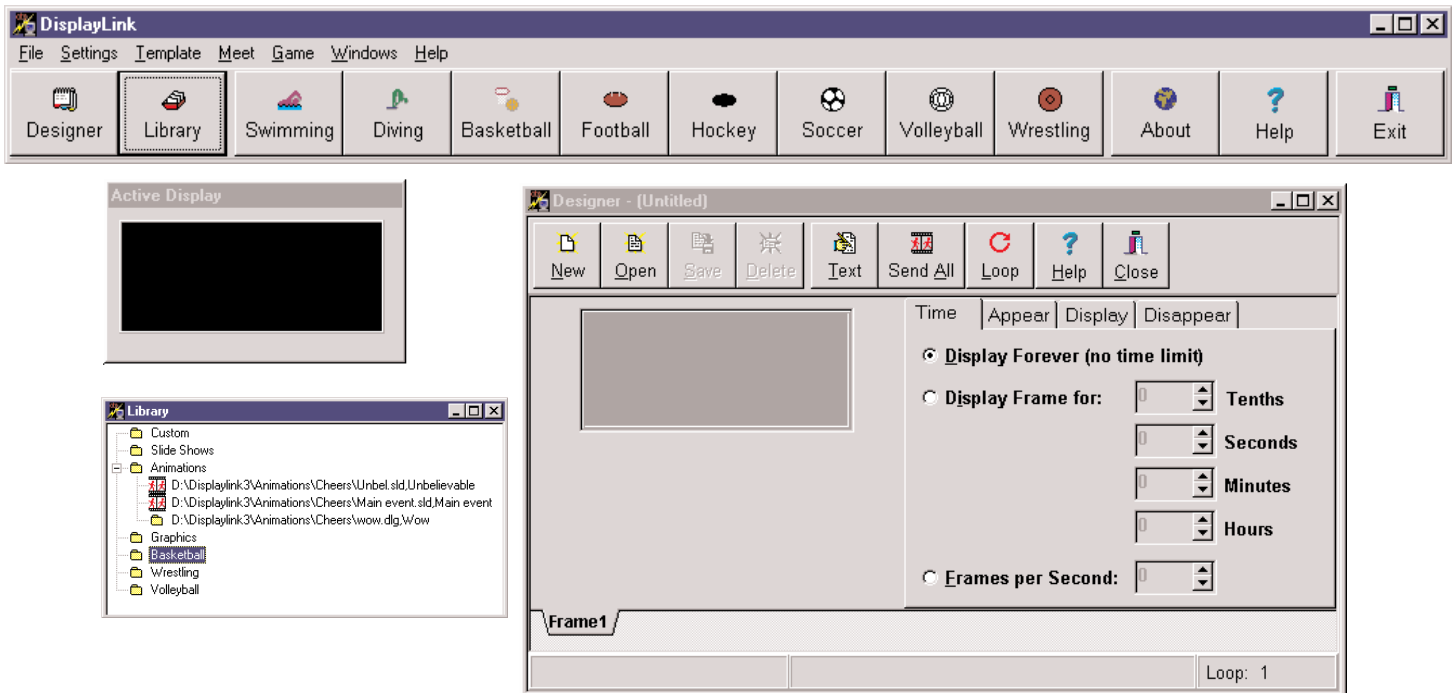


DISPLAYLINK

3.7



For Matrix Display Systems

Software User Guide



Colorado Time Systems

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Introduction

Congratulations on the purchase of your new matrix or video display with DisplayLink software. DisplayLink is a Windows®-based program designed to drive matrix and video displays from Colorado Time Systems. DisplayLink enables users to configure their display to show alpha-numeric data, graphics and animation. It also interfaces with sports timers from Colorado Time Systems and meet management software to provide the user with a comprehensive timing and scoring solution.

DisplayLink 3.x operates under Microsoft® Windows NT 4.0 Service Pack 3 or higher, or Windows 2000.

IMPORTANT!

Do not make any changes or load any additional software or files on to the DisplayLink computer unless expressly permitted by Colorado Time Systems in writing. Tampering with DisplayLink or the DisplayLink computer will void its warranty.

