Showlogix Video Sync

Users Guide
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Showlogix Video Sync Introduction and Overview

Showlogix Video Sync is a free application that synchronizes playback of video files on the same computer using multiple monitors and also on multiple computers, using a local network.

 It is based on the Standard Showlogix system using same quality and high reliability.

The Showlogix system is designed to play high resolution multi-display, multi-layer content, synchronizing video, lighting, motion and many other devices, all on a standard IP network.

Showlogix consists of two major software components:

1. Showlogix Manager - A show control application with drag and drop programming.

   Showlogix Manager allows you to create and manage multiple displays and distribute media. You can control any Ethernet compatible device, such as DMX lighting (via Art-net), projectors, AV switchers, audio processors etc.

   Usually you will use one Showlogix Manager on a network.

2. Showlogix Player

Enables frame synchronized video playback across displays. By adding hardware capture devices, you can show an external input.
Showlogix can use up to eight displays on a single computer and have up to 255 computers on a single network.

Showlogix Video Sync can control:

- Hundreds of frame-synchronized displays
- Up to 32,768 DMX universes
- Unlimited external devices on an Ethernet network

There is no code to learn and no compilation. Easy graphical programming environment lets you drag and drop the commands on a logical tree and immediately create the show the way you vision it.

System Requirements

Hardware
If you are using Showlogix Manager for running the show or for logical command editing, you can install on almost any Windows XP, Windows 7 or Windows 8 computer. If you are using Showlogix Player or if using Showlogix Manager for timeline editing you will need a computer that will support your media files.

Every digital media network will have different technical requirements and the type and format of the media and number of layers and effects used, will determine the type of PC and graphics chipset to deploy.

As a minimum, we recommend a PC configuration that has a compatible RAM / CPU chipset combination, ideally assembled around a fast Intel processor and a graphics card with HD video playback support.

Showlogix Player can use up to eight displays on a single computer.

The hardware specifications in this document should only be used as a guideline. We recommended that you thoroughly test any combination of PC, graphic card, screen and media before any bulk purchase is made.

It is recommended to dedicate computers for the show and remove unwanted background applications or services. The best way is to take a new hard disk and then install Windows operating system, device drivers, DirectX, and Showlogix.

For most applications using synchronized playback, it is best to use playback computers with identical hardware and software. A good way of achieving that is to get one player computer working properly, and then clone its hard disk to the others.

Microsoft DirectX®
Latest Microsoft DirectX® is required. You will be prompted at the setup stage and download will be done automatically.
You can manually download the latest version of DirectX from:
http://www.microsoft.com/download/en/confirmation.aspx?id=35

Codec's
Reliable playback of video depends on the video codec's that you have installed on your PC.

Since version 1.4, the Showlogix Setup installs the free and trusted LAV filters, which are certified and published under the GNU license and are maintained by the open-source community.

The filters used by Showlogix may be changed and new filters may be added. This is done by installing any compliant DirectShow codec's. In this case you can use the Tweaker Tool (installed together with the Showlogix software) which allows you to configure your preferred decoders.

Other trusted and certified codec's:

Free and open source codec's

HAP codec- http://www.renderheads.com/downloads/2015/HapDirectShowCodecSetup.exe
FFdshow - http://sourceforge.net/projects/ffdshow-tryout/files/latest/download

Other codec's
http://www.mainconcept.com/products/plug-ins/decoding/decoder-packs.html

All computers in a Showlogix Player sync group should have the exact same codec installed. All video files in a sync group should be encoded in the same way and have same frame rate. For optimum playback, choose the frame rate of the graphics card to be a multiple of the video frame rate (Usually 30 frame/sec).

Computer Preparation

Disabling unwanted Windows functions
Screen saver, energy saving measures, automatic cleanup and Automatic Access Control (UAC) functions, will affect the performance. Before using Showlogix, disable them.

Network
It is recommended to deactivate automatic DHCP Server. If using DHCP, IP addresses may change on rebooting the computers. The Showlogix Manager will try to access the wrong IP's and will fail.
If this is not possible in your network, contact your network administrator to make sure that the DHCP Server doesn't change the IP numbers of the Showlogix Player Computers.

To configure a Showlogix Player computer, you must configure the PC Ethernet card. It is necessary to set two parameters, the IP address and the Subnet Mask. These settings are adjusted in the Windows Network Settings Dialogue.

To access this, select the "Start Menu"– "Control Panel" menu.
In the "Control Panel", double click on the "Network" Icon.
Select the "TCP/IP protocol" line and then press the "Properties" button.
Select the radio button marked "Specify an IP Address". Specify a unique IP number for each player by changing the last group of IP address digits. "Subnet Mask" should be the same on all computers

If your Showlogix system is not stand-alone but connected to a larger network, you should consult your network administrator for the correct IP number, subnet mask, and other parameters.
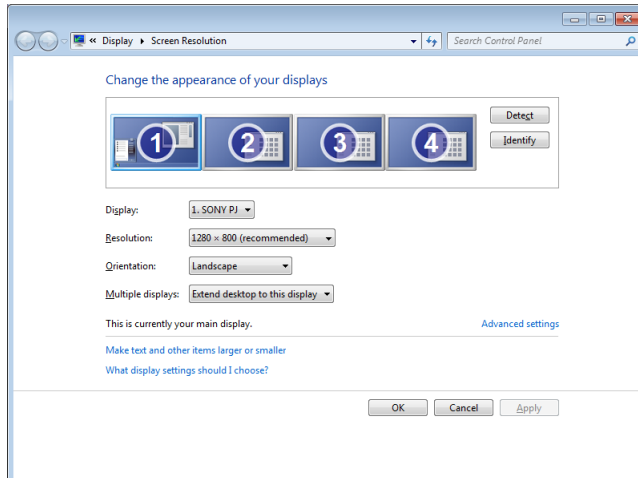

To start the Showlogix Manager or Showlogix Player automatically (usually used for unattended playback), add a shortcut to "C:\Documents and Settings\Programs\Startup"; this will start Showlogix automatically, when Microsoft Windows does.

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Single or multi display configuration
For best results and reliability it is recommended to use one display for each Player computer on a Showlogix network.
It is possible to use more than one graphic card with several outputs each, to deliver a video server with up to eight independent outputs.
To configure the outputs of the graphics card correctly, the required display devices have to be connected and work correctly.

When Showlogix player is launched, it opens on display number#1 even if it is not the primary display. As soon as the Showlogix Manager connects to the first player (as long as multiple players are assigned), the remaining players will open according to the display number and will be connected to the Manager (The display number is not necessarily the same number as you see in the Windows Resolution screen). You can now use each display as if it is another player on the network.

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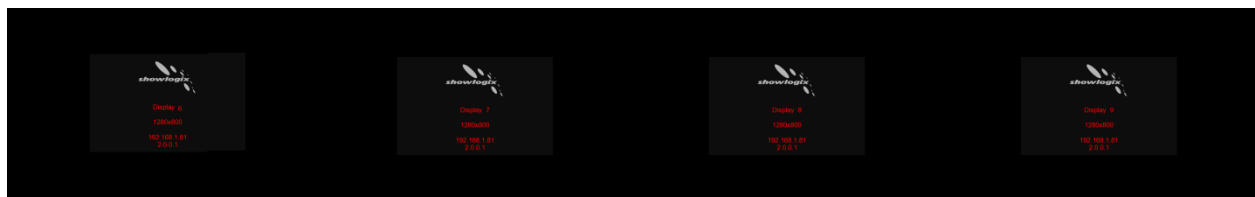
DMX over Ethernet using Art-Net protocol
To use Showlogix with an Art-Net device, you must configure the Art-Net device to work on same network segment as the Showlogix Manager. It is necessary to set two parameters, the IP address and the Subnet Mask. To change these settings, consult the device manufacturer's manuals.

