

Videstra

Get the Most From
Your Micro Local Cameras



Videstra Automation Interface

AUTOMATION VIA EVERTZ QUARTZ™ PROTOCOL V1.0.0

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Overview

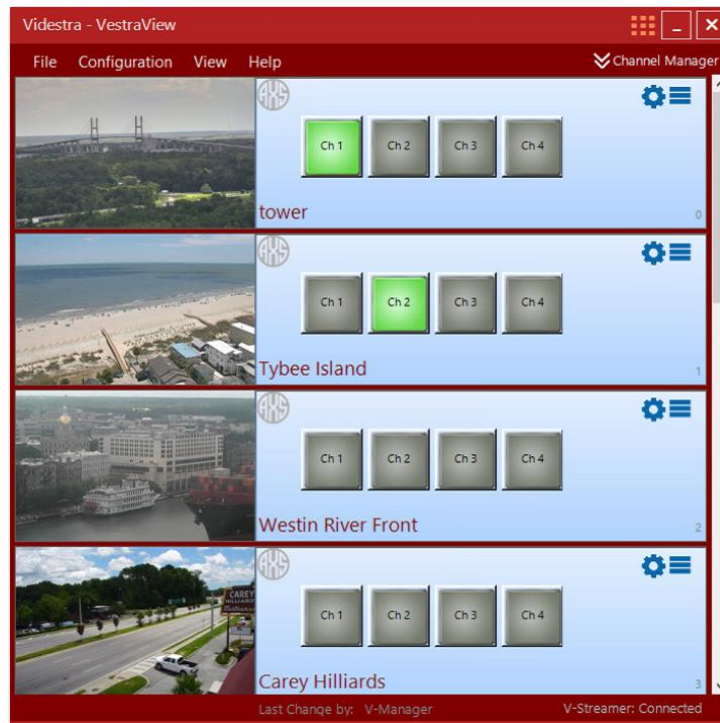
The Videstra system uses one or two h.264/h.265 decoders (The V-Streamers) – each has 4 video outputs.



Videstra V-Streamer™

The Videstra Automation Interface supports up to 8 V-Streamer *Destinations*.

The Videstra system *essentially* routes h.264 cameras from their IP Addresses to HD-SDI video outputs on the V-Streamer. Normally this is done from the VestraView UI that looks like this:



VestraView Client

What you see above is the VestraView UI with camera *sources* on the left (the still image updates every 60 seconds) and the available V-Streamer *destinations* on the right. If a customer has two V-Streamers (many do) then there are 8 destinations available (you would see 8 buttons instead of 4 shown above).

The Automation interface lets you connect any source (h.264 camera) to any destination (V-Streamer output) via automation or a physical router head that works via the Evertz Quartz protocol. A software router head is available from Videstra upon request.

In addition, each source (camera) that is a PTZ (Pan Tilt Zoom) model* can support preset positions. Using the **Videstra Router Manager™** you can create *virtual* sources (both names and indexes) that are a combination of a camera and a preset. In the example image above the “Tower” camera may have 5 presets called

1. Downtown
2. River Street
3. Rousakis Plaza
4. Hutchison Island
5. Talmadge Bridge

With the Videstra Router Manager you would create sources like this:

Source	Name	Camera	Preset
1	TowDntn	Tower	Downtown
2	RiverSt	Tower	River Street
3	Rousakis	Tower	Rousakas Plaza
4	Huchisin	Tower	Hutchinson Islang
5	Talmdg	Tower	Talmadge Bridge
6	Tower	Tower	[none]

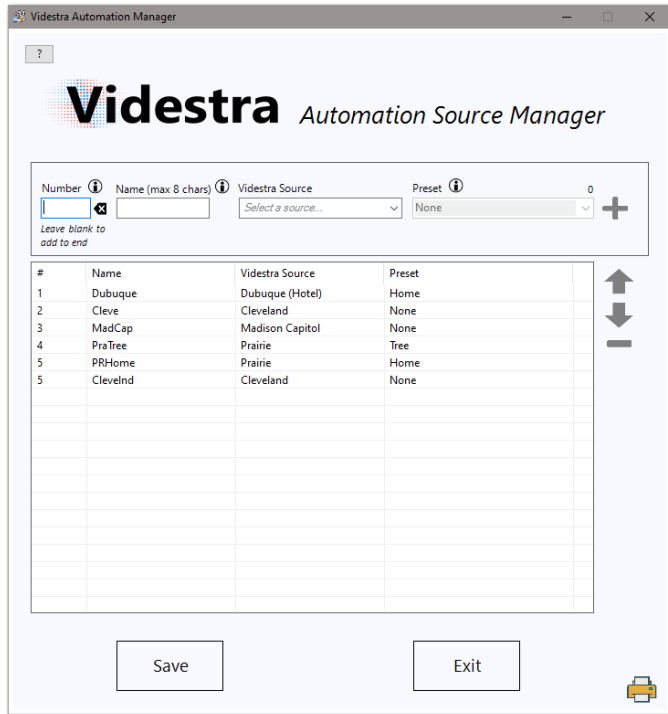
With the Videstra Router Manager you can add as many as required.