Installing and Upgrading DisplayLink

Installing DisplayLink

Your DisplayLink computer will most likely come pre-loaded with DisplayLink. If for some reason you need to reload DisplayLink, use the following instructions:

1. Turn on the PC and monitor.
2. Once the machine has booted up, go to the start button and select run in the start menu.
3. In the run dialog box, select browse and change the drive to the CD-ROM (typically the D drive).
4. Once in the CD-ROM drive, select the setup.exe file and hit the OK. This will run the Install Shield for DisplayLink and it will walk you through the steps to re-install DisplayLink.

Upgrading DisplayLink

Upgrades to DisplayLink may be available. Contact CTS customer service for availability and pricing.

Upgrading from a CD

Before loading the CD you must delete six files from your DisplayLink computer.

Note: If you do not delete these files, the installation program will not overwrite them. There will then be a mismatch between the files causing error when running DisplayLink.

1. Delete C:\Windows\System32\CTSVidCap.ax
Delete C:\DisplayLink3\DsplyLnk.exe
Delete C:\DisplayLink3\Industx7200_Win2k.dll
Delete C:\Windows\System32\OlympxRN.ax
Delete C:\DisplayLink3\pOlympxScbdParams.exe
Delete C:\DisplayLink3\ptOlympxSim.dll

2. Place the new DisplayLink CD in the CD drive and follow the directions on the screen.

Note: The DSPLYNK.INI file holds all the pertinent information for your unique setup (Folders in library, what is in the folders and templates.). It is a good idea to keep a copy of this file in case the computer fails and the program has to be loaded from the beginning.

Using DisplayLink



Figure 1A-Main DisplayLink Window

Developing Images for DisplayLink

DisplayLink will import several different files for graphics and for animation.

File Types in DisplayLink

Graphic File Types: .bmp, .gif, .jpg

Animation File Types: .avi, .mov

DisplayLink allows you to display these file types on your display. Graphics may be scanned in or created.

Creating Graphics in DisplayLink

To create images, you may use any graphics program available like Microsoft Paintbrush®. However, CTS recommends using a more full-featured graphics package like Corel Photo-Paint®.

Tip: It is useful to know the size of the display you will be using to show your images. This will allow you to utilize the entire display. Find your display size under the Help menu, About DisplayLink.

An image that is too large will be cut to fit the display size and an image that is too small will show up only in the top left of the display. DisplayLink will not automatically resize your graphic. Use the Designer Window to resize or reposition your image to fit the display.

Creating Animation for use in DisplayLink

Slide Show Animations are created by either importing an AVI file or by stringing several Frames of bitmaps and text together in the Designer window and displaying them at animation speeds.

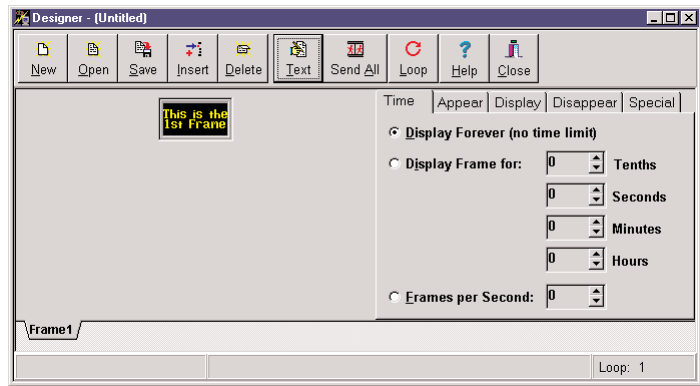


Figure 1-B Designer Window

To Import an .AVI or .MOV

From the Designer Window, select Open from the menu to select an .AVI or .MOV file from your hard drive or floppy drive. Select your file, press OK and the file will be imported.

Tip: The attributes are grayed out when an .AVI or .MOV file is imported. The Special option is available if the animation file contains sound.

To Create a Slideshow from a Series of Graphics Files

1. From the Designer Window, select Open from the menu to select a graphics file from your hard drive or floppy drive. Locate your first graphic file for your Slide Show, select it and click OK. Your graphic file is imported as Frame 1.

2. Set the Time for this Frame by using the Time attribute tab in the Designer window. The default time for each new Frame is set to the time of the previous Frame. You can not set the time for an .AVI or .MOV file.

Tip: The default time setting is forever. If your first frame is set to forever, that is the only frame that will be displayed.

