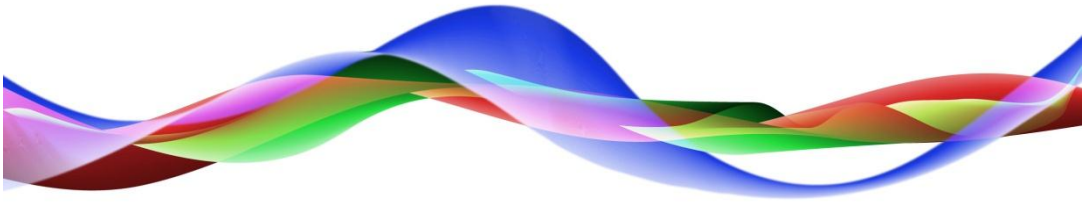
LSB
Broadcast Technologies GmbH

08 Communications Ports Management

vsmStudio

Manual



HHO / BME

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Legend

Please note: This information is of prime importance.

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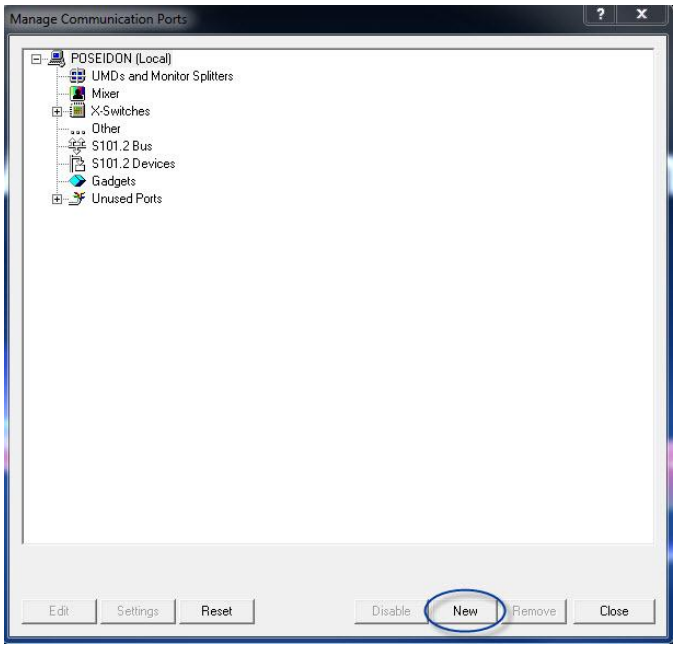
1 New Port

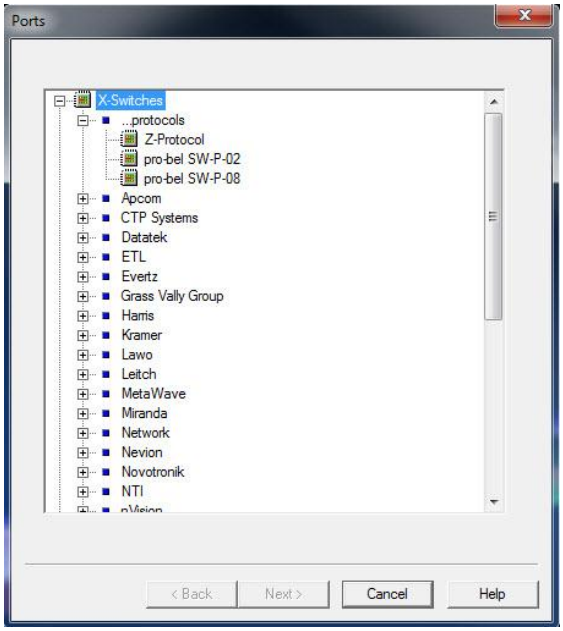
vsmStudio taskbar

To set up a new interface, left-click the port symbol or press F8. This will open a new window in which existing ports can be viewed and new ones set up.



