Videowall Manager V 2.1, 25.01.2000.

Software Manual

CE

(Windows 3.1/95/98/NT/2000 Required)

www.videowall.it

www.euvision.com

1. Introduction

The Videowall Manager Control Software, especially designed to work with the Euvision Split 16, is a very easy to use and powerful Windows? application, which allows to fully control a Videowall system in each of its parts.
Since most of the operators are using notebook computers, the software is able to run with very few memory requirements and with the 3.1 version of the Windows? GUI. The installation can be done on a floppy disk, so no file will be copied to the windows directory and no garbage will be left in the hard disk; This means the software may run also directly form a floppy disk, without any need to copy it to an hard disk.
For a correct usage, a little knowledge of the capabilities of the Split16 devices is required; some basic concepts will be exposed in the following section, but for a deeper knowledge please see the Split 16 Hardware Manual.

2. Basic concepts

The Split 16 is a very powerful yet cheap device, which is able to trade perfectly for the performaces an the costs, but however some limitations must be taken into account if a proper usage of the device is expected.

What the Split16 CAN do is:

?? Magnify input images form 1x1 to 32768x32768 in an almost continuous way
?? Shift horizontally each output
?? Magnify horizontally each output
?? Shift vertically each 4 output row
?? Magnify Vertically each 4 output row
?? Freeze the whole image (all of the 16 outputs)
?? Change the video source between CVBS and RGB

What the Split16 CAN'T do is:

?? Shift vertically each monitor individually
?? Magnify vertically each monitor individually
?? Freeze only some of the outputs
?? Change the Video input on only some of the outputs

It's very important to keep in mind these concepts beacause very large walls can be created by multiple devices, but due to the fact that the 16 outputs are divided in 4 rows of 4 outputs, which share the same vertical magnification and position, some particular wall sizes require more devices than expected (e.g. a 5x5 requires 25 outputs, but needs 3 Splitters for a total of 48 outputs).
A special note has to be remarked for vertical magnifications in the range between 1x and 2.5x, since for a different behaviour of the device, a special 2x mode flag has to be set to have the full image correctly displayed; note also that in vertical magnifications higher than 2.5x, the mode HAVE to be set to **Normal**, otherwise motion artifacts will show.

3. Quick Start

In this chapter the main operations will be explained in a procedure format, so for every common activity you will find a brief description of the steps to follow.

3.1 Running the program from the floppy disk

Insert the disk in the A: drive.

In Windows 3.1/3.11:

?? From the program manager's menu **File** choose **Run**: a window with a text box will appear.
?? click into the text box and write a:\vwp.exe and then press **Enter**.

In Windows 95/NT:

?? From the **Start** menu choose **Run**: a window with a text box will appear
?? Click into the text box and write a:\vwp.exe and then press **Enter**.

3.2 Copying the program to the hard disk.

Insert the disk in the A: drive.

In Windows 3.1/3.11:

?? From the file manager's window, create a directory to hold the Split 16 software and all its subdirectories
?? Open a second window for the A: drive and select all of the files and directories contained in the disk
?? Drag the selected files to the icon of the directory that will hold the software
?? From the program manager's menu **File** choose **New** and then **Group**: a window with a text box will appear
?? Write in the name of the window that will contain the Videowall Manager software (e.g. Split16) and press **Enter**
?? From the program manager's menu **File** choose **New** and then **File**: a dialog will appear
?? Click the **Browse** button and select the vwp.exe file in the directory you copied it
?? In the **Program Name** text box write the name associated with the Videowall Manager icon (e.g. Videowall Manager)
?? Click **Ok**

In Windows 95/NT:

?? From the explorer's window, create a directory to hold the Split 16 software and all its subdirectories
?? Open a second window for the A: drive and select all of the files and directories contained in the disk
?? Drag the selected files to the icon of the directory that will hold the software
?? Over the **Start** button, click the right mouse button and choose **Open** from the pop up menu that will appear
?? A window containing the Start menu links will appear; from the explorer window drag the vwp.exe icon to the latter window.
?? Rename the 'link to vwp.exe' icon to 'Videowall Manager'
?? The Videowall Manager icon will now appear in the Start menu.

