

# VENICE S Training Webinar

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# File Based Media Server



SDI →



→ SDI

# Basic Hardware and Software VENICE S

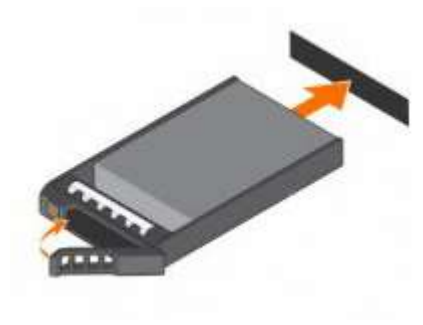
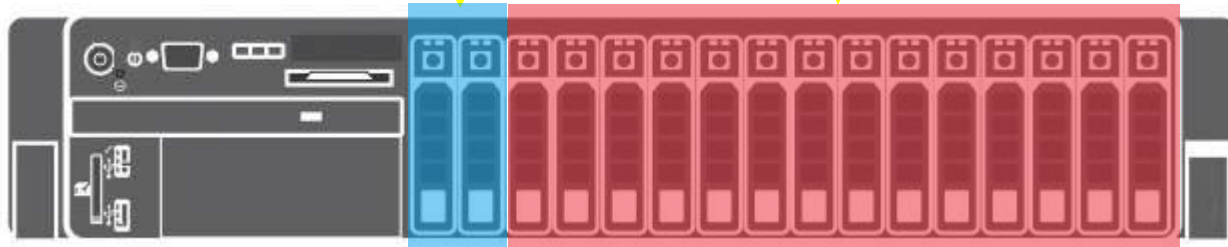
- Raid 1 system partition
- CentOS 7.3
- Raid 6 data partition (XFS)
- Internal recovery stick (USB 3.0), hot swap
- Redundant power supply, hot swap
- Redundant fans, hot swap



# HDD

Raid 1

Raid 6



# HDD Configurations

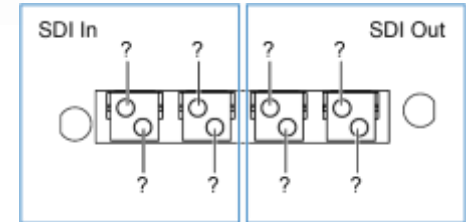
S400	4 channels	no internal storage
S407	4 channels	7 TB internal storage
S414	4 channels	14 TB internal storage



# Rear View – Video Interfaces

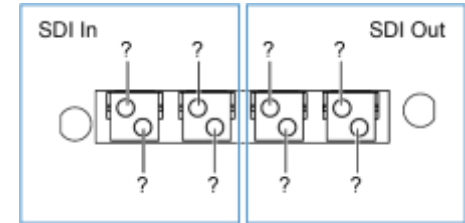


Video  
interfaces



# Rear View – Video Interfaces

- 4x SFP+ module
  - Dual HD-BNC transeivers and transmitters
  - SDI connectivity (exchangeable SFPs)
  - Genlock Reference
  - HD/SDI down convert output
- 4x HD or 1x UHD-1 bi-directional channels
- 1x LTC HD-DSUB break out cable for 4 LTC inputs and 4 LTC outputs
- 4x RS422 serial ports, RJ45