‘None’ is always an available preset for all cameras. This is the default and simply means no GOTO PRESET command will be sent to the camera and the source will be whatever the camera is currently showing.

If a camera has no presets, or does not support presets, then ‘None’ will be the only option.

**Videstra Automation currently only supports presets from Axis, Bolin, Truen and Sony cameras*

The Videstra Automation Manager



The Videstra Automation Manager is how you set up your sources (or Virtual Sources) for the Videstra Automation Interface. This application runs only on the V-Manager computer because it requires information that is available on that computer (all source definitions for your system).

The Automation Manager lets you enter a custom name for each source 'route' you create. The name may be up to 8 characters only.

Indexes are automatically assigned and are always ordered from top to bottom.

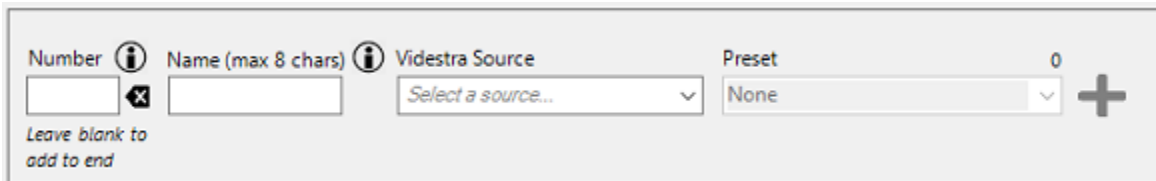


You may select a defined source and move it up or down in the list. As you move it the index for that source will be reassigned – but the name will travel with it.



You may delete any defined source by clicking on the minus sign.

Adding a Source



To add a source, you may select any camera (Videstra Source) that appears in the drop-down list where it says *Select a source...*

Once a source is selected it is automatically queried for any available presets. Cameras without any defined presets, or fixed cameras will not populate the Preset drop-down list and only 'None' will be available.

Once a source and (optionally) a preset has been selected you may enter an up-to-8-character name for the source. If supported by the automation system this name will be displayed in the automation

systems interface. All names must be unique. Attempts to enter a duplicate name will receive an error message and you will be given an opportunity to change it.

You may enter an index number and it will insert it into the existing list (if any), pushing the rest down (and reindexing them). If you leave the number blank it will simply add the new source to the end of the list and get the next available index number.



Press the plus sign to add the item to the list.

When you are done creating your source list with the Automation Manager, click on save and the list will be saved to your system, and you may exit the application.

At any time, you may restart the Automation Manager and edit, add, or delete router sources.

Note: It is recommended that any new additions always be added to the *end* of the list. New items added above the end will force a re-index of the list (from the inserted item). This will affect any pre-programmed automation actions on your automation system.

Virtual Sources

The Videstra Automation Manager lets you define either simple, or *virtual* sources. A simple source is a Videstra source (ostensibly a camera) without a preset assigned. Since many cameras managed by Videstra are PTZ models, a source can be defined that includes the source (or camera) *and* a specific preset. Any source defined in the Videstra Automation Manager that includes a preset is considered a *Virtual Source*. Any source defined without a preset (or “none” in the preset column) is considered a simple source.

Your production automation system likely has a way to “pre-cue” any required elements of your show rundown. In Ross OverDrive this is referred to as it’s “Cue-in-Advance” feature and on Grass Valley Ignite it is a “Preparatory Event.” On Ross OverDrive. Cue-in-Advance uses internal logic to avoid conflict.