3.3 Creating a Videowall set up for a single device videowall

?? Click on the 'Edit Wall' Tab located in the top left of the Videowall Manager window
?? Click the right mouse button on a blank point of the workspace and choose **Clear Workspace** from the pop-up mernu that will appear
?? Click the right mouse button on the button with the 4x4 videowall icon (), located in the top right of the Videowall Manager window
?? Using the scrollbars on the dialog that will appear, select the size of the videowall you will be using (from 1x1 to 4x4) and then choose **Ok**.
?? Click and drag the button with the 4x4 videowall icon () on the workspace.
?? The Videowall with the default settings will be displayed. Note that the default geometries will be calculated from the PAL/NTSC setting in the **Settings** page.

3.4 Creating a Videowall set up for a multiple device Videowall

?? Repeat the 3.3 procedure several times (note that setting the videowall size is not required for walls of the same size of the last set) to get more than one device and positioning the monitors exactly in the layout you have in the real set up.
?? Set the mode flag to geometries (the radio button group on the bottom right of the window)
?? Click on the top left monitor of the videowall and drag the cursor to the bottom right of the videowall; a frame with a circle will indicate the area in which the geometries will be changed

3.5 Creating combinations of different magnifications

?? Set the mode flag to geometries (the radio button group on the bottom right of the window)
?? Click on the top left monitor of the area of the videowall you want to change and drag the cursor to the bottom right of the area; a frame with a circle will indicate the area in which the geometries will be changed

3.6 Fine tuning the geometries

?? Right click the monitor you want to adjust and choose **Properties** from the pop-up menu that will appear
?? A window with two set of arrows will appear, allowing to change the magnification and the position of the currently selected monitor.
?? Since the change in the magnification values is very fine, different steps can be obtained by holding the Control, the Alt or the Shift keys while clicking on the arrows.
?? If needed check the **Color** checkbox to substitute the video output with the colour internally generated by the device

3.7 Fine adjusting the Projectors/Monitors

?? In the 'Effects'page click on the button with the monitor and the ruler ()
?? The kind of regulations available depend on the projectors/monitors; to choose the correct interface please select the brand of the projectors/monitors in the 'Setup' page

3.8 Changing the device settings

?? To change one of the settings displayed in the 'device properties' frame, simply click on the label
?? To change the colour of the coloured monitors click on the colour box near the label; to change to color wash mode, click on the color label.

3.9 Saving the effect to disk

If the effect is new:

?? Go to the effects page by clicking on the 'Effects' tab on the top of the window
?? Choose the directory in which the file has to be saved
?? Write in the name of the file to be saved in the **File Name** box
?? Click the **Save AS** button

If the effect has been modified and needs to be updated:

?? In the 'Edit Wall' page click the button showing the floppy disk (); the file will be saved with the name shown on title bar of the window

3.10 Saving the effect to the internal memories of the splitter

?? In the 'Edit Wall' or 'Effects' page click the button showing the chip (), a dialog will appear.
?? Choose the number of the memory to download and the target device
?? Click the **Download** button
?? If you need to download the effect on the memories of all the devices connected click the **Download all** button; Note that this will affect only the memory position selected in all the devices, NOT all the memories of one device.