# TCP / SDI SFP

Transmitter



Converts videostream to SDI Coax

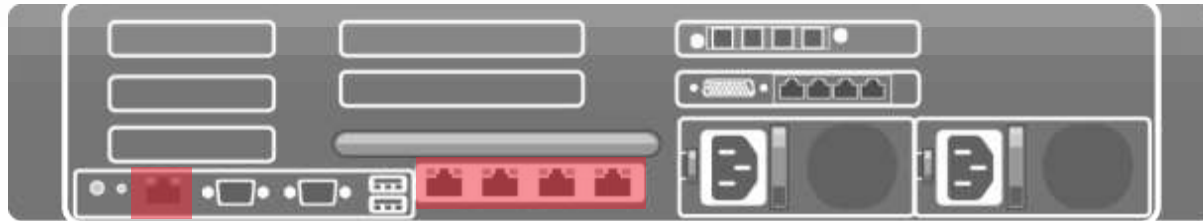
Converts SDI Coax to videostream



Receiver



# Network Interfaces



Ethernet  
iDRAC

Ethernet  
(eno)1-4

eno 1 = 10 Gb/s

eno 2 = 10 Gb/s

eno 3 = 1 Gb/s

eno 4 = 1 Gb/s

# Serial Interfaces

- RS422 connection to automation system
- VDCP protocol

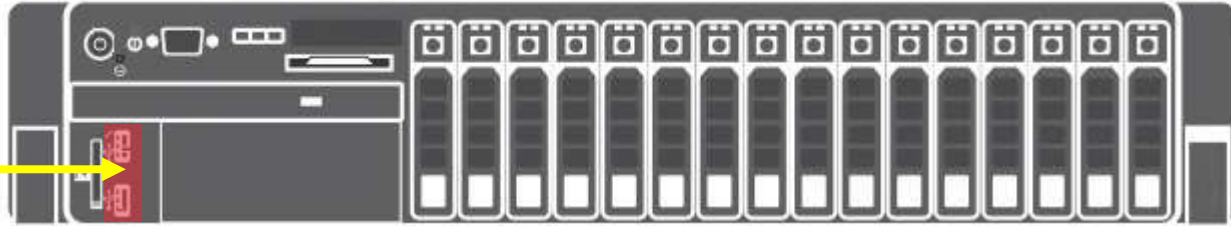


RS422 1-4

# USB ports

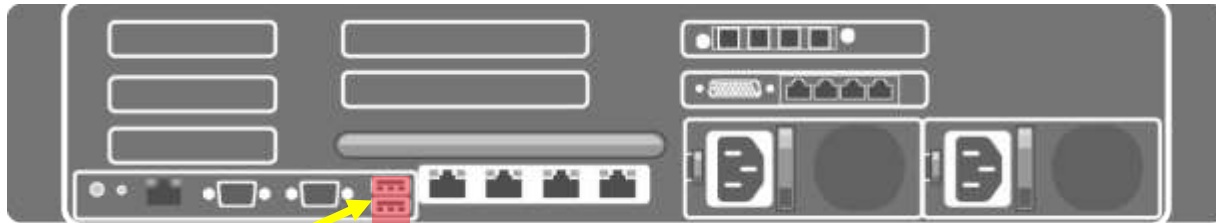
front

USB 2.0

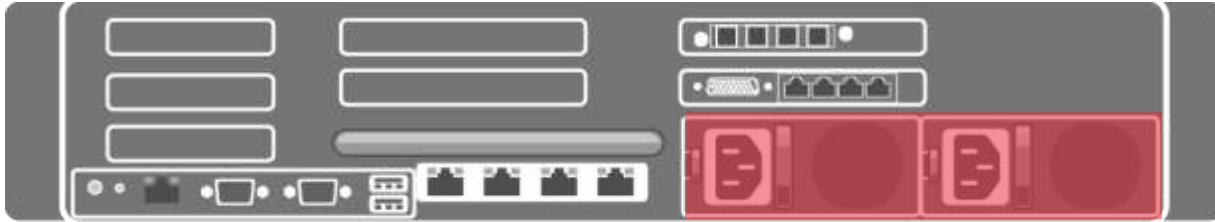


rear

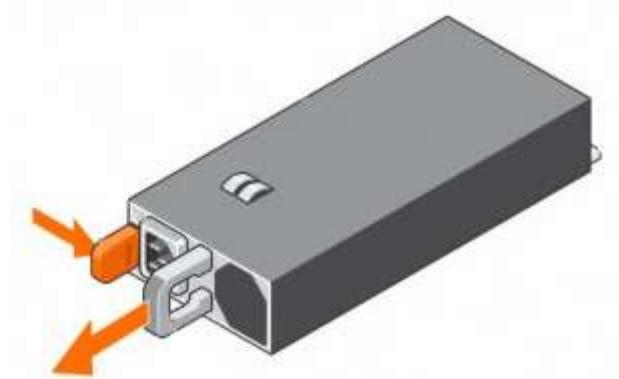
USB 3.0



# Power Supply



- 2 power supplies for redundancy
- Hot swappable



**Channel Playout**  
**V 4.x**

**Studio**  
**V 3.5**



# VENICE configuration – client software

- Software version 4.x does NOT offer the VENICE Remote UI (AND THEREFORE NO TRANSFORM OPERATIONAL GUI FOR THE TIME BEING)
- Software version 3.5 will offer VENICE Remote UI but NO IP 2110 support

BOTH versions do not offer a graphical user interface on the server.