Ross OverDrive Cue-in-Advance

In OverDrive rundown elements that do not share the same destination will automatically Cue-in-Advance. This means OverDrive looks at upcoming events and will send the command to the device(s) in that event before it is needed. This is good logic and a *virtual source* in Videstra then has time to move the PTZ camera to the required preset.

If Cue-in-Advance is unable to send the command early (for a virtual source) then the camera may not be in position at the time your rundown needs to use it.

You can avoid this situation by being aware that any virtual source must be cued in advance by OverDrive. Use of any virtual sources when Cue-in-Advance cannot be used must be avoided. An example of this is to schedule back-to-back virtual sources in your OverDrive Rundown. While you can do this – the PTZ move will be visible on your program output (and be delayed by as much as 10 seconds).

Grass Valley Ignite Preparatory Events

In Ignite any events in the rundown can be preceded by a manually created “preparatory” event. This is a manually activated event that will send the necessary command(s) to devices in advance of outputting them on the program channel.

Treat Videstra Virtual Sources like Studio Cameras

To better understand the need to prepare virtual sources in advance you should treat them the same way you treat studio cameras in your automation system. Studio cameras must be moved into position before you can use them – and thus must be prepared ahead of time. Virtual Sources in Videstra require the same logic.

System Delays

When sending routes to Videstra Automation bear in mind that it takes several seconds for the V-Streamer to begin decoding the h.264/h.265 stream from the camera. Also – as discussed earlier, if the camera needs to move to a newly commanded preset that too will take a few seconds.



Expect each route you send to Videstra Automation to take from 5 to 15 seconds!