For more information on the Art-Net Protocol please go to www.artisticlicence.com
Art-Net™ Designed by and Copyright Artistic Licence Holdings Ltd

External devices (Ethernet control)
Showlogix Manager allows controlling external devices or receiving commands from other programs or network devices using text strings sent to or received from a device through a TCP/IP or UDP connection.

These commands are defined by the device manufacturer, and you should consult their manuals to find out what commands your devices support. Typically a command will be a text 'string', or sequence of letters and numbers, that the device interprets and acts upon.

To do this, you must know the IP number and port number of the device to be controlled.

Software Setup/Installation

Install Showlogix Software by downloading the setup file from the internet
http://www.showlogix.com/ContentPage.aspx?id=108

Follow the online screens and prompts.

1. Close all programs before beginning software installation.

2. Carefully read the Showlogix license agreement. The software installation only proceeds if the "Accept" button is clicked and the license terms are agreed to.

3. The installer will install both Showlogix Manager and Showlogix Player.

4. If you don't have the latest DirectX installed, you will be asked to install it.

The installer adds a Showlogix Manager and a Showlogix Player icon to the *Windows Start Menu*, in a folder called Showlogix.

Launching the Showlogix Manager

When you start Showlogix Manager, a window will open offering four options:

After a few seconds it will automatically load the last project that was in use and go to "Run Mode". If this is the first time you open Showlogix Manager, it will open an empty project.
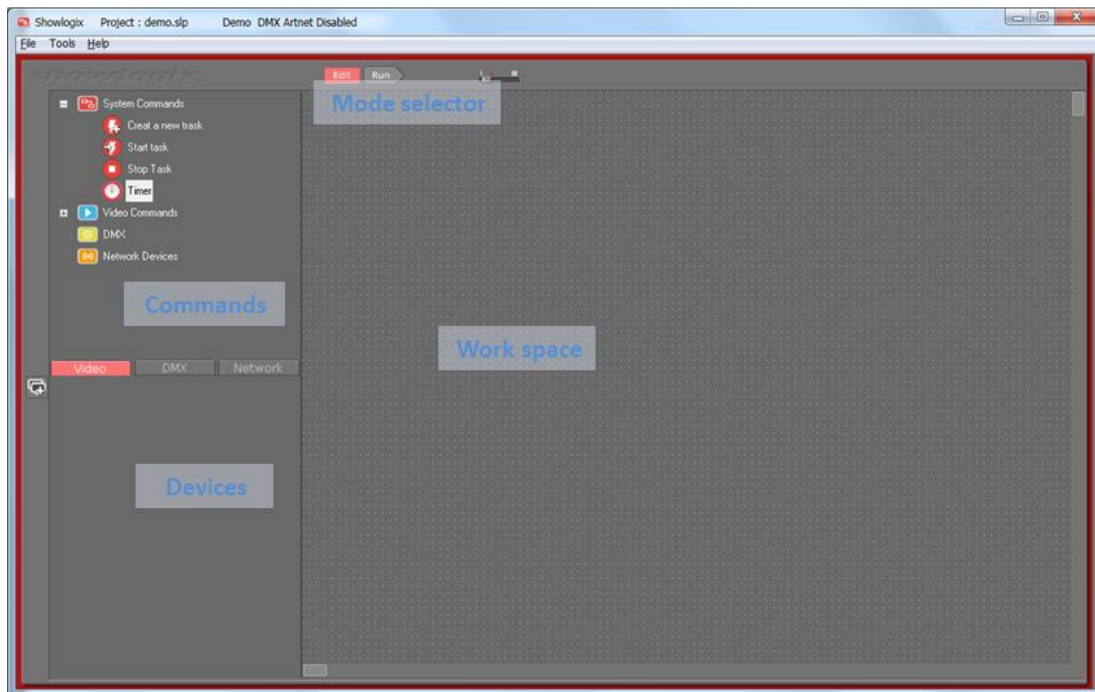
Blocking
If there is an active firewall, as Showlogix applications try to access the network, the firewall will display the following dialog:
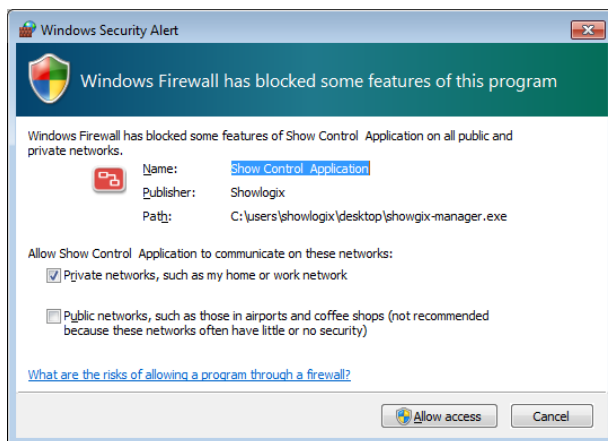
Select "Unblock" option to allow Showlogix Manager to work correctly.
Changes made take effect immediately.
In some cases, the firewall needs to be configured manually or disabled.

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General view

Run Mode
This is the mode for running shows.
In this mode Showlogix interacts with all devices and communications are open.
Most actions are done at this mode.
You cannot add/delete devices and commands.

Edit Mode
In Edit Mode you configure all devices in the project and program the show.
Commands are not active in this mode. Players will remove any playing file.

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Devices

Under this box you'll configure devices that are controlled by Showlogix Manager. The devices are divided into three groups:

1. **Video-** Here you configure all Showlogix displays.
2. **DMX**- Here you create DMX scenes.
3. **Network**- Here you configure all external devices, to be controlled or to trigger event, using serial commands over TCP/IP or UDP network.

Commands

Under this box you'll find all available commands to be dragged to the Work Space. This list is updated dynamically according to the configured devices.

Work Space

To this area you drag the commands to create the sequences of the show.

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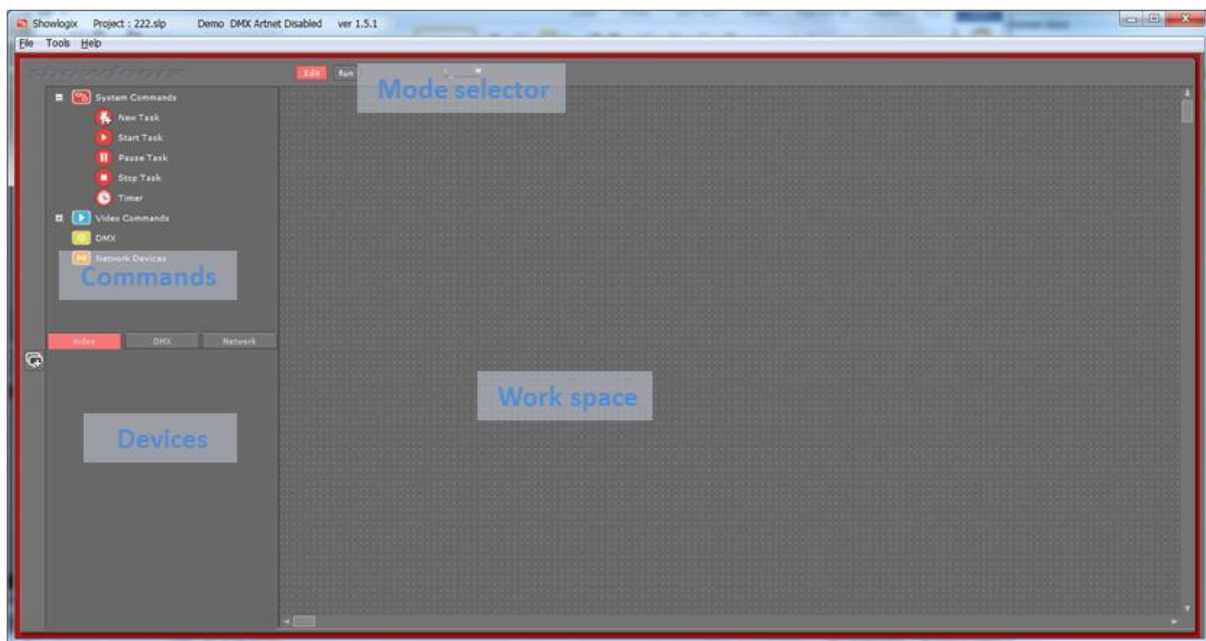
Video configuration

First you need to define a video group. A group is a set of displays which are controlled together, for example: a PLAY command will play a specific layer across all displays at the same time.
The Group also holds the default Display Map parameters.

