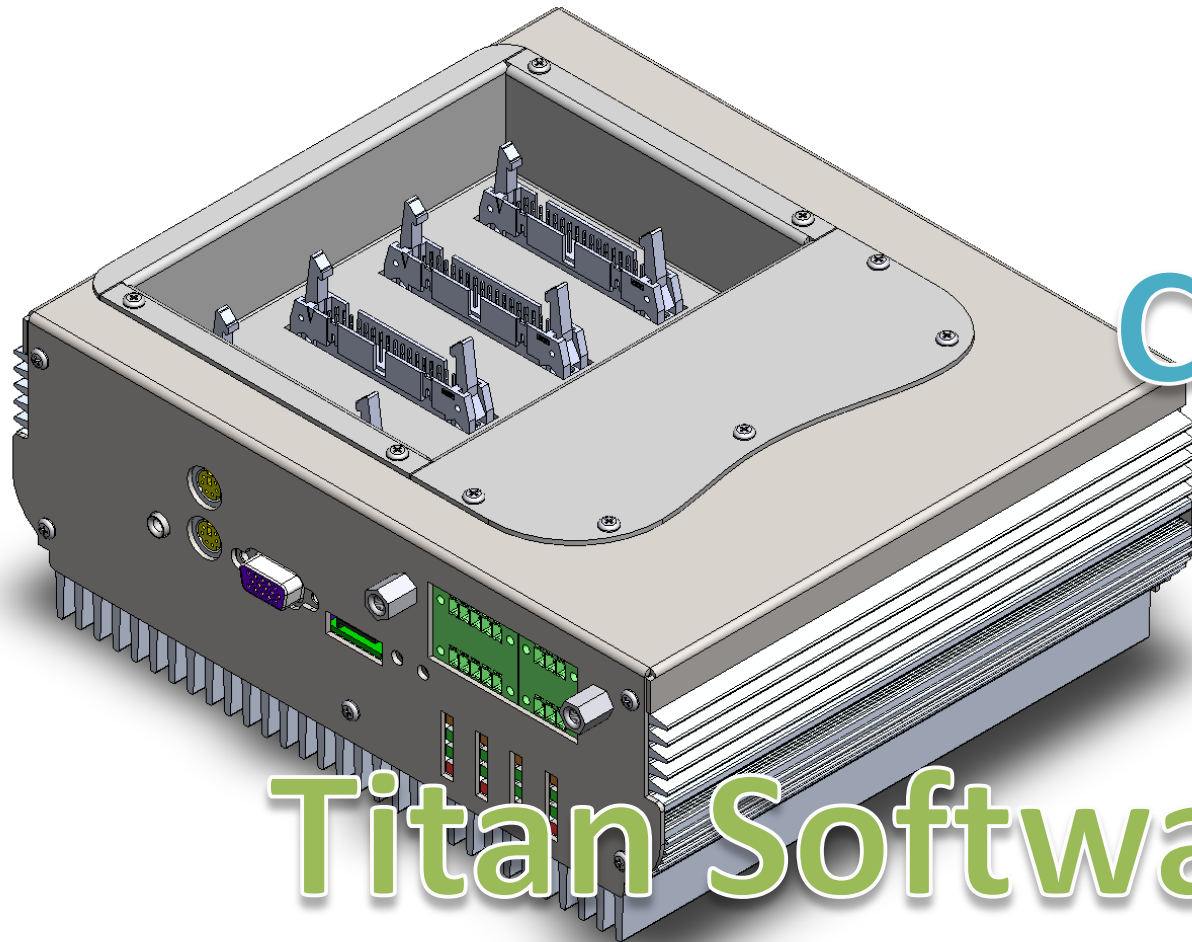


ADAPTIVE


Adaptive Micro Systems Europe

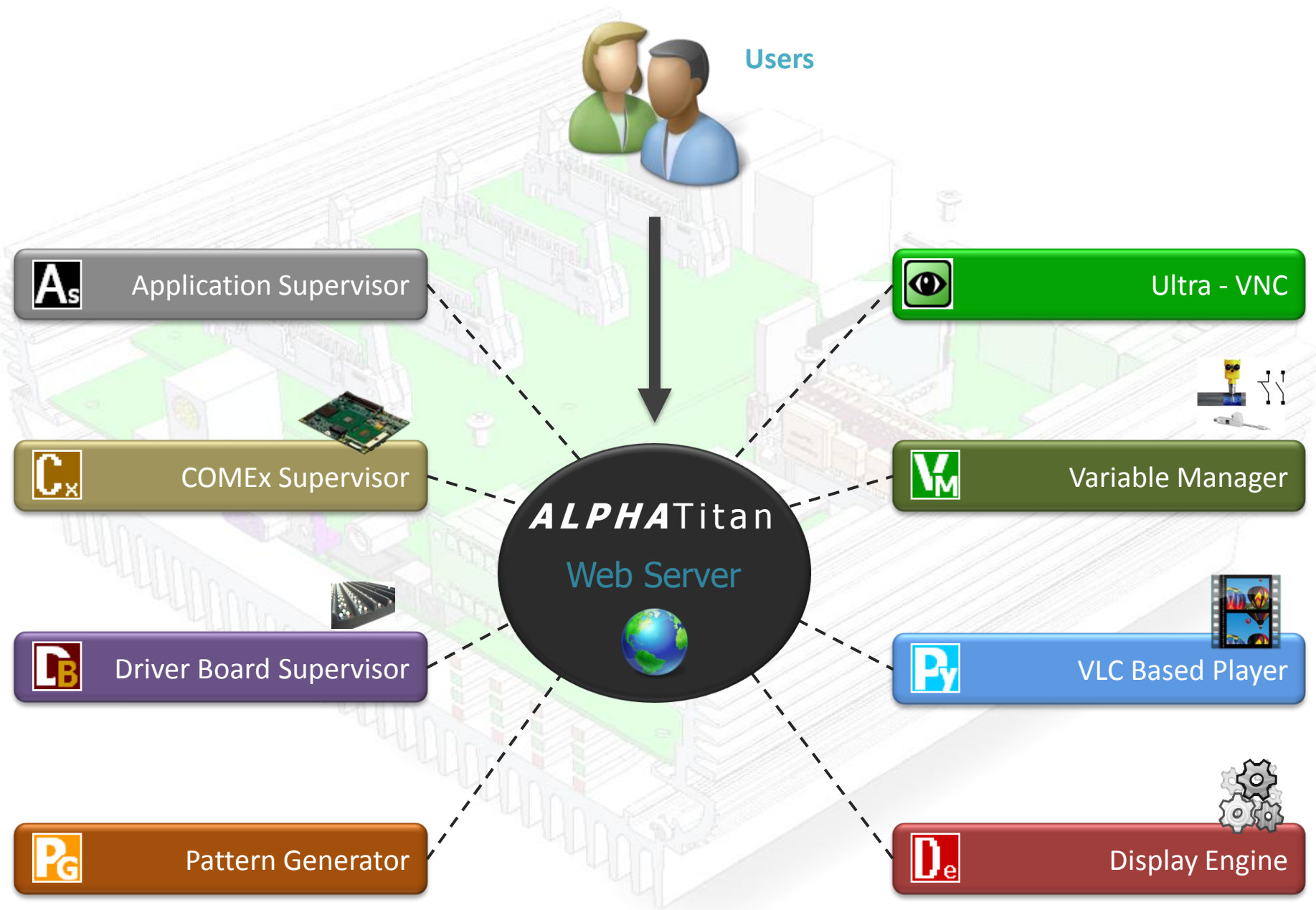


TitanETX Controller

Titan Software Suite

- 
- ➔ **Overview**
 - ➔ **Architecture of the directories**
 - ➔ **Output Window**
 - ➔ **Web Server**
 - ➔ **Ultra-VNC**
 - ➔ **Application Supervisor**
 - ➔ **COMEx Supervisor**
 - ➔ **Driver Board Supervisor**
 - ➔ **Pattern Generator**
 - ➔ **Variable Manager**
 - ➔ **Display Engine**
 - ➔ **VLC Based Player**

- **Windows XP embedded** operating system 
- Enhanced Write Filter (**EFW**) implemented in order to keep the file system and the OS integrity
- Framework .Net 3.0
- Modular & Opened software architecture
- Inter process communication made via **TCP/IP sockets**
- Possibility to integrate within the existing architecture **customer's applications** for specific requirements & needs
- HMI (multi languages) based on an embedded **Web Server**
- Remote access to the controller through the 3rd party application **Ultra-VNC**
- TitanETX Controller is shipped with a bunch of applications pre-installed on the hard disk



The screenshot shows the Windows Explorer window for the directory C:\Program Files\Adaptive. The left pane displays the folder tree, and the right pane shows a list of files and folders. Four red circles with arrows point to the following folders in the left pane:

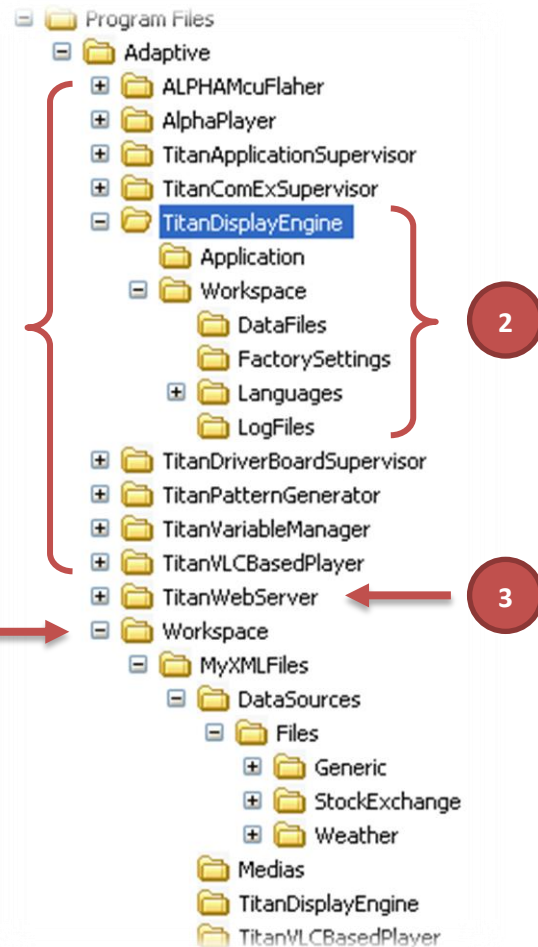
- 1. Data
- 2. Harddisk
- 3. Inetpub
- 4. Adaptive

The right pane displays the following table of contents for the 'Adaptive' folder:

Name	Size	Type	Date Modified
ALPHAMcuFlaher		File Folder	21/06/2010 13:08
AlphaPlayer		File Folder	19/05/2010 10:09
TitanApplicationSupervisor		File Folder	21/06/2010 10:59
TitanComExSupervisor		File Folder	21/06/2010 10:59
TitanDisplayEngine		File Folder	21/06/2010 10:59
TitanDriverBoardSupervisor		File Folder	21/06/2010 10:59
TitanPatternGenerator		File Folder	21/06/2010 10:59
TitanVariableManager		File Folder	21/06/2010 10:59
TitanVLCBasedPlayer		File Folder	25/05/2010 15:16
TitanWebServer		File Folder	21/06/2010 10:59
Workspace		File Folder	21/06/2010 11:06
How to set IP Address on TitanETX 1.0.pdf	495 KB	PDF File	29/04/2010 09:06
TitanApplicationSupervisor	1 KB	Shortcut	11/11/2008 01:06
TitanCOMExSupervisor	1 KB	Shortcut	05/02/2010 16:34
TitanDisplayEngine	1 KB	Shortcut	05/02/2010 16:34
TitanDriverBoardSupervisor	1 KB	Shortcut	05/02/2010 16:34
TitanPatternGenerator	1 KB	Shortcut	21/06/2010 11:03
TitanVariableManager	1 KB	Shortcut	19/04/2010 15:26

x4 important directories

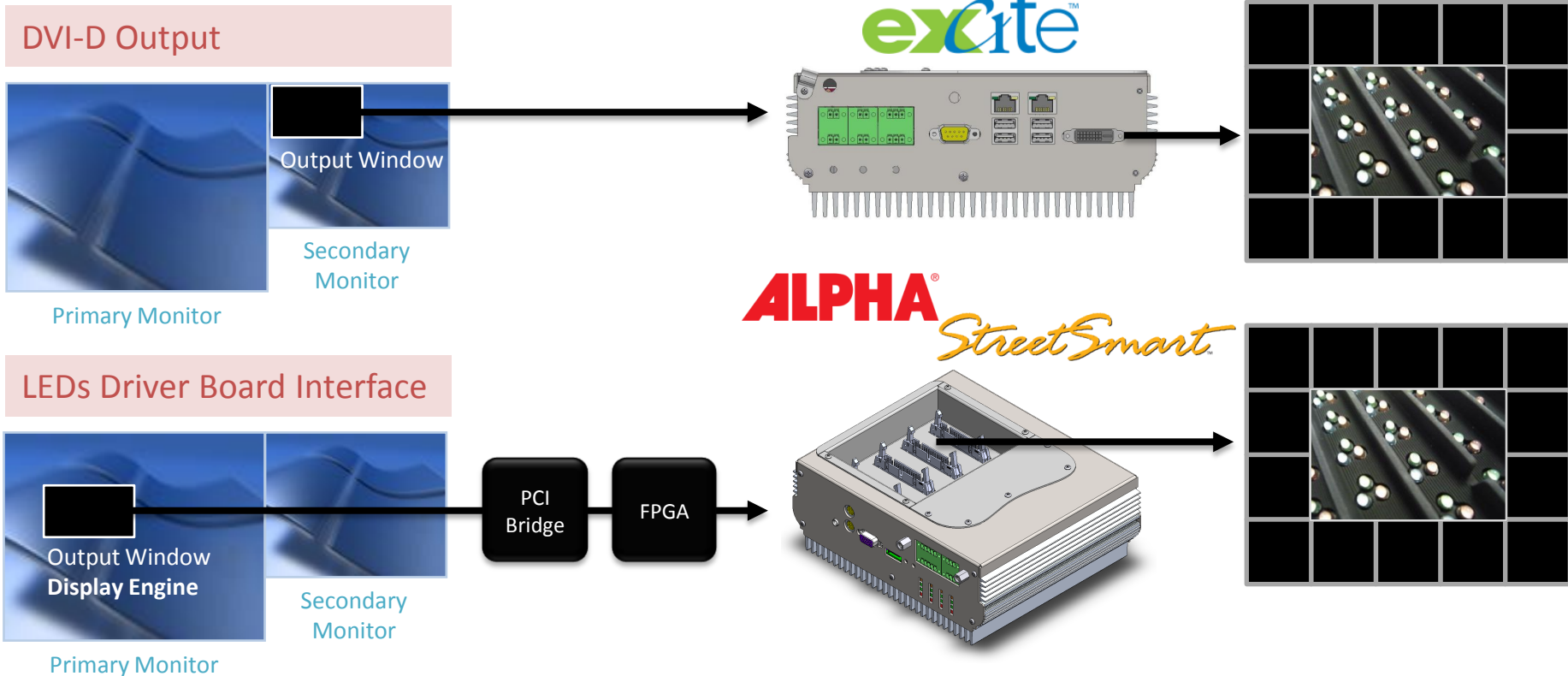
- 1. Data:** contains the user's files
- 2. Harddisk:** contains the Ooh!Media player files
- 3. Inetpub:** contains the Web Server files
- 4. Adaptive:** contains the directories where all the other applications developed by Adaptive are installed



1. Directories where the applications developed by Adaptive are installed
2. Each one of these directories has the same file tree architecture
 - Application : contains the .exe, .dll, .ini, ... files
 - Workspace: contains the language, log, files
3. Contains the Web Server workspace
4. Workspace shared between all applications

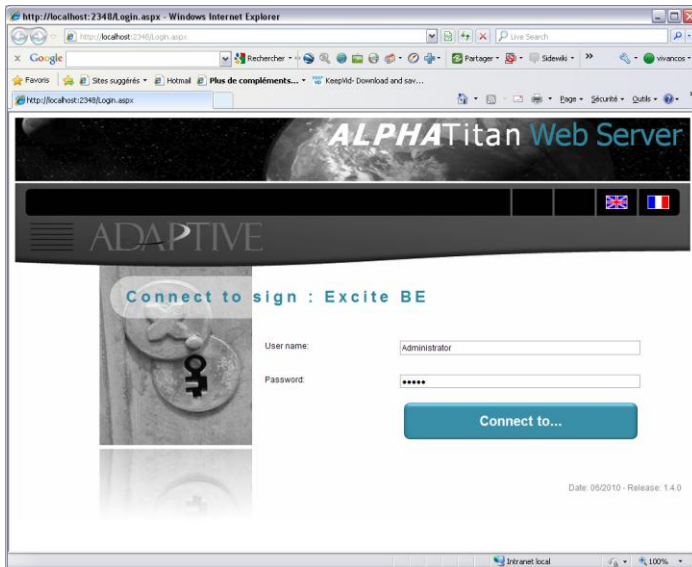
- The Data and the Adaptive directories are the only ones which are unprotected (Read/Write) by the OS. Those are the only places where the user can copy his own applications
- Call the Adaptive's Tech Support to know how to unprotect the rest of the system if needed

- The **Output Window** contains the data (RGB pixel buffer) sent to either the **DVI-D** output (Excite) or the **LEDs Driver Board Interfaces** (ALPHA & StreetSmart)
- When the **DVI-D output** is used, the Output Window must be always located to the top-left corner of the extended desktop
- When **LEDs Driver Board Interfaces** are used, the Output Window is managed by the **Display Engine** which sends the data to the onboard hardware (PCI Bridge + FPGA)



- The **embedded Web Server** provides the user interface to configure and to control all applications running on the controller

Address : <http://192.168.1.150/ALPHATitanWebServer/login.aspx>
User name: Administrator
Password : admin



Login page



Home page



Ultra - VNC

Ultra-VNC

- The **3rd party application Ultra-VNC** is used to remote access to the controller in order to perform some specific actions such as the configuration, downloading new files, etc.
- Install the client application on your PC