Port management

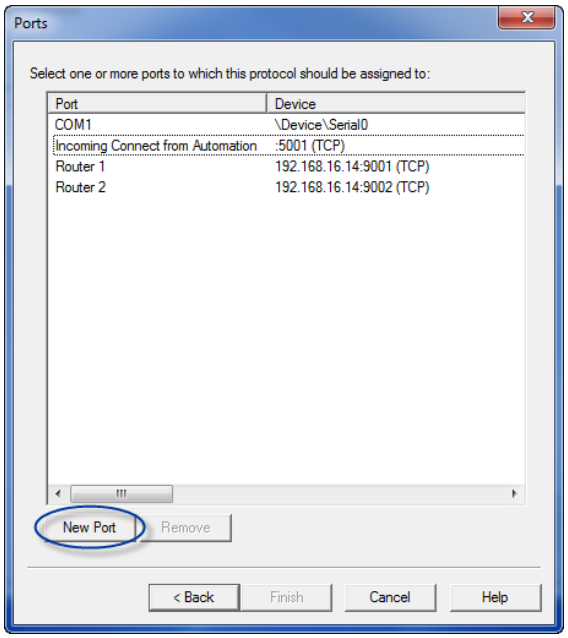
Left-click on *New* to open the window Ports.



Select new driver

In this window, the required driver for the new port can be selected from multiple categories (X-switches, UMDs, mixers, etc.). To open different driver categories, click the small plus sign located in front of the category name. If the required driver is found under the respective manufacturer's name, it must be selected.

By left-clicking *Next,* a window opens listing the system's available ports.



Port list

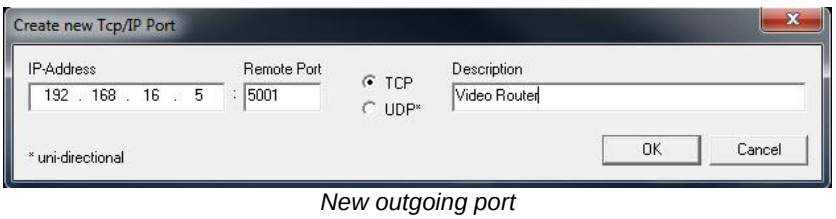
There are three different port types:

- Outgoing connections to an IP address with port (TCP or UDP)
- Incoming connections to a defined port (TCP or UDP)
- Local COM interfaces at the server.

If the required interface is not listed, it can be added by selecting *New Port*.

1.1 Outgoing Connections

To set up an outgoing connection, enter IP address and port and select TCP or UDP. After naming the port, confirm by clicking *OK*.



New outgoing port

1.2 Incoming Connections

To set up an incoming connection, use the default IP address 0.0.0.0, enter a port, choose TCP or UDP, and enter a name for the new port.

New incoming port

1.3 COM Ports

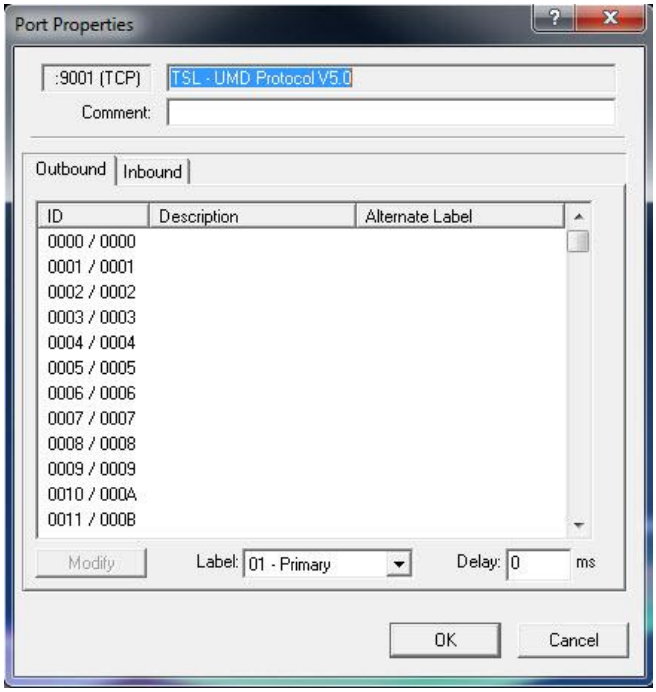
It is not possible to add local COM ports here, as they are exclusively managed by the operating system.

Finish the set-up process by clicking *Finish.* Depending on the driver protocol, the relevant input mask opens automatically. Again, there are three different types:

- Under monitor/in-monitor display (UMD/IMD) or multi-viewer
- Router or automation
- Video mixer with tally and mnemonic.

