENTS

New Polyline

PDF in ARRIS Drawings

Enhanced Crosshatch Geometry Edit

Zone Geometry Edit

New Layer Manager

New Color Mix Menu

General Menu Enhancements

Updated PDF Libraries

Bug Fixes



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Polyline

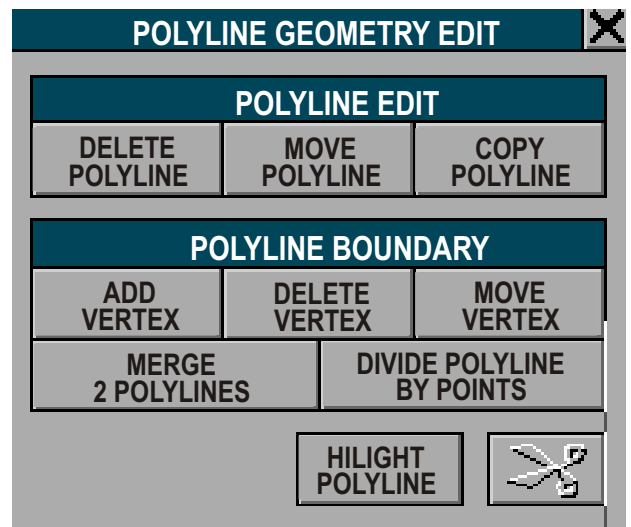
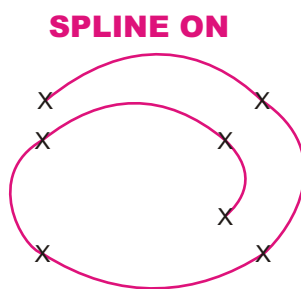
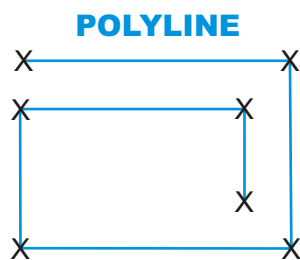
ARRIS now supports a new Polyline entity. A Polyline is a series of connected line and/or arc segments that are all seen as a single entity. The 2D Polyline may form a closed boundary or may be left open. The standard pen, color, and line type parameters apply to the 2D Polyline. A 3D polyline will be added in future releases.

A new 2D Polyline Application sub-menu has been added, along with a 2D Polyline Status menu to support the new entity.

The Polyline has a spline function which allows the polyline to be placed as a spline line. This function is especially great for placing switch to light connection lines in electrical drawings, or for placing contour lines in site plans.

The line type may be selected from the Polyline Select menu - similar to Lines and Circles. The same line entity catalog styles are used for Polyline as for lines and circles so all of your Line Catalogs may also be used for Polyline. There are two placement commands for 2D Polyline so far - a running Polyline, and placing a closed rectangular Polyline by input of 2 opposite corners. More placement options will follow in future releases.

Also selectable from the 2D Polyline menu is a Polyline Geometry Edit menu. The functions on this menu allow you to Delete a Polyline, Move a Polyline, Copy a Polyline, Add a Vertex to a Polyline, Delete a Vertex from a Polyline, Move a Vertex within a Polyline, Merge 2 Polyline into 1, and Divide a Polyline by Point Input.




LINE/ARC	CLOSURE	ARC TAN	\$ ANGLE	SPLINE	SMTH.	TENSION	SIDES	\$ WID	E WID	CLASS	TYPE	MODE	D3H1	SPC1	D3H2	SPC2
LINE	OFF	OFF	0.0	OFF	OFF	1.0	0	0.0	0.0	NDRM	0	NDRM	N/A	N/A	N/A	N/A

Place PDF into ARRIS Drawings

PDF files may now be placed in ARRIS drawings. This is done as an option in the Raster Image placement menu. The PDF Files may be selected in the same way as raster image files such as .jpg and .bmp. The placement in ARRIS is a raster image of the .pdf file and eliminates the need to pre-convert the PDF file into a raster image externally before placing it into an ARRIS drawing or sheet.

