Changing Your Display Colors

Beginning in 2004, many Landmark OpenWorks-based tools have been updated to use 24-bit color. ProMAX® tools which are not constrained to use 8-bit color (the majority of the current ProMAX® display tools) have been modified to interact with OpenWorks color. See the section titled ***"Running Older Pseudo-color Tools"*** for more information about how this change affects the 8-bit tools which haven't been modified and a list of all such tools.

A color table contains an original set of colors to be stored in a color map while a color map is the hardware that stores the color definitions. The ProMAX® color table contains one palette of 16 colors and three palettes of 64 colors each:

- **Color16:** A palette of 16 colors, which overlays every fourth color in the 64 color. Applications that want distinct adjacent colors rather than shading use this.
- **Color64:** A palette of 64 colors, which is equivalent to the 64-level map ramp in the newest version of SeisWorks. You can edit this palette with the Color Editor.
- **Gray64:** A palette of 64 grays, which is equivalent to the 64-level seismic ramp in OpenWorks. You can edit this palette with the Color Editor.
- **FixedColor64:** A palette of 64 fixed (read only) colors, which is equivalent to the global colors in OpenWorks applications. You cannot edit this palette.

To avoid potential color problems, decide the degree of OpenWorks compatibility that you need. Then, using the AGX_COLOR_POLICY environment variable and if applicable the AGX_COLOR_FORCE environment variable, choose the settings that best suite your needs.

Setting Color Mode

You have three color mode options:

- OpenWorks 192 Color
- OpenWorks 128 Color

- Private Color Mode

OpenWorks 192 Color Mode (3-color palette mode)

This option will give you the highest level of color compatibility between ProMAX® graphics and OpenWorks. If you choose this option, the default colormap will contain all three color palettes, and both ProMAX® and OpenWorks will use these color palettes. If you change a color table in SeisWorks, it will be changed in ProMAX® but only when the color map is read at application startup.

If the default color map does not have enough space to allocate all 192 colors, ProMAX® will allocate only two palettes as for the OpenWorks 128 Color option.

Setting

You can specify OpenWorks 192-color mode by setting the AGX_COLOR_POLICY environment variable to either of the following:

```
setenv AGX_COLOR_POLICY LANDMARK_192
```

or

```
setenv AGX_COLOR_POLICY LANDMARK_3
```

OpenWorks 128 Color Mode (2-color palette mode)

This option is compatible with existing OpenWorks applications. Two color palettes are allocated: FixedColor64 and Gray64. The Color64 palette is aliased into the Gray64 palette, which means you can have the display of either a color palette or a grayscale palette, but not both. In either case, the palette will be compatible with the OpenWorks application palette.

Note: Some ProMAX® graphics applications require both a color palette and a grayscale palette for optimum behavior. For example, if you want both a color and a grayscale trace display, you need both palettes.

Setting

You can specify OpenWorks 128-color mode by setting the AGX_COLOR_POLICY environment variable to either of the following:

setenv AGX_COLOR_POLICY LANDMARK_128

or

setenv AGX_COLOR_POLICY LANDMARK_2

Private Color Mode

Private color mode is not compatible with OpenWorks applications. In this mode, each color system is completely independent. If you change the colors in SeisWorks, ProMAX® applications will not respond to the changes. In other words, the colors will not be consistent between OpenWorks and ProMAX®.

If you select Private Color Mode, ProMAX® graphics applications will create a private colormap and load the three color palettes (192 colors) into it. You may notice some color flashing between ProMAX® graphics applications and other applications.

Note: ProMAX® will attempt to minimize color flashing by copying the first 32 colors from the default colormap into the private colormap. This should ensure the preservation of window manager colors, xterm foreground/background colors, and perhaps some other colors.

Setting

Private Color Mode is the default; you can specify Private Color Mode by either not setting the AGX_COLOR_POLICY environment variable or by setting it to the following:

setenv AGX_COLOR_POLICY PRIVATE

Color Mode Policy

Once you have set the AGX_COLOR_POLICY environment variable, ProMAX® graphics applications search this environment variable to determine which color mode to use:

1. If the Open Works color map exists, ProMAX® uses it.
2. If the AGX private colormap exists, ProMAX® uses it.
3. If AGX_COLOR_POLICY is set to LANDMARK_3 or LANDMARK_192, ProMAX® uses the OpenWorks color table in the

default colormap (three color palettes). If the Openworks color table does not exist, ProMAX® creates it.