3. Use the three mode attribute tabs to change the Appear, Display and Disappear attributes if needed. Smash On is the default Display attribute and None is the default Appear and Disappear attribute for each new Frame.

4. After creating Frame 1 and setting its attributes, create the second Frame in your Slide Show by selecting Open and locating your second graphic file. Proceed in this same fashion until you have imported all the Frames in your Slide Show and have set the Time and Mode for each Frame.

You can insert a Frame of text into your Slide Show by selecting the Text button in the Designer Window and entering your message into the Text Editor window . A text Frame will be treated like any other Frame in your Slide Show.

5. Once you have completed the Slide Show, save it to either your hard drive or your hard drive and the Library. Click the Save button located on the Designer Window's main toolbar. A Save Frame(s) window will

Saving Files

appear. You now must choose to save the Slide Show to a file or to a file and to the Library.

To save the Slide Show to a file, select “All Frames” and “File” in the Save Frame(s) window, then click **OK**. A Save As window will appear prompting you to select the directory on your hard drive and to name the Slide Show file. All Slide Show files are labeled as .SLD files by DisplayLink. Type in the name you want for the file and click **OK** to save.

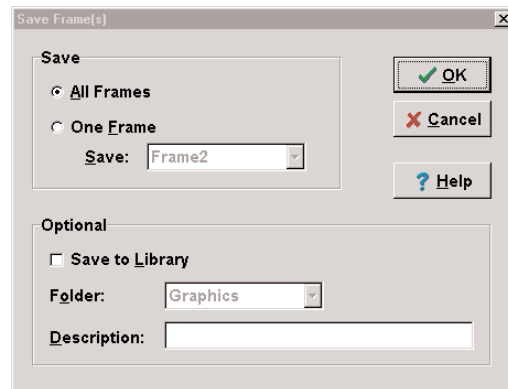


Figure 2-D Save Frame Window

To save a Frame or series of Frames to the Library, select "All Frames" or "One Frame" and select the option "Save to Library" in the Save Frame(s) window. Select the Library folder you wish the Slide Show or graphic to appear in and create a name for the Slide Show in the Description field. Click **OK**.

Tip: When saving a slideshow, it is always saved to the hard drive. If you would like to save it to the Library, you must select that option in the Save Frames window.

Creating Text Frames

Text frames are added by selecting the Text button in the Designer Window and entering your message into the Text Editor window.

Click on the A tool and place the cursor on the canvas. Begin typing your text. Use the Selection arrow tool to resize and reposition the text box. Click on the justification and alignment buttons to further position the text. Select the desired font size and font type and choose the font color. Use the zoom buttons to zoom in and out of your canvas.

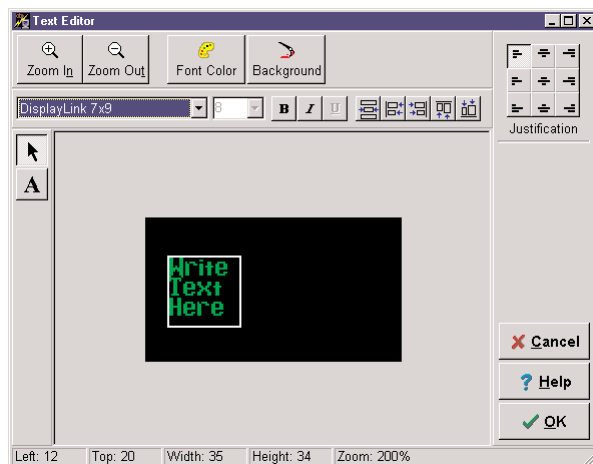


Figure 2-C Text Editor Window

You can place multiple text boxes on a single frame. Click on the text box with the selection tool to reposition the box, align it with other text boxes and justify the text. Each text box can have its own justification, font and font style.

Managing Your Frames

Adding a New Frame

From the Designer Window, click New on the window’s main menu bar. A new Frame will appear and the image in that Frame will appear gray.

Note: There must be a graphic or text in each of your Slide Show Frames. If any of the Frame images are gray (i.e. empty), you will get an error message when trying to send or save your Slide Show.

Inserting a New Frame

From the Designer Window, click Insert on the window's main menu bar. A new Frame will appear directly in front of the currently selected Frame.