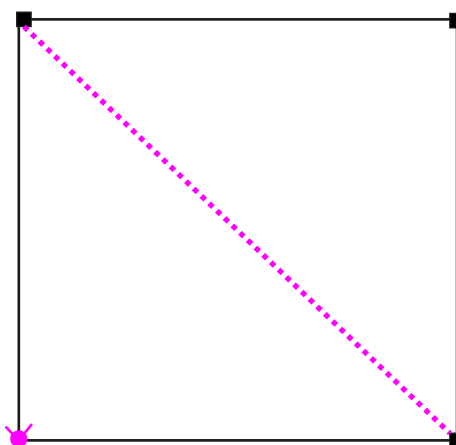
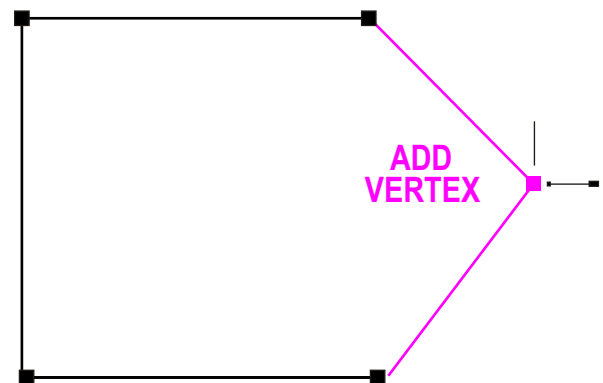
Newly Enhanced Pattern (Crosshatch) Geometry Edit

A new Geometry Edit menu has been added to the Patterns Application Sub-menu. This menu allows you to easily and intuitively edit Pattern boundaries. Use of the functions on this menu will greatly improve the integrity of Pattern boundaries in ARRIS. Functions are shown below:

PATTERN GEOMETRY EDIT		
PATTERN EDIT		
DELETE PATTERN	MOVE PATTERN	COPY PATTERN
PATTERN BOUNDARY		
ADD VERTEX	DELETE VERTEX	MOVE VERTEX
MERGE 2 PATTERNS	DIVIDE PATTERN BY POINTS	QUADRILATERAL DIVIDE / SPILT
PATTERN SUB-BOUNDARY		
APPEND SUB-BOUNDARY	DELETE SUB-BOUNDARY	
MOVE SUB-BOUNDARY	DETACH SUB-BOUNDARY	
PATTERN SELECT		
Boundary Line	HILIGHT PATTERN	

There is also a function to highlight a Pattern boundary showing the boundary line and vertices on the screen.

PATTERN GEOMETRY EDIT



DELETE VERTEX



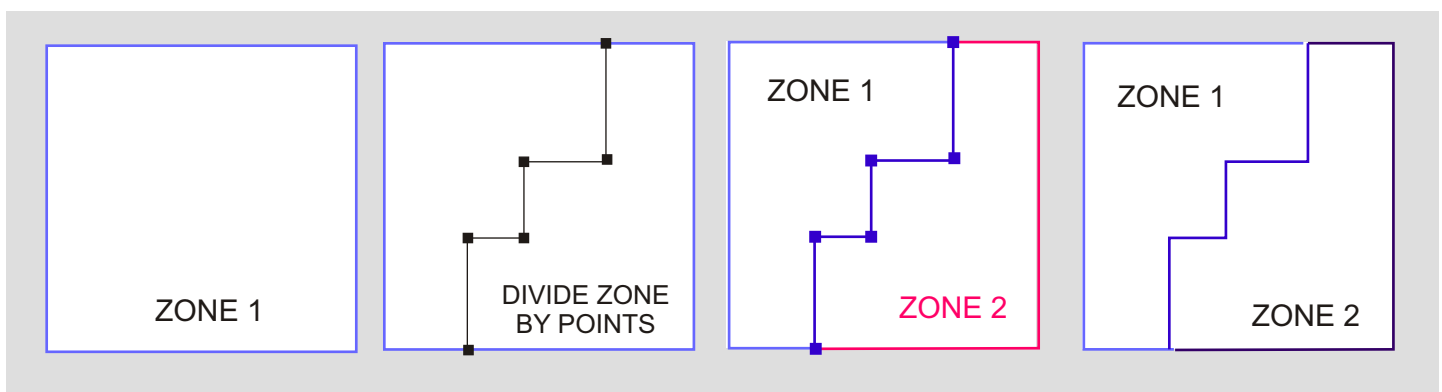
Zone Geometry Edit

A new Zone Geometry Edit menu has been added to the Zones Application Sub-menu. This menu allows you to easily and intuitively edit Zone boundaries. Use of the functions on this menu will greatly improve the integrity of Zone boundaries in ARRIS. Functions on this menu include:

ZONE GEOMETRY EDIT		
ZONE EDIT		
DELETE ZONE	MOVE ZONE	COPY ZONE
ZONE BOUNDARY		
ADD VERTEX	DELETE VERTEX	MOVE VERTEX
MERGE 2 ZONES	DIVIDE ZONE BY POINTS	QUADRILATERAL DIVIDE / SPILT
ZONE SUB-BOUNDARY		
APPEND SUB-BOUNDARY	DELETE SUB-BOUNDARY	
MOVE SUB-BOUNDARY	DETACH SUB-BOUNDARY	
ZONE SELECT	HILIGHT ZONE	
Boundary Line		

There is also a function to highlight a Zone boundary showing the boundary line and vertices on the screen.

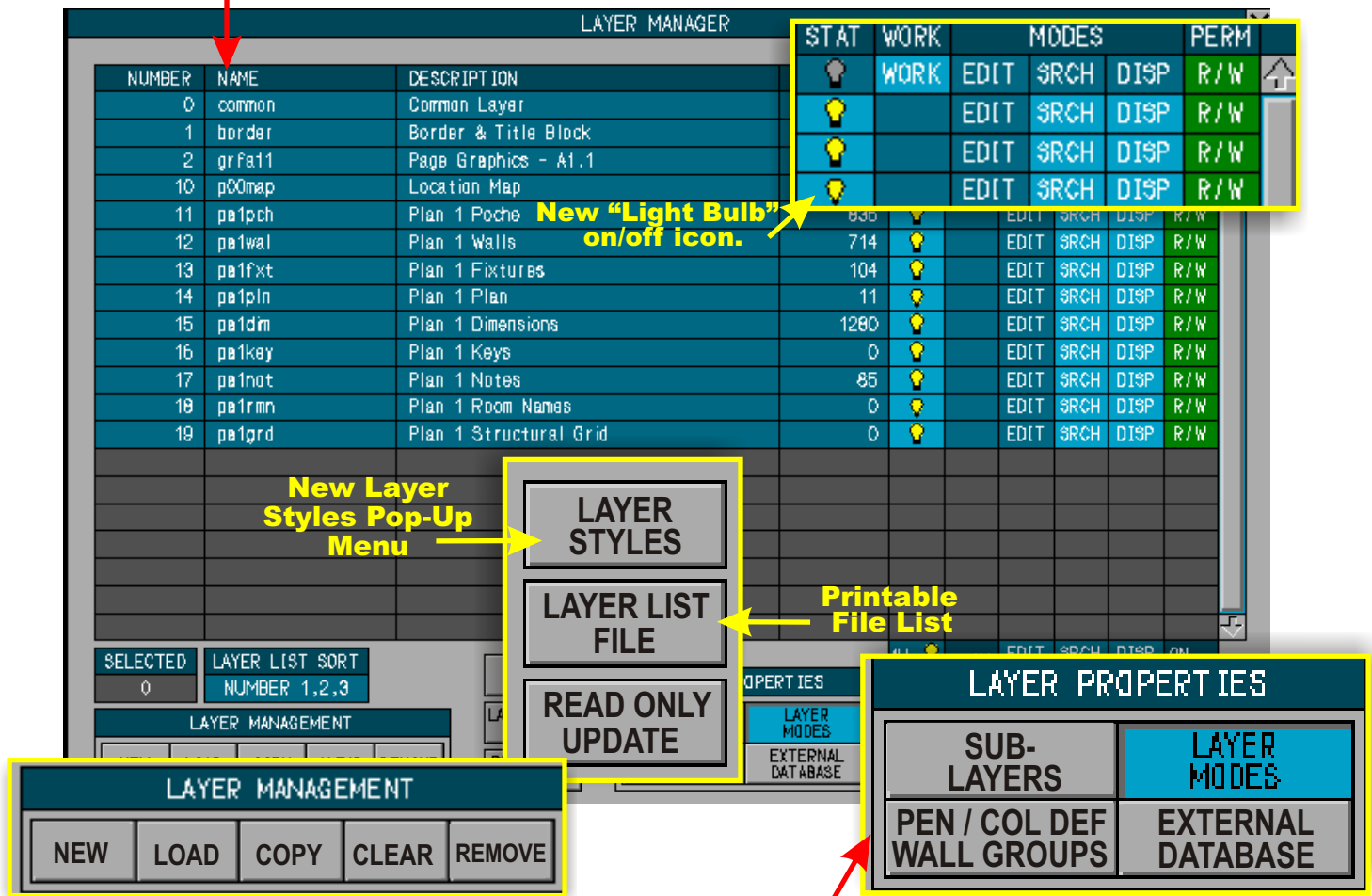
ZONE GEOMETRY EDIT



New Layer Manager

A new Layer Manager menu has been added. This replaces the old Layer menu. The Layer Manager has all of the functions of the old menu, with many of these enhanced. In addition there are new capabilities added.

Ascending & Descending Sort Options



NUMBER	NAME	DESCRIPTION	STAT	WORK	MODES	PERM
0	common	Common Layer	Light Bulb	WORK	EDIT SRCH DISP	R/W
1	border	Border & Title Block	Light Bulb		EDIT SRCH DISP	R/W
2	grfa11	Page Graphics - A1.1	Light Bulb		EDIT SRCH DISP	R/W
10	p00map	Location Map	Light Bulb		EDIT SRCH DISP	R/W
11	pa1pch	Plan 1 Poche	Light Bulb		EDIT SRCH DISP	R/W
12	pa1wal	Plan 1 Walls	Light Bulb		EDIT SRCH DISP	R/W
13	pa1fxt	Plan 1 Fixtures	Light Bulb		EDIT SRCH DISP	R/W
14	pa1pln	Plan 1 Plan	Light Bulb		EDIT SRCH DISP	R/W
15	pa1dm	Plan 1 Dimensions	Light Bulb		EDIT SRCH DISP	R/W
16	pa1key	Plan 1 Keys	Light Bulb		EDIT SRCH DISP	R/W
17	pa1not	Plan 1 Notes	Light Bulb		EDIT SRCH DISP	R/W