There is no limit of amount of video groups used in a project.
Any display can be used in several groups and in different sync arrangements.

To create a group, go to "Edit Mode".
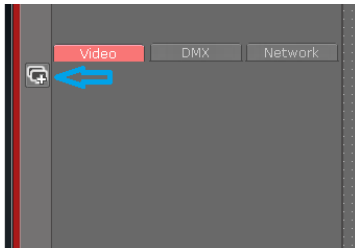
Press/drag the "Group" icon under the Video tab. The following window will open:
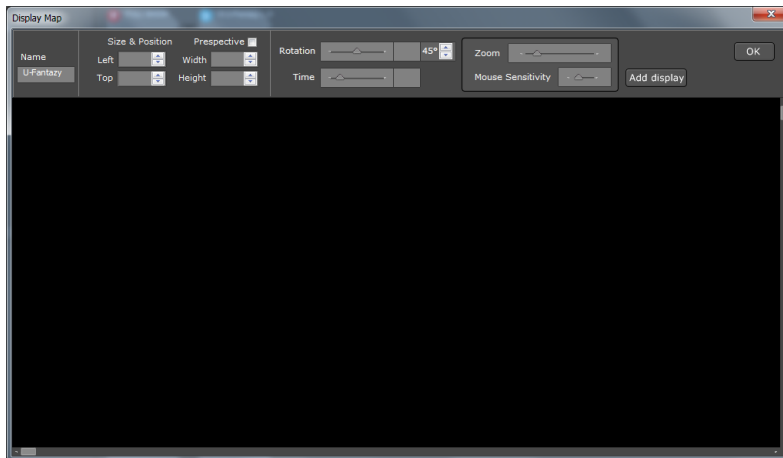
This is the display map, it allows you to arrange the displays and place them in respect to each other.

To assign displays to the group, press the "Add display" button, or right click on the surface to create a specific display.

The free Video Sync version does not support Display Map features
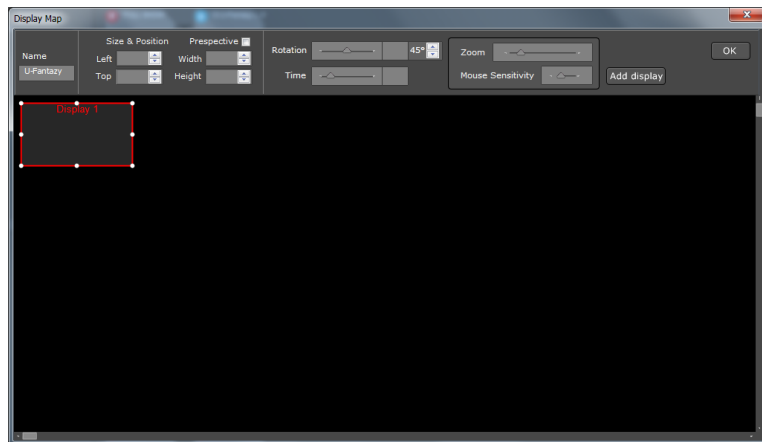
Add as many displays to fit the number you want to assign to this group.
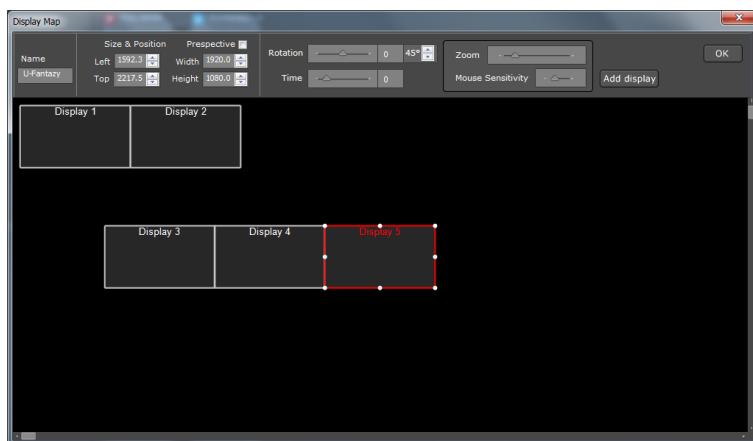
By double clicking on each display rectangle, you can set the display specifications:

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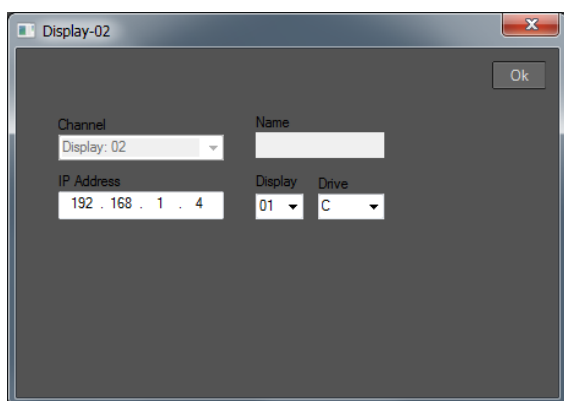
Select a display number – this is set automatically.
Assign a name (not compulsory).
Set the IP number of the computer which the Showlogix Player is installed on.
Assign display number 1. If you are using multi display computer/s, keep same IP address and change the display number to fit the display you are using on the player computer

Assign a default drive on the remote computer.
This drive will be used by the Showlogix Player; a folder named "ShowLogix Media" will be created automatically on the selected drive. Showlogix Manager will upload all content to that folder and Showlogix Player will play all content from this folder (The drive and folder can be changed any time by using the "Switch media folder" command, even while the show is running).

After the group display map is closed, if the player computers are connected to the network and the Showlogix Player is open, the display icons will turn yellow and then green, showing connection has been established.
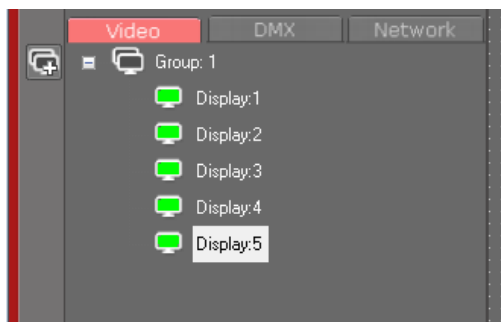
The first display on the list of each group is defined automatically as the master display. All synchronization follows to the master display's time-code.

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Logical Tree

With its drag/drop interface, the logical workspace allows you to build your entire show.

Commands can be dragged from the Toolbox on the left, and all their behavioral characteristics can be defined simply by pressing the edit button on the related object.