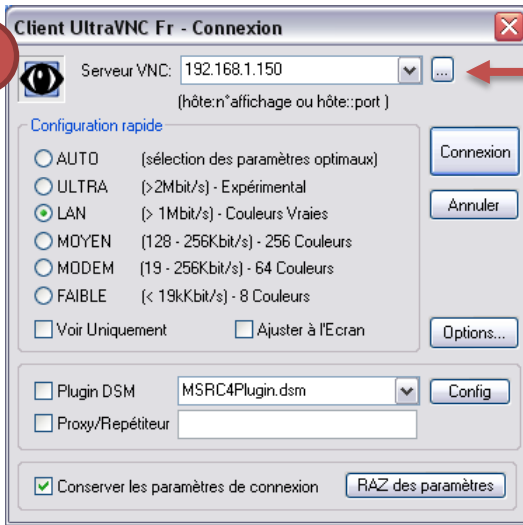


Factory configuration:

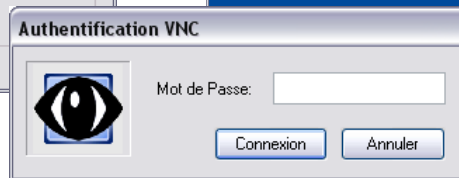
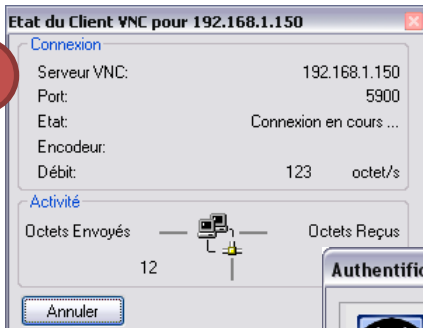
IP address : 192.168.1.150

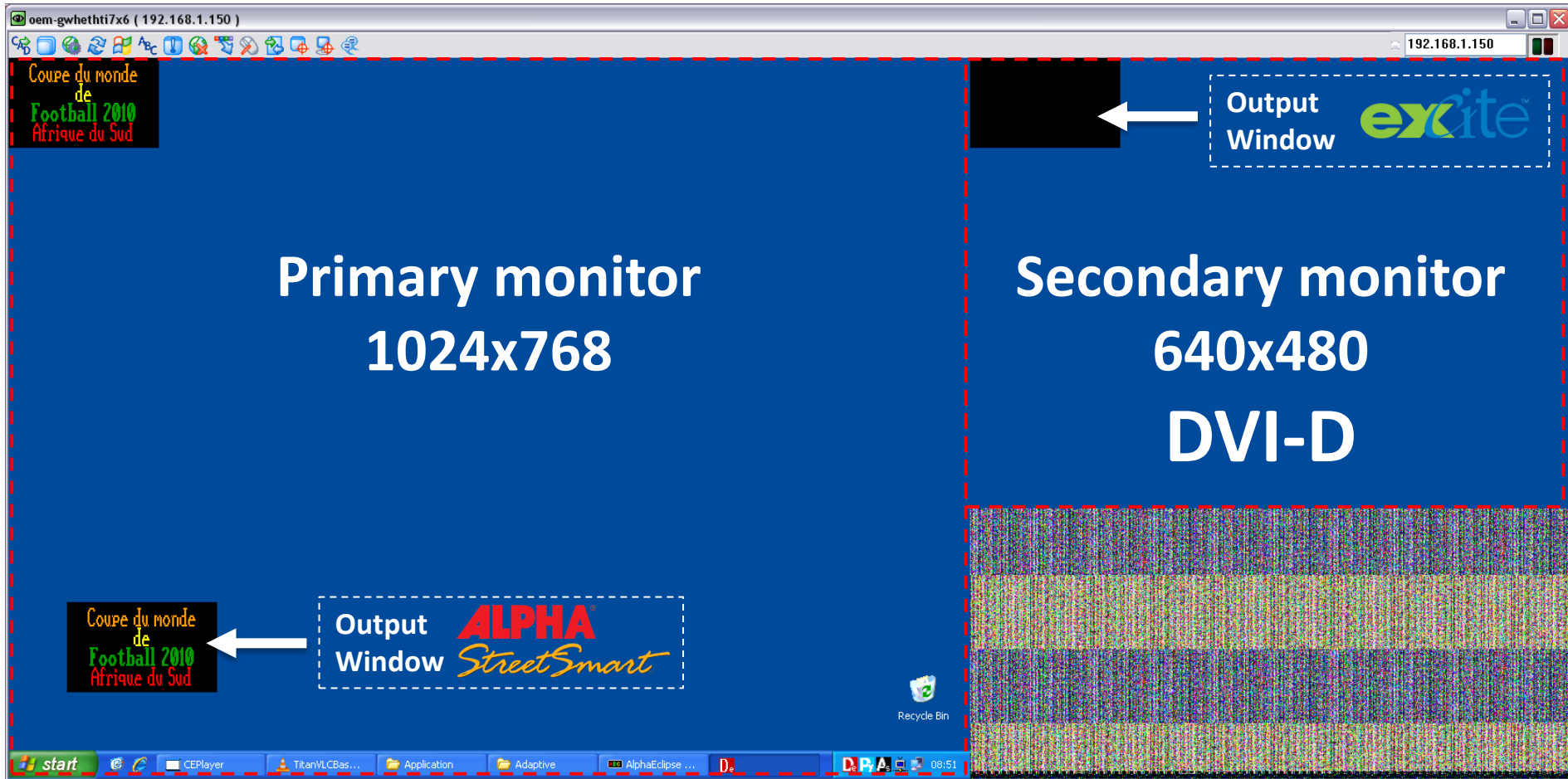
Subnet mask: 255.255.255.0

Password : admin



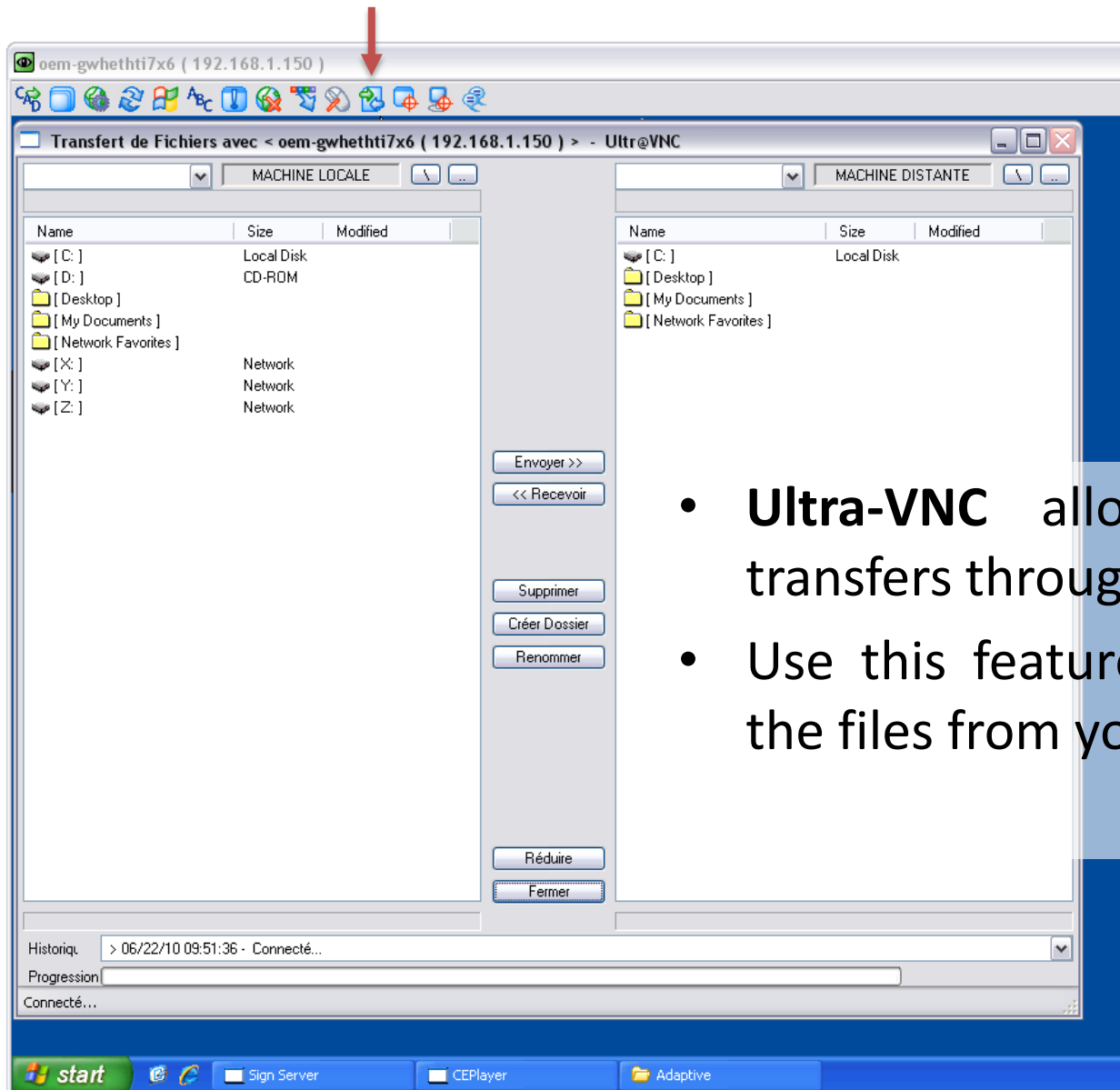
Ultra-VNC screen





- The **Ultra-VNC** window allows to see both the primary and the secondary monitor of the controller
- When the **DVI output** is used (Excite only) the output window must be located on the top-left corner of the secondary monitor
- When **LEDs Driver Board Interfaces** are used (ALPHA & StreeSmart) the output window can be located anywhere on the screens

Open the FTP Window



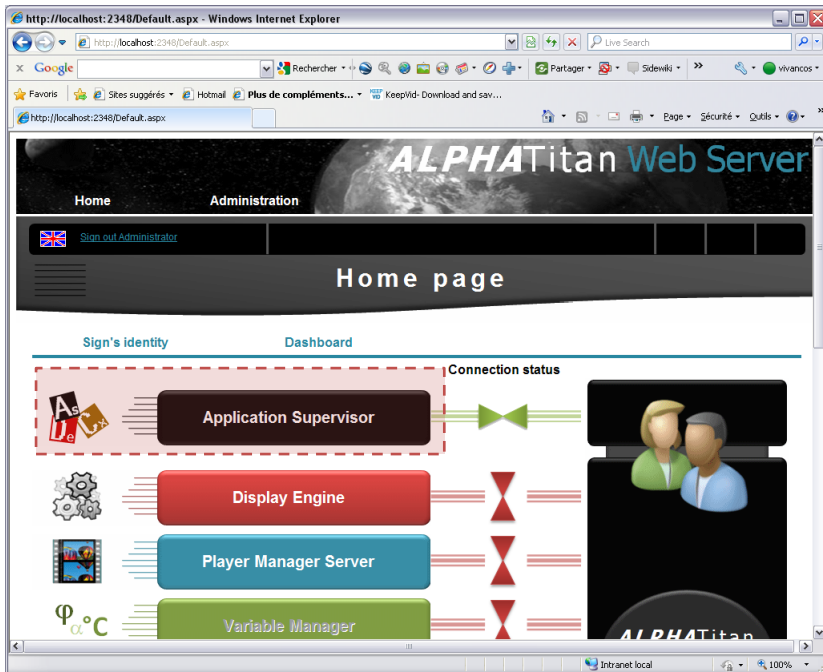
- **Ultra-VNC** allows to perform file transfers through FTP
- Use this feature to download/upload the files from your PC to the controller



Application Supervisor

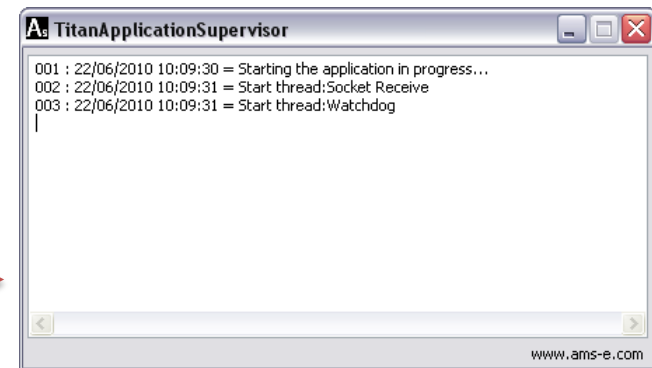
Application Supervisor

- The purpose of the **Application Supervisor** is to manage and to control all the other applications
- It allows:
 - To automatically start a list of applications
 - To position a player to a desired location over the Output Window on the screen
 - To cyclically check if a specific application is still alive (watchdog)
 - To close all the started applications in one click only
- It is configured through the **Web Server**
- Its settings are saved to the file: **ApplicationSupervisorINI.xml**



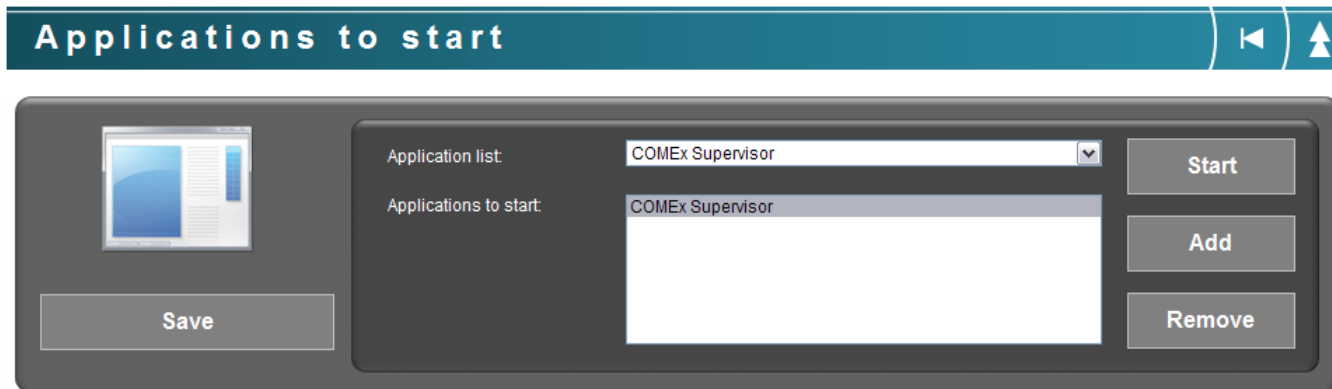
Web Server – Client machine

TCP/IP Commands



Application Supervisor - Controller

- An application can be manually started from the Web Server
 - Select the application's name from the combo list
 - Click on "Start"
- An application can be automatically started when the **Application Supervisor** is launched
 - Select the application's name from the combo list
 - Add it to the list
 - Save the new configuration



The screenshot shows a web interface titled "Applications to start" with a teal header bar. Below the header, there is a dark grey panel containing a "Save" button on the left, a central configuration area, and three buttons ("Start", "Add", "Remove") on the right. The central area includes a dropdown menu for "Application list" (currently showing "COMEx Supervisor") and a list box for "Applications to start" (currently containing "COMEx Supervisor").

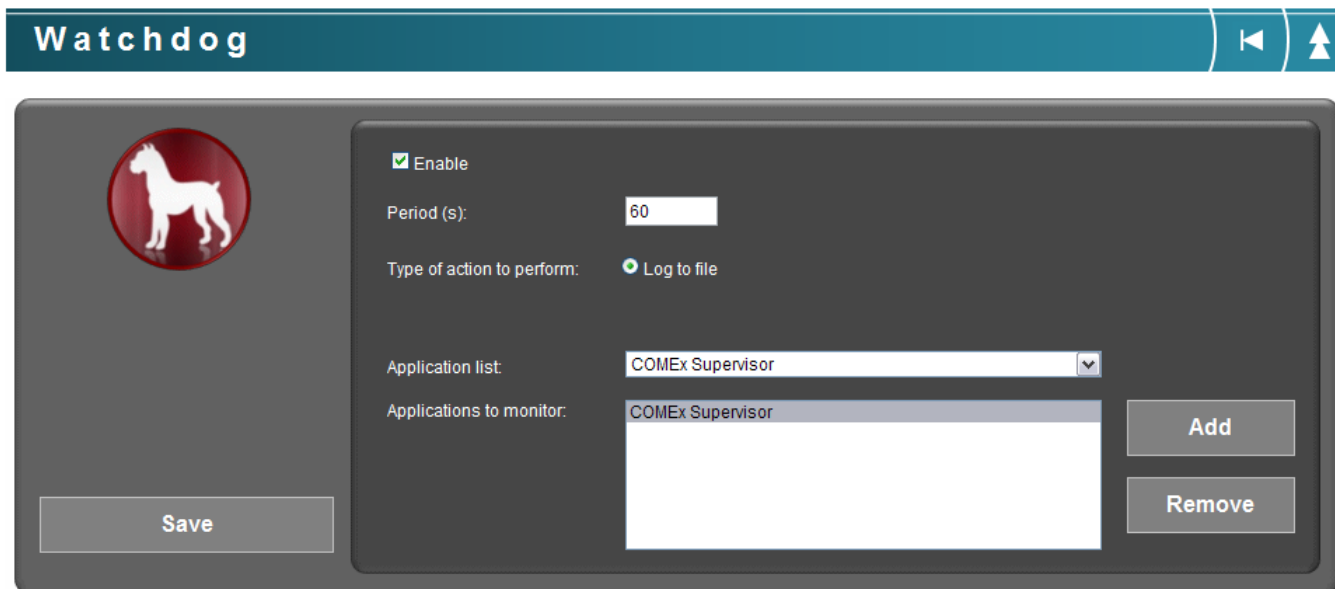
Applications to start

Application list: COMEx Supervisor

Applications to start: COMEx Supervisor

Save Start Add Remove

- An application can be cyclically checked to make sure that it is still alive. If not, a warning is traced into the log file **ApplicationSupervisor_SW.log**
 - Enable the watchdog
 - Set the desired period
 - Select the application's name from the combo list
 - Add it to the list
 - Save the new configuration










```

2/06/2010 10:48:27 = INFO - Start the application
2/06/2010 10:48:27 = INFO - ApplicationSupervisorApp::InitInstance-> Init g_oApplicationSupervisorINI called
2/06/2010 10:48:27 = INFO - ApplicationSupervisorApp::InitInstance-> Init g_oLanguage called
2/06/2010 10:48:28 = INFO - CAMSSocketReceiveProcess::PreRunCommands(...)-> called
2/06/2010 10:48:28 = INFO - CAMSSocketReceiveProcess::PreRunCommands(...)-> succeeded
2/06/2010 10:48:33 = INFO - Minimize the application
2/06/2010 10:48:38 = INFO - CAMSWatchdogProcess::SocketFIFOProcessCommands(...)-> APSP_WATCHDOG_PARAMS
2/06/2010 10:48:38 = INFO - CAMSWatchdogProcess::SocketFIFOProcessCommands(...)-> APSP_WATCHDOG_APP_TO_MONITOR_LIST
2/06/2010 10:49:38 = INFO - CAMSWatchdogProcess::ProcessCheckWatchdog(...)
2/06/2010 10:50:38 = ERR - CAMSWatchdogProcess::ProcessCheckWatchdog(...)-> The following application doesn't answer: COMEx Supervisor
  