4. If AGX_COLOR_POLICY is set to LANDMARK_2 or LANDMARK_128, ProMAX® uses the OpenWorks color table in the default colormap (two color palettes). If the OpenWorks color table does not exist, ProMAX® creates it.

5. If none of the above is true, ProMAX® creates the AGX private colormap and uses it.

Note: Certain versions of ProMAX® also offer the environment variable AGX_COLOR_FORCE. If available and set (to True) this causes item **1**, above to be skipped. Given the inability of **ProMAX®** to update the OpenWorks color map this may prove useful to allow **ProMAX®** color edits to be reflected in other **ProMAX®** tools at the cost of some degree of color incompatibility with Open Works based tools.

Modifying Color Mode

The OpenWorks color table and the AGX private colormap are stored permanently in the X Server. Once this color table and colormap are created, applications can find these in the X Server; they do not have to be recreated. Additionally, once the AGX private colormap is created, changing the AGX_COLOR_POLICY environment variable will have no effect.

You can change the color table strategy in two ways:

- Shut down all applications and restart the X Server.
- Shut down all OpenWorks and ProMAX® applications and run the following utility:

$PROMAX_HOME/sys/bin/agreport

Running with -? will display this information

Usage : agreport

{ -display 'X DISPLAY' }

{ -delsvr }

{ -delmap }

{ -dellgc }

{ -close { -force }}

This utility attempts to find and optionally manipulate any agcolor server listening for an X DISPLAY. The following command line arguments apply:

-display : the X server to contact. Will use the DISPLAY environment variable if this argument is not supplied

-delsvr : will attempt to remove the AGX_COLOR_SERVER property from the X Server forcing an agcolor restart

-delmap : will attempt to remove the AGX_COLOR_MAP property from the X Server forcing allocation of a new colormap

-dellgc : will attempt to remove any LGC_ properties from the X Server allowing allocation of a new AGX or LGC colormap

-close : If agcolor server is active ask it to shutdown if there are not any open connections.

To force a shutdown, also supply the **-force** argument. As a minimum this will break application color sharing and may result in application failure. All applications will need to be restarted to re-enable the color sharing

Then, you can change the AGX_COLOR_POLICY environment variable and restart ProMAX®. The first ProMAX® graphics application that runs will use the new value of AGX_COLOR_POLICY to create the appropriate type of colormap.

Caution: Do not run **$PROMAX_HOME/sys/bin/agreport** with any of the -delxxx options while ProMAX® or OpenWorks applications are running on your X server. If you do so, the running applications will terminate.

Running Older Pseudo-color Tools

With the change in Landmark OpenWorks-based tools to support use of 24-bit color, some of the older tools have a problem. A number of the original ProMAX® tools are written to take advantage of the modifyable characteristics of the 8-bit 'Pseudo Color' display offered by X windows. To keep ProMAX® color synchronised with other Landmark products, these tools would need to be completely rewritten to support the non-modifyable colors of the 24-bit "True Color" representation that we recommend. For the most part, these

older tools have been on the Old/Obsolete section of ProMAX® Processes for several releases.

Fortunately, many X servers support multiple depths of color simultaneously. With this in mind, ProMAX® tools that require 8-bit color will now explicitly request it. These tools are then anticipated as operating independently of the OpenWorks color described above.

The Linux XFree X server does not currently support multiple color depths. To work around this shortcoming, users can use VNC remote access software or run dual X servers. Please contact ProMAX® support for more information.

The following tools do not support 24-bit True Color and require an 8-bit Pseudo Color X server:

Tools which require a Pseudo Color X server

Screen Display	Stack Display
CVS Analysis	Migration Velocity Analysis
Compare Autostatics Stack	Decon Parameter Stack Test
Display Shots with AGC	F-T Analysis
Graphical Geometry QC	Progressive Mute Analysis
Stack Algorithm Test	True Amplitude Recovery Test
Velocity Quality Control	Interpretational Migration Vel Anal
Interactive Vel Analysis	Finite Difference Movies
Refraction Statics	3D Ref Statics Model
3D Ref Statics Inversion	F-K Analysis (Old)
CVS Strip Analysis	Marine Brute Stack
Semblance Vel Anal Macro	