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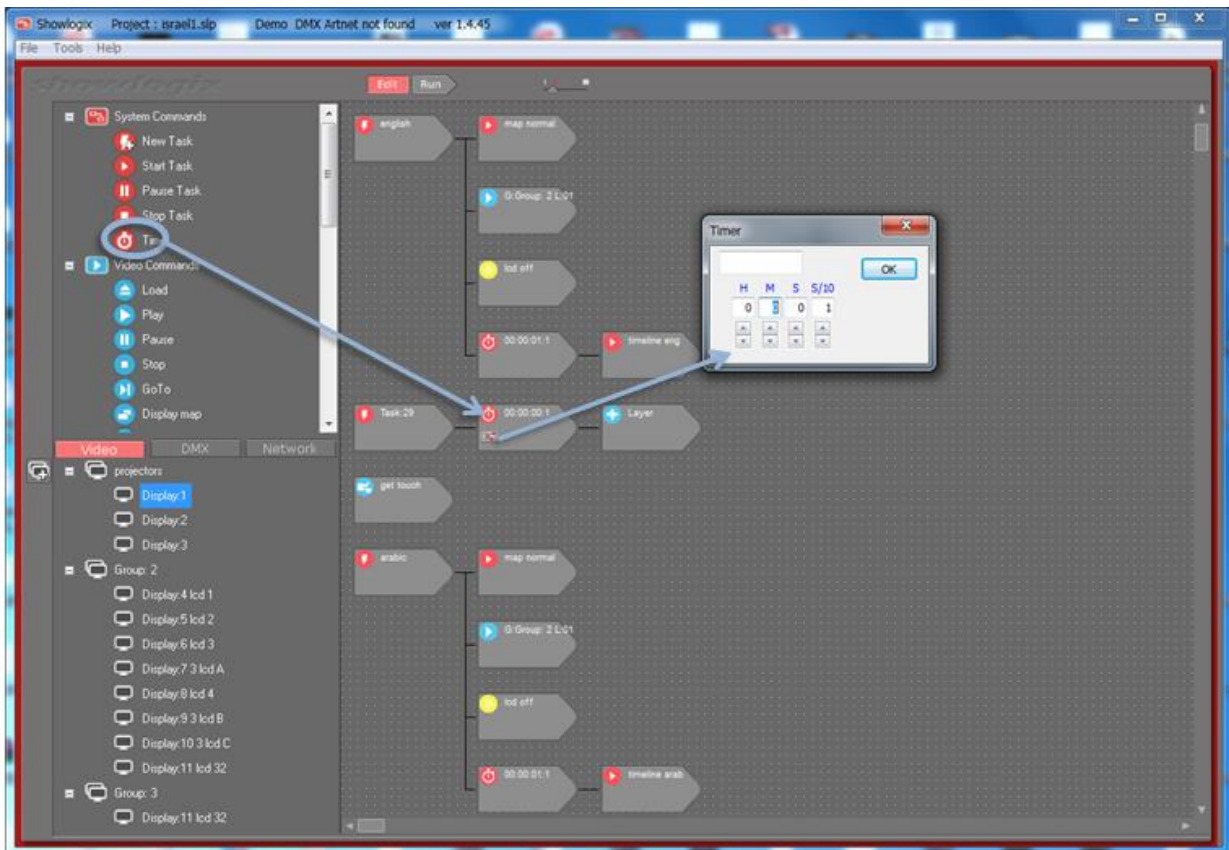
Logical Commands

There are two different commands that are used in Showlogix Manager's main logical tree:

1. Step commands - One command after the other.
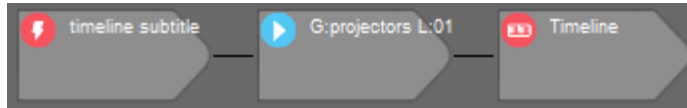
2. Parallel Commands -Two or more commands that are activated at the same time

The two types of commands can be mixed together in one sequence

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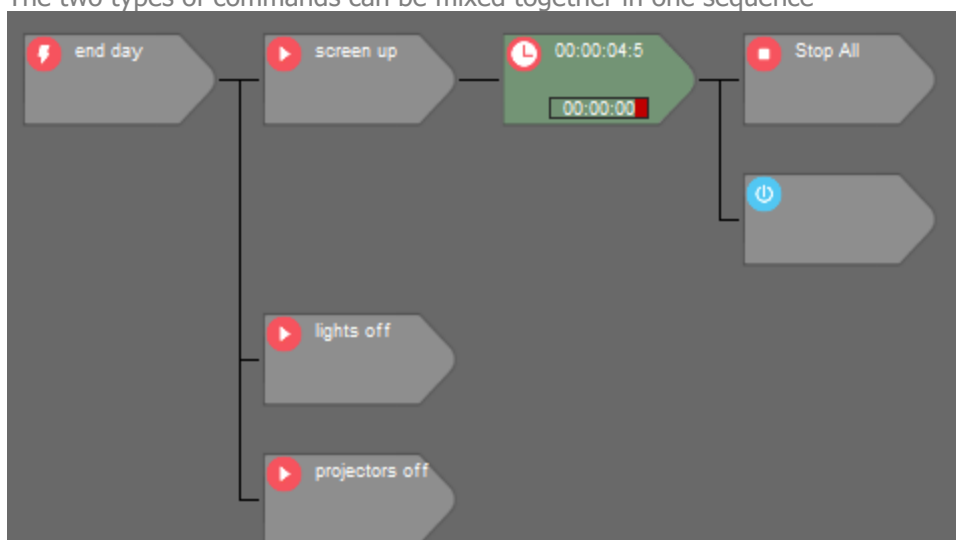
Commands

The "Commands" list is available only in "Edit Mode". On the upper left side of the application you will see a tree with four main groups. Under each group, depending on your initial configuration, you will find the commands that are available for you to drag to the work-space.
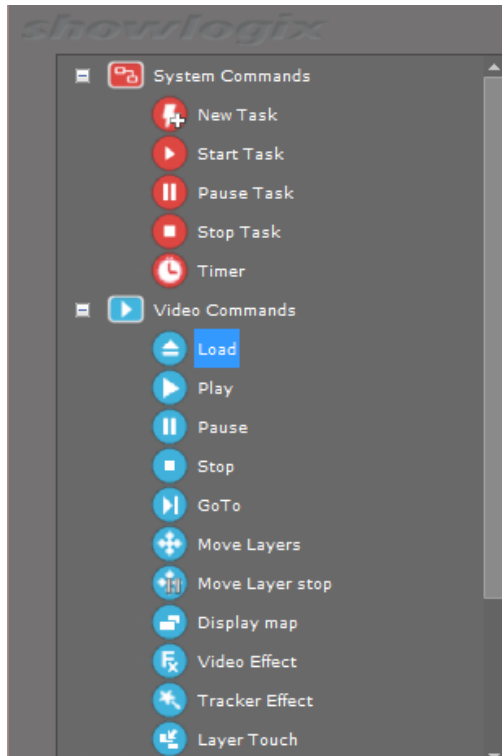
System Commands

New Task
Every sequence starts with a button. It is actually the trigger to start a sequence of commands.

There are several ways of triggering a task/button (in "Run Mode"):

- Hover with mouse over the task and press the green triangle.
- By dragging the "Start Task" command elsewhere in the project.
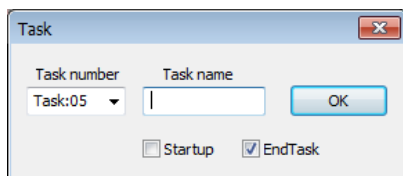
Task number –index number given automatically by the system
Task name- Give a descriptive name to remember what the task does.
Trigger at startup-checking will activate task as soon as the Showlogix Manager application is launched.
End task - checking will disable re-triggering the task while active

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Start/Resume Task
Start a task. You can perform this command only on tasks that are used in the work space. If a task is in a pause state, this command will resume the task.

Pause task
Pause a running task. This command will also pause any playing video which was executed by the selected task. You can perform this command only on tasks that are used in the work space.

Stop task
Stop a running task. You can perform this command only on tasks that are used in the work space. Selecting "Stop All" from the drop-down list will stop all running tasks (except current one).

Timer
 Add a pause for a certain amount of time.