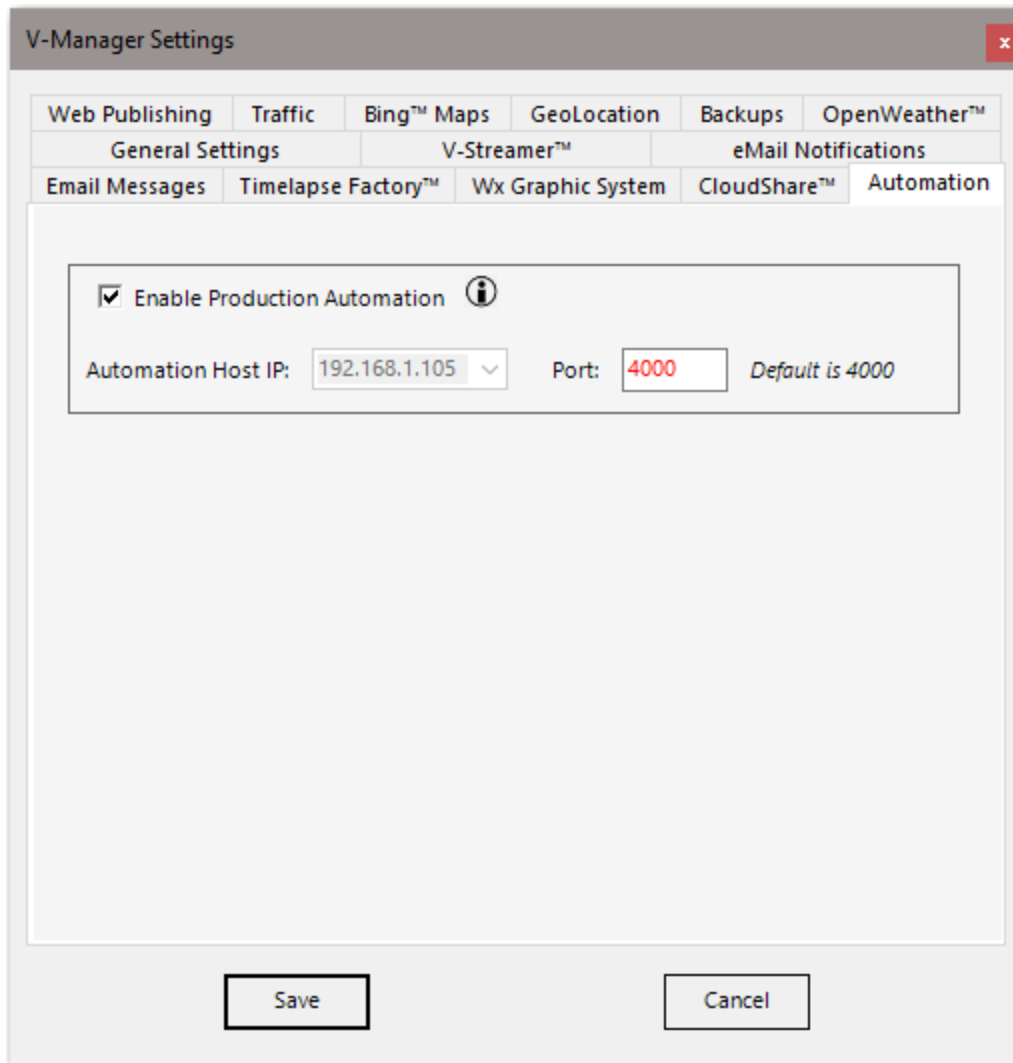
Locked Panels



If a source panel on the Videstra system has been locked by a user to protect its channel assignment and/or camera position – Automation commands to that channel will be ignored. There is no method to provide feedback to the automation system that a channel has been locked. Routes or crosspoints requested by the production automation system that involve any sources or destinations locked by Videstra simply will not happen.

Enabling the Videstra Automation Interface

If your system has been licensed to use the Videstra Automation interface (contact Videstra support at 608.999.9003 if it has not) you may enable it on the V-Manager Server Application under the menu **File** → **Settings** → **Automation** tab.

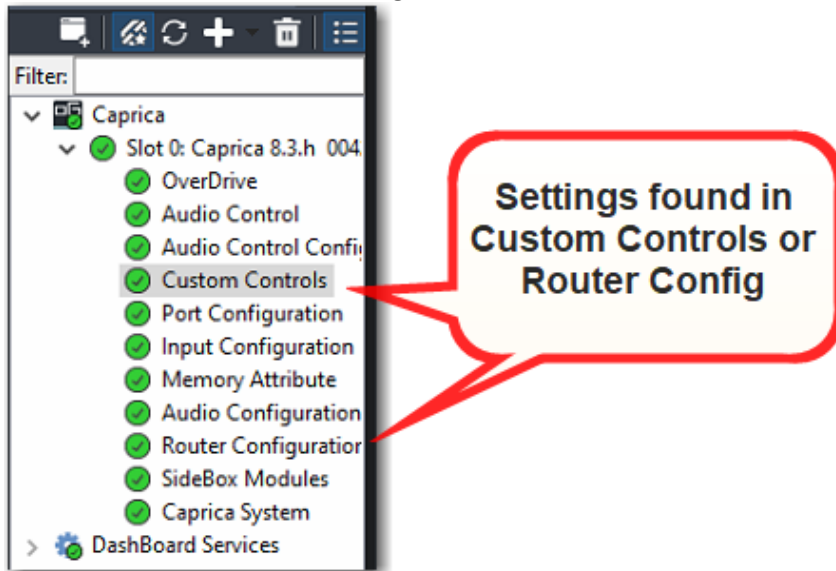


The default IP Address is the main IP of the V-Manager. If a secondary NIC is available you may use the IP Address assigned to it. Any secondary IP available on the machine will automatically appear in this drop-down list. The port is normally 4000 – but you may change it to any port necessary. Once you turn this option on you will need to restart the V-Manager server application.

The following section of this document is not meant to be an exhaustive description of setting up your production automation system for use with Videstra Automation. You should contact your Production Automation vendor for details we cover lightly below. In most cases you may be able to find where the settings below are located through a technique we like to call WAGL (pronounced WAH GUL') – a simple acronym for **W**ander **A**round, **G**et **L**ucky...