- All client user interfaces, like Remote UI, Spycer, Venice Control, Venice Play, etc. must run on a dedicated client system



# VENICE S Operational Pattern

## Playout

### ■ Playout

- File to Base Band Signal (SDI) conversion
- Accessed via 3rd-party automation (VDCP controlled) in Channel Playout
- Operation via GUI in VENICE 3.5.x



## Ingest

### ▪ Ingest

- Base Band Signal (SDI) to file conversion
- Accessed via 3rd-party automation (VDCP controlled) in Channel Playout
- Operation via GUI in VENICE 3.5.x



# Venice S GUI – VENICE 3.5.x

- GUI (Grafical User Interface) for operation on external client
- Configuration via GUI
- Migration of „original VENICE software“ to new hardware platform
- No VDCP support in VENICE 3.5.x
- Usage of legacy protocols including known limitations



# VENICE S „Channel Playout“ Concept – VENICE 4.x

- „Blackbox“ concept
- 3rd-party automation system connected via RS422 (VDCP Protocol)  
and / or via network using FIMS / MOS protocol
- Configuration via Device Manager webinterface from any client PC

<https://<IPofServer>:3000>

# Accessing VENICE S for OS related operation

- VENICE S does not start any kind of graphical desktop (like Gnome)
- Linux related operations can be made via terminal session by using direct attached keyboard, mouse, screen / via KVM
- Linux related operations can be made from external remote client PC via SSH terminal session without having additional periphery connected to the server (network based protocol)
- Two types of Linux user preconfigured
  - root (password = password) with full permissions
  - rsapp (password = password) with user limited permission rights and no log in possibility

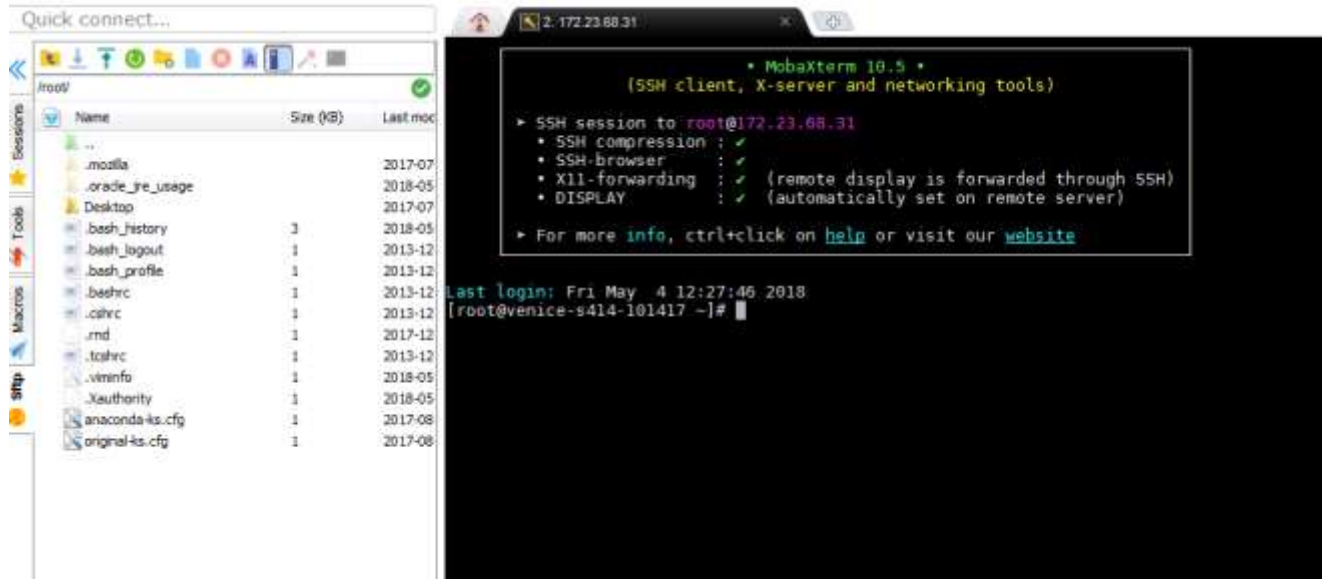
# Accessing VENICE S for OS related operation