Video Commands

Before using Video commands you will have to create at least one Video group.
These commands work only on available video groups.

Play
If a playlist is assigned (by pressing the edit button on the Play object), the command will replace files or external inputs, and will load and play files as fast as possible.
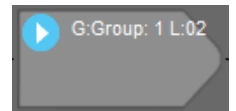
If a command is dragged after a "Play" command, the command will be executed as soon as the playback of the master player is finished.
If the "Play" command is in "Loop", the next command will be executed each time the playback reaches the end.

If you want a command to be executed while the group is playing, use the command in parallel to the "Play".


In "Run Mode" while the master player (first player on the group list) is connected, you will see the video state on the related object.
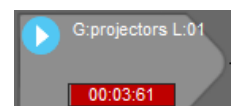
By pressing the timeline button on the "Play" object in "Run Mode", a player panel will open. This allows you to control the group of players. You can go to a randomly selected point anywhere in the video, while keeping all video players synchronized. This can be done in two ways:
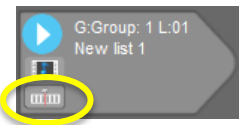
1. Clicking anywhere along the duration bar.
2. Clicking on the "Locate" button and inserting a specific Time-code.
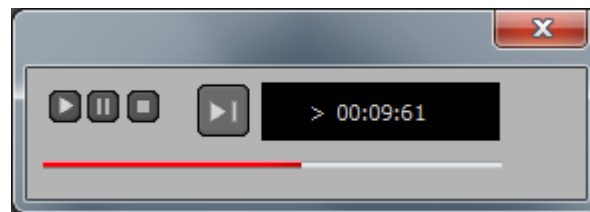
Playlist Editor
This dialog allows you to create playlists of video, audio, image files and external inputs. A playlist defines a single file or external input on a selected layer to play simultaneously across all players. You can play up to 30 layers on each player.

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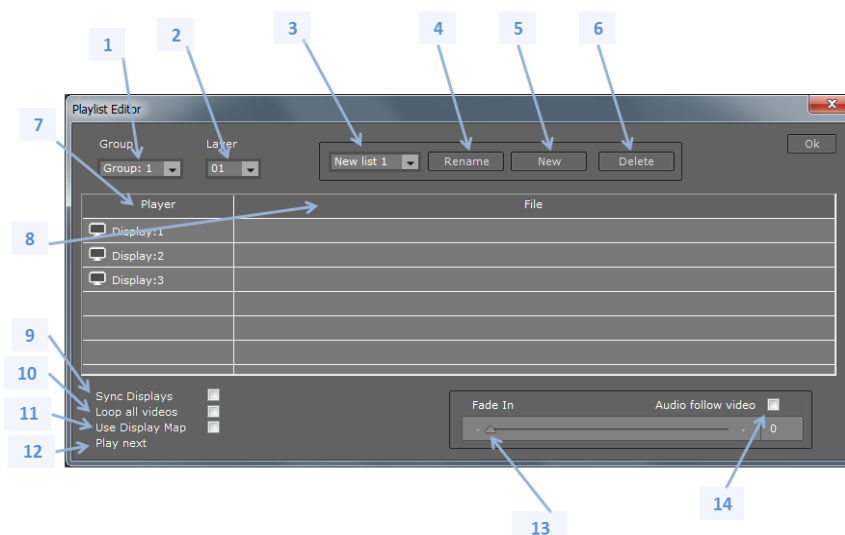
1. **Group dropdown box -** Select a group of players to apply the playlist to
2. **Layer dropdown box –** Select a layer to apply the playlist to
3. **Playlist Dropdown Box** – These are the available playlists, select a playlist from here or create a new one.
4. **Rename**- Give the playlist a name
5. **New**- Create a new empty playlist
6. **Delete**- Delete the current playlist
7. **Display Row**- This row will show available displays in the group
8. **Media Row** – Select the media by double-click on the row or drag media to this row
9. **Sync** - Check this box to use frame accurate cross-display sync between all the videos playing on the selected layer. You may choose to sync all of the players together or let players be 'independent' (not synchronized with the other players).
10. **Loop all**- Check to loop all files in the playlist
11. **Use Display map** – Not supported in this version
12. **Play Next –** Not supported in this version

By right clicking on each cell you can:
1. **Select File-** This will open a Windows browser to select a file to play as soon as this playlist is triggered by the Play command in Run Mode. You can also double-click on the row or drag media to this row.
2. **Loop On-** Check to loop the selected file.
3. **Upload** - Does full connect to an individual player and uploads the current media file.
4. **Remove-** removes the file or external input from the current Playlist.
5. **Select Input-** This will select an external input (1-10) to show as soon as this playlist is triggered by the Play command in Run Mode.

The "Playlist editor" can be opened by double clicking on a "Play" object in the Work space.

Computer Control

Sends a "Restart", "Turn Off", "Turn On" or "Close Player" command, to all players in the group. This will Shut down, Restart or turn on a computer. You can also close player remotely.
For restarting or shutting down, the Showlogix Player on the remote computer must be up and connected to Showlogix Manager.
For turning on a computer, the Wake-On-LAN should be enabled in the BIOS and the Ethernet card of the computer.

Switch Media Folder

This allows you to dynamically change the folder to read and play files from. This is useful if you want to play different files using same file names without re-programing your project (for example a show with several languages).

Programming a Sequence

Every sequence starts with a button (Create a New Task), Network device "Receive" or a "Layer Touch" command.

Go to "Edit Mode". Drag the "Task" (Create a new task) icon to the work space. The following object will be created:
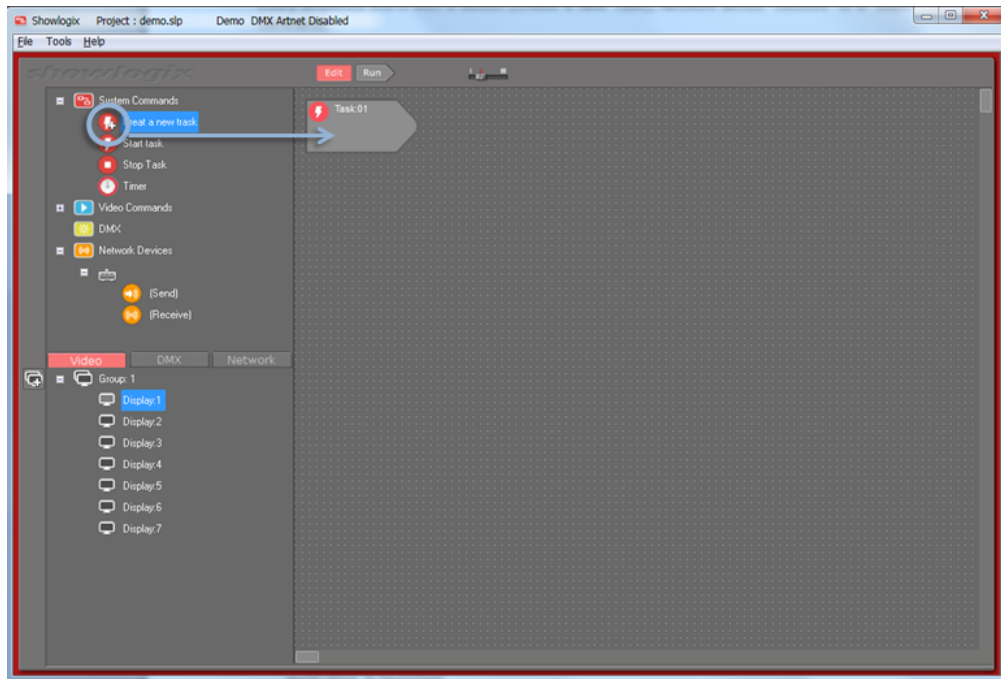
By pressing the edit button on the object, a Task dialog will open allowing you to edit the Task parameters:
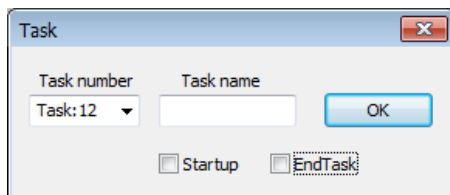
   Task number –index number given automatically by the system
   Task name- Give a descriptive name to remember what the task does.
   Trigger at startup- allows you to specify if this task is executed as soon as the Showlogix Manager application is launched.
   End task - checking will disable re-triggering the task while active

Click OK to save changes.