Opening An Existing AVI, Text or Graphic

Click Open from the Designer Window main menu bar to open a .DLG, .SLD or a graphic file from your hard drive. The image or text will be opened as a new Frame or series of Frames. When you open an .AVI file, it will appear as a single frame, with the attributes, except "Special" grayed out.

Saving a Frame or Slide Show

Individual Frames or a series of Frames can be saved to a file on your computer's hard drive. In addition, your Frame or Slide Show can be saved to your DisplayLink Library.

To save a Frame or series of Frames to a file, select Save from the Designer Window main menu bar. The Save Frames window will appear. Select either "All Frames" or "One Frame" in the Save Frame(s) window then click OK. A Save As window will appear prompting you to select the directory on your hard drive and to name the file. All Slide Show files are labeled as .SLD files by DisplayLink. Type in the name you want for the file and click OK to save. A single framed slideshow is saved as a .DLG file.

To save a Frame or series of Frames to the Library, select "All Frames" or "One Frame" and select the option "Save to Library" in the Save Frame(s) window. Select the Library folder you wish the Slide Show or graphic to appear in and create a name for the Slide Show in the Description field.

Deleting Frame(s)

To delete Frames from the Designer Window, simply click the Delete button on the main menu bar. This will delete all currently selected frames. Once a Frame is deleted the remaining Frames will automatically be renumbered. .AVI or .MOV files show as one frame, so if you delete that frame, the entire .AVI or .MOV will be deleted.

Changing the Order of Frames

Select the tab of the Frame you wish to reorder and drag and drop the tab to the location you wish it to go. The Frames will renumber automatically.

Modifying multiple frames at one time

You can modify several Frames at a time by selecting the Frame number tab of the first Frame you are going to edit, holding down the shift key, and then selecting the last Frame you want to edit. All of the Frames between the two you have selected will also be selected and any changes you make to the Frame attributes will affect all of the selected Frames.

In addition, you can select multiple frames by using the CTRL key. Click on the first frame you want to select, hold down the CTRL key then click on additional frames. The selected frames will appear in bold type. You can delete multiple frames in the same way. First, select the frames to

Controlling Your Frames Attributes

delete then press the Delete button on the Designer Window's main tool bar.

Time Attributes

Each Frame must be given a time for it to be displayed. This option is set in the Time tab of the Designer window.

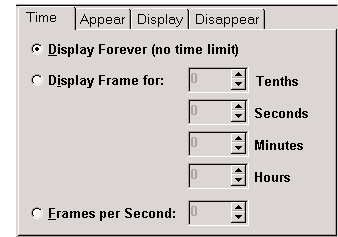


Figure 2-E Time Folder

Time Tab

The first option is “No Time Limit”. This option enables the Frame to be displayed for an indefinite amount of time. This is useful for displaying graphics or announcements. The Frame will be shown on the display until another Frame, Slide Show or Template is sent to the display or until a stop and clear command is given.

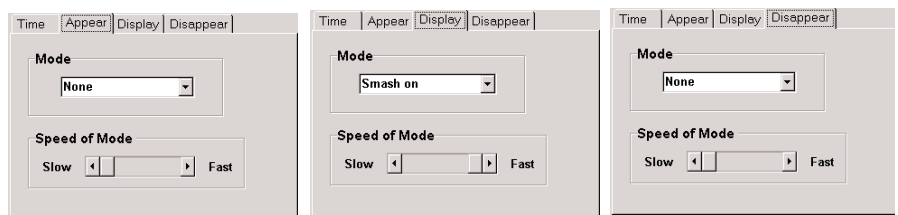
The second option in the Time tab enables you to select the number of tenths of seconds, seconds, minutes or hours for a Frame to be displayed. This option is used when developing Slide Shows consisting of a series of text Frames or graphics Frames.

The final option allows you to display a series of Frames at video speed (up to 30 Frames per second).

Appear and Disappear Modes

Modes

There are three mode attributes that can be set in the Designer window for each Frame. These are the Appear, Display, and Disappear attributes. The default mode for the Display attribute is Smash On and the default mode for the Appear and Disappear attribute is None. The Appear mode controls how the Frame will enter the display. The Display mode controls how the Frame will act while on the display and the Disappear mode controls how the Frame will leave the display. These modes are grayed out when an AVI is imported.