18	pa1rmn	Plan 1 Room Names	Light Bulb		EDIT SRCH DISP	R/W
19	pa1grd	Plan 1 Structural Grid	Light Bulb		EDIT SRCH DISP	R/W

New Layer, Load & Copy Functions Brought to New Pop-Up Menu

New Pen Color & Wall Groups Sub Menu

- The Layer list may now be **scrolled** using the mouse scroll wheel. The scroll wheel functions are also available on database/layer lists on the Load and Copy layer pop-up menus.
- **Multiple selection** is allowed for various layer functions such as Delete and Clear. Multiple layers may be selected (and de-selected) by holding the <Ctrl> key and clicking on each layer desired. A new "Selected" box is included on the menu to indicate the number of layers selected as some layers may be on a portion of the layer list not displayed in the menu.
- The **Block selection** feature has been enhanced to include a more MS Windows Standard use of the <Shift> key in addition to the previous ARRIS right-click capability described below. <Shift> click on the first and last layer of a block will include all layers in between the selections inclusive. Block Selection has been enhanced by using the Right Click. This replaces having to pick a separate "Block" mode before a selection. A right-click selection on the first and last layer of a block will include all layers between the selections inclusive. This function is available for selecting layers, modes, Permissions, Sub-layers, Pen/Color Defaults, and Wall Groups.