After a Button/Task is dragged to the work space, you can drag any of the available commands to create your sequence.
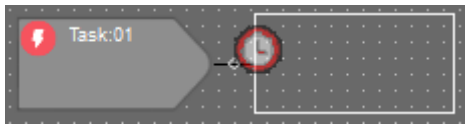
As soon as you start dragging a command, a connection point will be highlighted on the left side of the object. A new command will be created after you release the mouse on the connection point.
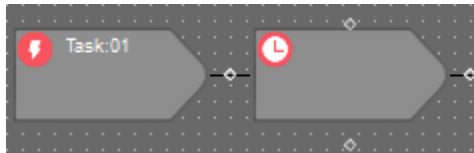

As soon as you start dragging the next command, all previous commands (accept the first Button/Task object), will appear with four connection points allowing you to add a command before, after or parallel (at the same time) to a command. A new command will be created after you release the mouse on a selected connection point.

To configure a command, double click on it and a dialog window will open according to the command. For example if you double click on a timer command, this window will open:
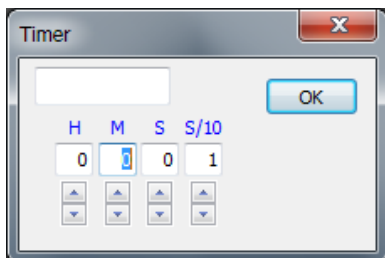
To test your sequence, go to "Run Mode", select the task by hovering over it and click the play button.
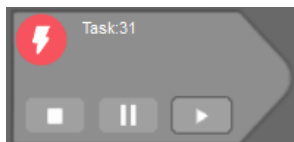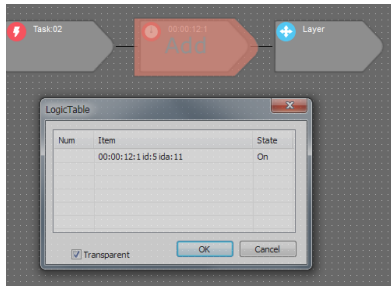
Logical Table

The Logical Table offers a tool to trigger a command only if the required condition is true or false. Otherwise, the command will be ignored. This table can be created on any command available on the work space.

Creation

Go to "Edit Mode" and right click on any object you'd like the condition to be created on and press Logical table.

The table will open, while table is open, go the object you'd like to use as a condition, hover over it and the logic table icon will pop up. Click on it and the object will be inserted in to the table.
Double Click On/Off to determine the condition.

There is no limit to the number of conditions used in each table.

Network Devices

"Network Devices" allow serial commands to be sent or received in order to control devices or for controlling Showlogix Manager from an external device capable of communicating using the TCP/IP or UDP protocol.

This provides a way to hold all the IP settings required to communicate with a particular device in one place. Actions can then refer to the Device rather than having the communications settings encoded directly into the Action. This means that if the communications settings ever change, they can be adjusted in a single location.

Device Creation

Go to "Edit Mode".
Press/Drag the "Device" icon under the Network tab.
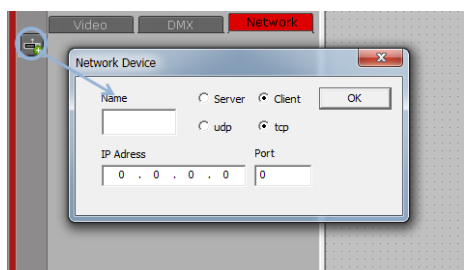
Assign a name.
If you are planning to communicate with the device as a client, press the "Client" radio button and set the IP number and port number of the device you want to control.

If you are planning to communicate with the device as a server, press the "Server" radio button and set the port number you want to assign for listening on the Manager computer.

Server - You can specify a network port that Showlogix Manager will monitor for incoming connections. If a remote computer or device tries to connect to this port, Showlogix will accept the connection and the icon will turn green. If the device does not use permanent connection, the icon will not turn green; however, commands will be received and acted upon.

Client – Showlogix Manager will initiate the connection, if a device accepts the connection, the device icon will turn green. If the network is disconnected for any reason, Showlogix Manager will reconnect automatically.

Default communication is TCP/IP, if your device accepts UDP, press the UDP radio button.

Every device you create, adds a device icon in the device list which has two kinds of commands "Send" for controlling external devices and receive for triggering events in Showlogix.

You can now use a "send" command Cue anywhere in the show by dragging the device onto a timeline or a logical tree and adding the appropriate string.

A "Receive" command can be dragged only to the main workspace. Receive actions allow you to execute actions when messages are received by Showlogix Manager. Incoming messages are matched against the string and if any incoming message matches a stored message it will trigger and execute a sequence of commands.

Network Devices Commands

In the External Devices list you will find all the devices that were created in the project. By dragging a "Send" command you can enter the data to send to the device.
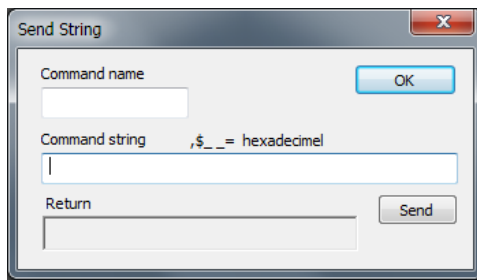
You can enter any characters into the edit box and they will be sent as-is. To send control characters that cannot be entered from the keyboard you enter a ",$" followed by the 2 digit hexadecimal number for the control character. If, for example, you want to send the "Enter" character, which has a hexadecimal code of 0D, you would enter ",$0D" into the edit box.

The Receive command can be dragged only to a new sequence (much like the "Task" command) "Receive String" defines the characters used to match against the received message to execute a sequence of commands.

Before using External Devices commands you will have to create at least one Device under the device Tab. These commands work only on available devices.
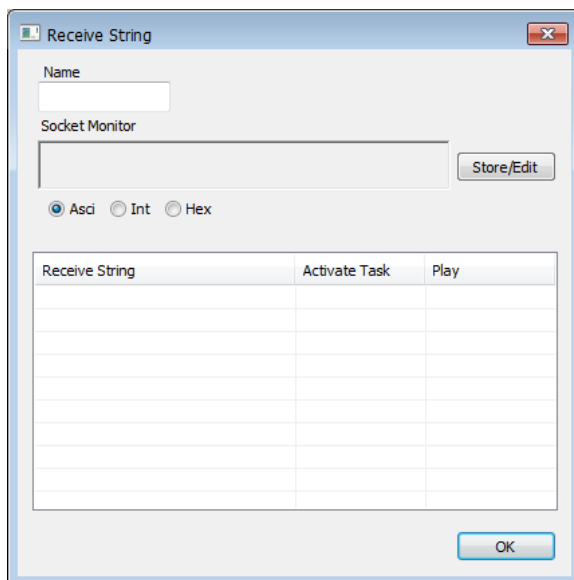
Send

Command Name- Give a descriptive name to remember what the command does.

Command String- This defines the string of characters that are sent out.

Return- Here you can monitor what the device is sending back.

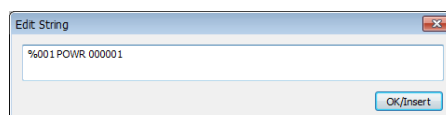**Test-** This button performs the Action you have created.