1.4 UMD/IMD or Multi-Viewer

If the driver is a UMD (IMD) or multi-viewer, the input mask looks as follows:

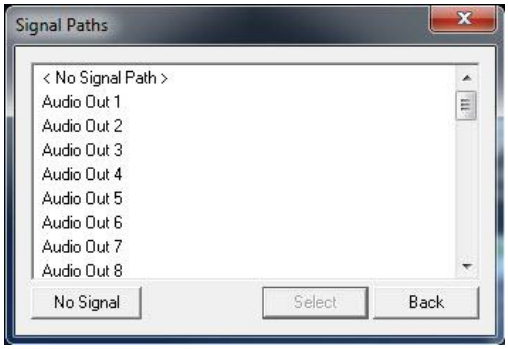


Input mask for UMDs/IMDs and multi-viewer

In this window, a target (*Outbound*) or source (*Inbound*) is assigned to each ID.

Please note: To be able to assign signals at this step, they lay must within the virtual master matrix (see chapter 6).

Double-click on the relevant ID to open a window in which the signals can be assigned.



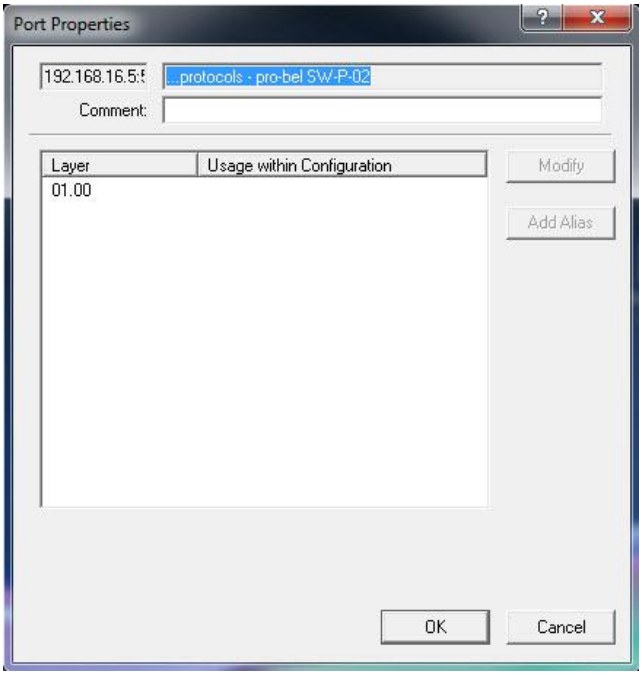
Signal assignment

Enter a unique name for the terminal device in the *Comment* area in the port editing window shown above. By assigning a target or a source (*Inbound*), it is possible to define whether

the system will send a corresponding ID (*Outbound*) or an external label layer (*Inbound*). Under *Outbound*, it is also possible to specify that the system sends the name of the source that is connected to the target to this ID. Tally information is transmitted directly as well. Inbound means that the VSM control system receives a label and transmits it to the external label layer of the source.

1.5 Router or Automation

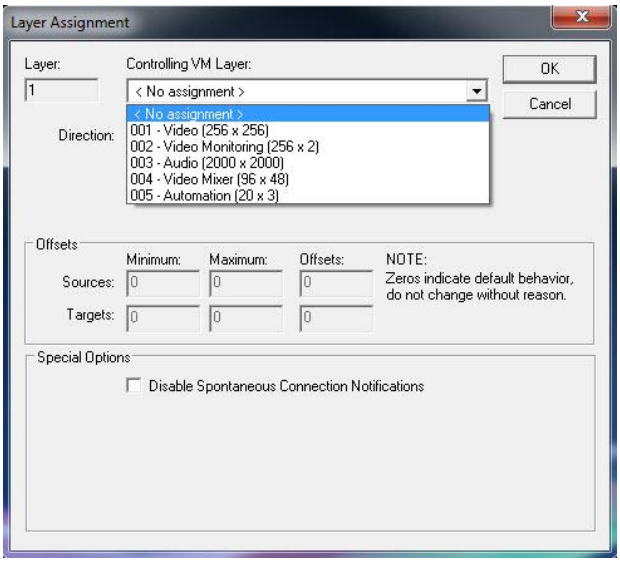
If the terminal device for the interface about to be created is a router or automation, the input mask looks as follows:



Input mask for routers and automation systems

Depending on the driver chosen, one or multiple layers are displayed here. In the *Comment* field, a unique name for the terminal device must be entered.