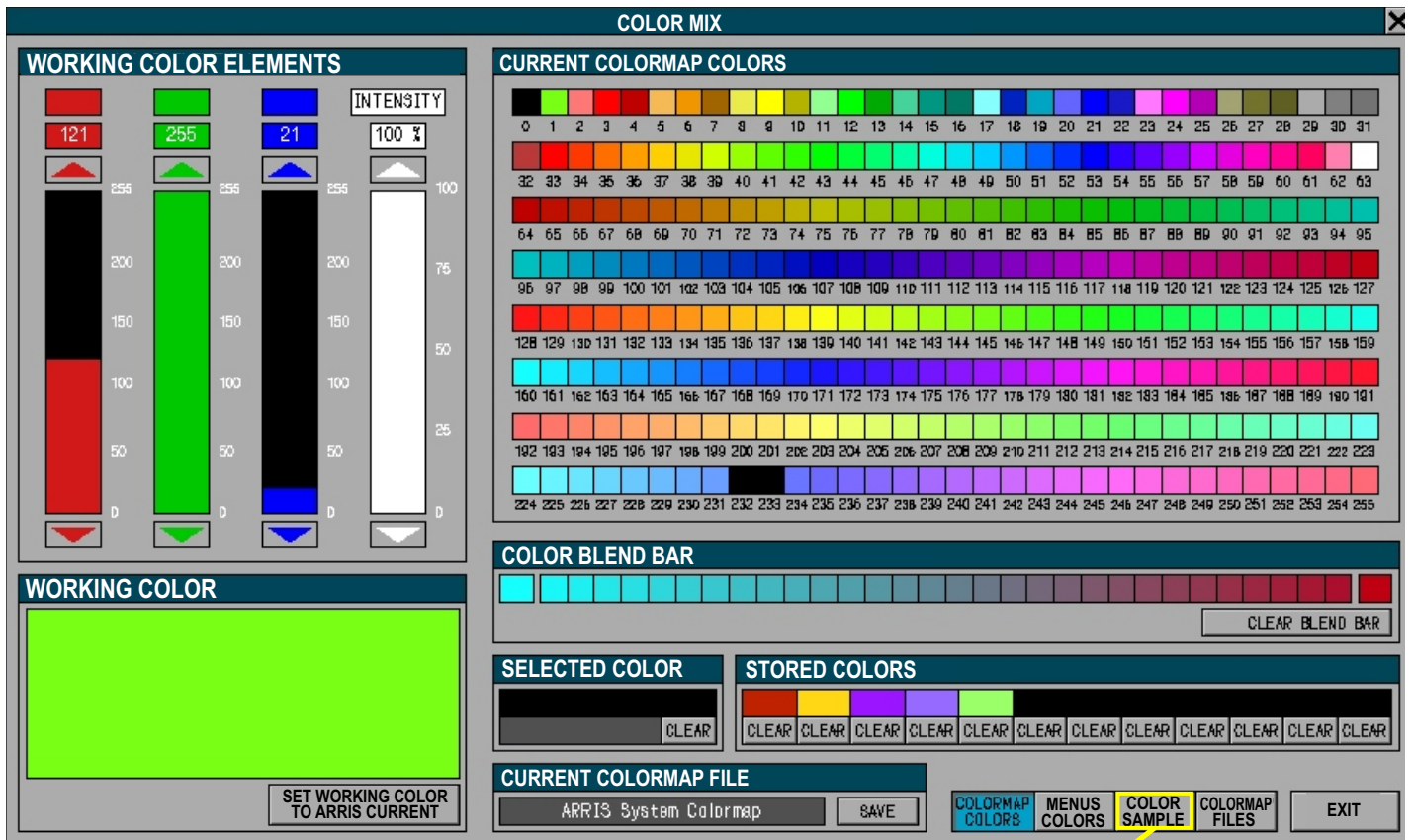
Color Mix Enhanced Capabilities:

- Large sample display to show the current color being manipulated.
- Enhanced working color elements graph which shows more detail.
- New "Copy - Paste" selection functionality in the Current Colormap Colors and Current Colormap Menu Colors sections which allow you to click on a color to select it and then click on a new location to copy the color hue (RGB) to that location, or to select the Working Color, Color Blend Bar, or Stored Colors location.
- The Color Blend Bar is more intuitive and more detailed. A Clear function is provided.