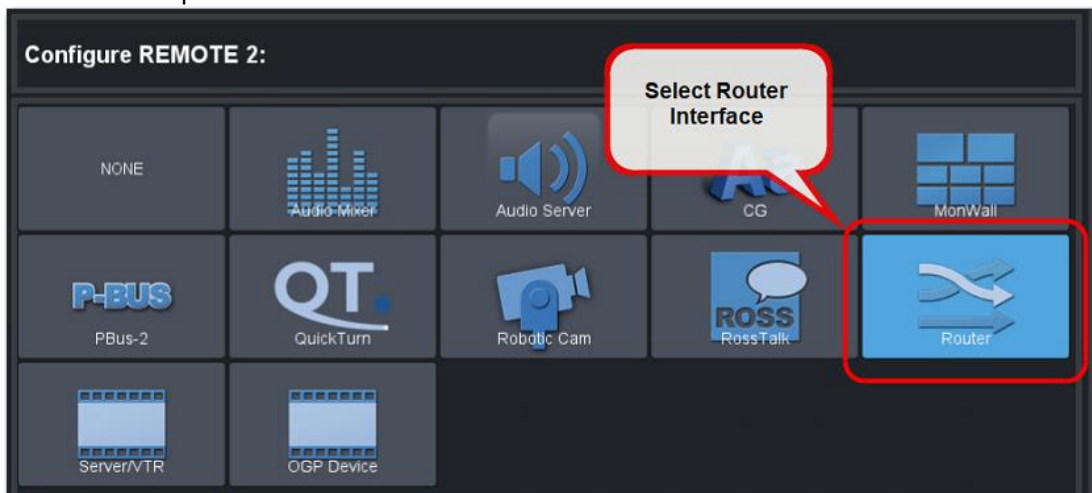
Setting up Ross OverDrive

The settings for Ross OverDrive can be made through Ross Dashboard™ connected to your Caprica Custom Controls or Router Configuration.



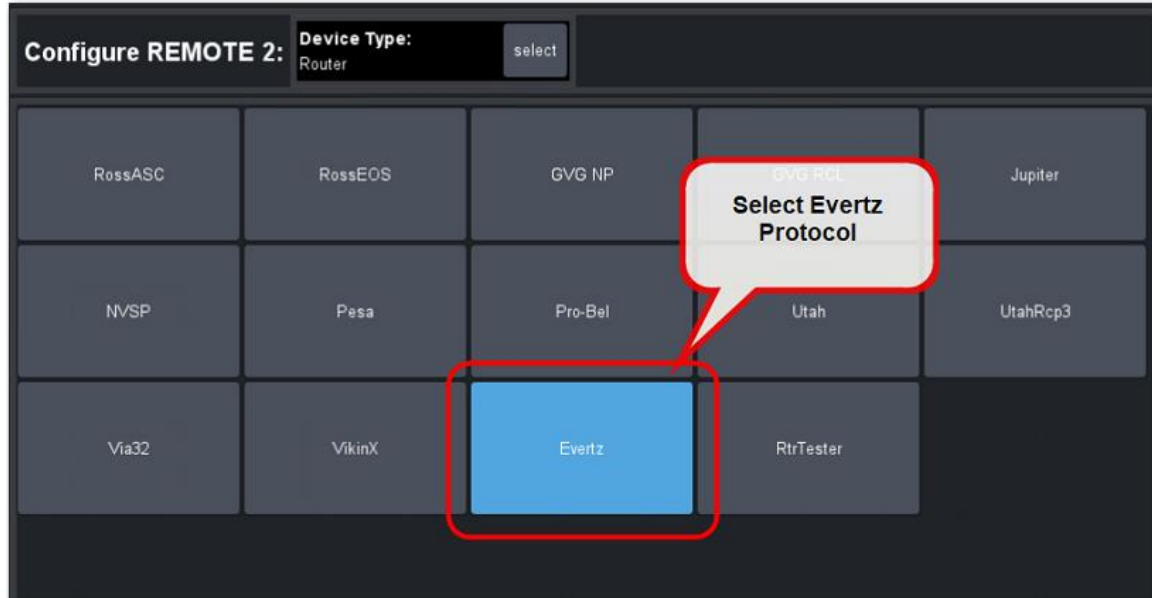
Set Interface Type and Protocol

You must set up a "Router" interface.



Click on "Done"