```

- The controller is able to run several Players at the same time on the screens
- Adaptive provides and installs a set of Players:
 - The **ALPHA Player** plays messages (simple texts, variables, graphics & animations) created with ALPHANet Pro
 - The **Ooh!Media Player** plays messages (enhanced texts, graphics & animations) created with Ooh!Media
 - The **VLC Based Player** plays any kind of video medias created from a 3rd party application
 - The **Display Engine** captures multiples regions of the video screen and arranges them of a specific layout
 - A **3rd party Player** such as Window Media Player, Flash Player, VLC, Customer Player, etc.
 - The **Pattern Generator** plays patterns in order to perform diagnostic operations
- The user can quickly select and position his desired player on the **Output Window** (DVI-D vs LEDs Driver Boar interfaces) via the Web Server

X,Y coordinates of the Player when it is not activated

Player manager

		X	Y	Enable	Current	
	ALPHA Player	<input type="text" value="0"/>	<input type="text" value="128"/>	<input checked="" type="checkbox"/>		<input type="button" value="Refresh"/>
	Ooh!Media Player	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="checkbox"/>		<input type="button" value="Activate"/>
	VLC Based Player	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="checkbox"/>		<input type="button" value="Activate"/>
	Display Engine	<input type="text" value="200"/>	<input type="text" value="0"/>	<input checked="" type="checkbox"/>	<input checked="" type="radio"/>	<input type="button" value="Activate"/>
	Xibo Player	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="checkbox"/>		<input type="button" value="Activate"/>
	3rd Party Player	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="checkbox"/>		<input type="button" value="Activate"/>
	Pattern Generator	<input type="text" value="0"/>	<input type="text" value="0"/>	<input checked="" type="checkbox"/>		<input type="button" value="Activate"/>
Output window		Screen #1: 1920x1200	X: <input type="text" value="0"/>			<input type="button" value="Save"/>
		Screen #2: 640x480	Y: <input type="text" value="500"/>			

Refresh the list of all Players currently running on the controller

Activate the selected Player

Save the current settings to the file

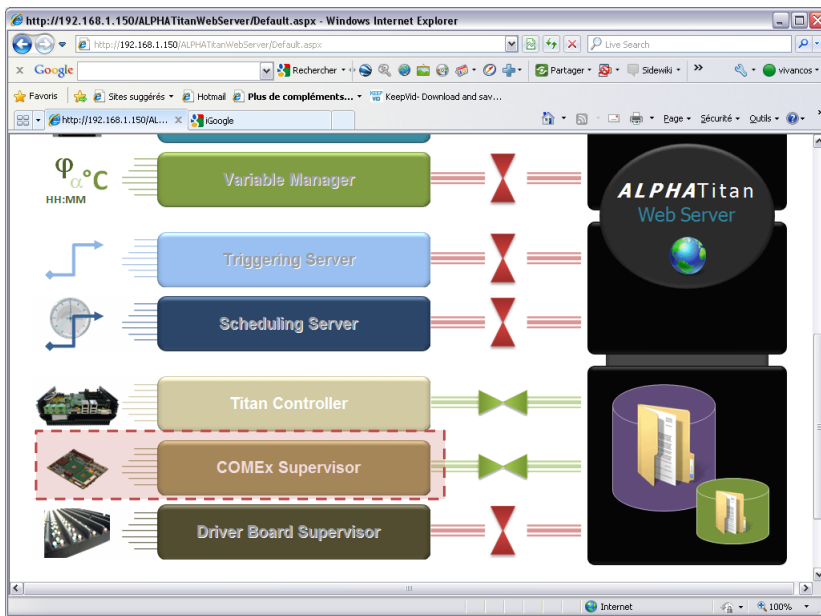
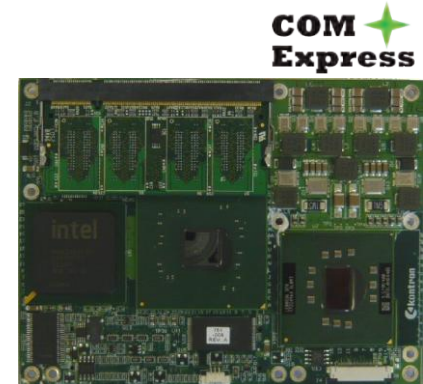
X,Y coordinates of the **Output Window** on the primary or secondary monitor



COMEx Supervisor

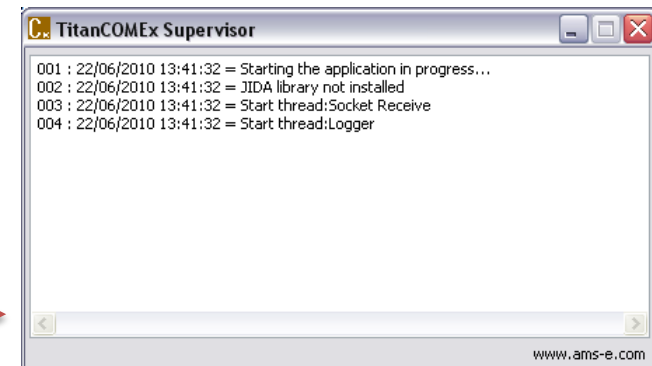
COMEx Supervisor

- The purpose of the **COMEx Supervisor** is to monitor the behavior of the COMExpress industrial PC module bought from the selves
- It allows:
 - To get the module information
 - To read the internal temperatures of the processor and the chipset
 - To read the onboard voltage statuses
 - To enable the information to be logged in a file every day
- It is configured through the **Web Server**
- Its settings are saved to the file: **COMExSupervisorINI.xml**



Web Server – Client machine

TCP/IP Commands

 A red arrow points from the "COMEx Supervisor" module in the web server interface towards the "TitanCOM Ex Supervisor" window on the right.


COMEx Supervisor - Controller

Internal data of the COMExpress board

COMExpress

Board Manufacturer: JUMP
 Board name: ETX2
 Board subname: MOD8
 Manufacturer date: 2009/11/11
 Last repair date: 2009/11/11
 Serial number: 923955
 Hardware revision: 2.5
 Firmware revision: 2.5
 Boot count: 52

Temperature Sensors (°C)

Probe: CPU

CPU	Local 1	Local 2
58.00	52.00	59.00

Min / Max temperatures

Voltage Outputs (V)

Output: 0.9

Valid log information

Enable to log temperatures

Time to log (HH:MM): 15:00

COMExpress information

CPU Temperature information

Internal data of the COMExpress board

COMExpress

Temperature Sensors (°C)

Probe: CPU

CPU	Local 1	Local 2
58.00	52.00	59.00

Min / Max temperatures

Voltage Outputs (V)

Output: 0.9

Valid log information

Enable to log temperatures

Time to log (HH:MM): 15:00

Temperature Sensors (°C)

Current value (C): 58.0

Type: (0x00000000) CPU temperature sensor
 Flags: (0x00000000)
 Alarm: (0x00000000) alarm signaling disabled
 Resolution (C): (0x000003E8) 1.000
 Min (C): (0xFFFF2928) -55.000
 Max (C): (0x0001E848) 125.000
 Alarm high (C): (0x0001E848) 125.000
 Hyst high (C): (0x00000000) 0.000
 Alarm low (C): (0xFFFF2928) -55.000
 Hyst low (C): (0x00000000) 0.000

Internal data of the COMExpress board

The screenshot displays the COMEX Supervisor interface with the following sections:

- COMExpress**: Main title bar.
- Temperature Sensors (°C)**: Includes a "Probe" dropdown menu set to "CPU" and a "Refresh temperatures" button. Below this, a table shows temperatures for CPU (58.00), Local 1 (52.00), and Local 2 (59.00). A "Min / Max temperatures" button is also present.
- Voltage Outputs (V)**: A section highlighted with a dashed yellow border. It contains an "Output" dropdown menu set to "2.5".
- Valid log information**: A section also highlighted with a dashed yellow border. It includes a checked checkbox for "Enable to log temperatures" and a "Time to log (HH:MM)" field set to "15:00".
- Voltage Outputs (V) Detail View**: A large window on the right showing detailed voltage information for the selected output (2.5V). The text in this window is: "Current value (V): 2.5", "Type: (0x00000001) DC voltage available during normal system operat.", "Flags: (0x00000000)", "Alarm: (0x00000000) alarm signaling disabled", "Nominal (V): (0x000009BA) 2.490", "Resolution (V): (0x0000000A) 0.010", "Min (V): (0x00000942) 2.370", "Max (V): (0x00000A46) 2.630", "Alarm high (V): (0x00000A46) 2.630", "Hyst high (V): (0x00000000) 0.000", "Alarm low (V): (0x00000942) 2.370", "Hyst low (V): (0x00000000) 0.000".

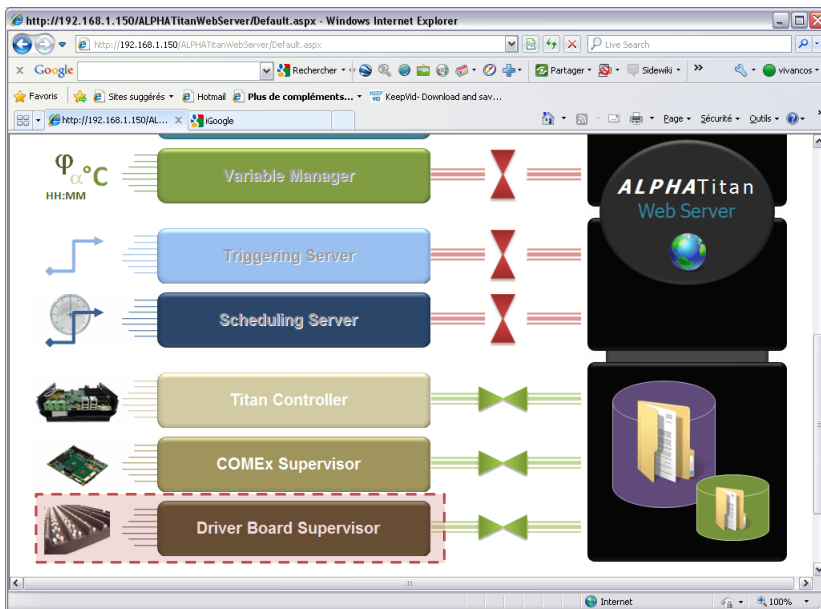
Voltage information

Log information every day at HH:MM



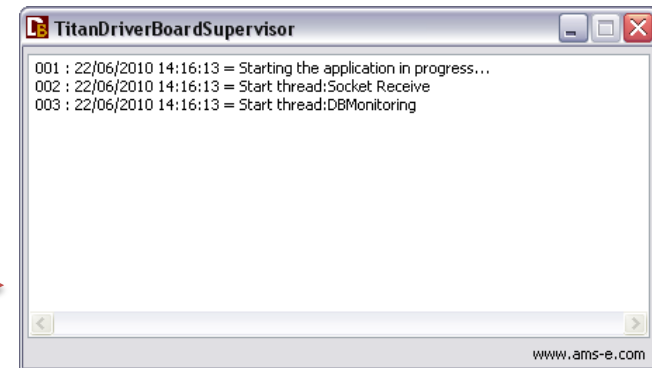
Driver Board Supervisor

- The purpose of the **Driver Board Supervisor** is to monitor the sign (Excite only) and more specifically the driver board operations
- It allows:
 - To setup the sign's luminosity
 - To configure the sleep mode
 - To dialog with both the DVI distributor and the Driver Boards
 - To perform diagnostic operations
- It is configured through the **Web Server**
- Its settings are saved to the file: **DBSupervisorINI.xml**



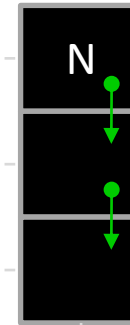
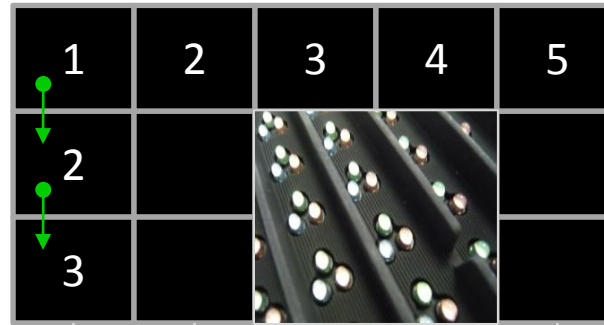
Web Server – Client machine

TCP/IP Commands



Driver Board Supervisor - Controller

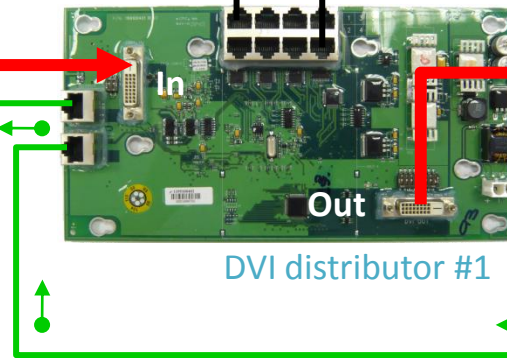
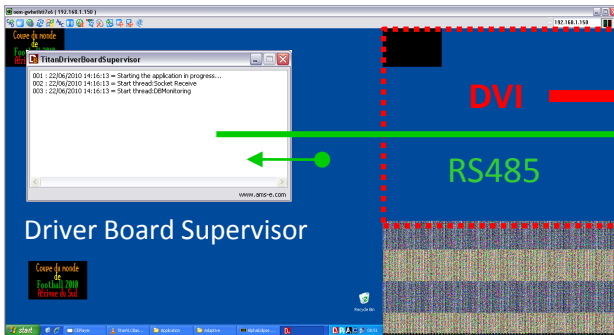
Driver Boards



➔ Status

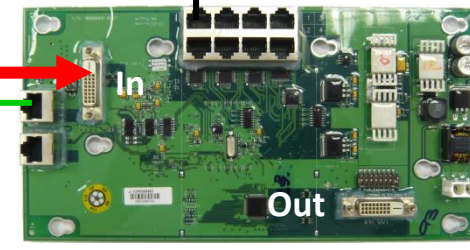


Controller - TitanETX



DVI distributor #1

DVI

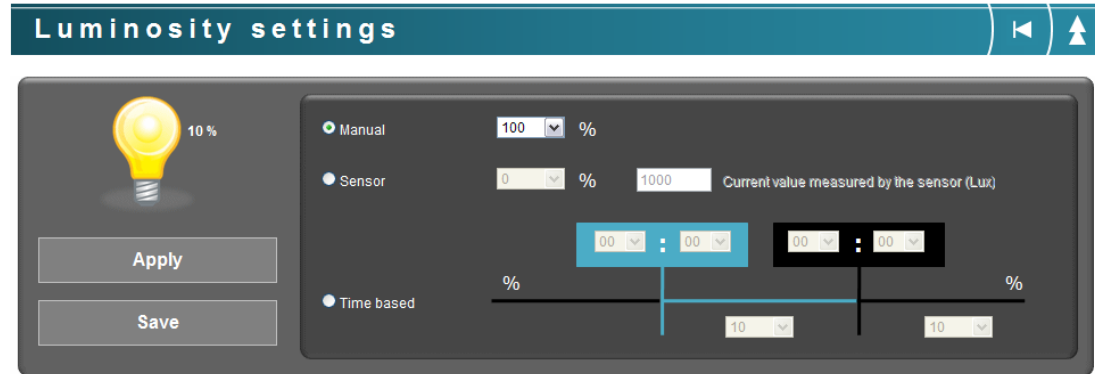


DVI distributor #2

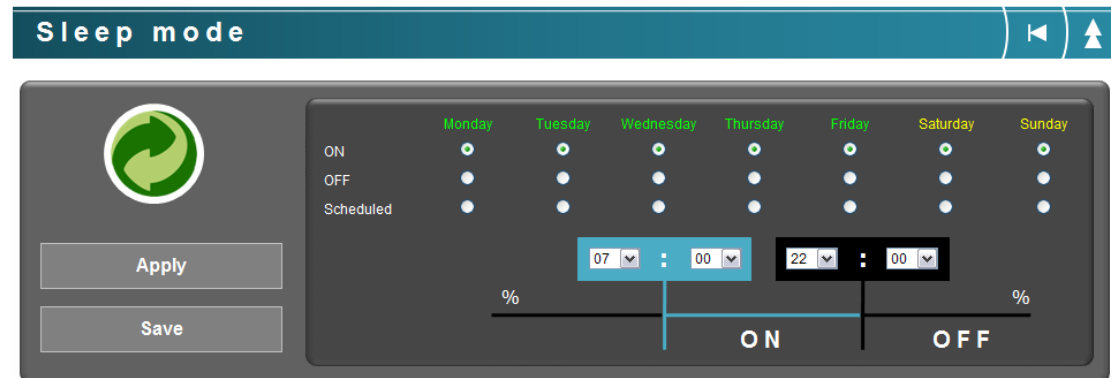
RS485

- Each driver board sends its status to the DVI distributor
- Each DVI distributor sends periodically its status to the **Driver Board Supervisor** through the RS485 bus
- The controller's DVI-D output is connected to the 1st DVI distributor

- Three possibilities to setup the sign's luminosity
 - Manually from 0% to 100%
 - According to the intensity measured and returned by the sensor (if it is installed)
 - Scheduled



- In order to save energy, the sign can be powered off during a certain period of time in the day
 - **ON:** Always On
 - **OFF:** Always Off
 - **Scheduled:** On/Off based on the time



Sign & Driver board status



Sign

Refresh

Reserved Reserved Sleep Mode Overheat T2 Overheat T1 Turbo Err. State Err. Init Err.