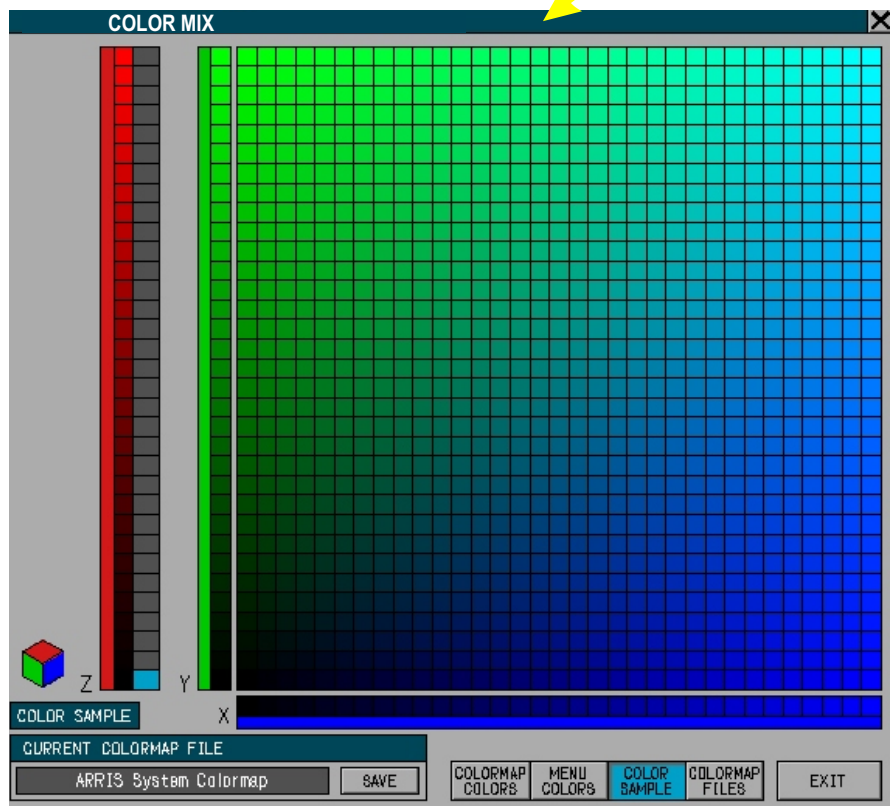
Color Mix New Capabilities:

- New up and down arrows in the Working Color Elements graph which allow you to adjust the working color elements up or down by a value of 1 (left click) or 8 (right-click)
- New Mouse scroll wheel functionality in the Working Color Elements graph which allows you to adjust the color element values up or down by scrolling the mouse scroll wheel.
- The Colormap Colors are shown with a more detailed sample of all 256 colors including the color number.
- The Colormap Menu Colors are shown with a more detailed sample of each color including the color number and description of the menu area where the color is used. All 33 available menu colors are shown.
- A new Color Storage section which allows you to store up to 12 colors (RGB) for the current **ARRIS** session and may be used to transfer colors from one colormap to another.
- A new Color Sample Cube feature which gives a uniform sampling of colors and allows you to select a color hue visually. This feature allows you to scroll colors in the sample using the mouse scroll wheel.
- A new Colormap Files section which allows you to see all colormaps stored in the Standards, User Home, Current Project, and Current Database directories, as well as the 4 available **ARRIS** System colormaps. These colormaps are selectable for loading.
- A new Save New Colormap function which allows you to specify a new colormap file name in the menu and then save the current color definitions as the new file. The file is created in one of the standard locations (Standards, Project, Database, User) as specified by the current Colormap File List location.
- A new User Default Colormap feature which allows you to set a colormap to be used as a user default. This colormap will be loaded on startup and also each time a new database/drawing/sheet is loaded (unless a drawing default is specified).
- A new Drawing Default Colormap feature which allows you to set a colormap to be used as a drawing default. Once set this colormap will be loaded each time the current drawing is loaded. This feature allows you to specify a custom colormap for a drawing or 3D model which will be loaded when the model is loaded.

New Color Mix Menu



A new Color Mix program and menu has been added. This function replaces the old Define Colors menu. Color Mix includes all capabilities of the old Define Colors menu, with all of them enhanced. In addition it has many new functions that make the definition and editing of ARRIS colormaps much easier and more intuitive. It also contains functions to save and recall colormaps, and new capabilities to define specific colormaps as a user default or individual drawing default.





Plot To PDF

Plotting to PDF has been enhanced with new PDF libraries. ARRIS now also has the ability to plot multiple drawings to a single .pdf file as multiple pages, in addition to the previous function of plotting multiple drawings at once to multiple .pdf files.

General Menu Enhancements

The following menus have been updated for graphic consistency and Menu Help:

- Screen Modes
- Output Display Format
- Group Edit
- Extended Character Set
- Sheet Information / Title Block Layout
- Toolbar Setup
- Save Pull-Down menu

→ The File Pull-down menu has also been fixed to eliminate the problem of button selections being slightly off from the menu graphics.

→ The ARRIS Draw Application menu, the ARRIS Architect Application menu, and the ARRIS ++ Application menu have been updated to add a selection icon for the Polyline entity.