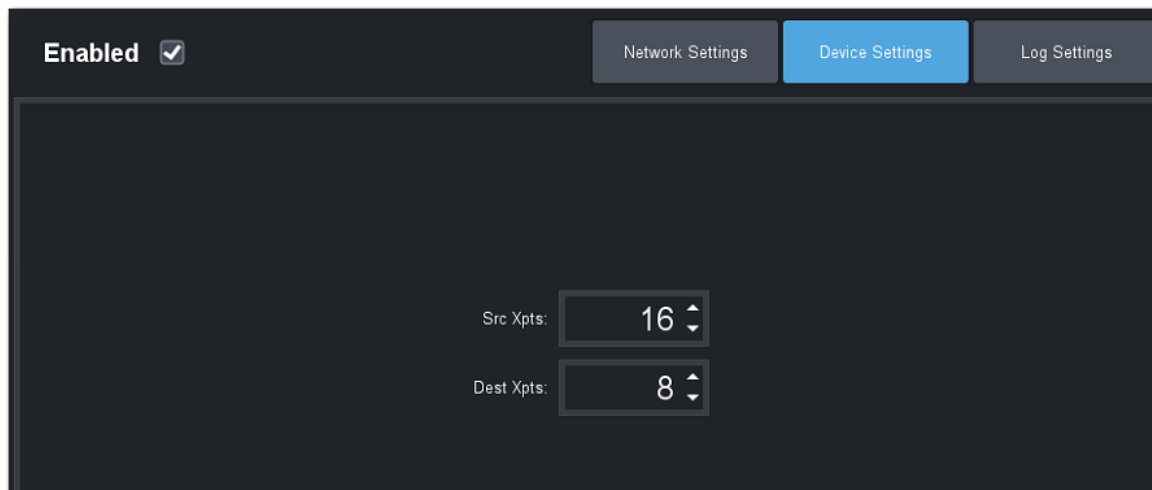
Next you must set the router to the Evertz protocol.



Click on "Done"

Set the Caprica Router Matrix

You must set the router matrix to the number of sources you expect to use in Videstra (defining more is fine). Destinations available in the OverDrive router interface that have not yet been defined in Videstra will show up as "Unassigned." Next set the number of destinations (V-Streamer output channels) you have (do not define more than you have – but if you do they will show up as NA). The matrix is set under Device Settings (see image below).



Setting up Grass Valley Ignite

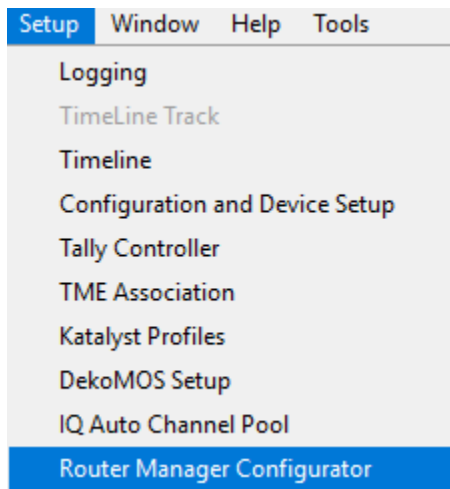
Setting up Videstra Production Automation with the Grass Valley Ignite™ system requires relatively extensive knowledge of Ignite. What follows is a very high-level outline of how things should be set up in Ignite to work with Videstra. If you are inexperienced with Ignite, or these instructions do not make sense, it will be best to contact your Grass Valley Ignite support team to help you set up the router.

Router Setup

Ignite will see Videstra as an Evertz™ Quartz router. This is a simple concept as the interface will present either 4 or 8 available destinations, and several sources. You will define the sources using the Videstra Automation Manager. To facilitate communications between Videstra and Ignite you will first need to set up Videstra Automation Interface (see **Enabling the Videstra Automation Interface**).

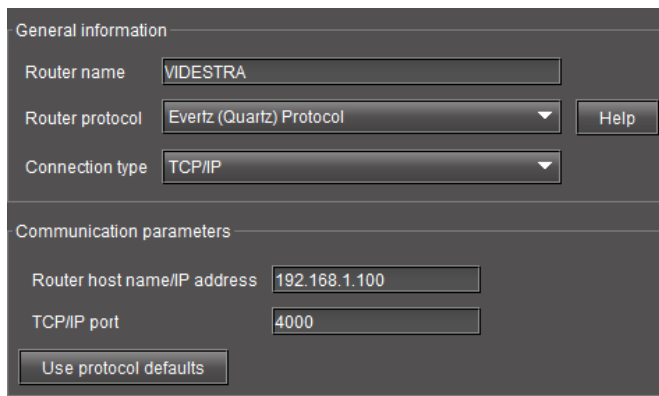
You must now set up Ignite.

In Ignite go to Setup → Router Manager Configurator.



Under **Configuration and Device Setup** you will need to create a “Device” pointing to local host (127.0.0.1) first.