The Sign status panel features a dark grey background. At the top left is the title 'Sign'. To its right is a circular refresh icon and a grey 'Refresh' button. Below these are eight indicator lights, each with a label above it: 'Reserved', 'Reserved', 'Sleep Mode', 'Overheat T2', 'Overheat T1', 'Turbo Err.', 'State Err.', and 'Init Err.'. All indicator lights are currently in the 'off' position.

Refresh the main sign's status

DVI Controller

Side: Master ID: 1 Refresh

```
GI Address: 1
GI Collisions: 0
GI Interrupts: 255
GI Change: 0
GI TokenStatus: 255
GI TokenError: 0
GI Channels: 8
```

The DVI Controller status panel has a dark grey background. It includes the title 'DVI Controller', a 'Side' dropdown menu set to 'Master', and an 'ID' dropdown menu set to '1'. To the right is a circular refresh icon and a grey 'Refresh' button. Below these is a white text area with a scrollbar containing the following text: 'GI Address: 1', 'GI Collisions: 0', 'GI Interrupts: 255', 'GI Change: 0', 'GI TokenStatus: 255', 'GI TokenError: 0', and 'GI Channels: 8'.

Refresh the DVI distributor's status

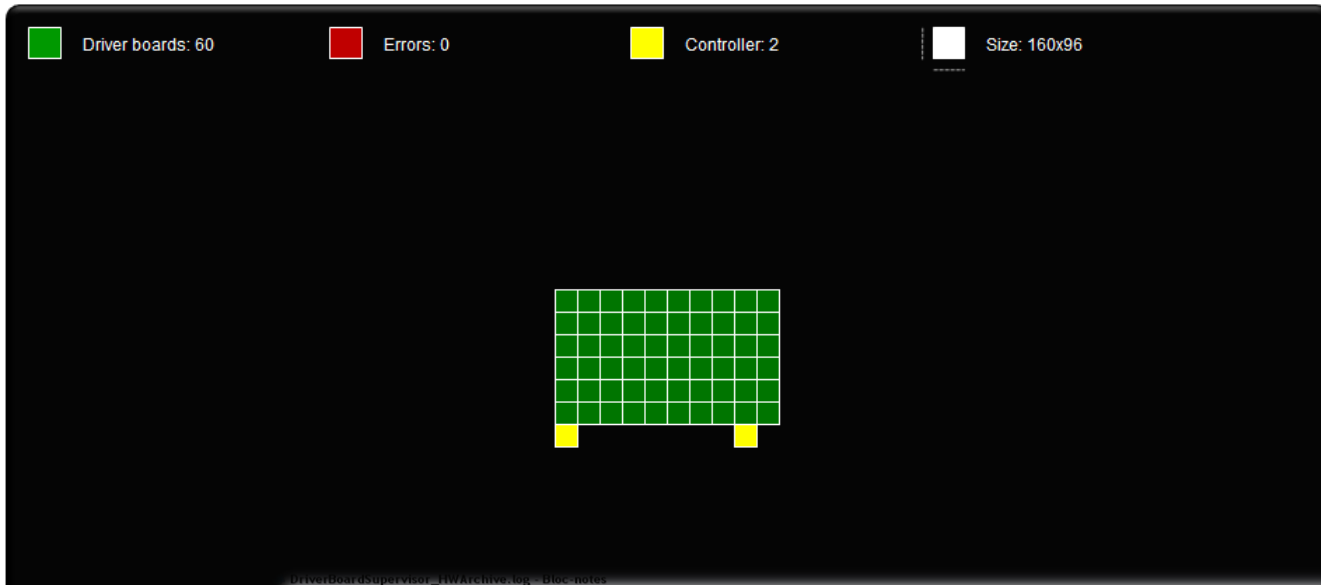
Driver boards

Side: Master Refresh

The Driver boards status panel has a dark grey background. It features the title 'Driver boards', a 'Side' dropdown menu set to 'Master', a circular refresh icon, and a grey 'Refresh' button. The main area of the panel is a large, dark grey rectangle that is mostly empty, with two small blue cylindrical icons at the bottom left and bottom right corners. Below this area is a row of eight indicator lights with labels: 'No response', 'Busy', 'Invalid data', 'Overheat T2', 'Overheat T1', 'Token Err.', 'Parity Err.', and 'Reserved'. All indicator lights are currently in the 'off' position.

Refresh the Driver Board's status

- The picture below shows the complete sign's status at a glance
 - The green squares represent each driver board
 - The red squares represent bad driver boards
 - The yellow squares represent the DVI distributors



Driver boards: 60 Errors: 0 Controller: 2 Size: 160x96

```

DriverBoardSupervisor_FWArchive.log - Doc-notes
File Edit View Format Affichage ?
20/06/2010 11:48:00 ST - CAMSSignDescriptorDVISleepMode::ReadParamsFromXML(...)-> called
20/06/2010 11:48:00 ST - CAMSSignDescriptorDVISleepMode::ReadParamsFromXML(...)-> succeeded
20/06/2010 11:48:00 ST - CAMSSignDescriptorDVI::ReadParamsFromXML(...)-> succeeded
20/06/2010 11:48:00 ST - CAMSSignDescriptorHWPParams::ReadParamsFromXML(...)-> succeeded
20/06/2010 11:48:00 ST - CAMSSignDescriptor::LoadFromXML(...)-> succeeded
20/06/2010 11:48:00 ST - CAMSDVIProtocol::Send-> @<000EREG,1,00000117,9C>
20/06/2010 11:48:00 ST - CAMSDVIProtocol::Send-> @<000EREG,1,00000117,9C>
20/06/2010 11:48:00 ST - CAMSDVIProtocol::Send-> @<000EUV0>
20/06/2010 11:48:00 ST - CAMSDVIProtocol::Send-> @<000EUV0>
20/06/2010 11:48:00 ST - CAMSDVIProtocol::Send-> @<000EUV0>
20/06/2010 11:48:00 ST - CAMSDVIProtocol::Send-> @<000EREG,4,00000119,6000A000>
20/06/2010 11:48:00 ST - CAMSDVIProtocol::Send-> @<000EREG,4,00000119,6000A000>
20/06/2010 11:48:00 ST - CAMSDVIProtocol::Send-> @<010F>
20/06/2010 11:48:00 ST - CAMSDVIProtocol::Receive-> @0010Ev1199660101GV0908,1133660201A 0906,2611199100020600,1199660601C
20/06/2010 11:48:00 ST - CAMSDVIProtocol::Send-> @<020F>
20/06/2010 11:48:00 ST - CAMSDVIProtocol::Receive-> @0020Ev1199660101GV0908,1133660201A 0906,2611199100020600,1199660601C
20/06/2010 11:48:00 ST - CAMSDVIProtocol::Send-> @<010F>
20/06/2010 11:48:00 ST - CAMSDVIProtocol::Receive-> @0010E"PACK,00000000,TADR,01,INTS,FF,CHNG,0,TOKN,FF,TERR,00,CHNL,08,M
20/06/2010 11:48:17 ST - CAMSDVIProtocol::LogGeneralInfo-> DVI Board(01): 8 channels detected
20/06/2010 11:48:17 ST - CAMSDVIProtocol::LogGeneralInfo-> DVI Board(01): Channel(1) - 6 driver boards detected
20/06/2010 11:48:17 ST - CAMSDVIProtocol::LogGeneralInfo-> DVI Board(01): Channel(2) - 6 driver boards detected
20/06/2010 11:48:17 ST - CAMSDVIProtocol::LogGeneralInfo-> DVI Board(01): Channel(3) - 6 driver boards detected
20/06/2010 11:48:17 ST - CAMSDVIProtocol::LogGeneralInfo-> DVI Board(01): Channel(4) - 6 driver boards detected
20/06/2010 11:48:17 ST - CAMSDVIProtocol::LogGeneralInfo-> DVI Board(01): Channel(5) - 6 driver boards detected
20/06/2010 11:48:17 ST - CAMSDVIProtocol::LogGeneralInfo-> DVI Board(01): Channel(6) - 6 driver boards detected
20/06/2010 11:48:17 ST - CAMSDVIProtocol::LogGeneralInfo-> DVI Board(01): Channel(7) - 6 driver boards detected
20/06/2010 11:48:17 ST - CAMSDVIProtocol::LogGeneralInfo-> DVI Board(01): Channel(8) - 6 driver boards detected
20/06/2010 11:48:17 ST - CAMSDVIProtocol::Send-> @<010E*>
20/06/2010 11:48:17 ST - CAMSDVIProtocol::Send-> @<010FW,1,1C,01,01,000F>
20/06/2010 11:48:18 ST - CAMSDVIProtocol::Receive-> No byte received
  
```

The log file traces all exchanges between the application and the DVI distributor. This information is really helpful to understand issues occurring on the system.

This section is strictly reserved to the Adaptive's Tech Support

Diagnostic


Side:

Driver board DVI Distributor


Row: Column: ID:

Memory access

Type:



Key:



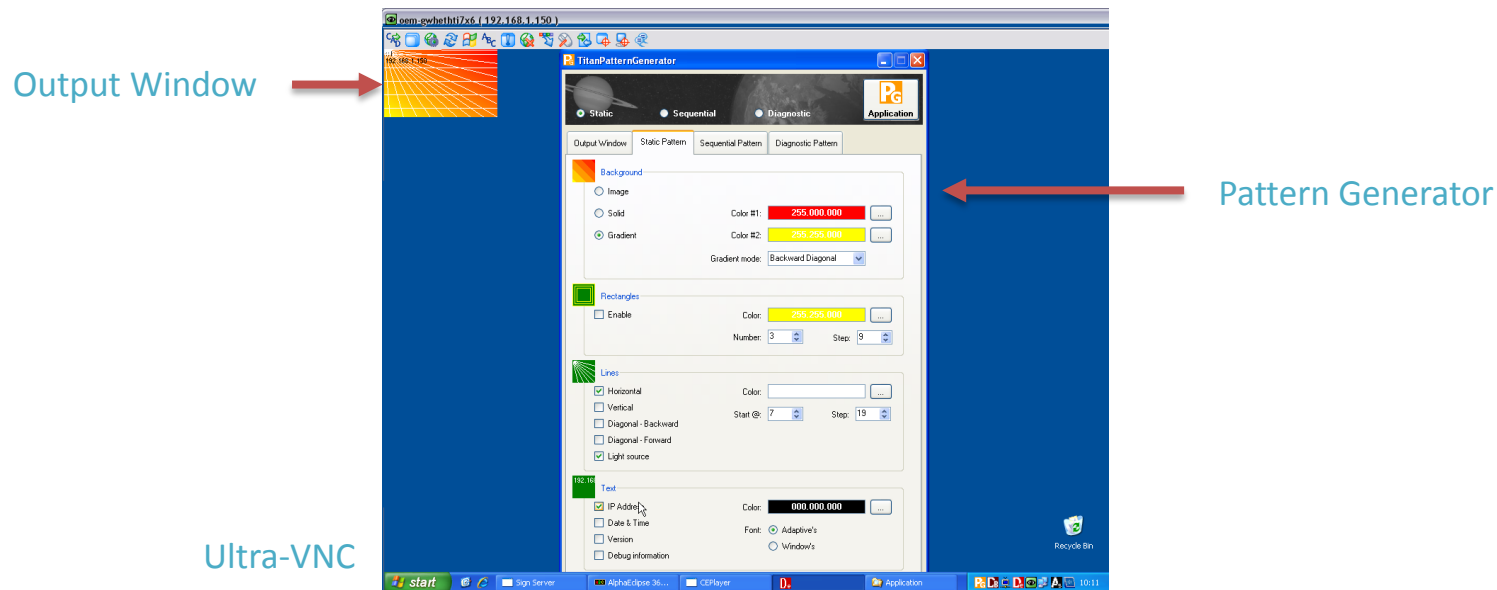
Key:

Special function



Pattern Generator

- The **Pattern Generator** is mainly used to perform diagnostic operations
- The Output Window can be positioned anywhere on both screens by using the Web Server
- It allows:
 - To display different static patterns
 - To run sequential patterns
 - To display patterns specially dedicated to the driver boards
- It has its own user interface which can be opened only when connected on the controller through Ultra-VNC
- Its settings are saved to the file: **TitanPatternGeneratorINI.xml**

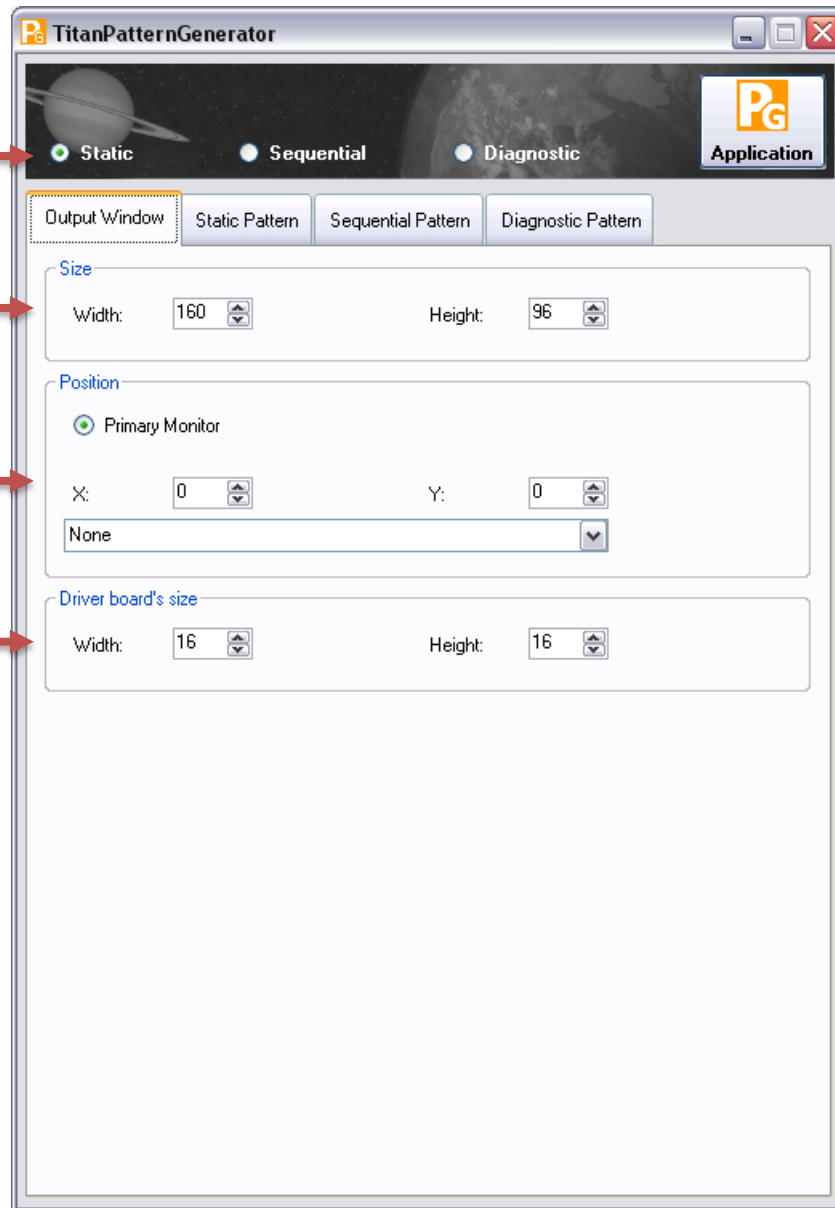


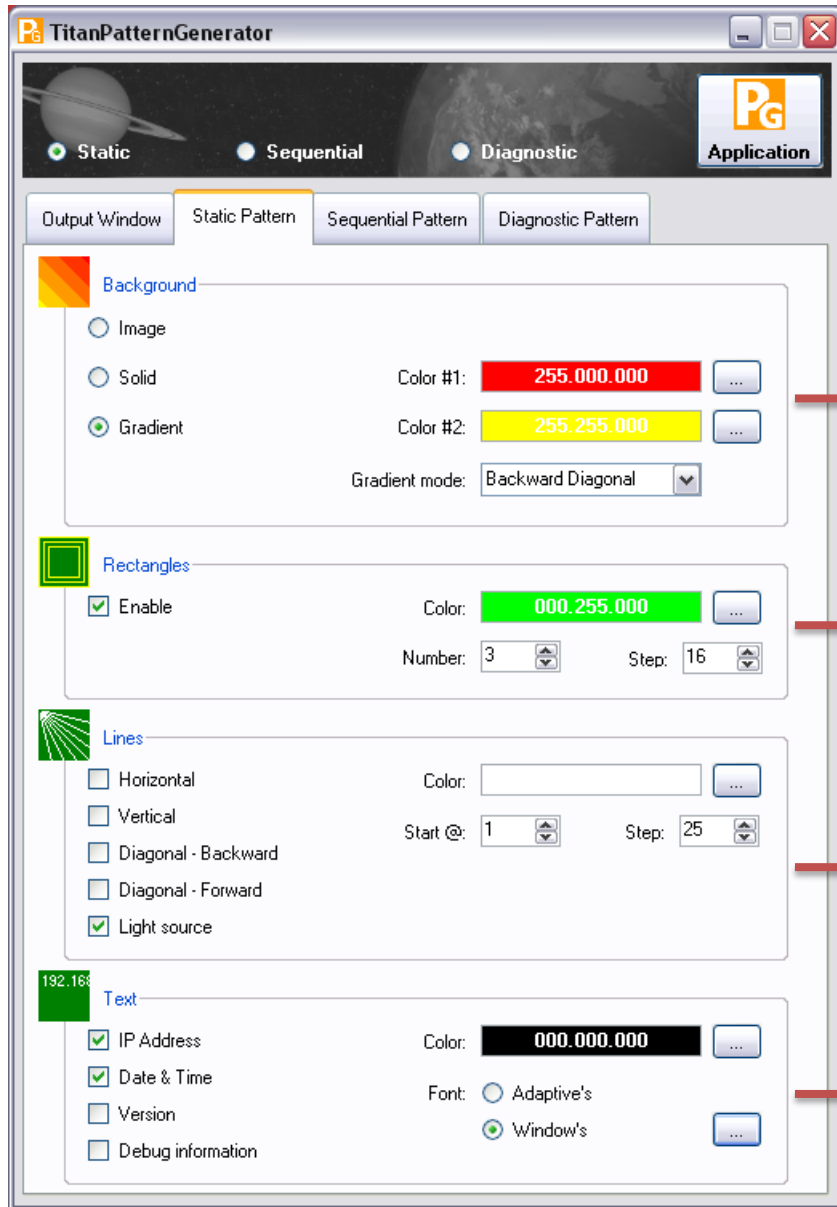
Select the pattern to display on the Output Window