"Low Level" Enhancements

Crosshatch Entity

The Crosshatch entity has been enhanced at the C code level. We expect this enhancement to make Crosshatch more stable and reliable.

In update spins of ARRIS 9.4, additional tools will be added to help diagnose and repair corrupted crosshatch in older databases.

Zone Entity

The Zone entity has been enhanced at the C code level. We expect this enhancement to make Zones more stable and reliable.

Pack Database

The Pack Database command has been enhanced to check for and repair inconsistencies with crosshatch and zone markers. This will make any problems with these entities easier to find and repair.

BIM Compatibility

Several enhancements have been made to the C code to facilitate incorporation of BIM capabilities in future releases.

\$npipe

The \$npipe utility has been enhanced. This utility is used by ARRIS to communicate with external programs such as the DWG/DXF Translator.



Bug Fixes

The following bugs have been addressed since the last spin of ARRIS 9.3:

- ✓ The edit selection window is now properly maintained during and edit even when the view window is changed during the edit process using the mouse gestures, or scroll wheel.
- ✓ Fixed a problem in Winports where the upper right corner of the screen was corrupted when splitting the screen into 3 winports with the screen slidebars on.
- ✓ Fixed a problem in freezing large, dense crosshatch patterns where only a portion of the pattern was frozen.

The following bugs were addressed after the initial release of ARRIS 9.3:

- ✓ The ARRIS Shadow Study Site Location map under the Shadow Study function in ARRIS 3D now properly displays in the menu.
- ✓ Fixed a problem in Trim / Extend a specified distance where a distance of 0 was being stored multiple times in the "last used" list.
- ✓ Fixed a problem in the Fillet command where a fillet radius of 0 was being stored multiple times in the "last used" list.
- ✓ Fixed a problem in the Chamfer command where a chamfer distance of 0 was being stored multiple times in the "last used" list.
- ✓ The Briefcase Check - In function has been added back to the Project Page / Database Drawing/Sheet Select menu.
- ✓ Fixed a problem in the 2 Point Text (:mn_dtext2) command where a "Point Value Expected" error was being generated during point inputs.
- ✓ Fixed a problem in ARRIS ++ where it was not properly setting a selected RI Library in the RI Select menu.
- ✓ Fixed a problem in ARRIS ++ where it was not properly setting the Repeated Item name in the "Previous" and "Next" preview functions in the RI Select menu.
- ✓ The eZ icon which opens the Export Current Drawing/Sheet to eZ menu has been added to the ARRIS ++ Tools menu.
- ✓ Revised the default .pdf output file name in the Database Drawing/Sheet Select menu (file mode) to not include the leading underscore when plotting sheets.
- ✓ Fixed a problem where an extra "dot" was being added to the .pdf output file name in the Database Drawing/Sheet Select menu (file mode) when plotting Sheets.
- ✓ Fixed a problem where Sheets were not being properly launched to eZ from the Project Page / Database Drawing/Sheet Select menu



- ✓ Fixed a problem in Wall/Opening counts and reports where the counts were giving a Buffer String Length error.
- ✓ Fixed a problem in the Line Application Sub-menu where the Chamfer button remains highlighted.
- ✓ Fixed a problem where a "Cannot Locate Registry Entry" error was sometimes being given when loading a database.
- ✓ Fixed a problem where double clicking a .dr or .sht file in Windows Explorer was starting ARRIS but not properly loading the drawing or sheet.
- ✓ Fixed a problem where very shallow arcs were being displayed as a straight line.
- ✓ Fixed a problem where pen settings in a penmap for pens above number 63 were not being properly recognized.
- ✓ Fixed a problem where the colormap was not being saved properly if the Save Colormap function was on in the Define Penmap menu.
- ✓ Items displayed in the Line, Circle, Pattern, Dimension, Text, Wall, Door, Window, Stair, and Repeated Item Select menus now properly update if the color is changed while the Select menu is up.
- ✓ Fixed a problem in the \$riarc utility which was not reading Repeated Items and creating the archive library properly.
- ✓ The PDF output directory when set to <Project Directory> now correctly used the current project directory, even if it changes.
- ✓ Fixed a bug in plotting where the .pdv file was not being read correctly. This resulted in not being able to set the desired plotter and "Default Device" errors.
- ✓ Fixed a bug in opening Plot Presets from the Plot Project Page(s) menu.
- ✓ The "RASTER" button under the "OUTPUT TO" heading on the Plot menu was inadvertently left off in the initial release of ARRIS 9.3. This has been restored.
- ✓ Fixed a bug where the user preference for the Windows Toolbars was not being read properly on startup.
- ✓ Fixed a bug where more than 16 plug-ins were not being displayed properly in the Plug-In Modules pull-down menu.