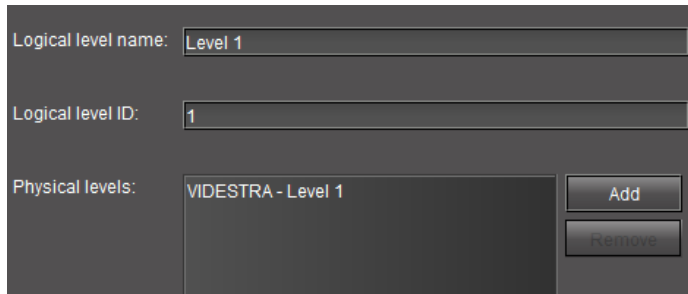
Next you will need to set up both a physical and logical router in Ignite. In the physical router you will set the name of the router (we suggest “Videstra”), the protocol (you must use Evertz (Quartz) Protocol) and the connection type to TCP/IP.



For the connection parameters you should enter the IP Address of the V-Manager computer (or alternate NIC if you are using it). Set the port to 4000. This can be changed if necessary.

Router Levels

When setting up the physical router you only need to enable Level 1 (Video).

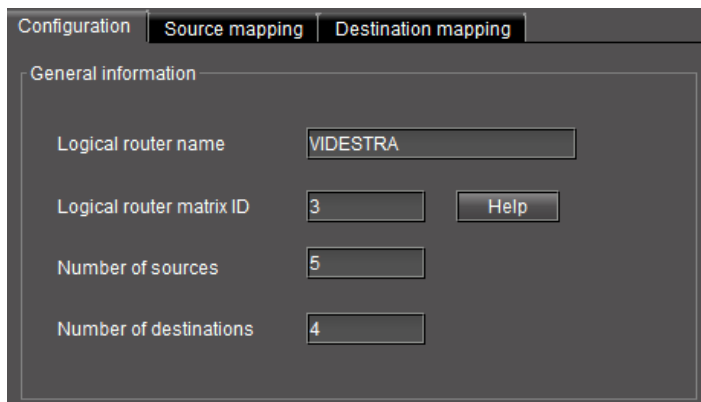


The screenshot shows a configuration window with the following fields and buttons:

- Logical level name:
- Logical level ID:
- Physical levels:

No other levels are used by the Videstra interface. There is no audio level as all audio is embedded in the HD-SDI video in the V-Streamer.

You will set up a logical router (you can name it Videstra as well).



The screenshot shows a configuration window with the following fields and buttons:

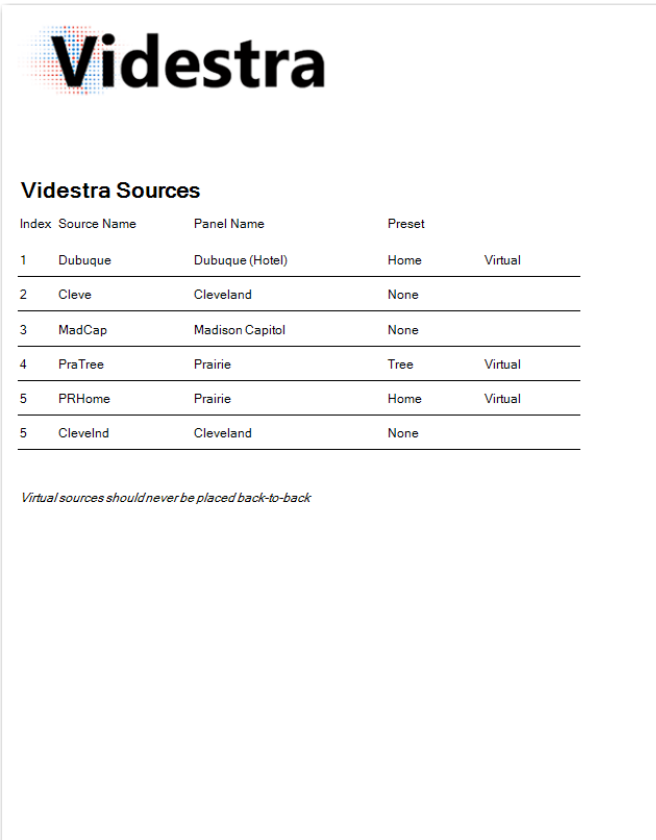
- Configuration tabs: **Source mapping**, Destination mapping
- General information section:
 - Logical router name:
 - Logical router matrix ID:
 - Number of sources:
 - Number of destinations:

It will be important that you set the matrix *destinations* to the number of V-Streamer channels that you have (either 4 or 8). You may set any number of sources you think you may need – there can be too many. In Ignite unassigned *destinations* will show up as NA (not available). Assigning a source to an NA destination will not do anything.