Figures 2-F,G,H Display, Appear, Disappear Mode Frames

Appear Mode Folder

The Appear Mode folder controls how the frame will enter the display.

Appear and Disappear Modes

This help area describes how the various Appear and Disappear modes function.

None This attribute will have the entire Frame appear or disappear at once.

Tip: A Disappear attribute of None will cause the Frame to be removed by the Appear attribute of the next Frame.

Drag This attribute will cause the Frame to be pulled or pushed

on or off the display.

- Reveal** This attribute will cause the Frame to be covered or uncovered.
- Louver** This attribute will make the Frame move on or off the display by revealing or clearing vertical and/or horizontal stripe sections.
- Sparkle** This attribute will make the Frame appear on or disappear off by displaying random pixels until the entire frame is displayed or removed.
- Radar** This attribute will make the Frame appear behind a sweeping radar hand
- Cover** This attribute will make the Frame appear by covering the existing frame.

Within each of these modes (except sparkle and radar), the attribute can appear or disappear directionally.

- Right** Frame displays from left to right
- Left** Frame displays from right to left.
- Up** Frame displays from bottom to top.
- Down** Frame displays from top to bottom.
- Right Up** Frame displays from the lower left hand corner to the upper right hand corner.
- Right Down** Frame displays from the upper left hand corner to the lower right hand corner.
- Left Up** Frame displays from the lower right hand corner to the upper left hand corner.
- Left Down** Frame displays from the upper right hand corner to the lower left hand corner.

Display Mode Folder

Display Mode Folder

This folder determines how the Frame will act while being displayed.

Display Modes

This help area describes how the various Display modes function.

- Smash on** This attribute will simply cause the image to remain on.
- Blink** This attribute will cause the image to blink.
- Inverse** This attribute will cause all on pixels to turn off and all off pixels to turn on.

Toggle This attribute will cause the display to cycle all of the pixels from their present state (off or on) to the inverse state.

Disappear Mode Folder

Disappear Mode Folder

This folder determines how the Frame will exit the display. It has the same options as the Appear Folder.

Speed

In addition to the mode settings for the Appear, Display and Disappear attributes, the speeds for these modes can be set to slow, medium or fast. The speed scroll bar for each attribute controls how fast or slow your selected mode will act for that particular Frame. For example, selecting the mode Drag Left from the Appear attribute tab and selecting a speed of Slow will cause your graphic or text Frame to appear on your active display by moving slowly across the display from right to left.

Special Folder

Special Folder

This folder lets you turn on or off the sound in an AVI or .MOV file that contains sound. If your frame contains an AVI file with sound you can use the “Special” tab to turn the sound on or off. Simply check the “Play Sound” checkbox to turn the sound on. Or, uncheck the box to turn off the sound. The Play Sound option will be greyed out if your frame does not include an AVI file, the animation file does not include a sound track or you do not have the sound option installed with your version of DisplayLink.



Figure 2-1 Special Folder

Setting How Many Times Your Slide Show Will Play

The Loop button located on the main menu bar in the Designer Window enables you to select the number of times your Slide Show will be displayed. Select “Forever” if you want your Slide Show to run indefinitely. A Slide Show set to run “Forever” will stop once a new Slide Show or graphic is sent to the Active Display or when a stop command is selected by right clicking on the Active Display window.

Sending Your Frame or Slideshow to the Display

Sending Files From the Library

To send a new template, Slide Show, animation or graphic to your display, simply double click on the file in your Library or click on the file and drag it on top of the Active Display window. The file will replace any previously displayed item. For more information, see “Using the DisplayLink Library” located on page 2-8.

Sending Files From The Designer Window

Files can also be sent to the display from the Designer Window. After creating a series of Frames, click Send All from the main menu bar of the Designer Window. DisplayLink will compile the file and send it to the dis-

play. The Frame or Slide Show will also appear in the Active Display Window at the same time they are displayed on the actual display.

Individual Frames of a Slide Show can also be sent from the Designer window by selecting the Frame image in the Designer window and dragging and dropping it into the Active Display.

Stopping Your Slide Show

Slide shows, live video or graphics that are being displayed in the Active Display window and on the actual display can be stopped by using the right mouse button. Simply position the mouse pointer in the Active Display window and click the right mouse button. A small window will appear prompting you to choose one of three choices: Stop and clear Display, Finish and Clear Display, or Zoomed.