Output Window's size

Output Window's position

Driver Board's size





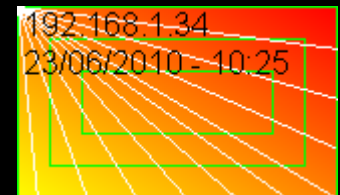
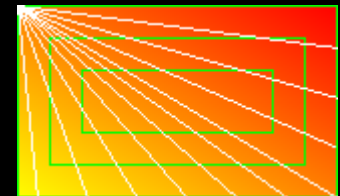
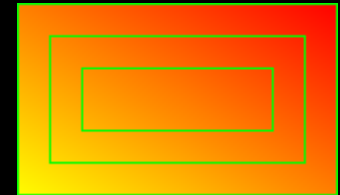
Select a background

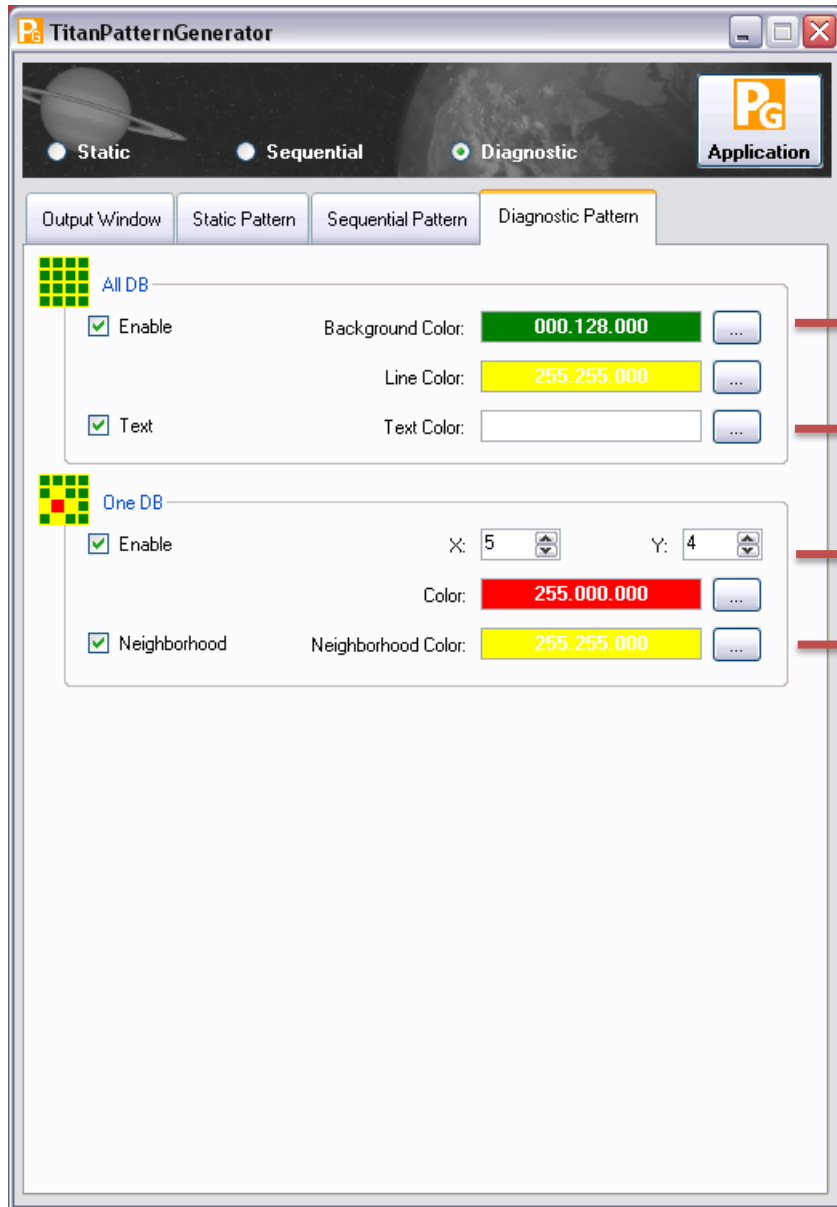
Add rectangles

Add light source

Add text

Output Window



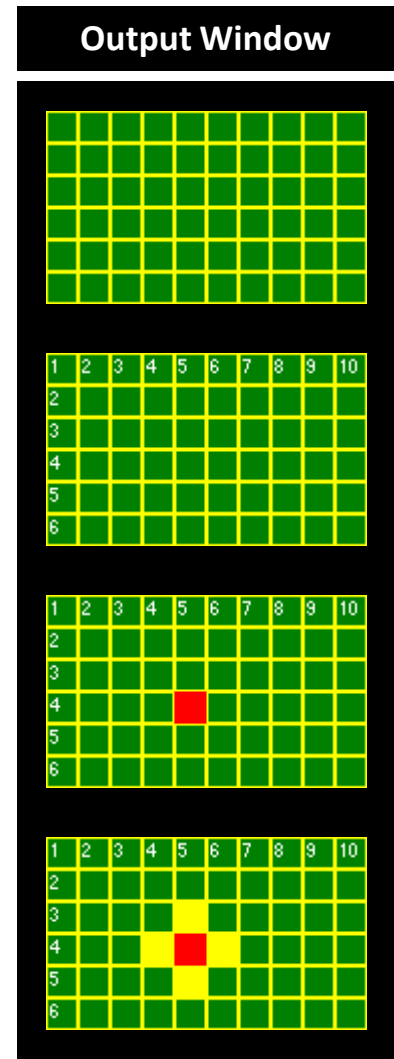


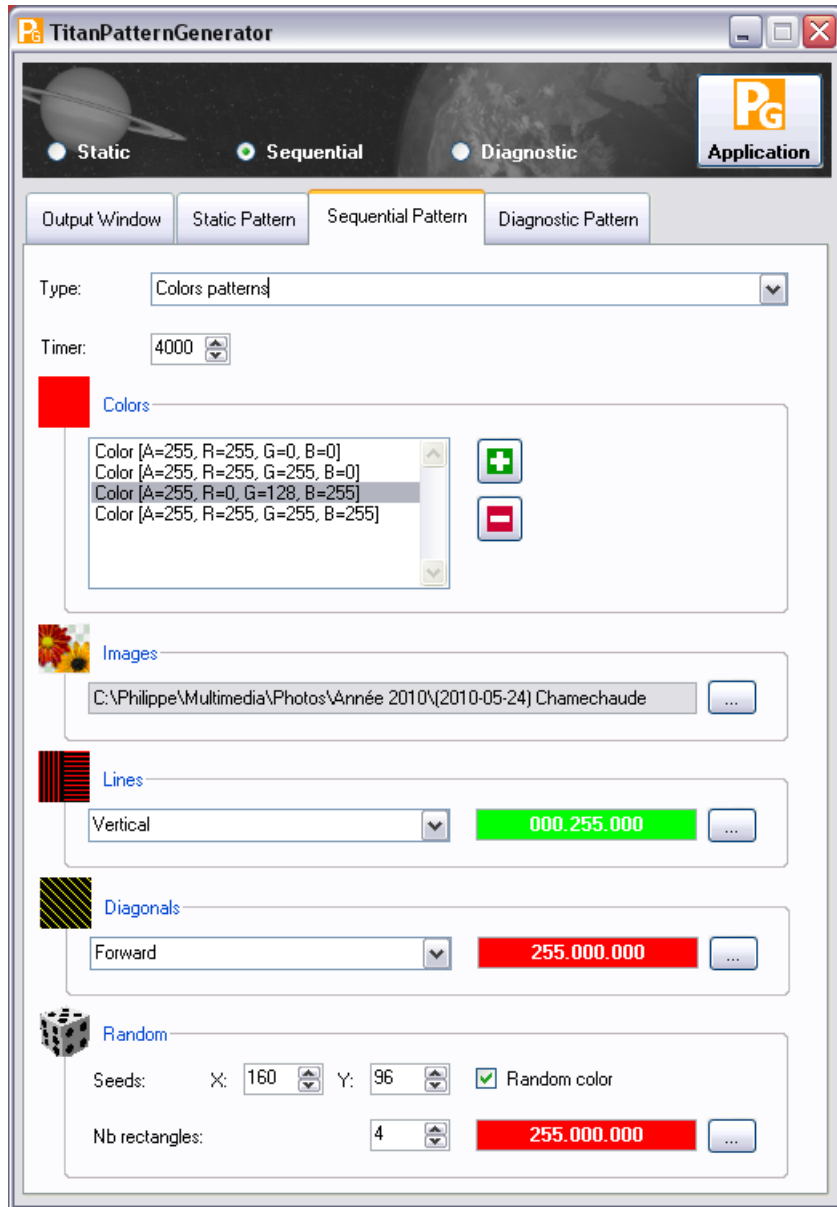
Select a background

Add text on rows & columns

Light a selected DB

Light DB's neighborhoods





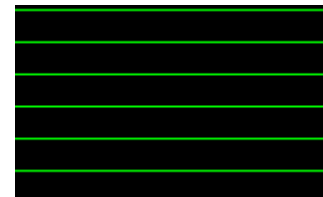
Output Window



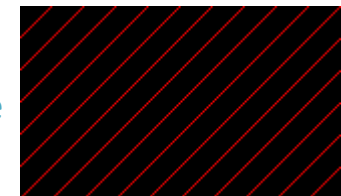
Color sequence



Image sequence



Line sequence



Diagonal sequence



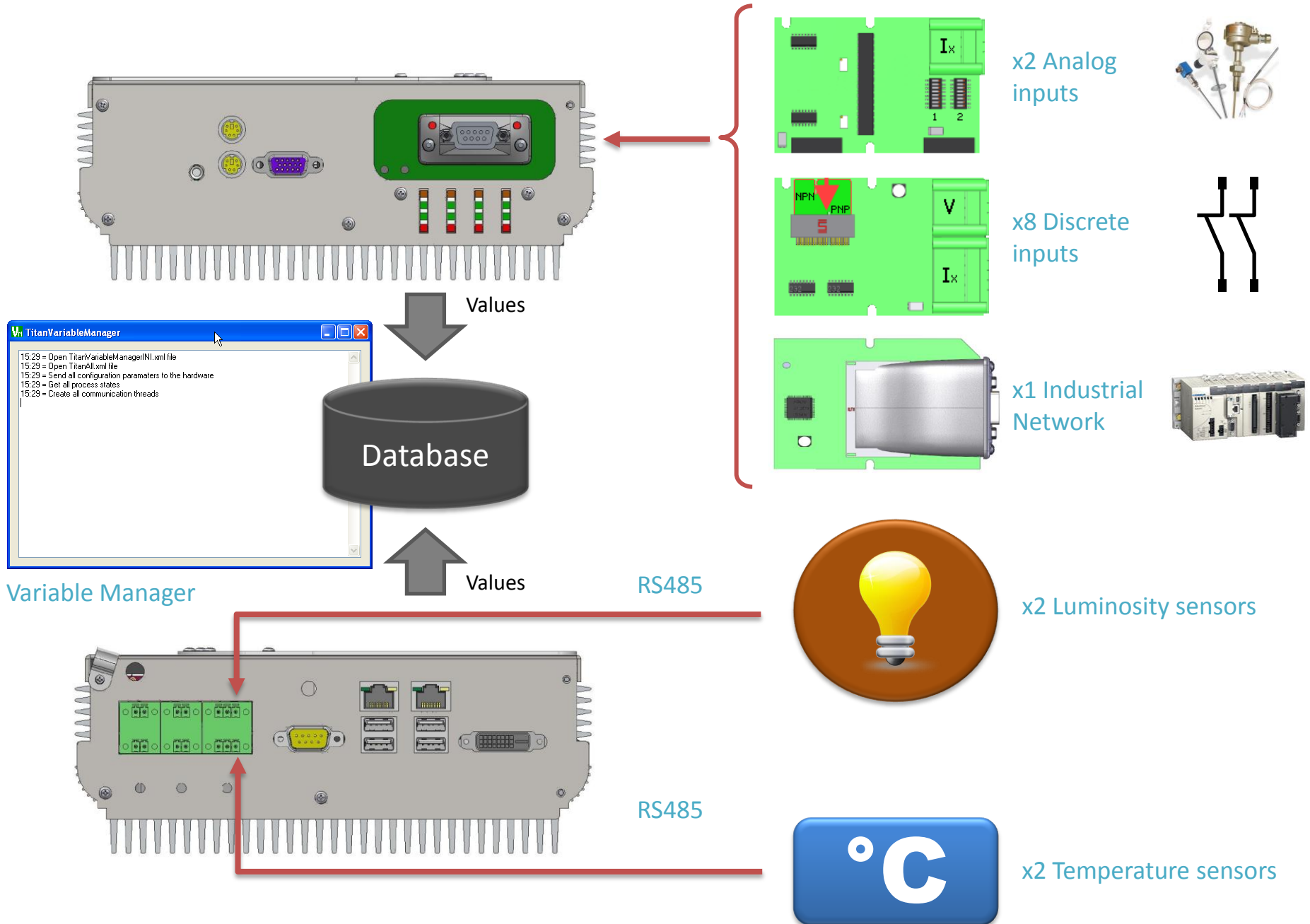
Random sequence



Variable Manager

Variable Manager

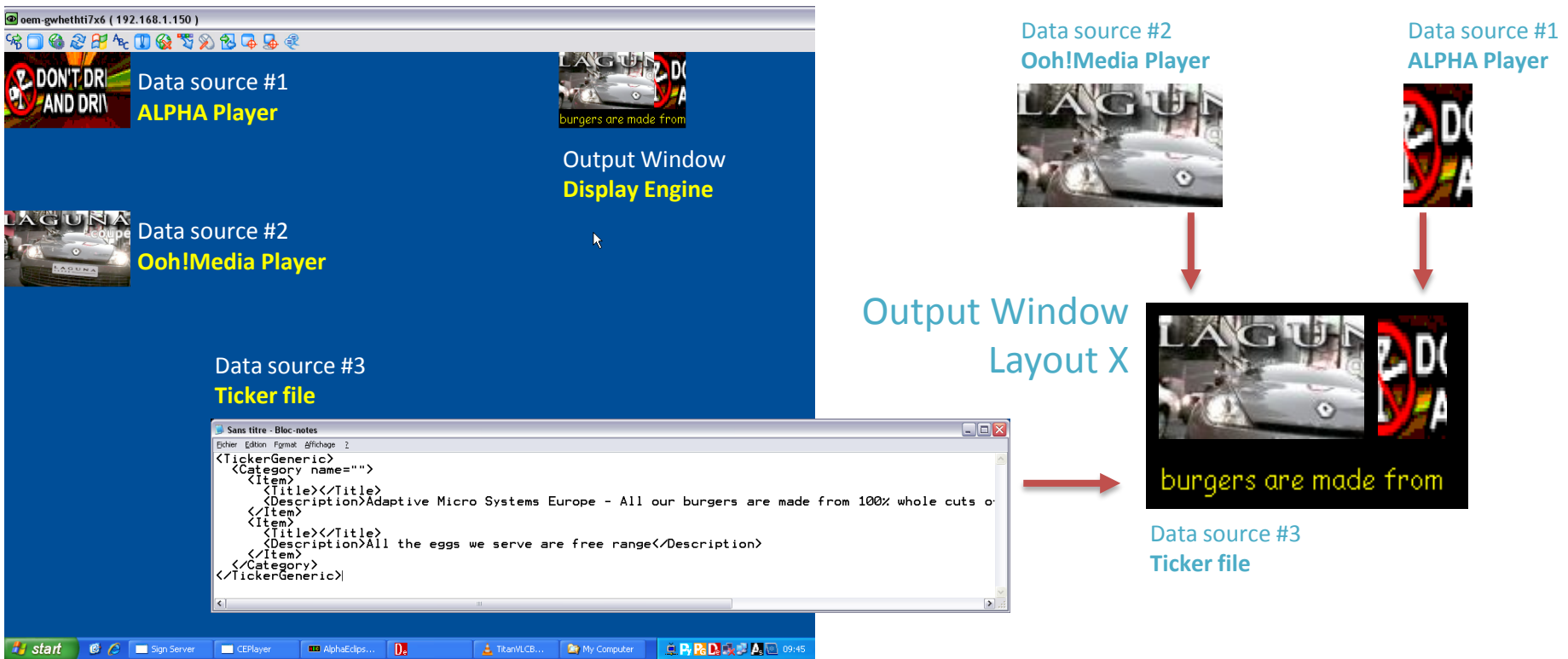
- The purpose of the **Variable Manager** is to collect data from different hardware sources and to feed the applications which take out a subscription to them
- Data are coming from:
 - The luminosity sensors
 - The temperature sensors
 - The discrete input interface
 - The analog input interface
 - The industrial network interface
- Its settings are saved to the file: **TitanVariableManagerINI.xml**
- The **Variable Manager** works with a configuration file stored in its own workspace directory





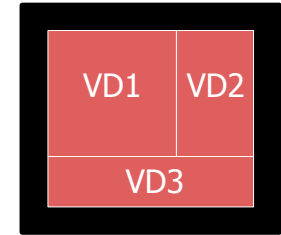
Display Engine

- The **Display Engine** is a powerful application allowing to build and to display images coming from several types of data sources such as **Screen Captures**, **Real Time Variables** and **Tickers**
- Those images are laid out on the Output Window and sent to either the **DVI-D** output (Excite) or the **LEDs Driver Board Interfaces** (ALPHA & StreetSmart)
- The Display Engine is configured through the **Web Server**
- Its settings are saved to the file: **DisplayEngineINI.xml**