3.11 Running a preset or a memory

?? In the 'Effects' page, click on one of the 16 buttons showing the 8 presets and the 8 memory positions

3.12 Working with sequences

?? In the 'Sequence' page, choose the effect you want to include in the sequence and click the button with the '=>' symbol; the effect will be inserted in the current position.
?? If you need to add the effect at the end of the sequence click on the button with the '=>|' symbol.
?? To change the length of a sequence step, simply change the time in the edit box containing it
?? To remove an entry from the sequence, click on it and then click on the button with the symbol '<='.
?? To run the sequence click on the 'Run' button.
?? To start the sequence from a particular entry, click on it and then click the 'Go' button.
?? To save a sequence type in the name in the **File Name** box and then click on the 'Save As' button
?? To load a sequence, select its file and click the 'Load' button

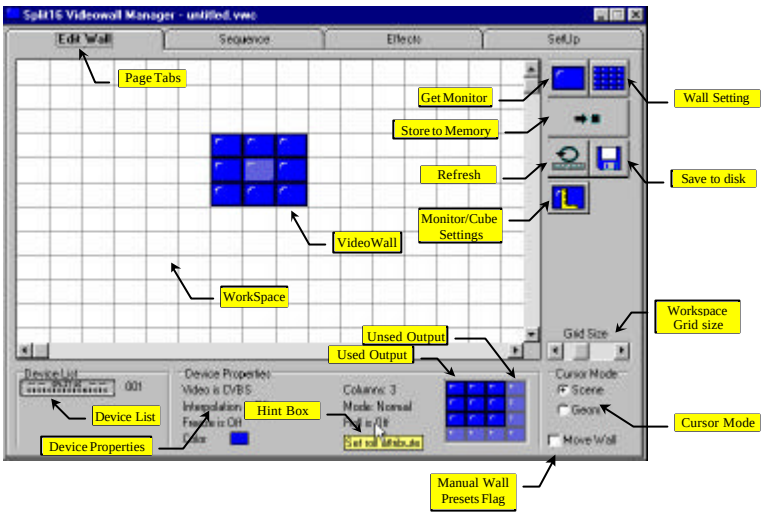
3.13 Letting the program automatically run an effect or a sequence at startup

?? In the 'Setup' Page, select the file of the sequence or the effect you want to run at the execution of the software; it will be run automatically the next time you start the program.

4. In Depth Description

In this chapter we will discuss about the functionality of every part of the program, allowing experienced users to get the most out of the Videowall system.

4.1 'Edit Wall' Page



The Edit wall page is divided in various sections, which enclose controls and displays that allow to build and edit the configuration of the Videowall.
In the center of the bottom of the window there is the **Device properties** box, which allows to check and modify the flags related to the working mode of the devices; the scope of the control is dependant on the setting of the **Global Device Properties** checkbox in the **Setup** page, which allows to change the flags to all the devices or just to the selected one.
In the right edge of the **Device Properties** box, the small 4x4 videowall allows to check which of the outputs are currently used and placed in the workspace, by indicating the unused outputs as semitransparent monitors; this indicator can also be used to place in the workspace an output, by simply clicking and dragging an unused monitor from the box to the workspace.

4.1.1 The Workspace

The concept behind the graphical interface is that the ***workspace*** is intended as a drafting box in which you will be able to sketch the exact configuration of the Videowall(s) system you are setting up. No limitation is imposed on the position of the monitors, each of which corresponds to one of the splitters output; however it is necessary to keep in mind the intrinsic limitations of the splitters, in particular for the fact that outputs in the same row share the same vertical magnification and position. In the workspace, a right click of the mouse will result in a context sensitive pop-up menu, which will offer options related to the object on which the cursor is.
Once the monitors are positioned on the workspace, they can be moved by simply dragging them around; to move multiple monitors a multiple selection must be performed, and to do this you must click on the desidered outputs while keeping pressed the Control key. In the same manner, to move the selected items you must keep the Control key pressed while dragging the selection. To further help in selecting multiple outputs, by right clicking the mouse button on an output, two options in the pop-up menu will allow you to select all of the outputs in the same device or to select the outputs in the same row ot the selected output.
In the pop-up menu that appears when right clicking on the workspace you will find functions to snap the outputs on the current grid, to deselect the outputs and to clear the workspace, deleting the used devices.
In the pop-up menu that appears when right-clicking on an output, you will also find **Delete** that frees the selected output and the two functions **Properties** and **Monitor settings**:

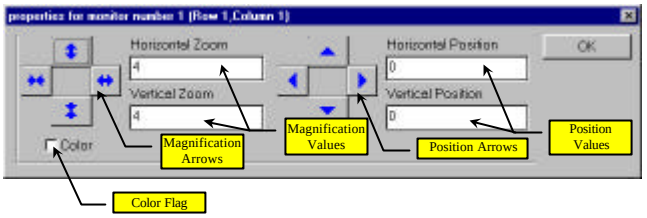
4.1.1.1 Properties

By clicking on the two arrow sets you will be able to change the magnification and the position of the selected output; since the change in the output is very fine, especially for the magnification, you have three different steps, that can be obtained by keeping pressed the function keys while clicking on the arrows:

?? No Key Increment/decrement by the minimum step
?? Shift Increment/decrement by the medium step
?? Ctrl Increment/decrement by the maximium step

You will always be able, however, to enter the desidered numbers in the text boxes directly.

Note that since the update rate on the split16 is lower than the one sent by the software, the final setting will be completed 1-2 seconds after the release of the arrow button.



Remember also that when changing the vertical position and magnification, the settings will influence also the other monitors in the same row, as indicated by the title bar of this window.

The Color checkbox allow the selected output to become fulfilled by a plain colour, selected by the **Device Properties** field **Color**.

4.1.1.2 Monitor Settings

This option allows to recall the same window that appears when clicking on the **Monitor/Cube Settings** button on the left of the Workspace, and allows to control directly from the Videowall Manager interface, the settings of the cubes and monitors supported.

To select the brand of monitors/cubes you are using, see the **Setup Page** section. For a complete description of the functions reported in the monitor settings window, check the user manual of the cubes/monitors you are using.

4.1.2 The Device List box

The box containing the **Device List** allows the user to easily select the devices and their outputs by scrolling through the icons and by right clicking on them, which will result in a pop-up menu with several selection and deletion options:

?? **Select all in device** selects all of the device's outputs
?? **Select Output** selects the output chosen from the 16 available in the submenu that appears when selecting this item.
?? **Remove Device** allows the device to be removed from the workspace; note that this option is disabled if only one device is present in the workspace.

The selection results in the monitors to be highlighted, allowing the user to see exactly which device drives which output.

4.1.3 The Device Properties Box

In the center of the bottom of the window there is the **Device properties** box, which allows to check and modify the flags related to the working mode of the devices; the scope of the control is dependant on the setting of the **Global Device Properties** checkbox in the **Setup** page, which allows to change the flags to all the devices or just to the selected one. To change a setting, simply click on the label related to the property: it will cycle through all the available values.
The available properties are:

- **Video input** (CVBS/RGB)
- **Interpolation** (Off/On)
- **Freeze** (On/Off)
- **Color** (color box) : by clicking on the color box, a standard windows palette dialog will appear, selecting the color from the palette will result in a change of the color generated by the splitter
- **Color** (label): by clicking on the label, the color box will disappear and the color label will become **Color Wash On**, which means that the colours will automatically cycle in a rainbow fashion.
- **Columns** (1/2/3/4): the number specified represents the number of different outputs available in a row; increasing the number of outputs will reduce the resolution accordingly. When the columns value is 1 all of the outputs will show the video present on the first monitor of the row. When the value is 2, the first 2 will be eual to the second 2, and when the value is 4, the 4th output will be equal to the first.
- **Mode** (Normal/2x): This mode has to be selected to 2x for vertical magnifications between 1 and 2.5x and to Normal for every other magnification.
- **Roll** (On/Off): this flag allows the whole picture to be automatically shifted from right to left

4.1.4 Grid Size

The grid size slider allows to change the grid shown on the workspace, and can be selected between 4 steps, one of which means no grid. Note that the monitors dragged to the workspace are automaticalli snapped to the current grid.