By double-clicking the relevant layer, a new window opens in which the layer can be assigned.

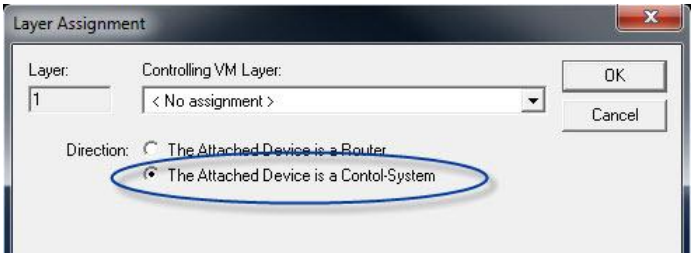


Assigning a layer

The created layer can be selected in the drop down menu *Controlling VM Layer*. If a router is used, the default setting *The Attached Device is a Router* is selected for the control direction.

Router settings

If a virtual layer (vLayer) is chosen in the drop down menu, it is most likely a controlling instance that is connected.

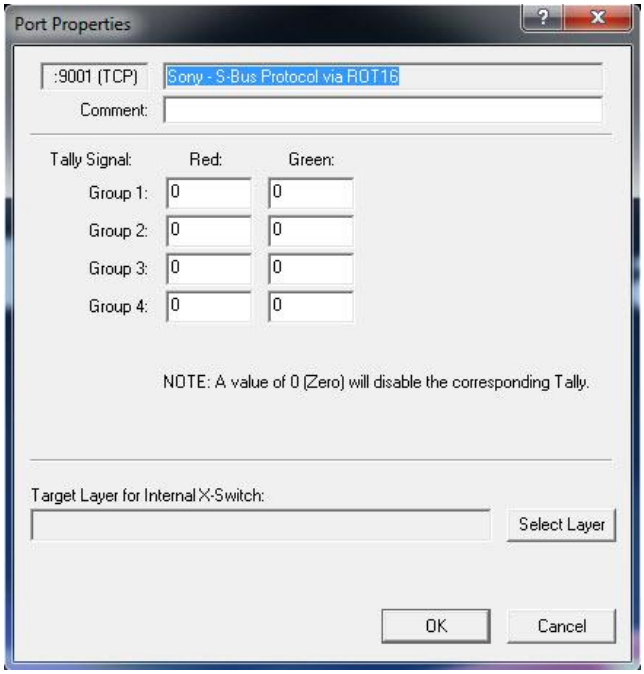


Control system settings

In this case, the control direction must be changed and *The Attached Device is a Control System* must be selected. When this function is activated, the layer acts as a router that can be controlled by an automation system.

1.6 Video Mixer

The third case deals with the assignment of a video mixer with tally and mnemonic.



Video mixer settings

Please note: Depending on the driver chosen, this window may differ from the screenshot above.

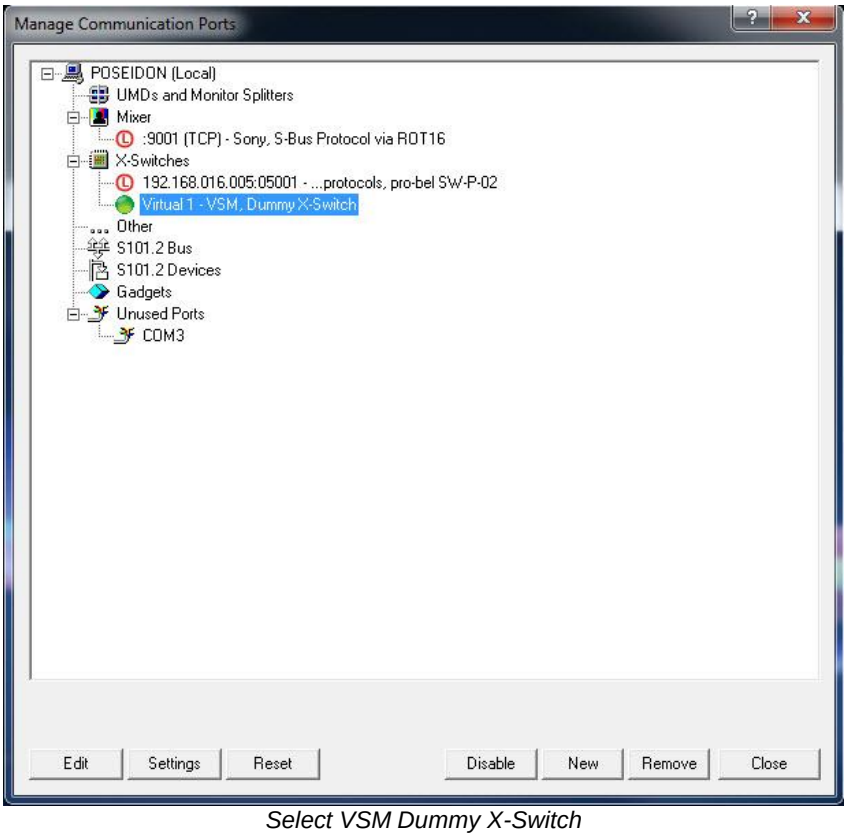
Enter a unique name for the controlled terminal device in the comment field. The fields under *Tally Signal* serve to define where the mapping of the GP-I/Os starts.