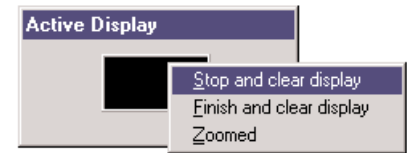


Figure 2-J Active Display Window

Stop and Clear Display will make the present Slide Show you are displaying stop and it will make your display go blank. Finish and Clear Display will tell the display to complete the current loop of the Slide Show you are displaying and then to blank your display.

Changing the Zoom level of the Active Display

Right clicking the Active Display also brings up an option to change the zoom level of the Active Display. This option will allow you to have a better view of the Active Display while you are working. When the display is zoomed, it will be check marked.

Using the DisplayLink Library

The Library can be customized to house important templates, graphics, Slide Shows, text and animation for easy and quick access. Saving your files to the Library enables you to retrieve and display them quickly and easily.

Select the item (graphic, animation, Slide Show, text or template) that you want to display by clicking on it with your left mouse button. Drag and drop it on to the Active Display Window or send it to the display by double-clicking on the file in your Library. The actual display will immediately load the new item. Graphics, text and Slide Shows in the Library can also be dragged and dropped onto a Frame in the Designer window. If a Slide Show is dropped onto a Designer window Frame, it will be separated into its individual Frames.

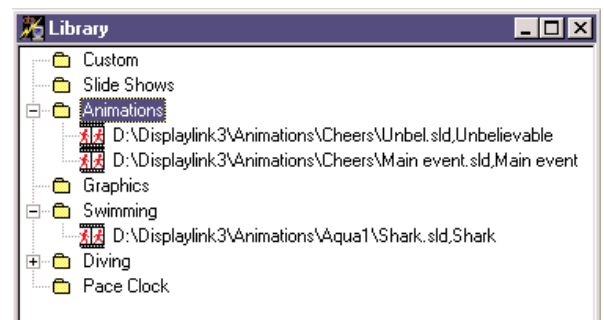


Figure 2-K Library Window

After creating a new Frame or Slide Show in the Designer Window, you can save the file to the Library for quick and easy access in the future.

Select Save from the main menu bar in the Designer Window. A Save Frame(s) window will appear. Save your entire Slide Show to the Library by selecting "All Frames" and "Save to Library" in the Save Frame(s) window. Select the Library folder you wish the Slide Show, text or graphic to appear in and enter a name or description for the file in the Description field. Click **OK**. A single Frame can be saved to the Library by selecting the One Frame option in the Save window and selecting the Frame number you wish to save.

Tip: It is not necessary to save a Slide Show file to the Slide Show folder in the Library or a graphic to the graphic folder but you will find your files easier to locate in the Library later if you stay consistent in how you store them.

Tip: Saving a file to the Library forces you to save it to your hard disk. If you overwrite your original graphics files, you may lose some of the original color information.

Creating and Deleting Library Folders

New Library folders can be created easily by clicking the right mouse button when the cursor is in the Library window. A small pop-up window will appear. Click on Create Folder then type in the name of your new folder.

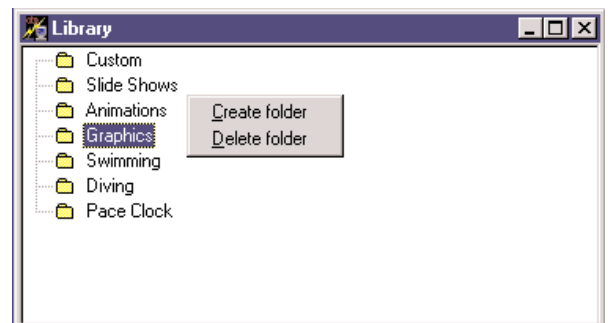


Figure 2-L Create or Delete Folder

Deleting existing Library folders is easy too. Simply select the folder you want to delete, then click on your right mouse button. Select Delete Folder. A confirmation window will appear. Confirm the name of the folder you are deleting then press OK.

Note: The Custom folder may not be deleted.

Working with Templates

Storing Templates In The Library

Templates may be added to your DisplayLink Library using the **Template | Install template. . .** menu option.