4.1.5 Cursor Mode

Selectable between **scene** and **geometries**, the cursor mode changes the behaviour of the workspace:
When in **scene** mode, clicking on an output, will automatically begin its dragging, while in the **geometries** mode a rectangle with an inner circle will allow you to sketch a box around the outputs you want to be pre setted to a given geometry. The operation is very simple and allows to simply create custom geometries by sketching boxes over the wall: suppose for example that you want to create a 3x3 with a 1x3 on its right side, the procedure will be to sketch a box over the left 3x3 and another over the right 1x3. The software will automatically change the positions and the magnifications of the outputs enclosed in the sketched boxes.
Note that the geometries are calculated on a different basis depending on the format of the input signal, for this reason, a setting in the **Setup** page allows you to choose between 525 (NTSC) and 625 (PAL/SECAM) lines.

4.1.6 Move Wall

When this setting is checked and a geometry is created using the box sketch feature described in the previous paragrah, a dialog will appear, allowing you to change the magnification and the position of the portion of image shown on the outputs enclosed in the boxes. To fully understand the meaning of this feature let's assume that we have a 4x4 wall and we need to show the central portion of a 6x6, this can be easily done by sketching the box around the 4x4 and by changing the magnification and the position in the dialog that will appear after the end of the selection.

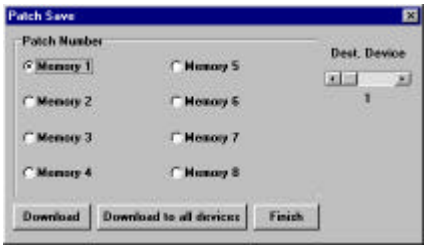
4.1.7 Get Monitor

Dragging this button over the workspace allows to get the next free output.

4.1.8 Get Wall

Dragging this button over the workspace allows to get a wall of the size specified in the dialog that appears by right clicking on the same button. Note that this function works with a device at time, so it's not possible to get walls bigger than 4x4. Note also that the geometries will be automatically set for the wall size requested.

4.1.9 Store to Memory



Pressing this button calls a dialog that allows to store into the internal memories **the effect actually displayed** on the wall.
To store the effect on all the devices connected just select the memory bank and click on **Download to all devices**.
To store the effect only on one of the devices connected, select the device, the memory bank and click on **Download**.

4.1.10 Refresh

This button allows to synchronize the contents of the computer memory and of the splitters; this is required only in the cases in which, due to the low updating speed of the splitters, some of the last changes are not fully done by the splitters or when the splitters are switched off and then back on.

4.1.11 Save to disk

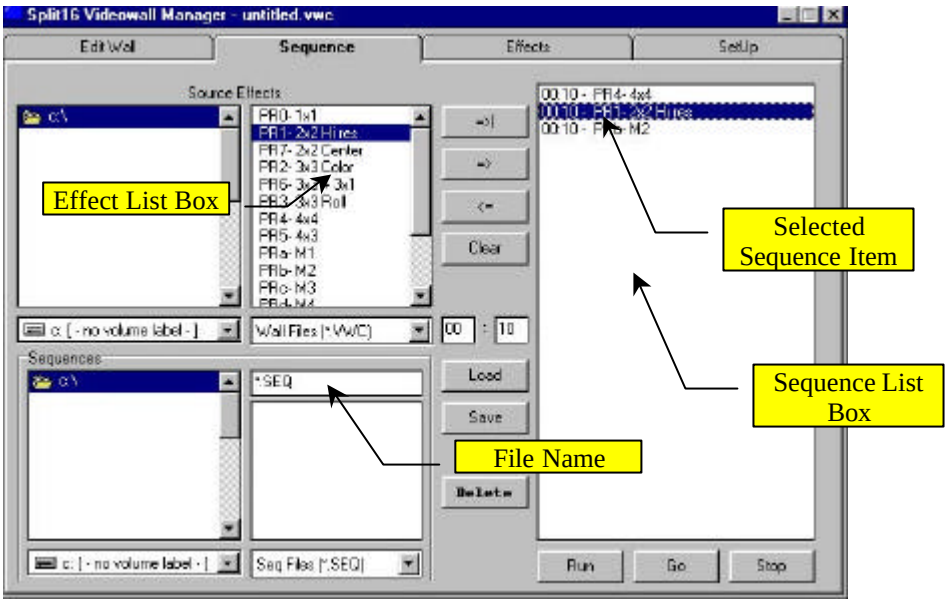
This button saves the current effect to disk, using the name shown on the titlebar; to save the file with a new name go to the effects page.