- After having made changes to ethernet devices manually, please ensure to restart the ethernet interface:
  - > systemctl restart network (this restarts all network devices and will cut you off from remote connection)

If connected directly to VENICE via KVM or remotely by eno1-3:

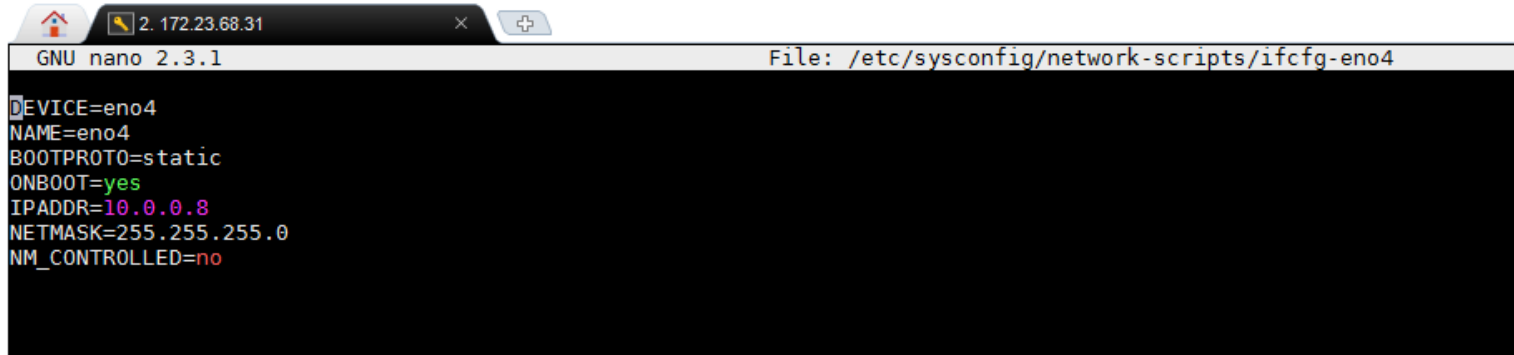
- > ifdown eno4
- > ifup eno4

# Accessing VENICE S for OS related operations



# Accessing VENICE S for OS related operations

- VENICE S ethernet devices are preconfigured. In any case (even with non existing of DHCP server) you can always connect a remote client to eno4 (1 Gb/s) and use the default IP 10.0.0.8 for accessing the server and change the IP with Device manager (future purpose) or manually
- For manual editing of ethernet interface >eno4<, please edit the /etc/sysconfig/network-scripts/ifcfg-eno4



```
GNU nano 2.3.1 File: /etc/sysconfig/network-scripts/ifcfg-eno4
DEVICE=eno4
NAME=eno4
BOOTPROTO=static
ONBOOT=yes
IPADDR=10.0.0.8
NETMASK=255.255.255.0
NM_CONTROLLED=no
```

# USB Recovery Stick

- Save an image of system partition to internal USB stick
- Load an existing image from internal USB stick to system partition
- Other external devices possible and selectable
- Operated via menu during boot up of system

# Device Manager for Configuration of VENICE 4.x

- Open configuration from any remote client PC by using a webbrowser (Chrome)
- Setup of network interfaces
- Configuration of remote connection to each channel
  - FIMS (VENICE Control, 3rd-party software)
  - MOS (VENICE Play, 3rd-party software)
  - VDCP (3rd party Automation)

# Device Manager for configuration of VENICE 4.x

The screenshot displays the Rohde & Schwarz Device Manager interface. The top navigation bar includes tabs for 'VENICE Video Server', 'SpycerBox Storage', and 'Gateway Server'. The main menu on the left contains options: Network Settings, Automation Control, Video Settings, About, and Documentation. A central window shows a list of systems, with one system selected and its details displayed in a pop-up window. The information window on the right provides detailed system data for 'venice-414-101417'. A preset panel at the bottom left shows a dropdown menu for 'Preset to use:' with 'Levelize SD Input (429)' selected, and buttons for 'Information', 'Save', 'Cancel', 'Apply', and 'Load'.