Receive

Name- Give a descriptive name to remember what the command does.

**Socket Monitor-** Here you can monitor what the server is receiving.

Store/Edit- This button stores the current data shown in the socket monitor as the receive string. You can edit this string to change the way the string is compared and triggers an event.
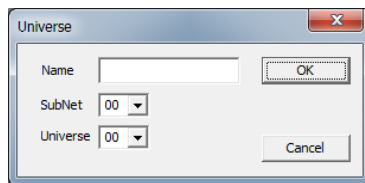
DMX configuration

To allow DMX transmission over the Art-Net protocol, first you have to enable The Art-net communication. To do so, select "Art-Net Configuration" from the "Tools" menu.
Check "Connect Art Net" and press "OK"
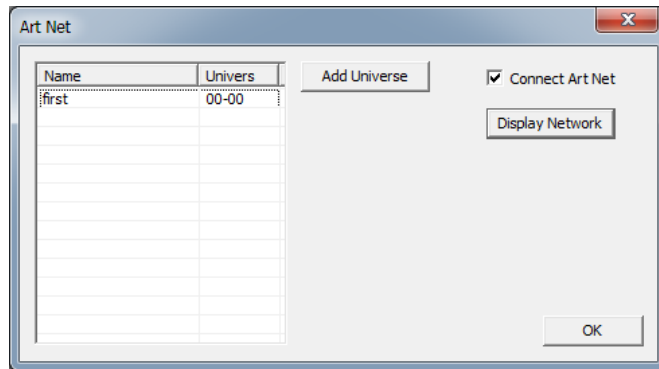
Now you can configure the Art-net universes used in your project: Re-open "Art-Net Configuration" from the "Tools" menu.

Press "Add Universe"

Assign a name (not compulsory).
Select subnet and universe according to Art-net nodes in use.
Add as many universes as needed.

If you do not know what universes you have on your network, press "Display Network" to find Art-net nodes on the network.
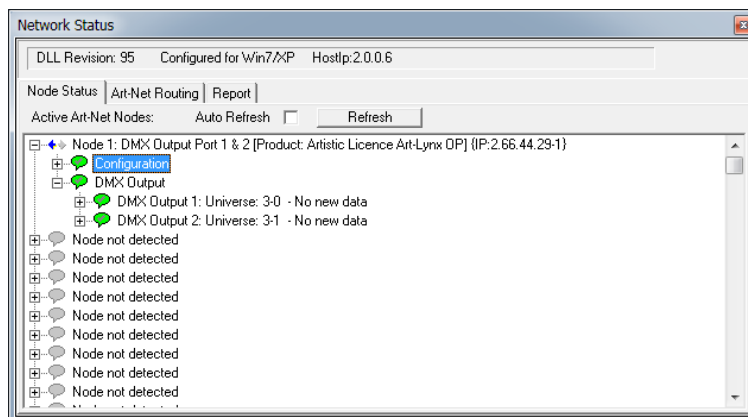
There are two ways to control DMX devices using the Showlogix Manager:

1. A graph that is synchronized to the videos time-code (see Time line programming).
2. Scene presets that are used anywhere in the show.

DMX Commands

Before using DMX commands on the work space, you will have to create at least one DMX Preset under the DMX tab.

In the DMX list you will find all the presets that were created in the project. These presets can be used anywhere in a show
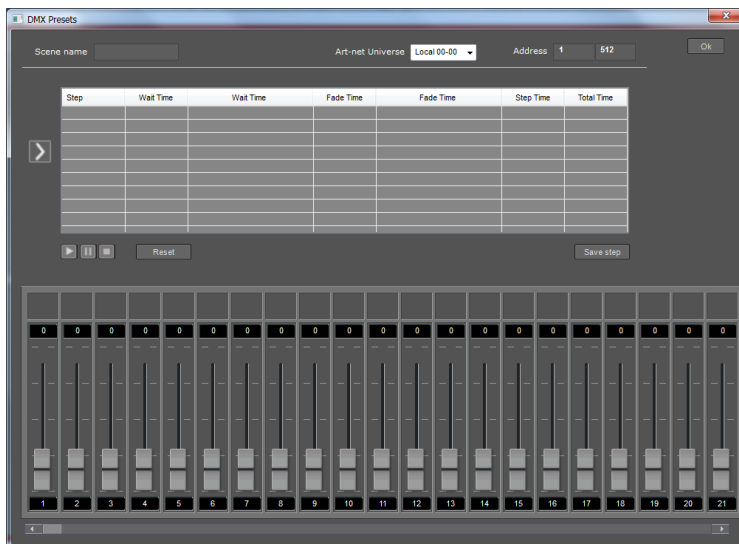
DMX Preset Scenes
Go to "Edit Mode".
Press/Drag the "Light Scene" icon under the DMX tab.
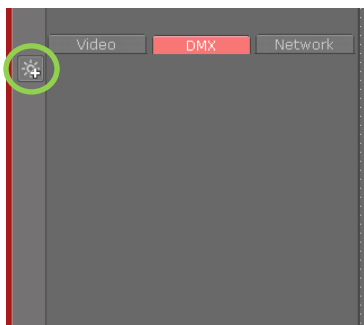

The following screen will open:

In the "Scene Name" edit box write a name for the scene.
Select an Art-net universe out of the drop down list, In the "Channels" edit box write the number of channels you are using in this scene.

Test DMX devices by using the sliders. Assign a name to each channel by tapping the rectangular space above each slider and type the name you wish to give the channel. This name will follow the channel everywhere in the project. You can change this name anytime by opening a DMX scene and editing the text
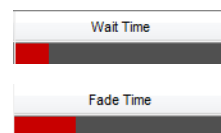
Drag the Step icon from the left into the list
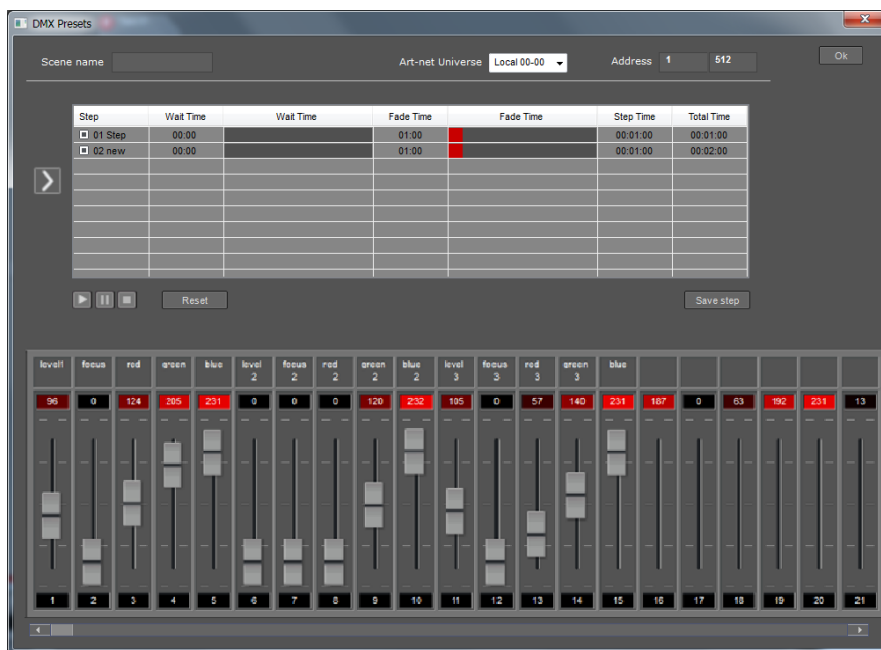
Design the step using the sliders.

To pause before the step starts, add "Wait time" by altering the time slider.
To adjust the fade time between this step and the next step, alter the "Fade time" slider

Save the step by clicking "Save Step"
To load a step, double click on the step line.