Your DisplayLink software may come with pre-defined templates, installed on your system, that were designed specifically for your display size and scoreboard application(s). The templates are files with (.TPL) as the extension. Installing new or updated templates for use with DisplayLink is easy.

Installing Templates

Select **Template | Install Template. . .** in DisplayLink's main menu bar. Next, type in path and file name in the File name window or use the Browse button to locate the .TPL file. Type in a Description of the file and

Use **Template Editor** software to create new templates for your display.

Call your CTS sales representative for more information.

800-279-0111

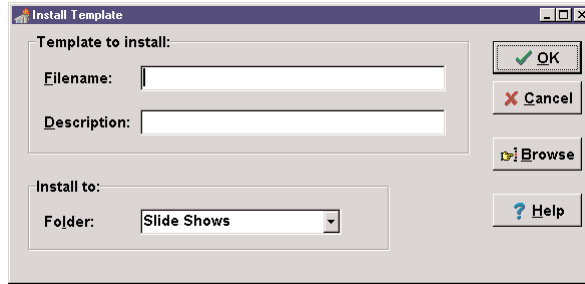


Figure 2-M Install Template Window

select the proper Folder in the DisplayLink Library that you want the file saved under. Press OK. The file will now be saved in your Library.

Templates are used to display scoreboard data from external sources such as the System 6, System 5 or Swim IV sports timers or meet management software running on a separate PC. Once your templates have been saved to your Library, they are easy to use. Simply select a template from your Library and drag it on top of the Active Display window or double click on the file in your Library. The display will immediately change to show the desired template with its real time scoreboard data.

You can jump back and forth between templates, graphics and Slide Shows by simply dragging and dropping the desired icon from the Library to the Active Display.

Using the Quick Message Option in Templates

Some Templates have Quick Messages in them. In these Templates, you are able to display custom messages while the Template is being used. To do this select the **Template|Quick Message** menu option in the Main DisplayLink window. This will bring up a Quick Message window. Just type in the text you want to see in your Quick Message in the Message Text box and hit the Send Now button. The message will immediately be sent to your display.

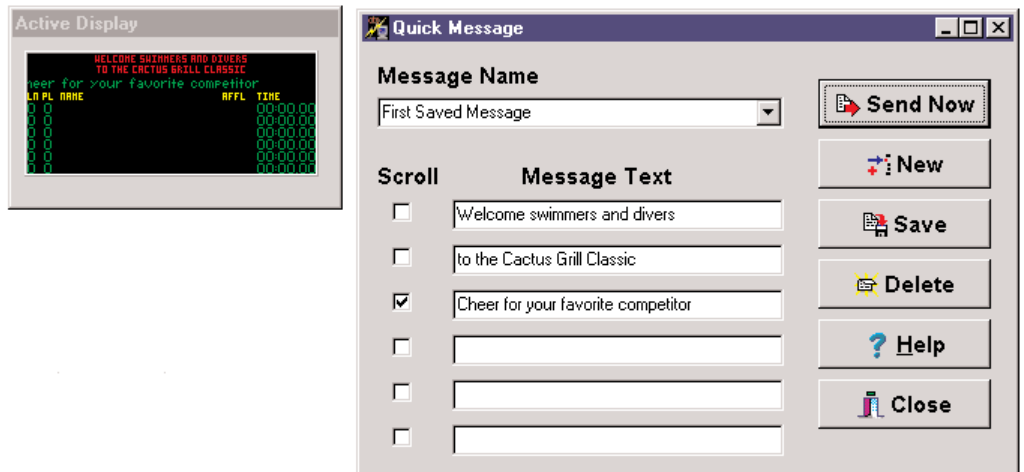


Figure 2-N Quick Message Window

This window allows you to write a quick message or choose from a list of saved messages. Each quick message can have numerous lines of information. You can send the message to your display when a template containing a quick message section is in use.

To create a new quick message, enter a name for your message in the Message Name field. Next, type in your message on line 1. Type in additional messages on the following lines. Only templates with multiple quick message lines will show the messages typed on lines 2 and below.

Check the Scroll box if you want that particular line of quick messaging to scroll from right to left on your display. Uncheck the box if you want the quick message to remain static.