**Main Menu** →

**Server Selection** ←

**Information Window** →

**Message Window** →

**Preset Panel** →

**Information for: venice-414-101417**

Hostname:	venice-414-101417
IP Address:	172.17.0.11
Hardware:	48 CPUs, 61.50 GB RAM
Serial Number:	121417
Platform:	VENICE 5404 28U
Software:	VENICE 4.0.0.19
	Spycer 4.0.0.13
	MediaManagerServer 1.4.0.0
	libi 5.0.1.0
	Comp/Device 1.2.0.0
	DeviceManager 0.9.0.0
	SelfMaintenance 1.0.1.0
	DataManager 1.0.1.0
	MS 1.0.0.1
	Driver 1.0.1.4
	Firewall 2.1.2.1
Software Version:	4.73.0.018004
Installed:	May 4, 2018, 9:42:13 AM
Updates:	14, 1, 26, 1

**Win-Paths:**



# Device Manager (configuration of VENICE 4.x)

- Activate server configuration by enabling checkbox 1
- Status of each server channel is displayed
  - Idle
  - MOS
  - FIMS
  - VDCP

checkbox 1

Ch1	MOS	Play
Ch2	MOS	Play
Ch3	VDCP	Unknown
Ch4	Idle	Unknown

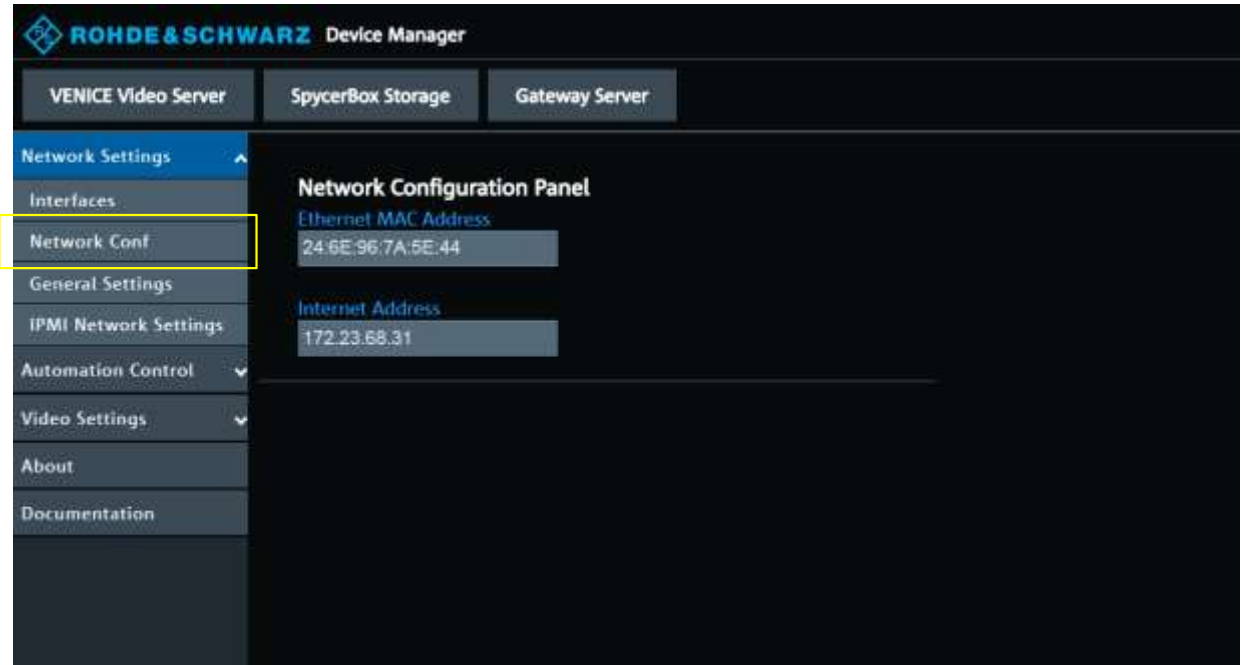
# Device Manager (Network Settings)