Please note: These areas must not overlap.

Use *Select Layer* to select the relevant, configurated video mixer layer.

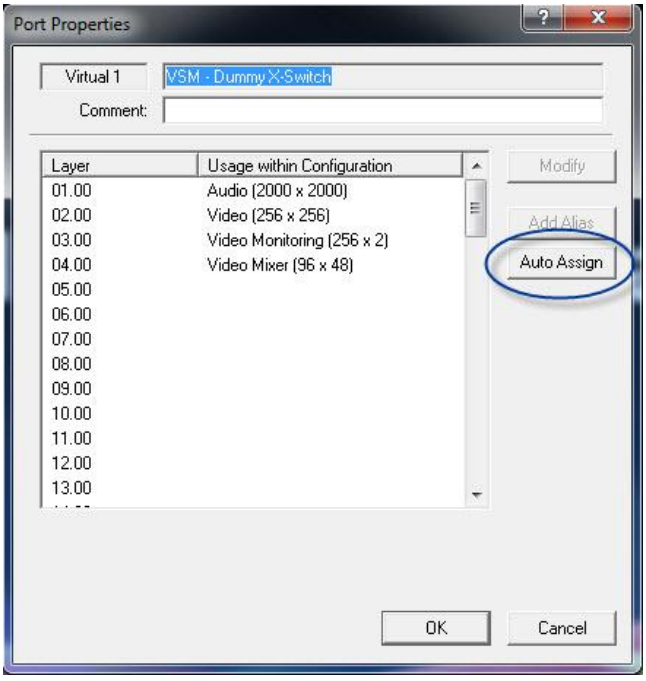
1.7 VSM Dummy X-Switch

To simulate feedback from a router locally on a computer, vsmStudio offers a so-called VSM Dummy X-Switch. It allows the editing of a configuration without having access to the terminal devices that are to be controlled.



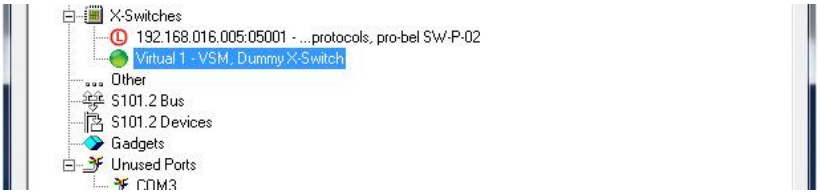
Select VSM Dummy X-Switch

The Dummy X-Switch can be selected from the driver list. In the next window, existing layers are assigned to the Dummy X-Switch by pressing *Auto Assign*.