4.1.12 Monitor/cube settings

This button allows to open a dialog to control directly from the Videowall Manager interface, the settings of the cubes and monitors supported. To select the brand of monitors/cubes you are using, see the **Setup Page** section; for a complete description of the functions reported in the monitor settings window, check the user manual of the cubes/monitors you are using.

4.2 'Sequence' Page

In this page it is possible to compose sequences of the effects stored in the disk, in the memories and of the internal presets of the devices.



The source effects group allows to search an effect in the available mass memory devices and always lists as the first entries the 8 presets and the 8 intemal memories, so that every effect is treated as a *file*.

?? => button inserts in the sequence the effect currently selected in the source effects box, using the duration specified in the time box.

?? =>| button behaves in the same manner as the former, but positions the effect at the end of the sequence.

?? <= button removes the selected effect from sequence.

?? The **Clear** button removes all of the entries from the sequence.

?? The **Time** box allows to change the duration for the effect currently selected in the **Sequence list box**.

?? **Load** allows to load the file selected in the **Sequences** box to the **Sequence list box.**

?? **Save** allows to store the sequence to disk using the name in the **File Name** box.

?? **Delete** removes from the disk the file specified in the **File Name** box.

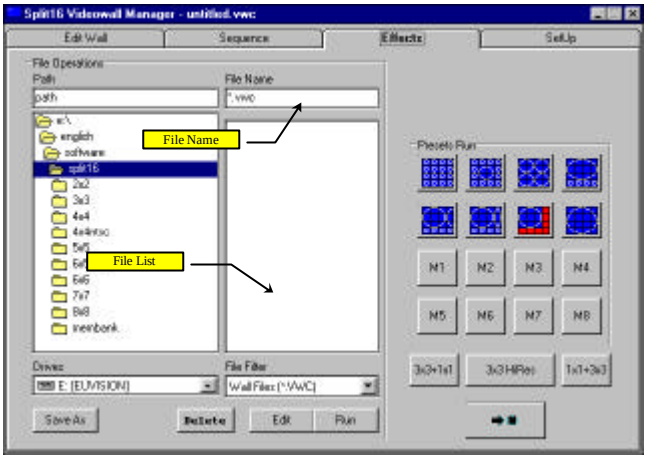
?? **Run** executes the sequence from the first entry. Note that at the end of the sequence it is automatically run again from the start.

?? **Go** executes the sequence from the entry currently selected in the **Sequence list box**. Like with **Run**, the sequence is executed from the beginning when it is completed.

?? **Stop** Stops the execution of the sequence.

4.3 'Effects' Page

This page is intended to be used to accomplish to the loading, saving and executing functions of the effects designed in the **Edit Wall** page.



4.3.1 Save As button

The purpose of this command is to save the effect currently present in the **Edit Wall** page with a particular name; to execute the command properly you need to choose the destination path and enter the name you want to give to the effect and only then click on the **Save As** button.

4.3.2 Delete button

Clicking on this button allows to delete the file selected in the **File List** box; of course a confirmation dialog box will appear and only after your confirmation the file will be deleted.

4.3.3 Edit button

This command loads the selected effect from disk and automatically switches to the **Edit Wall** page.