 You can copy a step to another line by loading a step and then clicking on another line and then clicking on "Save Step"

Add as many steps as you wish to create the scene
To test the scene, click on the first line and then press the PLAY icon.

As soon as you are satisfied with the scene press the OK icon. This will close the screen and save it for later use in the project.

A new Icon will appear under the DMX tab. You can edit the scene any time by double clicking on the icon.

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Scheduling Tasks

The Scheduler allows you to schedule Tasks to be done at certain times of the day, on a repeating schedule. You could use this, for example, to start a show in the morning and off at night. You can specify actions to occur only on certain days or every day.

Once you have added a scheduled Task it will be executed on the day and time you have selected. Showlogix Manager must be in "Run Mode" in order for this to occur.

Select Scheduler from the "Tools" menu to open the "Scheduler" dialog.
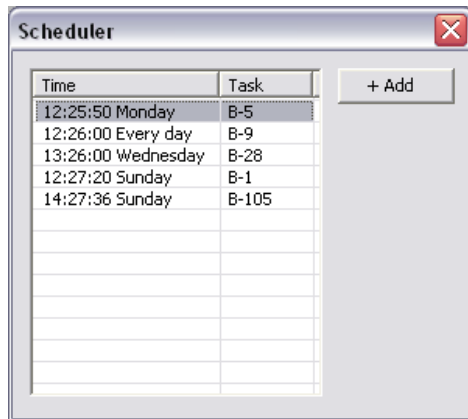
Add Button- Adds a new scheduled Task. This opens the Edit "Time Scheduler" dialog.
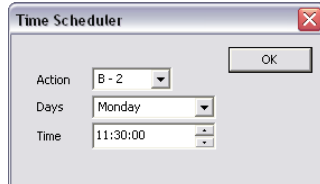
Action- Selects the task you want to execute when the scheduled time is reached. The drop-down list will show only tasks that were created on the work space.

Days- Select the days this Task should execute on. You can select a single day or all days.

Time- Enter a time of day into the Time field. The time must be entered as a 24 hour clock time.

The list displays the currently scheduled Tasks. By double clicking on an item selected in the list, the Edit "Time Scheduler" dialog opens allowing you to edit the scheduled Task.
To delete a scheduled item, select it in the list, Right click and press Delete.

Creating Administrator Mode

 After completing the programming and installing on site, you may want to limit the Showlogix Manager so it stays in "Run Mode" at all times. By using Administrator mode, un- authorized personnel cannot change programming.
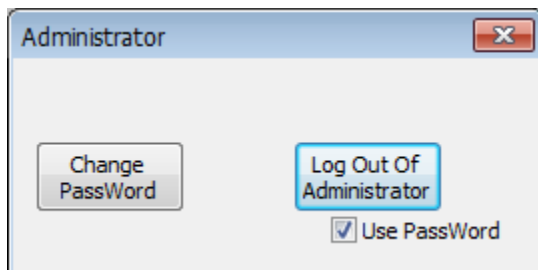
Select Administrator Password from the "Tools" menu to open the Administrator dialog.
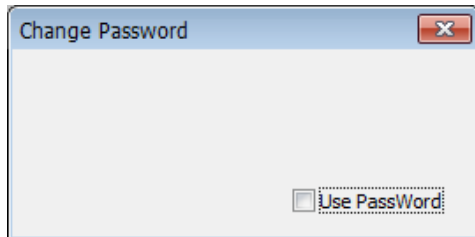
Check the Use Password box and then enter a 4 digit number and press OK.
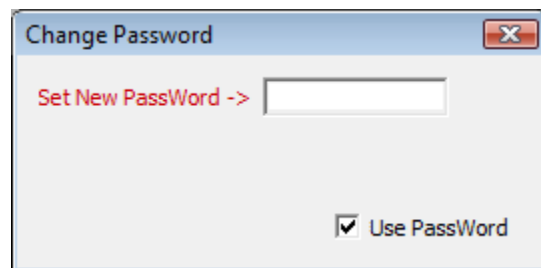
The next time you open the Administrator dialog, it will open with the two possibilities:

Logout of Administrator: Pressing on it will go to "Run mode" and remove the "Edit mode" buttons, disabling any change of programming.
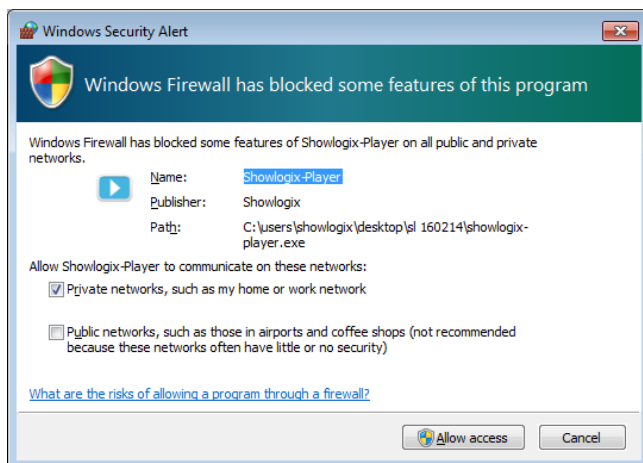
Running Showlogix Player

When Showlogix Player starts, It will open as a movable window, with the panel open.

As soon as the player connects with the Showlogix Manager, the panel will disapear and (if checked in the Options settings), it will go into full screen mode.

In adition the Showlogix FTP Server will start. This application is in-charge of receiving video content from Showlogix Manger. As soon as it is open, the icon will apear on the Windows taskbar.

Blocking
If there is an active firewall, as Showlogix applications try to access the network, the firewall will display the following dialog:

Select "Unblock" option to allow Showlogix Player to work correctly.
Changes made take effect immediately.
In some cases, the firewall needs to be configured manually.

Showlogix Player is controlled remotely via network. To configure the options available, right click anywhere on the player window; the Showlogix Player panel will open.
To quit the Player, press "x" on the panel.

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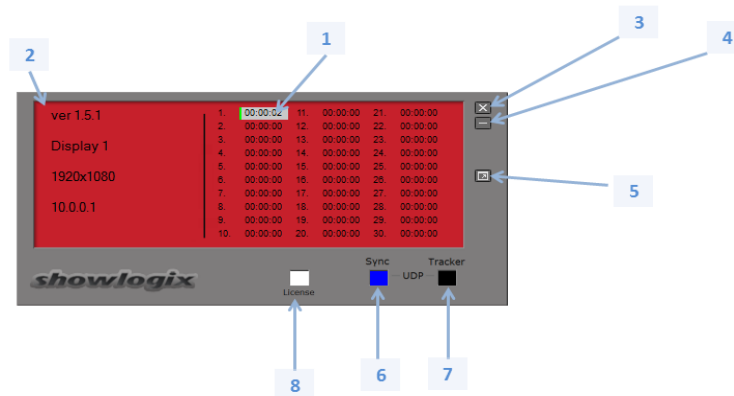
1. Duration bars – shows the current position relative to the duration and current time-code. Clicking anywhere along the bar will bring the video to that point. Each layer has a separate bar.
2. Display information view
3. Close player.
4. Close panel.
5. Open/close full screen.
6. UDP Sync send/receive indicator:
   > Sync – multi-player synchronization:
   > Black – Idle/No UDP is coming in
   > Blue - Master sending time-code information
   > Green - Slave receiving time–code information

7. UDP Tracker receive indicator: Not supported in this version

8. License information – color coded, should be white

Technical Support

Users can access our technical support line via email, usually with a response within 24 hours.

Send an email to info@showlogix.com with as much information about your system as possible. To enable a quick response we need to know the following details:

- Specification of the PC - including processor speed and graphics card
- Operating System
- Application Software
- Hardware / Software version in use
- The exact nature of the problem