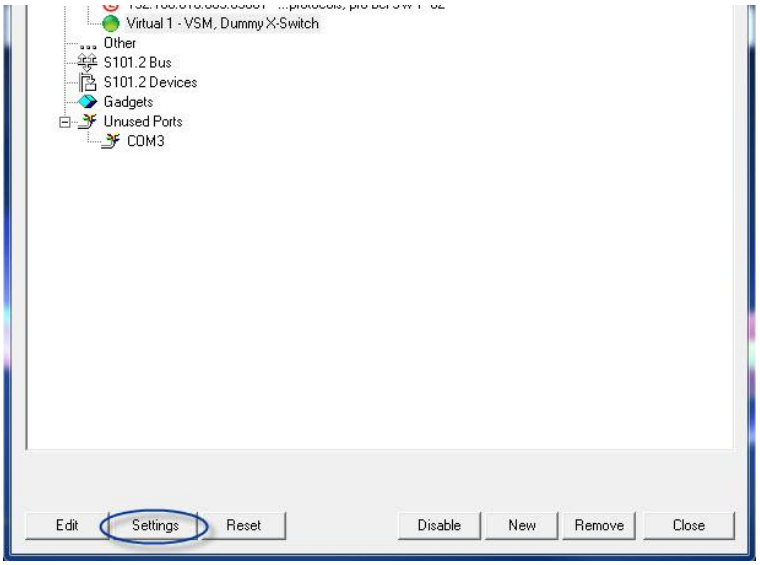
Layer assignment

In the window *Manage Communication Ports*, a green dot indicates whether a connection to the VSM Dummy X-Switch is in place.



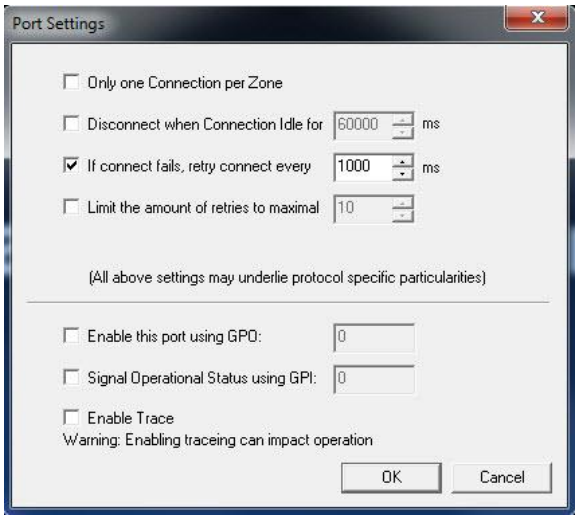
Communication port management

2 Port Settings



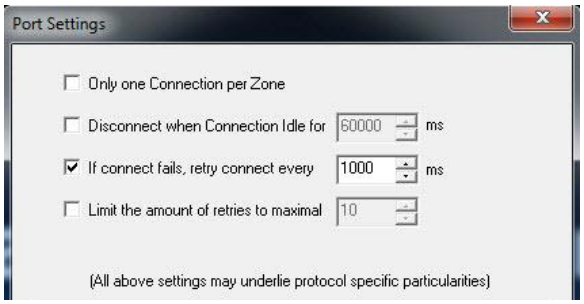
Open port settings

The vsmStudio software allows each port to be adapted individually. To do so, access the window *Manage Communication Ports* through the main menu or by pressing F8. Select the layer to be adjusted and select *Settings*.



Port Settings

2.1 One Connection per Zone



Port settings

The VSM control system operates in a so-called multiserver cluster. This means that every server located in the cluster establishes a connection with the terminal device. The function is not supported by every terminal device. In such cases, the attribute *Only one Connection per Zone* is activated. The server is so limited to only one active connection, while other servers remain on standby.

Please note: The change must be made manually on every server.

2.2 Duration until Disconnect

If a terminal device loses its connection to the server, the relevant IP port may not close. It is possible to define a time frame in milliseconds under *Disconnect when Connection Idle for...* after which vsmStudio disconnects automatically.

2.3 Duration until Re-connection Attempt

If the connection was lost or the terminal device was turned off, the VSM control system will attempt to re-connect the port after a defined period of time if this attribute is activated. This time frame can be entered in milliseconds under *If connect fails, retry connect every...* and will be used as default.

2.4 Number of Attempted Re-connects

If a terminal device loses its connection to the server cluster, vsmStudio will try to re-connect the port. The maximum number of re-connect attempts can be defined in the field following *Limit the amount of retries to maximal...* When this maximum number is reached, the port must be re-created manually.

2.5 Deactivating Ports through GPO

Additional port settings

Every port can be activated or deactivated with a GPO (see chapter 15). In the field following *Enable this port using GPO*, it is possible to enter an unassigned GPO that will activate or deactivate this or multiple ports. It is irrelevant whether the GPO is physical or virtual. The function can be provided with a logic and assigned to operating elements.

2.6 Signal Monitoring via GPI

Each port with a so-called heartbeat can be monitored with a GPI. To do so, an unassigned GPI that will monitor this port can be chosen following *Signal Operational Status using GPI*. This GPI can be either physical or virtual. Within the configuration, this function can be provided with a logic that creates alarms and can be assigned to operating elements.