- Configuration of each ethernet interface
  - Eno 1 = DHCP (default)
  - Eno 2 = DHCP (default)
  - Eno 3 = DHCP (default)
  - Eno 4 = 10.0.0.8 (default)
  - Bonding Mode

The screenshot displays the 'Device Manager' interface for network configuration. The left sidebar contains a menu with 'Network Settings' selected and 'Interfaces' highlighted in yellow. The main content area shows four network interface configuration panels for 'eno1', 'eno2', 'eno3', and 'eno4'. Each panel includes a 'Wait for DHCP release' button (ON/OFF), an IP address field, a Netmask field, and a Gateway field.

Interface	IP Address	Netmask	Gateway
eno1	172.23.66.31	255.255.255.0	172.23.64.1
eno2	10.0.0.8	255.255.255.0	172.23.64.1
eno3			172.23.64.1
eno4			172.23.64.1

# Device Manager (Network Settings)



ROHDE & SCHWARZ Device Manager

VENICE Video Server   SpycerBox Storage   Gateway Server

Network Settings  
Interfaces  
Network Conf  
General Settings  
IPMI Network Settings  
Automation Control  
Video Settings  
About  
Documentation

**Network Configuration Panel**

Ethernet MAC Address  
24:6E:96:7A:5E:44

Internet Address  
172.23.68.31

# Device Manager (Network Settings)

The screenshot displays the 'Device Manager' interface for a 'VENICE Video Server'. The left sidebar contains a menu with the following items: Network Settings (expanded), Interfaces, Network Conf, General Settings (highlighted with a yellow box), IPMI Network Settings, Automation Control, Video Settings, About, and Documentation. The main content area, titled 'Network General Panel', shows the following configuration:

- Name Server 2: 172.23.79.30
- Name Server 1: 172.23.79.10
- Hostname: venice-s414-101417
- Gateway: 172.23.64.1
- Name Server 3: 172.23.79.31
- Search path: dvs.de, rsint.net, dvsint.net

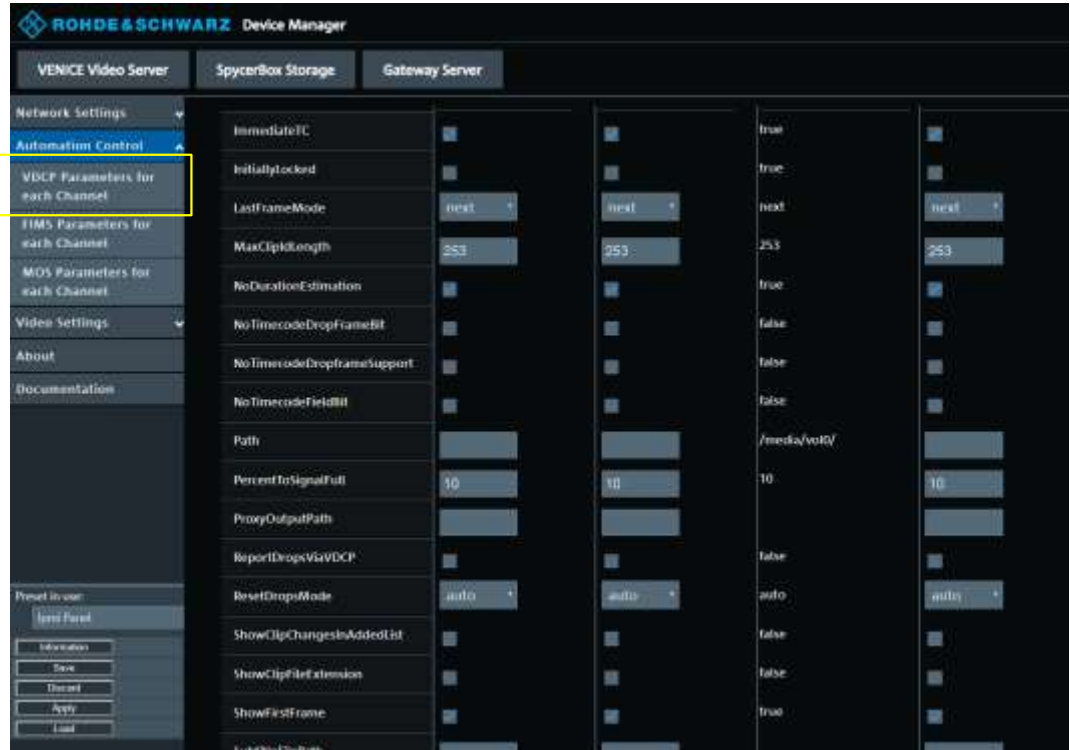
# Device Manager (Network Settings)