Physical Sign (PS)

- It contains a collection of Virtual Displays, Layouts and Playlists
- It can be divided in xN Virtual Displays ($1 \leq VD \leq 6$)



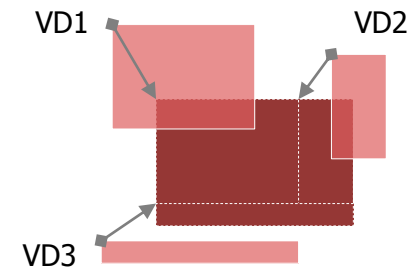
Virtual Display (VD)

- It is a region (WxH) of the physical sign
- Each VD is fully independent from the others
- Each VD has its own operating modes
- x3 types of Virtual Displays : Screen Capture, Ticker, RT Variable



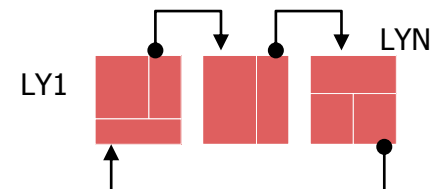
Layout (LY)

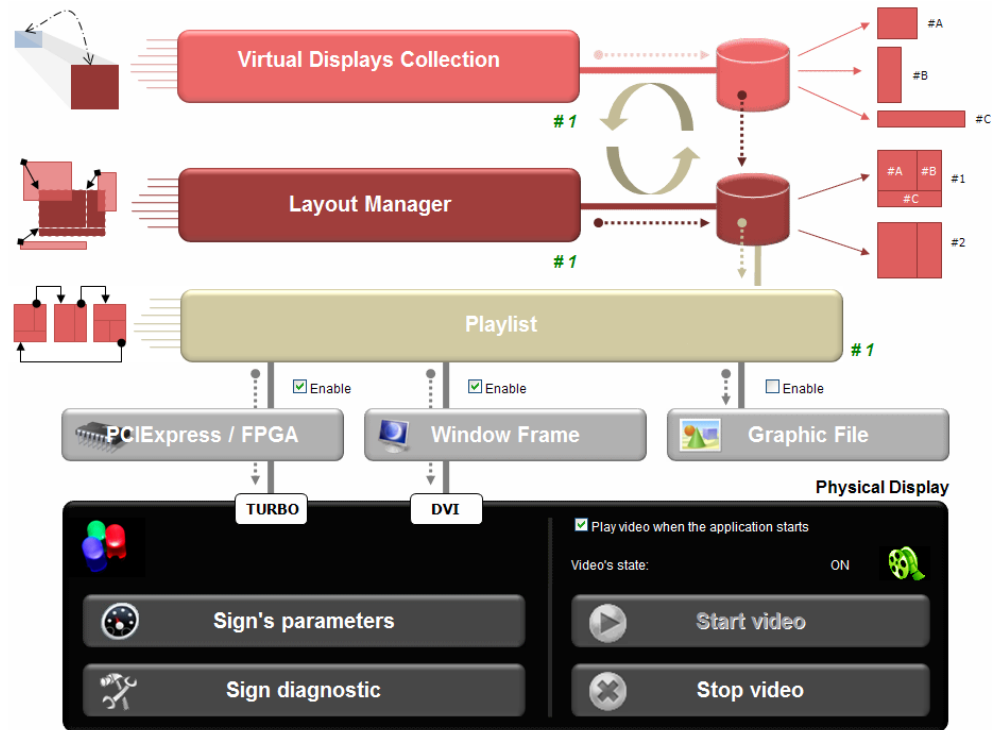
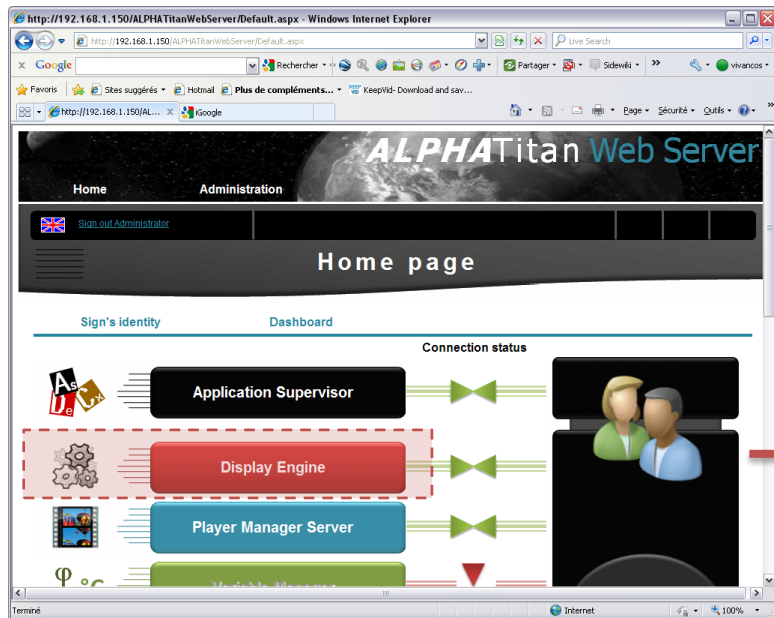
- It defines how several VD are positioned (X, Y) over the PS



Playlist (PLY)

- It cyclically runs LY one after the other

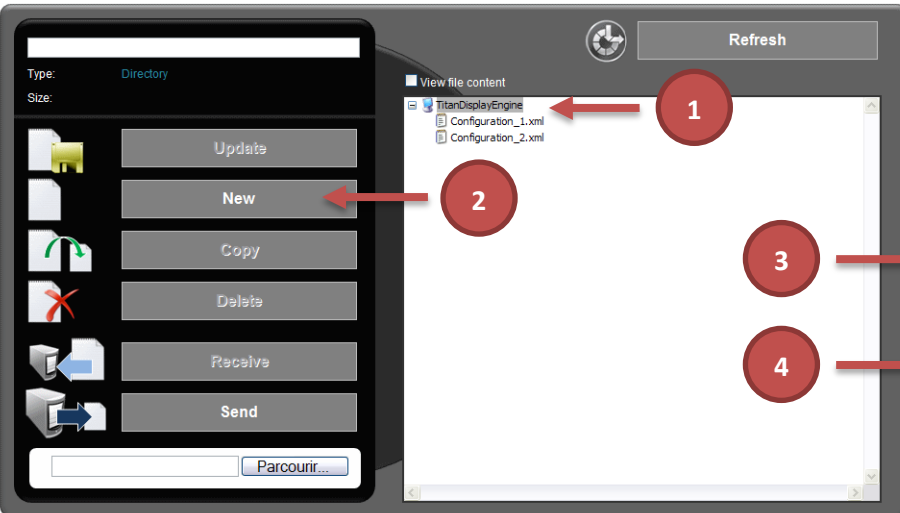
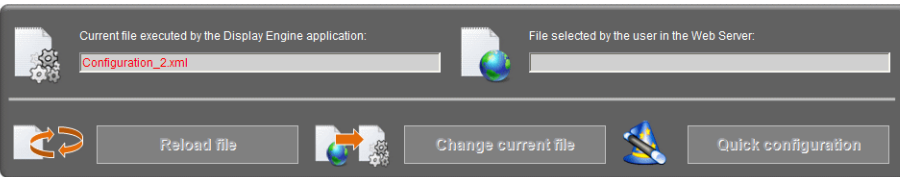




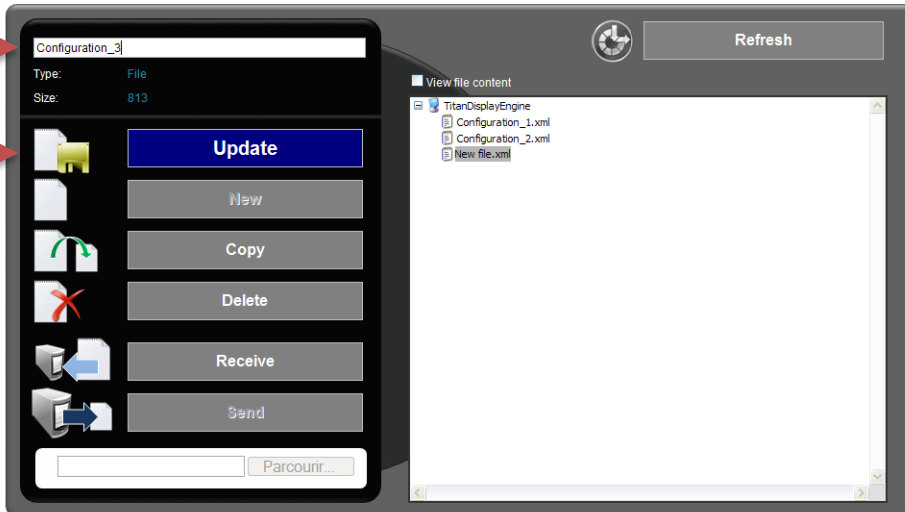
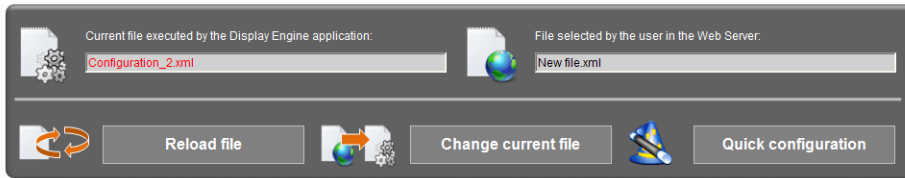
- The Web Server provides the tools to complete a full configuration of the Display Engine
- Going through the configuration process can be complex so it is really important to follow the procedure detailed in the next pages

- **Create a new configuration file**
 1. Select the root directory
 2. Click on "New"
 3. Select the new configuration file and rename it
 4. Click on "Update"

Configuration files



Configuration files

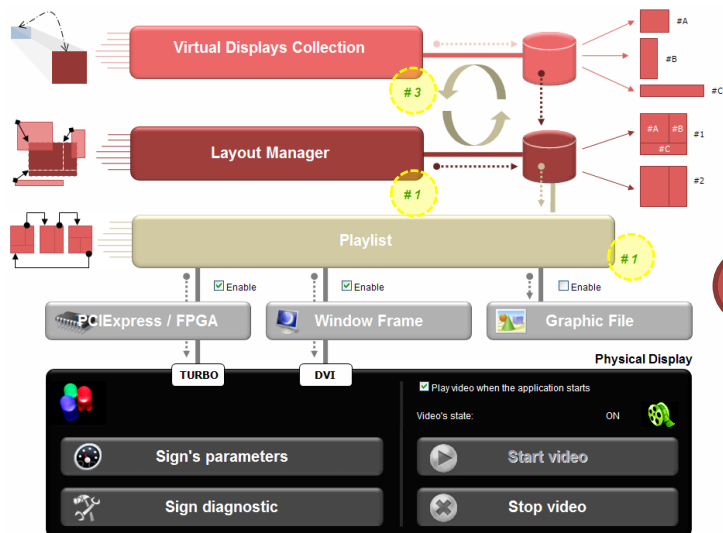


• **Open the wizard configuration tool**

1. Select the configuration file
2. Click on "Quick Configuration"
3. Enter a layout's name
4. Select a pre-define layout template
5. Enter the desired X&Y values
6. Select & Name the virtual displays
7. Click on "Add"

The Wizard allows to create a full configuration by adding the VD, LY & PLY automatically

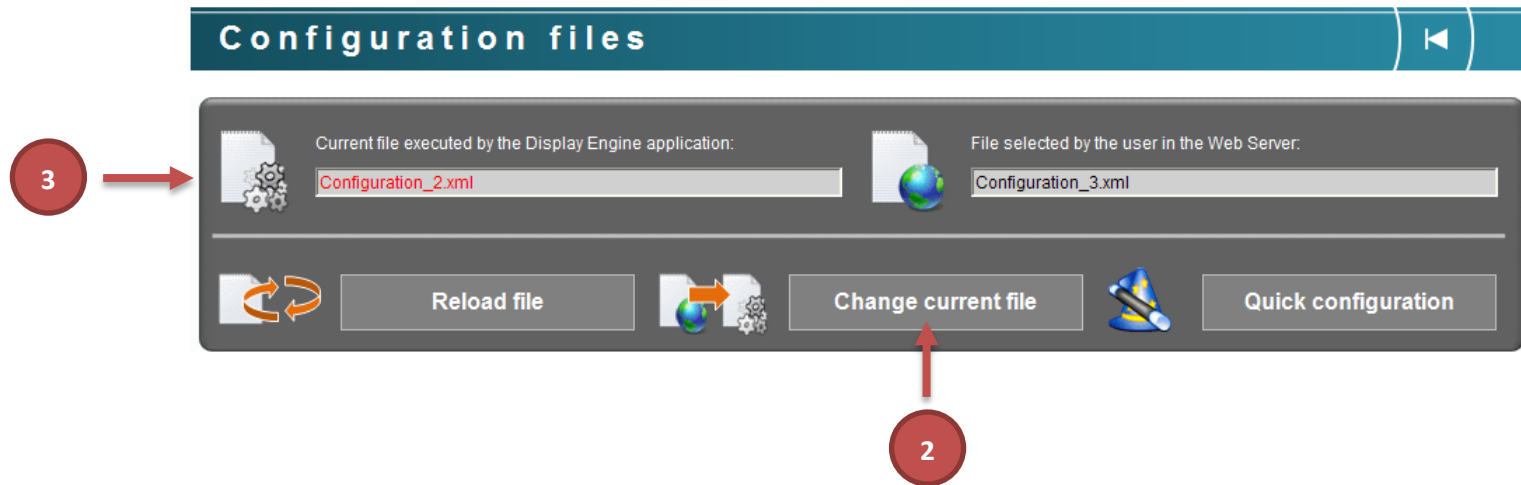
Do not hesitate to use this tool during your first steps with the system



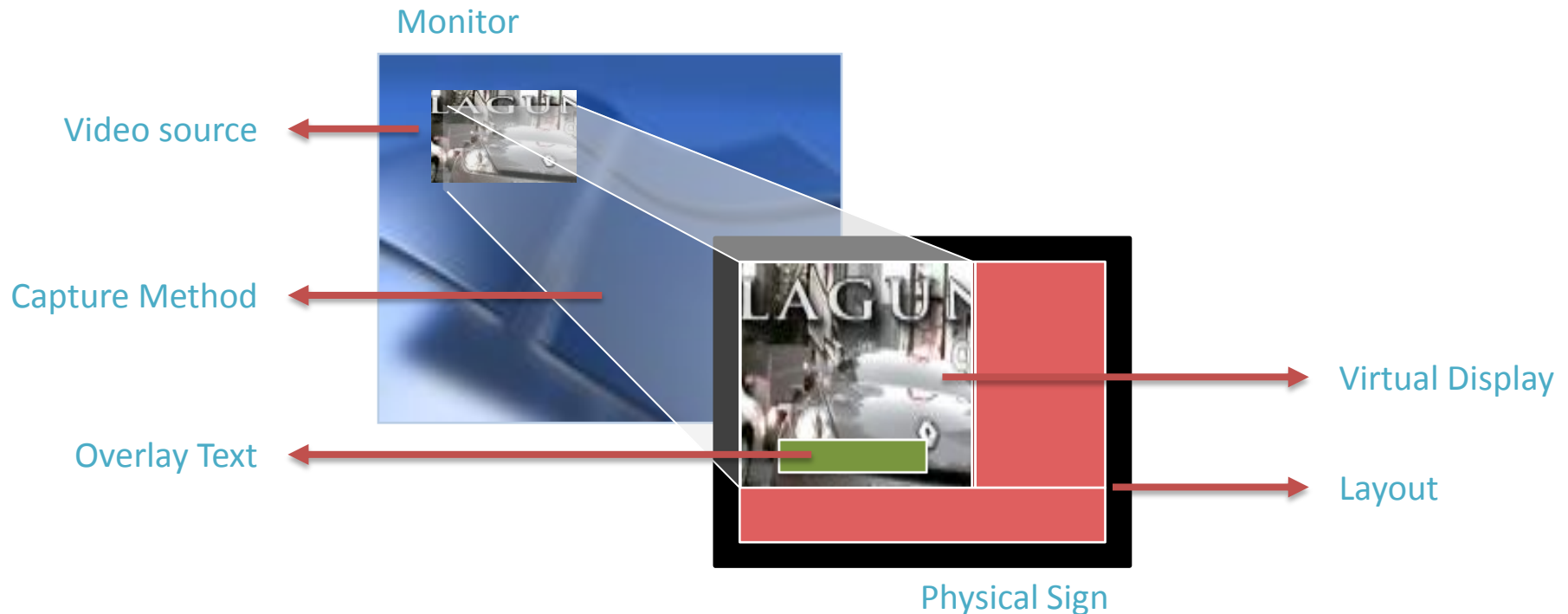
The screenshot shows the 'Configuration files' wizard interface. At the top, it displays 'Current file executed by the Display Engine application: Configuration_2.xml' and 'File selected by the user in the Web Server: Configuration_3.xml'. Below this are buttons for 'Reload file', 'Change current file', and 'Quick configuration' (callout 2). The main area is titled '1) Select a layout template to add to your current configuration file' and shows a grid of layout templates (callout 4). A text field for 'Layout's name:' contains 'Layout_CF3' (callout 3). Below the templates is a section '2) Define X,Y limits' with input fields for X (106 to 160) and Y (72 to 96). To the right is a section '3) Select virtual display's types and enter their names' with a list of virtual displays (1-4) and their names (e.g., 'Capture_Capture_CF3_1', 'Ticker_Ticker_CF3_1') and buttons for 'Clear' and 'Add' (callout 7). At the bottom, there is a 'Configuration_3' section with 'Type: File', 'Size: 813', and an 'Update' button (callout 5). A file explorer view shows 'TitanDisplayEngine' containing 'Configuration_1.xml', 'Configuration_2.xml', and 'Configuration_3.xml' (callout 1). A 'Refresh' button is also present.