The following enhancements were added to ARRIS 9.3 after the initial release and are included in ARRIS 9.4:

- ✓ The ARRIS Notes feature menus have been updated for menu cosmetics, addition of mouse scroll wheel functions, and Menu Help.
- ✓ The ARRIS Notes feature has been updated to add the additional note parameters of Masking Pen and Masking Color, making these optional. These functions were previously locked in at pen 0 and color 0 - which are still the defaults. The various pen parameters in the Notes feature have also been updated to accept 128 pens - the maximum available in ARRIS.
- ✓ Added a new command :cj_vp_2ptpan to ARRIS ++. This command allows you to move a Viewport in a Sheet by selecting a point in the Viewport from Sheet space and then 2 other points in the same or other Viewports to define the X and Y alignment for the Viewport relative to the first point. This command was added as the



default right click to the Viewport button on the Desktop menu in ARRIS ++.

- ✓ Revised the Save As 8.3 function so that all non-system Repeated Item libraries are automatically unloaded instead of checking for version 8.3 compliance. System RI libraries remain loaded on the assumption that the ARRIS 8.3 version of the system library is available when the database is loaded in ARRIS 8.3.
- ✓ The Double Buffer Display parameter in the Preferences menu now defaults to "No" when ARRIS starts. It will remain set to "Yes" if set this way in a custom user preference set.
- ✓ A "POINT" option has been added to the Change Layer edit (both Edit menu and Entity Select) which allows you to select an existing entity in the drawing to determine the layer you want to change to.
- ✓ The Environment Defaults Manager now uses the environment variable TEMP for the temporary directory instead of GTEMP. This change was made to keep ARRIS consistent. The Environment Defaults Manager menu has also been updated for mouse scroll wheel function and Menu Help.
- ✓ The Repeated Item Catalog Manager has been updated and Menu Help and Mouse Scroll Wheel function added. A new "Short List" function has been added for the current RI library display which allows for display of only the items in the current library that are not in the current catalog.
- ✓ The Repeated Item Library Manager has been updated so that un-archived Repeated Items stored on the disk are displayed with the proper upper/lower case characters in the names. The case will be properly kept when archiving or extracting Repeated Items to/from libraries. Note however that MS Windows still sees upper and lower case characters as the same when the file is located on the disk.
- ✓ The Project List Manager has been updated and Menu Help and Mouse Scroll Wheel functions added.
- ✓ The Project Page List Manager has been updated and Menu Help and Mouse Scroll Wheel functions added.
- ✓ The Sigmac Compile / Build, Menu Compile / Build, and Library Unload menus in the ARRIS Developer Plug-in have been updated to perform multiple selections using the <Ctrl> and <Shift> keys consistent with other menus in ARRIS such as the Project Page / Database Drawing/Sheet Select menu.
- ✓ In the ARRIS Developer plug-in, the file storing the development defaults has been moved to be stored under the arrisdat.dir subdirectory in the User Home directory instead of the Standards directory. This enables multiple developers to have their own development defaults.
- ✓ The Viewport Cut menu has been updated for Menu Help. Also a "Browse" option has been added to the Viewport Name selection in the Viewport Cut menu to allow you to easily see previously used Viewport names and also select one for recutting.
- ✓ The Catalog Manager menu has been updated and Menu Help and Mouse Scroll Wheel functions added.
- ✓ The ARRIS Architect Catalog Select menus have been updated and Menu Help and Mouse Scroll Wheel functions added. The Preview and Toolbar functions now work on these menus.
- ✓ The Repeated Item Select menu has been updated and Menu Help and Mouse Scroll Wheel functions added. The Toolbar function on this menu now allows for choice of command. The Mouse Scroll Wheel functions have been tied to the RI Status menu so that when Repeated Items are scrolled in the RI Select Preview menu, the RI's are also displayed in the Status menu.
- ✓ The Repeated Item Library Manager has been updated and Menu Help and Mouse Scroll Wheel functions added.