Unassigned sources will show up as “Unassigned.” Using an unassigned source will not work and simply generate an internal error in Videstra. Nothing will happen externally.

Printing

You can print a handy list of the currently defined routable sources by clicking on the printer icon in the lower right-hand corner of the application.



The screenshot shows the Videstra application interface. At the top left is the Videstra logo. Below it is the title "Videstra Sources". A table lists five sources with columns for Index, Source Name, Panel Name, Preset, and a Virtual status. Below the table is a note: "Virtual sources should never be placed back-to-back".

Index	Source Name	Panel Name	Preset	
1	Dubuque	Dubuque (Hotel)	Home	Virtual
2	Cleve	Cleveland	None	
3	MadCap	Madison Capitol	None	
4	PraTree	Prairie	Tree	Virtual
5	PRHome	Prairie	Home	Virtual
5	CleveInd	Cleveland	None	

Virtual sources should never be placed back-to-back

The printout shows the names, sources (cameras), and presets for each route. Note that any defined source that includes a PTZ preset is considered a “virtual” source. *Virtual sources should never be put back-to-back in a production automation rundown.*

Communication with the Videstra Router Interface

Connection to Videstra Automation is via a simple TCP/IP socket on port 4000 (default – but can easily be changed)

Take Only System

Videstra Automation is designed to react to changes in routes (Source to Destination) only. Although an external system *can* ask for current route status (what sources are assigned to various destinations) the state of any destinations will be based entirely on the last route request sent. Initial status may be entirely bogus. Fortunately, the workflow around use of Videstra Automation does not rely on this information.

In short – an automation system cannot rely on obtaining accurate destinate states. Because of this the Videstra Router interface should be considered a Take Only (sometimes called “fire-and-forget”) system.

Commands Supported

The Videstra Automation system uses the Evertz Quartz protocol and appears to the automation system (e.g. Ross OverDrive, GVG Ignite) as if it is an Evertz Quartz Router. As such Videstra only supports a subset of Quartz protocol commands.

Cmd	Description/Purpose
.#01	This is the basic “heartbeat.” Typically, it is sent every 5 to 10 seconds and is used to establish and maintain a connection between the production automation system and Videstra Automation.
.#00	Returns the Videstra Automation version (only use in custom implementations)
.RS	Returns the names of the sources (Source mnemonics)
.RD	Returns the names of the destinations (Destination mnemonics)
.BI	Query destination lock status – Videstra responds that all destinations are unlocked
.BU	Unlock destination
.BL	Lock Destination (Videstra will respond, but ignore the request)
.IV	Query the current destination on level 1 (V) – return from Videstra is mostly bogus
.SV	Request a crosspoint setting on level 1 (V) (<i>source to destination</i>)

Commands not on this list will return an error code (.E) to the production automation system.

Destination and Source Names

Destination names (destination mnemonics) are the names you have given to the output channels on your V-Streamer(s). There will either be 4 or 8 of them. These are the same names that appear on the buttons on your VestraView user interface.



The sources are whatever you call them when you created the routes in the Videstra Automation Manager.

Any sources that exist in the defined router matrix in your production automation system that have not been defined in the Videstra Automation Manager will be labelled as “Unassigned.” Any destinations that exist in the production automation system beyond what is available in your Videstra system will be

labelled “NA.” Any routes outside of those available in Videstra will be ignored and generate an error code from Videstra Automation (.E).

Level Specification

Although the Evertz Quartz protocol supports multiple levels, only level 1 (or V) is supported by Videstra. The Videstra implementation of levels within a routing system must only refer to level 1, or V. Any level other than 1 (V) will return an error from Videstra Automation (.E).

When setting up the matrix on your production automation system (e.g. Ross OverDrive or Grass Valley Ignite) only specify level 1 (or V). If more than level 1 is specified Videstra will return errors on all commands. If audio is associated with any source panel it will always be part of level 1 since it is embedded within the HD-SDI signal. There is no need to specify an audio level (2 or A) in your production automation matrix.

Acknowledgements

We would like to thank Ross Video (and specifically Mr. Kevin Rockel) for valuable assistance and the loan of an OverDrive system for testing and verification of the Videstra Automation Interface.

We would also like to thank the engineering team at KETV in Omaha, NE (Mr. Andrew Cleveland) for their assistance with testing and verification of the Videstra Automation Interface with Grass Valley Ignite.