- **Change the current file to the new configuration**

1. Select the configuration file
2. Click on "Change current file"
3. The Display Engine is reloaded with the new file



- During the **screen capture** process, the Display Engine goes through the following sequence:
 1. Scans & Captures, using a given method, all video sources located on the screens
 2. Overlays text objects (date, time, T°C, variables, ...) if required
 3. Builds the RGB pixel buffer based on a specific layout
 4. Sends the RGB pixel buffer to the Output Window



- **Screen Capture properties**

1. Select a VD in the list
2. If needed, modify the VD's properties

List

Clear Create Remove Copy Save

	Name	Width	Height	Over. Txt	DS Name	DS Height	DS Width	Method
→	Capture_LY2_1	120	72	0		120	72	False
→	Capture_LY2_2	40	72	0		40	72	False

1 →

Properties

Virtual display

Physical sign

Send

Save

Enable capture

Name: Capture_LY2_2

Dimensions: Width (X): 40 Height (Y): 72

2 →

Set fixed width & free height

Set both fixed width & height

Free

Set free width & fixed height

Set both free width & height

Free

Free

Free

3 →

- **Setup the data source's location**

1. If known, enter the values directly in the edit boxes
2. If unknown, use the navigation pad to move the screen capture over the data source

The screenshot displays the 'Data Source (Capture)' configuration window. On the left, a preview shows a blue box with a question mark on a coordinate system. The main panel includes a 'Name' field, 'Dimensions' (Width (X): 40, Height (Y): 72), and a 'Data source = Virtual display' button. Below these are two radio buttons: 'Select a free position' (selected) and 'Select position from the video player list'. The 'Select a free position' option features a navigation pad with directional arrows and a magnifying glass over the 'X' and 'Y' input fields. The 'X' field contains '0' and the 'Y' field contains '20'. A red circle with '0,0' is positioned near the navigation pad. A dropdown menu shows '10'. At the bottom, there is a 'None' dropdown menu. On the left side of the interface, there are 'Send' and 'Save' buttons. Three red circles with numbers 1, 2, and 3 are overlaid on the interface, with arrows pointing to the 'X' and 'Y' input fields, the navigation pad, and the 'Save' button respectively.

We do not recommend to set a capture method because it takes a lot of CPU resources

• Add overlay texts

1. Enable the option
2. Add an overlay text and enter its name
3. Select a data feed (Date & Time or Variable)
4. Set the background and the text properties
5. Position the overlay text over the virtual display



Overlaid Text

Overlaid Text
⏪ ⏩

1 →

Enable

2 →

+
-

<
1
>

Name:

Position:

X:

Y:

0,0

↑

←

→

↓

10

Data source:

Background

Transparent

Color (RGB):

Black

Font

Name:

Size:

Color (RGB):

Red

Style:

Italic
 Underline

Send

6 →
 Save

5

3

4

- A **Ticker** is a long text which rotates from the right to the left in a Virtual Display
- Data are stored in a .XML files located in the shared workspace at
..\MyXMLFiles\DataSources\Files\
- **x3 formats** are available:

Generic format

```
Generic.xml - Bloc-notes
Eichier Edition Format Affichage ?
<TickerGeneric>
  <Category name="">
    <Item>
      <Title></Title>
      <Description>Adaptive Micro Systems Europe - All our burgers are made from 100% whole cuts o
    </Item>
    <Item>
      <Title></Title>
      <Description>All the eggs we serve are free range</Description>
    </Item>
  </Category>
</TickerGeneric>
```

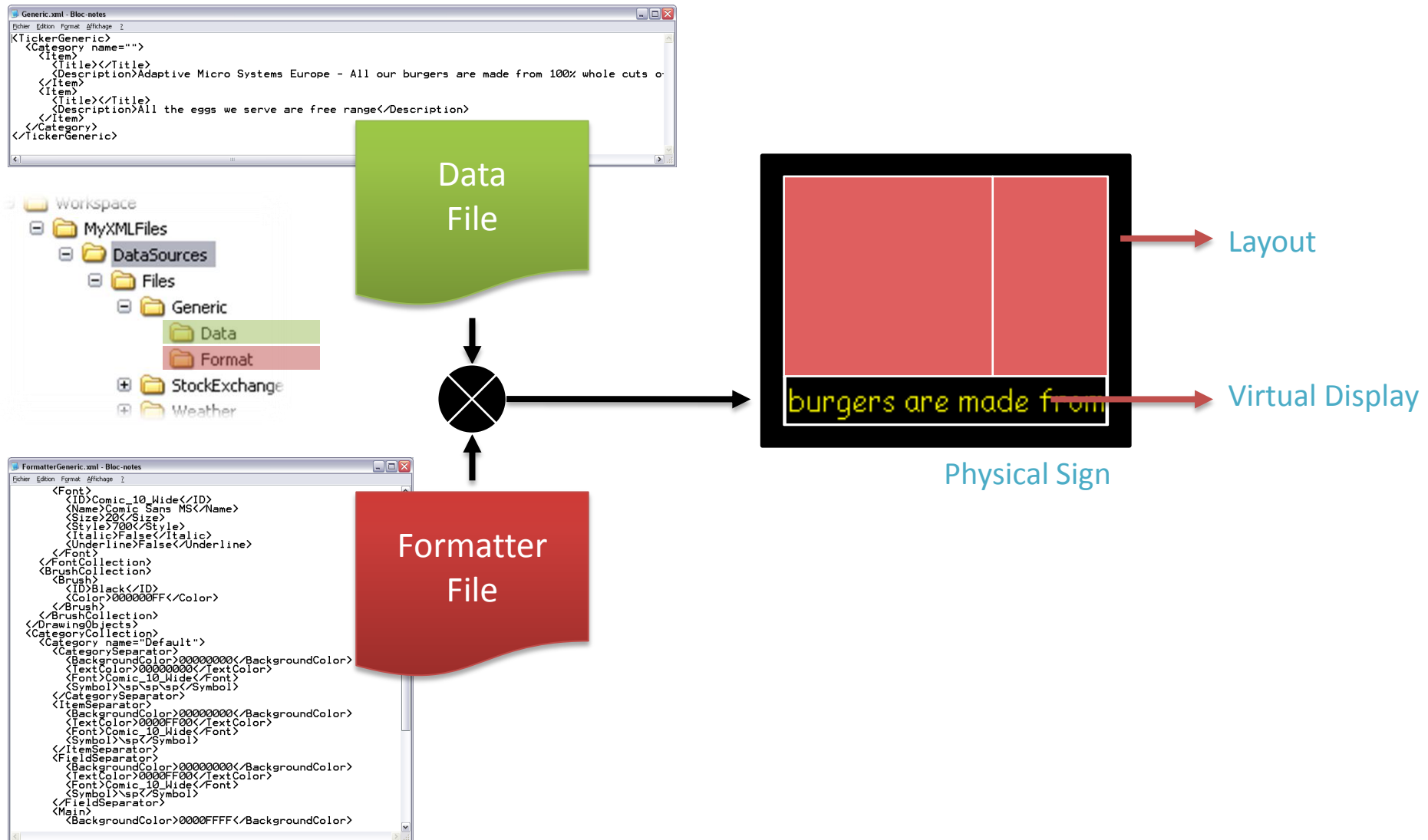
Weather format

```
Meteo.xml - Bloc-notes
Eichier Edition Format Affichage ?
<TickerWeather>
  <Category name="Grenoble">
    <Item>
      <Title>Monday</Title>
      <Description>Rain</Description>
      <MaxTemp>Max C = 10</MaxTemp>
      <MinTemp>Min C = 0</MinTemp>
      <WindSpeed>Wind speed = 5 K/H</WindSpeed>
      <WindDirection>Wind direction = South-East</WindDirection>
      <Humidity>Humidity = 95%</Humidity>
    </Item>
    <Item>
      <Title>Tuesday</Title>
      <Description>Sunny</Description>
      <MaxTemp>Max C = 10</MaxTemp>
      <MinTemp>Min C = 0</MinTemp>
      <WindSpeed>Wind speed = 5 K/H</WindSpeed>
      <WindDirection>Wind direction = North</WindDirection>
      <Humidity>Humidity = 95%</Humidity>
    </Item>
  </Category>
</TickerWeather>
```

Stock Exchange format

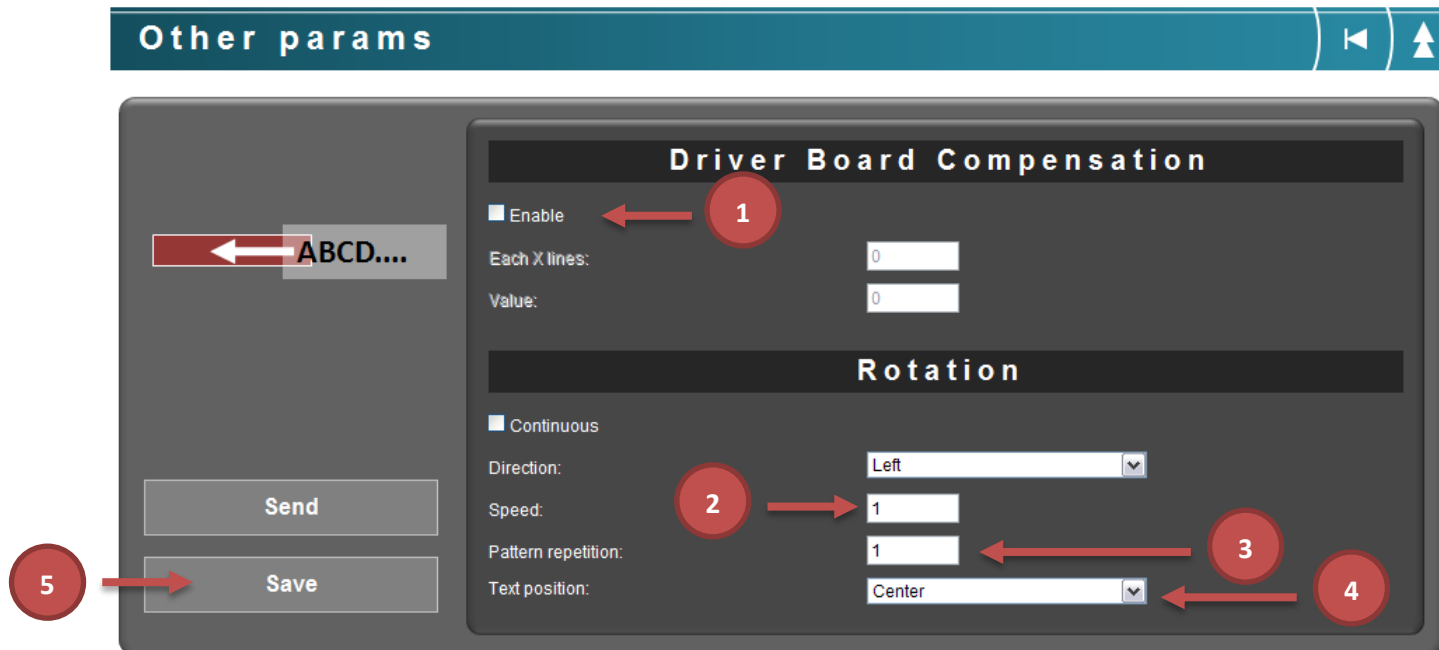
```
StockExchange.xml - Bloc-notes
Eichier Edition Format Affichage ?
<TickerStockExchange>
  <Category name=" CAC 40 ">
    <Item>
      <Title></Title>
      <Description></Description>
      <Variance>
        <Sign>-</Sign>
        <Value>0,5</Value>
      </Variance>
    </Item>
  </Category>
  <Category name=" Dow Jones ">
    <Item>
      <Title></Title>
      <Description></Description>
      <Variance>
        <Sign>0</Sign>
        <Value>1</Value>
      </Variance>
    </Item>
  </Category>
</TickerStockExchange>
```

- Each item of the data is displayed according to a certain format defined in a formatter .XML file



- **Setup the ticker properties**

1. Enable the Driver Board compensation (ALPHA only) if required
2. Set the rotation speed (1, 2, 3, ...)
3. Set the pattern repetition (rotates N times before to empty the RGB pixel buffer and to reload the data .XML file)
4. Set the text position (Center, Top, Bottom)



- **Assign a data feed to the Ticker**

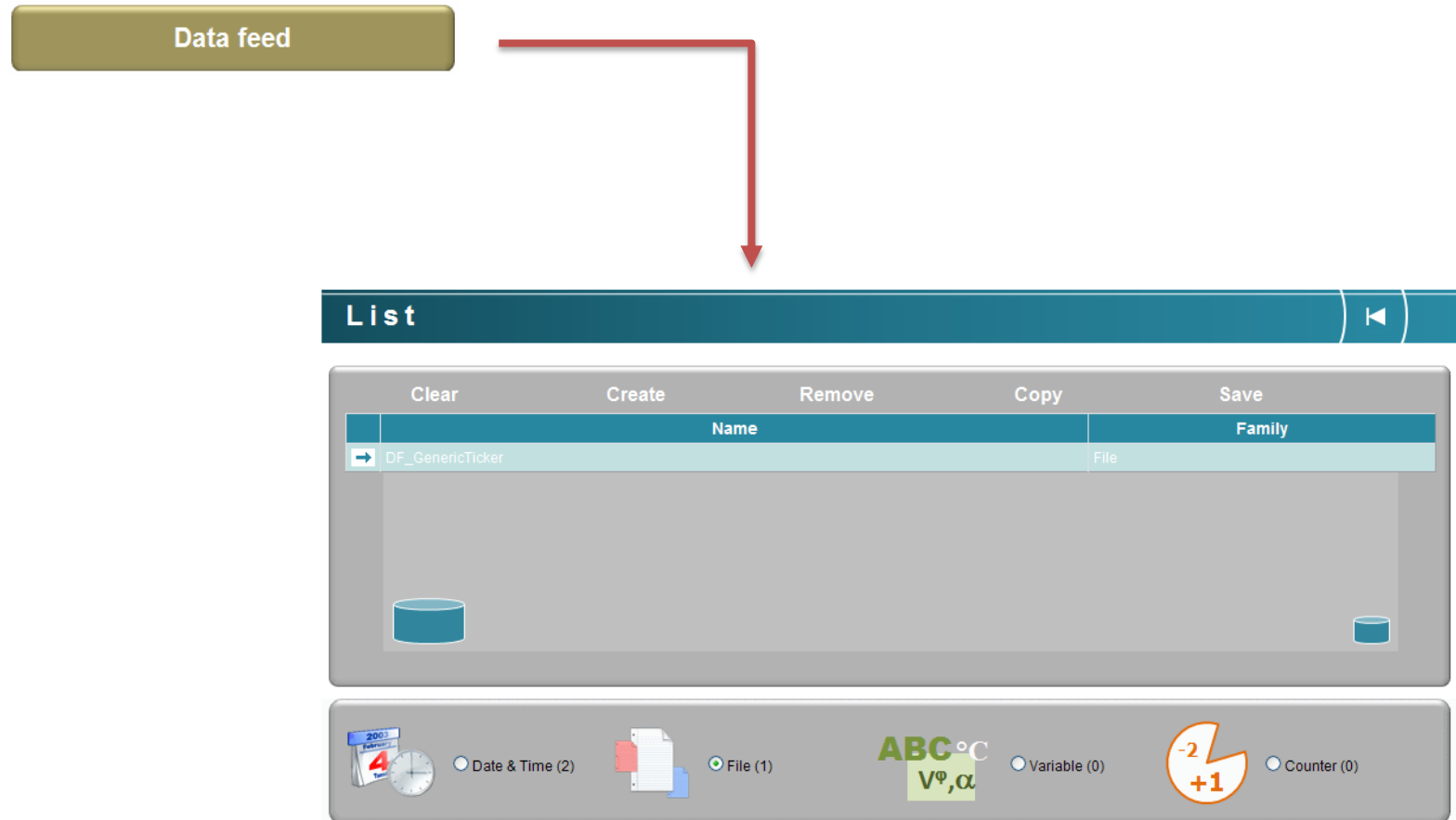
1. Select the data feed in the list
2. Add it to the list

The screenshot shows the 'Data sources' interface. At the top, there is a teal header with the text 'Data sources' and navigation arrows. Below the header, there is a dark grey panel containing a data source visualization on the left and a table on the right. The visualization shows a cylinder with icons for a document, a CD, and a pie chart with segments labeled '-2' and '+1'. Below the cylinder is a green box with the text 'APC' and 'V°,α'. The table has two columns: 'Name' and 'Family'. The first row contains 'DF_GenericTicker' and 'TickerGeneric'. Below the table are two buttons: 'Add' (green) and 'Remove' (red). Below the buttons is a white text box containing 'DF_GenericTicker'. At the bottom of the panel are two buttons: 'Send' and 'Save'. Three red circles with numbers 1, 2, and 3 are overlaid on the interface. Circle 1 points to the 'DF_GenericTicker' row in the table. Circle 2 points to the 'Add' button. Circle 3 points to the 'Save' button.

Name	Family
DF_GenericTicker	TickerGeneric

Buttons: Add, Remove, Send, Save


- Data Feed objects manage the data and the way of how they are used in both the **Ticker** and the **Overlay Text**
- **Tickers** use **File** objects
- **Overlay Text** use **Date & Time** and **Variable** objects



- **Configure a Date & Time data feed**

1. Enter the desired format

Date & Time
◀ ▶



Name:

Format: Help on format

1

Send

Save

%a :	Abbreviated weekday name
%A :	Full weekday name
%b :	Abbreviated month name
%B :	Full month name
%c :	Date and time representation appropriate for locale
%d :	Day of month as decimal number (01 31)
%H :	Hour in 24-hour format (00 23)
%I :	Hour in 12-hour format (01 12)
%j :	Day of year as decimal number (001 366)
%m :	Month as decimal number (01 12)
%M :	Minute as decimal number (00 59)
%p :	Current locale's A.M./P.M. indicator for 12-hour clock
%S :	Second as decimal number (00 59)
%U :	Week of year as decimal number, with Sunday as first day of week (00 53)
%w :	Weekday as decimal number (0 6; Sunday is 0)
%W :	Week of year as decimal number, with Monday as first day of week (00 53)
%x :	Date representation for current locale
%X :	Time representation for current locale
%y :	Year without century, as decimal number (00 99)
%Y :	Year with century, as decimal number
%#c :	Long date and time representation

- **Configure a Variable data feed**
 1. Enter the variable's name
 2. Update the its value

Variable ◀ ▲

ABC °C
V^φ, α

Send

Save

Name:

Value:

Variable Manager

Alias:

Send value

1

2

- **Configure a File data feed**

1. Select the family (**Generic, Weather, Stock Exchange**)
2. Select an .XML file in the explorer and assign it to the data path
3. Select an .XML file in the explorer and assign it to the data formatter path

The image shows two screenshots from a software interface. The top screenshot is the configuration panel for a 'File' data feed. It has a title bar 'File' with navigation icons. The configuration fields are: Name: DF_GenericTicker; Family: Generic ticker (indicated by a red circle '1'); Read frequency: 10; Data path: C:\Program Files\AdaptiveWorkspace\MyXMLFiles\DataSources\Fi (indicated by a red circle '2'); Data formatter path: C:\Program Files\AdaptiveWorkspace\MyXMLFiles\DataSources\Fi (indicated by a red circle '3'). There are 'Set...' buttons for both paths. At the bottom left, there are 'Send' and 'Save' buttons (indicated by a red circle '4').