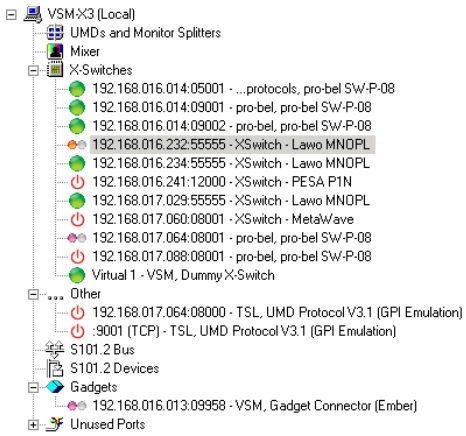
2.7 Service Tool Trace

Check *Enable Trace* to activate the trace mode. It provides additional information in the *CommTrace*.

Please note: This function may affect the performance of your system.

3 Port Monitoring

Through the window *Manage Communication Ports,* it is possible to spot which ports are active and in working order, and at which points, if any, problems are occurring.



Port overview

The symbols in front of the listed ports have the following meaning:


A connection is confirmed and operating.


A connection is confirmed by there is no communication.


A connection is confirmed, but there has been no communication in the last 15 seconds.


A connection is being established.

A renewed connection is being established.

A delayed connection is being established.

Connection failed.

Connection is deactivated.

Connection is on standby (*One zone Connect*).

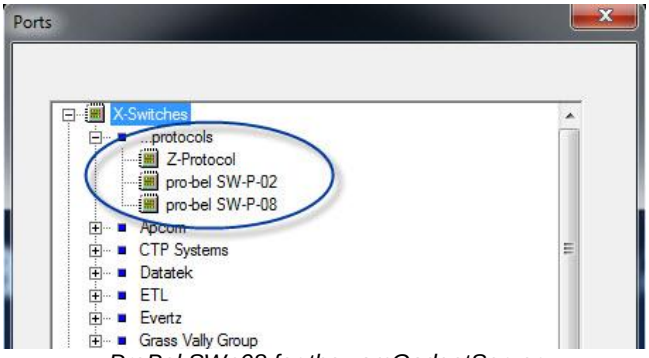
Connection is deactivated through a GPI.

A linked port has been stopped.

Incoming connection.

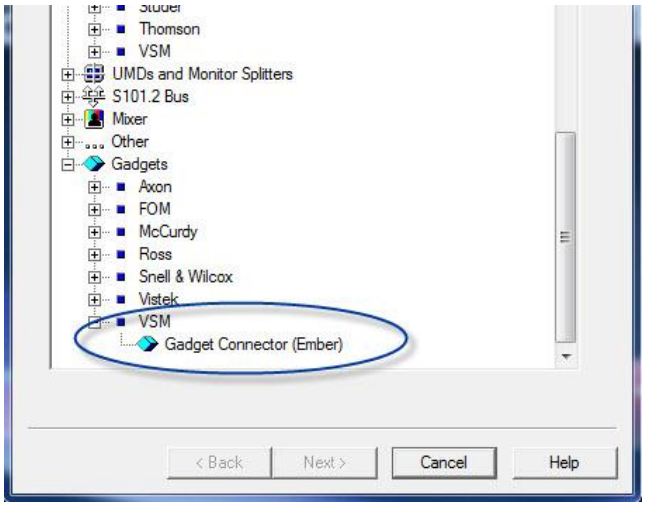
4 vsmGadgetServer

There are individual protocols that cannot be selected directly through the vsmStudio software, but communicate through the vsmGadgetServer. The control system must be connected to the vsmGadgetServer, so that it can establish a connection with the terminal device. Two protocols are used to this end: The protocol to switch the terminal device and to transfer the label through the vsmGadgetServer is called ProBel SWp08. It can be found in the driver list (see chapter 8.1 New Port) in the category X-Switches under *...protocols* (for the relevant IP port, see documentation vsmGadgetServer; for the label transfer to the terminal device, see vsmStudio Application Note 14).



ProBel SWp08 for the vsmGadgetServer

The protocol to control parameters of the terminal device over the vsmGadgetServier is called Ember (for the relevant IP port, see documentation vsmGadgetServer).



Ember for parameter control