4.3.4 Run button

This command allows to run the selected effect from disk, without switching to the **Edit Wall** Page.

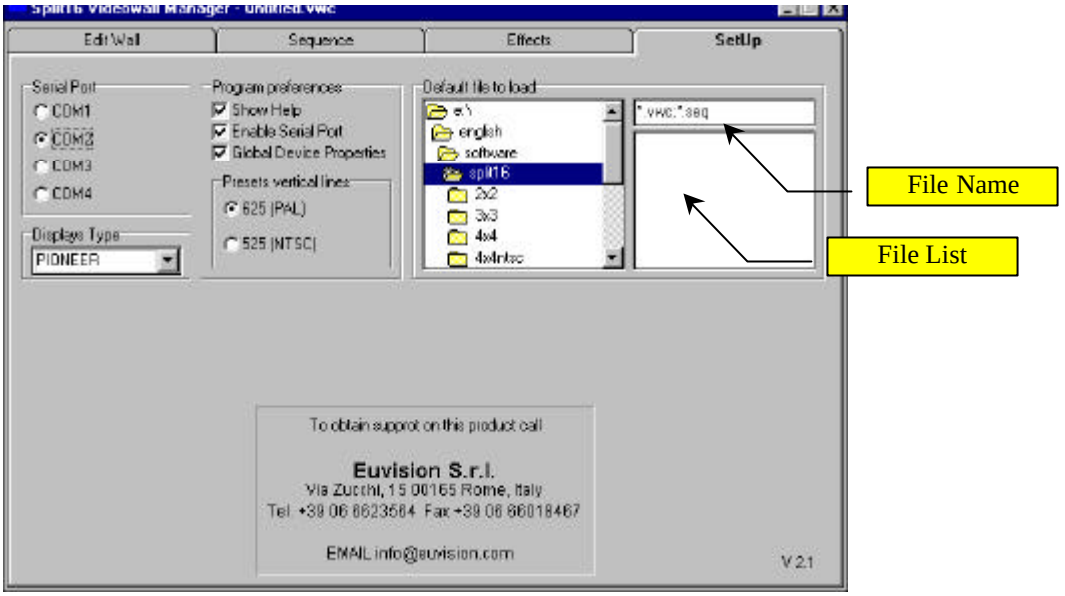
4.3.5 Presets Run box

This box contains 16 buttons that run the 8 presets and the 8 internal memories; Note that the effect chosen will be run on all the devices connected.

4.3.6 Store to Memory button

Pressing this button calls a dialog that allows to store into the internal memories **the effect actually displayed** on the wall.
To store the effect on all the devices connected just select the memory bank and click on **Download All**.
To store the effect only on one of the devices connected, select the device, the memory bank and click on **Download**.
Note that this button has the exact function of the same in the **Edit Wall** page, but is replicated here to make device programming easy, since form this page it's possible to load effects in the devices and then store them in the internal memories.

4.4 'Setup' Page



The setup page contains all of the preferences related to the working modes of the software:

?? **Serial Port** allows to choose which port is connected to the splitters/cubes/monitors.

?? **Default File To Load** is a disk browser that allows to choose an effect or a sequence; the chosen file will be automatically executed the next time you run the program. To avoid the program to run any file at startup, simply clear the **File Name** box.

?? The **Show Help** checkbox allows to enable/disable the yellow context sensitive help boxes that appear when the mouse pointer stops for some time over a control.

?? **Enable Serial Port** allows the user to disable the sending of the control codes to the serial port. This is useful when modifying effects with the serial port connected and the Videowall must not be retouched.

?? **Global Device Properties** renders changes in the **Device Properties** box in the **Edit Wall** page global to all of the devices. This is useful for example when the video inputs must be switched all at the same time.

?? **Presets Vertical Lines** lets you choose the video input format to adjust automatically the geometries when using the box sketch functions.

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