The bottom screenshot is a file explorer window titled 'View file content'. It shows a tree view with 'Generic' as the root, containing 'Format' and 'Data' folders. Under 'Format', there is a file 'FormatterGeneric.xml' (indicated by a red circle '3'). Under 'Data', there is a file 'Generic.xml' (indicated by a red circle '2'). A 'Refresh' button is at the top right. On the left, there is a toolbar with icons for 'Update', 'New', 'Copy', 'Delete', 'Receive', and 'Send', along with a search bar labeled 'Parcourir...'.

- **Build a layout**

1. Select virtual displays among the ones available in the list
2. Add them to the list
3. Use the navigation pad to position them on the layout
4. Check the preview check box to visualize the operation

Layout Manager

Layout builder

Captures (2)

Tickers (1)

RT Variables (0)

Send

Save

Available Virtual Displays

	Name	Width	Height	Capture
→	Capture_LY2_1	120	72	
→	Capture_LY2_2	40	72	

Add Remove

Capture_LY2_1
Capture_LY2_2
Ticker_LY2_1

Type: Capture

Preview

X: 0

Y: 0

5

To zero

1

2

3

4

5

- **Build a playlist**
 1. Select a layout
 2. Add it to the playlist



Playlist



Properties ◀ ▶ ▲

Name:

	Name	Hold Time (s)
➡	Layout_2	10

Add **Remove**

Layout_2

Send

Save

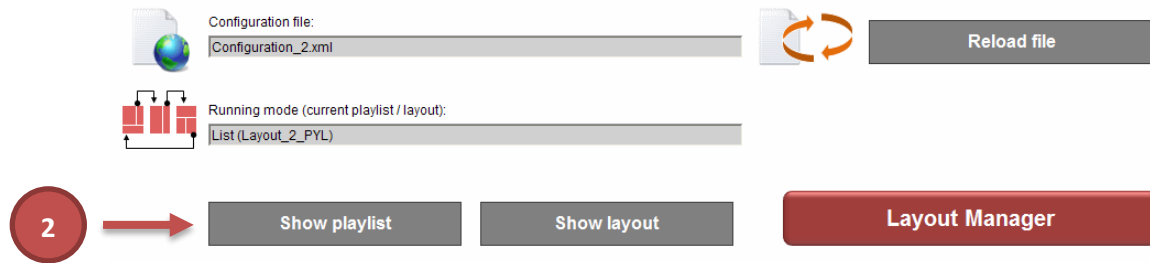
1

2

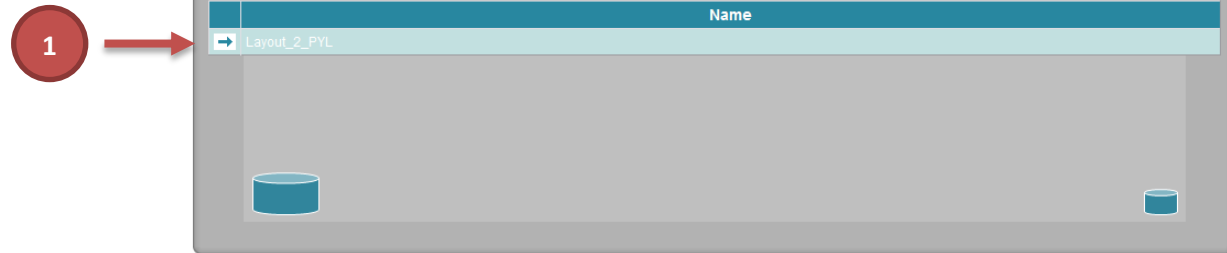
3

- **Show a playlist**

1. Select a playlist
2. Click on “Show playlist”

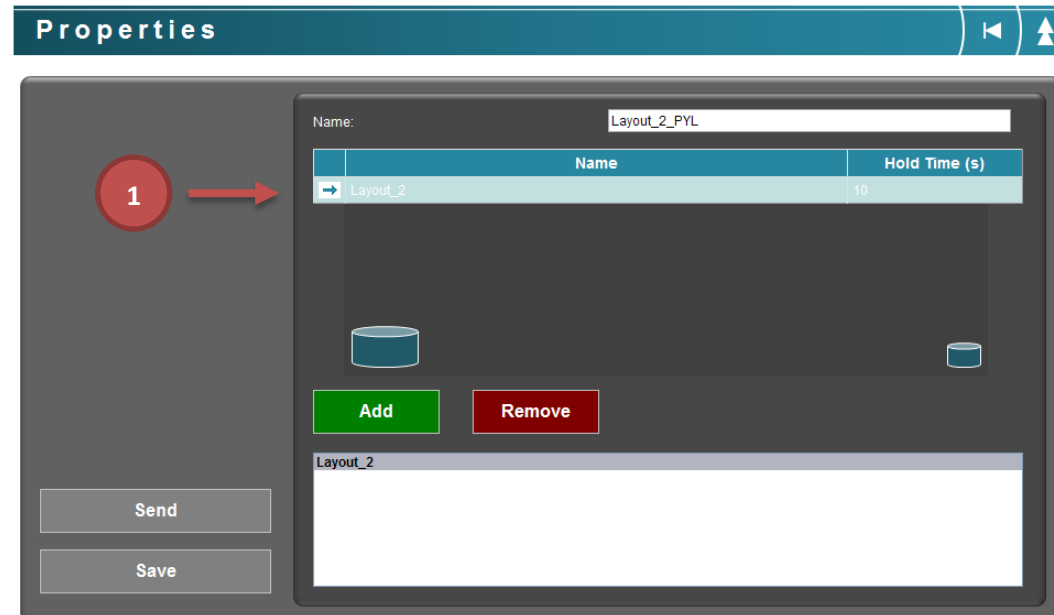


Show all layouts belonging to the playlist



- **Show a layout**

1. Select a layout
2. Click on “Show layout”



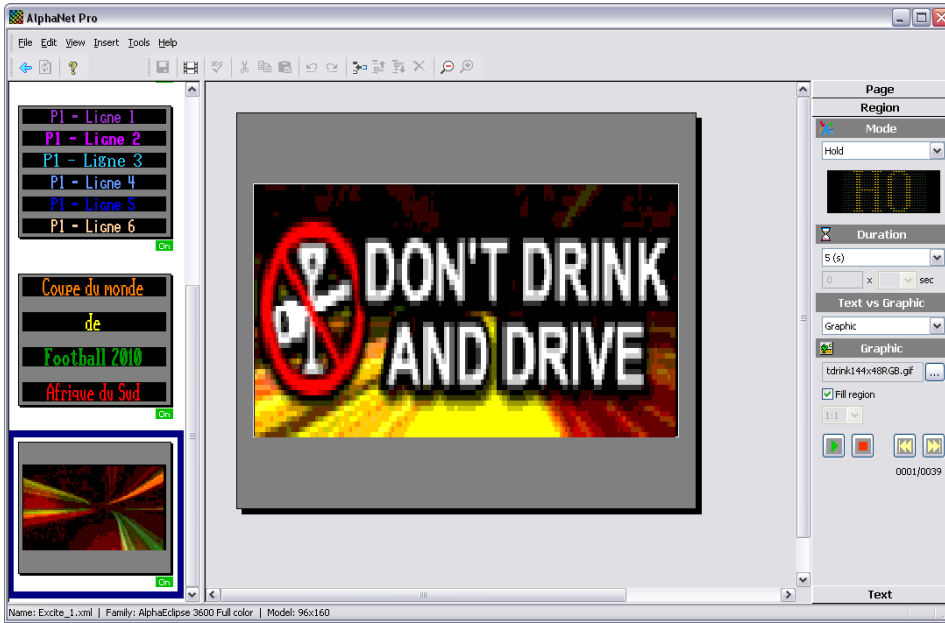


VLC Based Player

VLC Based Player

- The user can, according to his immediate needs, select among a set of players provided and installed by Adaptive
 - The **ALPHA Player** plays messages (simple texts, variables, graphics & animations) created with ALPHANet Pro
 - The **Ooh!Media Player** plays messages (enhanced texts, graphics & animations) created with Ooh!Media
 - The **VLC Based Player** plays any kind of video standards created from a 3rd party application
 - The **Display Engine** captures multiples regions of the video screen and arranges them of a specific layout
 - The **Pattern Generator** plays patterns in order to perform some diagnostic operations
- All players can be enabled and activated through the Web Server and placed over the Output Window (ref. to Application Supervisor)
- The user may install and use his own player too

ALPHANet PRO



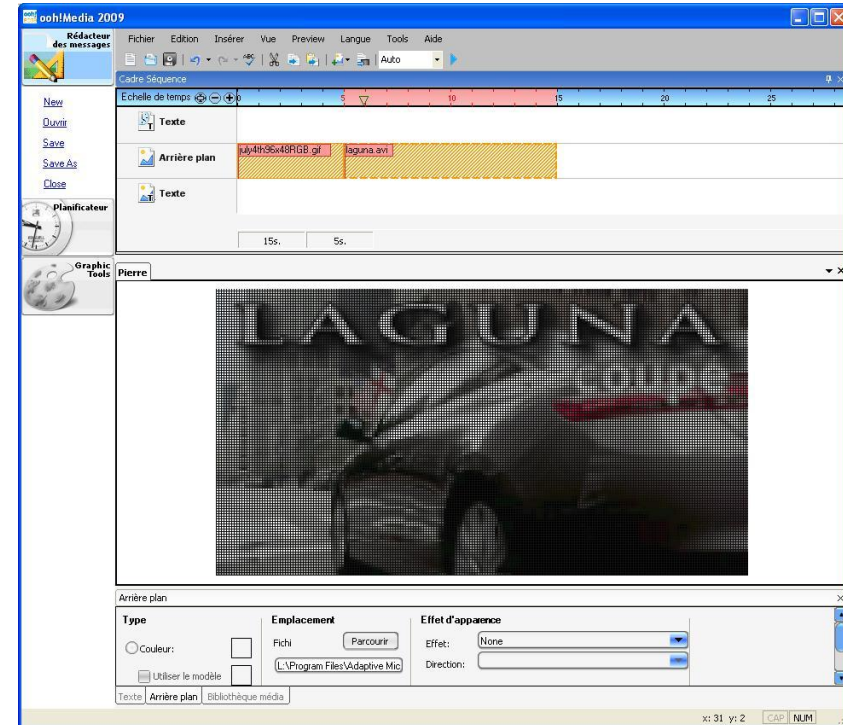
ALPHA Player

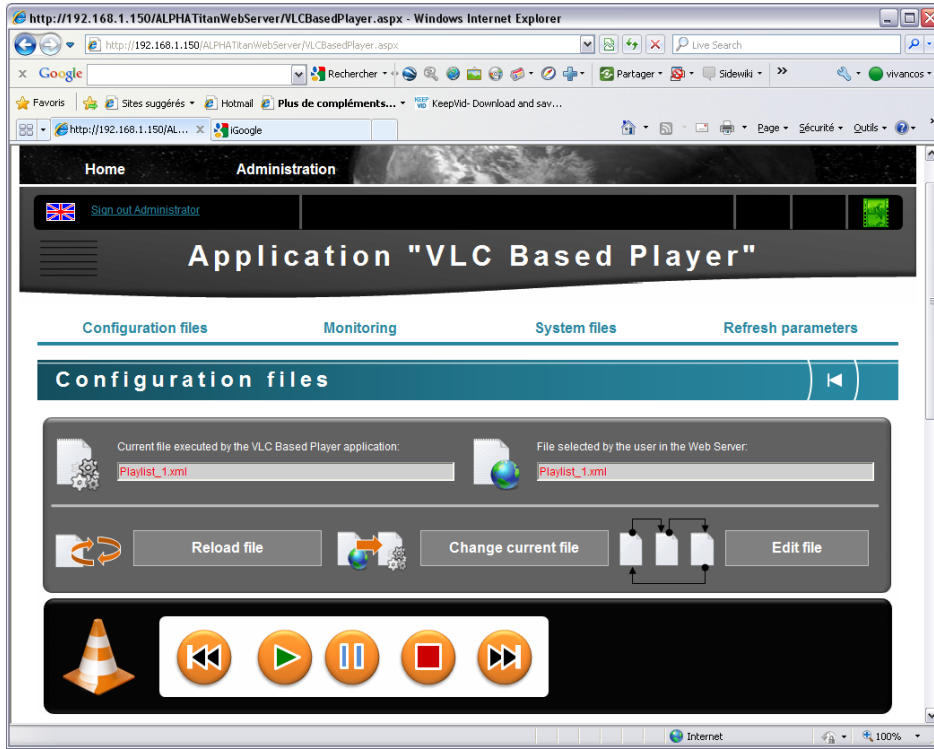


Ooh!Media Player



Ooh!Media





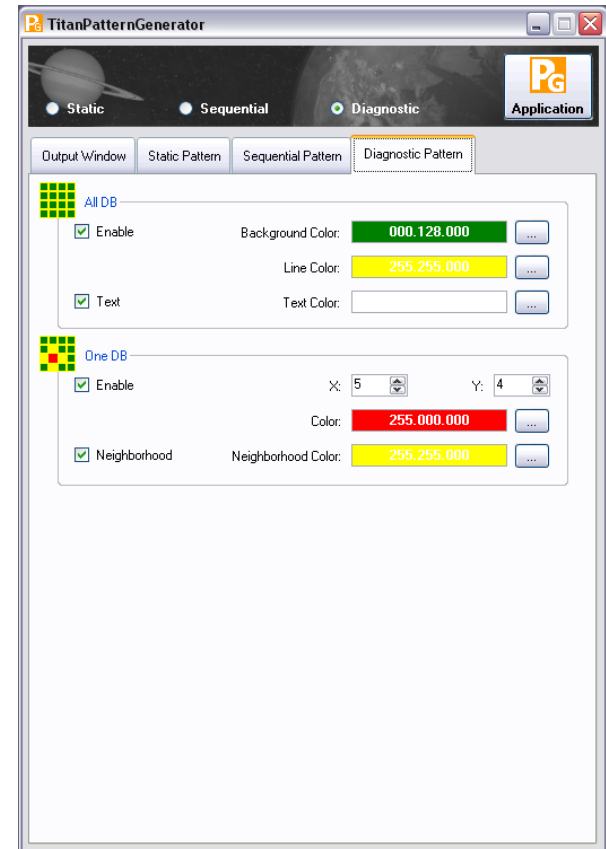
VLC Based Player



VLC Based Player

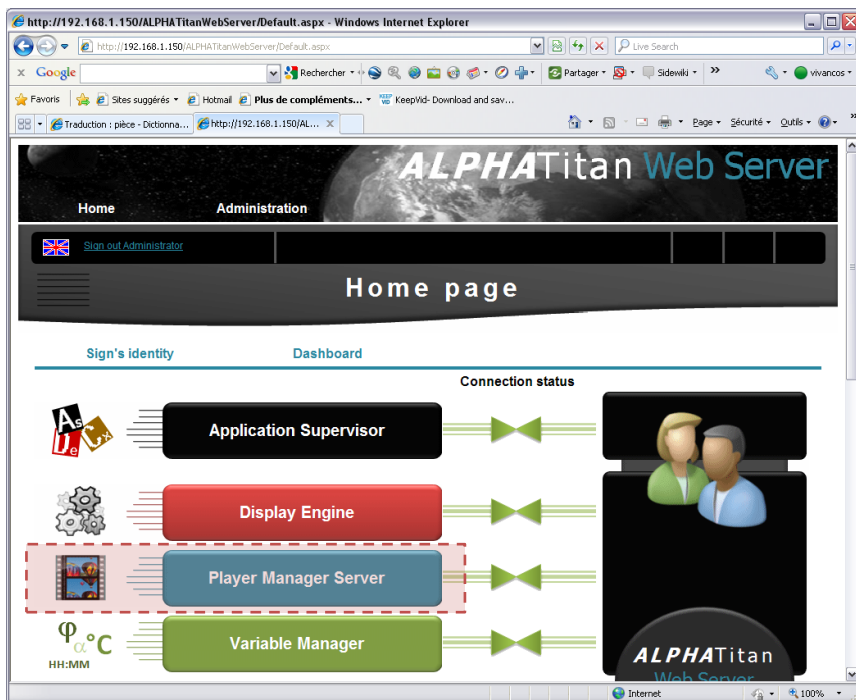


Pattern Generator



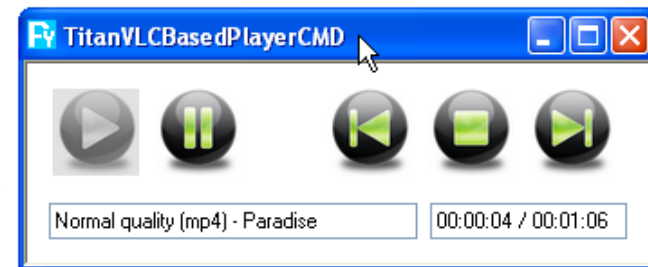
Pattern Generator

- The **VLC Based Player** is the only one which can be fully configured and controlled by the Web Server
- It plays scheduled playlists containing a list of any kind of medias
- Possibility to setup multiple time slots, days of week, start & stop dates per playlist
- Support a wide range of formats for images, movies and streaming



Web Server – Client machine

TCP/IP Commands



VLC Based Player - Controller



Headquarter USA

Milwaukee, WI

USA



Production Plant USA

Jackson, WI

USA



Production Plant Malaisie

Alor Setar, Kendah

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