In the example shown in the picture above, we used a template that contained three quick message lines. In the Quick Message window of DisplayLink, we created a new message titled "First Saved Message". We then created three different message lines. The first two lines will be static text and the third line will scroll.

Finally we sent a template containing three quick message lines to the display and clicked Send Now in the Quick Message window to send our new message to the display. The template was designed using the CTS Template Editor software.

The Quick Message Center has the option of saving your most frequently used messages. It will add the message to your Quick Message History for easy access. When you need to make a new quick message, just click the New button and you will be prompted to add the new message text. You can then send the message directly to the display or save it in the Quick Message History by hitting the save button.

Reference

Menu Options

File menu

Exit This option will close the DisplayLink program and cause all changes that you have made to your Library to be saved.

Settings menu

Display Connected ... This option turns off the part of DisplayLink that transmits data to the display. It can be very useful when you want to create Slide Shows or other DisplayLink items while your computer is not connected to your display.

COM Port Interfaces...This option brings up the COM Port Interfaces window. Use this window to select the COM Port that is connected to your meet management software on a separate PC and CTS Timer (Diving and Timer Data) as well as other COM Port settings.

Video Options ... This option brings up the Video Options Window which allows you to change your live video settings.

Template Menu

Install Template...This option allows the user to install a new template.

Quick Message...This option will bring up the Quick Message window.

Write HTML File...This option allows the user to write an HTML file containing a table of lane, place, name, affiliation and time information for the current swimming event and heat.

Send Standalone Template...This option allows the user to send a standalone template created in Version 1.3 or later of Template Editor to the display.

Game Menu (GameLink for Football, Basketball, Hockey and other sports)

The **Game** menu will enable you to open your sport-specific information window. This is the area where you will enter game statistics like time, scores, team names, innings etc...

Windows menu

Active Display...This option brings up the Active Display window. It is in this window that you can view what is being shown on the display.

Designer...This option brings up the Designer window. In this window you can create Slide Shows, Slide Show Animation and Text files.

Library. . . This option brings up the Library window. This is where you can store Slide Shows, Templates, Text files, and graphics for easy access.

Help menu

Contents. . .This option brings up the initial help screen.

Tip: For help on using the Help system, select this menu option and hit the F1 key.

Search for Help on. . .This option brings you to the keyword search in the Help system. From here you can type in a topic you are interested in learning more about and see what information exists in the Help file.

Tip: Once in the Help system you can also try the FIND command. This option lets you search on every word in Help.

About DisplayLink. . .This option brings up the About DisplayLink window. In this window you can see the current version of DisplayLink and the size of your display.

Tips and Frequently Asked Questions

Minimizing Your Windows

It is a good idea to minimize any other programs or windows that you have open while running DisplayLink. This will decrease your chances of clicking on another program's window while you are working in DisplayLink and inadvertently bringing it to the foreground of your monitor.

Frames Per Second Values

In the Time attribute of the Designer window, when using the "Frames per Second" time option, many values will round to another value. For a listing of these values go to the Time Mode Folder.

Disappear Attribute of None

A Disappear attribute of None will cause the Frame to be removed by the Appear attribute of the next Frame.

Know Your Display Size

It is useful to know the size of the display that you will be using to show your images. This will allow you to utilize the entire display. Find your display size under the Help menu, About DisplayLink.

An image that is too large will be cut to fit the display size and an image that is too small will show up only in the top left of the display. DisplayLink will not automatically resize your graphic. Use the Designer window to resize or reposition your image to fit your display.

Frames Not Being Shown on the Display

If your new Frame does not appear on your display then you may have a previous Frame with its Time Attribute set to "Display Forever". If you just want to see your new Frame you can drag it from the Designer and drop it onto the Active Display.

A Single Frame Saved as a .DLG File Doesn't Loop

If you save a single frame to your hard drive and the Library and then run it from the Library, it will not loop even if the Designer window from which it was saved contained a loop attribute greater than 1. To loop a single frame from the Library you must select **Save All Frames** when saving the file.

Technical Support

For technical support on DisplayLink for questions not answered by this manual or the on-line help system.

CTS Tech Support:

Phone: 800-287-0653 or 970-667-1000, x256

Fax: 970-667-1032

E-Mail Tech Support: customerservice@coloradotime.com

Web: www.coloradotime.com



DisplayLink 3.7 Users Guide
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