The screenshot displays the 'Device Manager' interface for a 'VENICE Video Server'. The left sidebar contains a menu with 'IPMI Network Settings' highlighted in yellow. The main content area is titled 'Ipmi Panel' and shows the following configuration details:

- Gateway:** 172.23.64.1
- Netmask:** 255.255.240.0
- IP address:** 172.23.70.137
- Interface configuration:** dhcp
- MAC Address:** 18-66-da-bd-79-b0

# Device Manager (Automation Control)

- VDCP configuration for each server channel
- VDCP parameter setup to manipulate behavior
- Manually enable and disable connection



# Device Manager (Automation Control)

ROHDE & SCHWARZ Device Manager

VENICE Video Server   SpycerBox Storage   Gateway Server

Network Settings ▾  
Automation Control ▲  
VDCP Parameters for each Channel  
FIMS Parameters for each Channel  
MOS Parameters for each Channel  
Video Settings ▾  
About  
Documentation

Mode parameters for each channel

FIMS Parameters:

Channel1 MOS	Channel2 MOS	Channel3 VDCP	Channel4 Connect
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# Device Manager (Automation Control)

ROHDE & SCHWARZ Device Manager

VENICE Video Server | SpycerBox Storage | Gateway Server

Network Settings

Automation Control

VDCP Parameters for each Channel

FIMS Parameters for each Channel

MOS Parameters for each Channel

Video Settings

About

Documentation

Mode parameters for each channel

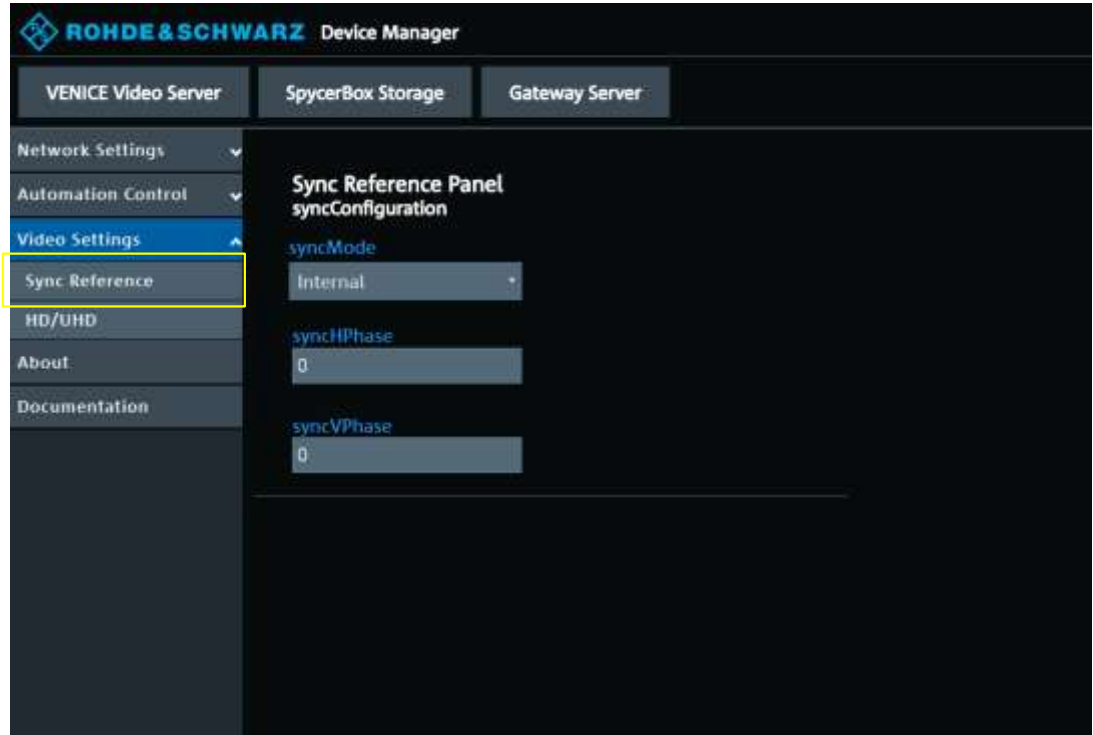
MOS Parameters:

Channel1	Channel2	Channel3	Channel4
3	3	VDCP	VDCP
Disconnect	Disconnect	Connect	Connect



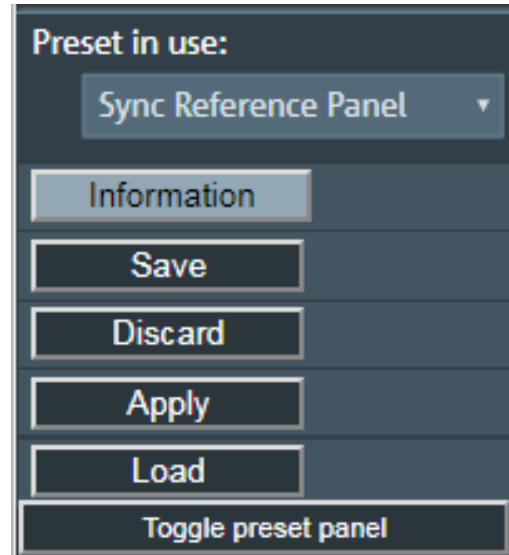
# Device Manager (Video Settings)

- Sync Reference Settings:
  - Internal (freerun)
  - Bilevel (analog ref.)
  - Trilevel (digital HD ref.)
  - Input signal (video in)
- H-phase and V-phase adjustment to shift timing of video signal



# Device Manager (Preset Panel)

- Preset files are saved and loaded as .json files
- Presets can be used to define:
  - input or output raster
  - type of video codec for ingest
  - aspect ratio
- Roll-Up function shows last used configuration set



# Device Manager (Information and Message Window)

- All server related information (e.g. software versions, hardware details, boottime...) can be seen in the information window
- While operating the Device Manager, any kind of wrong usage, missing parameter or occurrence of problem is displayed in the Message Window right under the Information Window
- Messages are marked in yellow or red
- Messages can be erased in order to clean up the list



**Information for: venice-s414-101417**

Hostname: venice-s414-101417  
IP Address: 172.23.68.31  
Hardware: 48 CPUs, 62.56 GiB RAM

Serial Number: 101417  
Platform: VENICE S414 2RU  
Software: VENICE 4.0.0.10  
Spycer 4.0.0.12  
MaintenanceServer 1.4.0.0  
bfs 1.0.1.0  
ConfigDaemon 1.2.0.0  
DeviceManager 0.9.6.0  
SwMaintenance 1.0.1.0  
DataBinding 1.0.1.0  
IAS 1.0.0.3  
Driver 5.0.7.4  
Firmware 2.1.35.3

Software Version: 4.73.0.20180504  
Boottime: May 4, 2018, 9:40:13 AM  
Uptime: 7d 1:42:16

**Warnings:**

 **Connect VDCP Channel 4**   
required params not provided: Path

# Device Manager - Troubleshooting

- Missing tab for network settings:

```
service rusconfigd restart
```

- Missing tab for VDCP settings:

```
service venice restart
```



# Updating Software (RSI)

- The RSI (Rohde & Schwarz Installer) handles all updates in convenient way on external Windows-PC via ethernet
- Windows-PC needs to be in the same network range than all related Venice server
- RSI is an executable software module (.exe) which can be downloaded from GLORIS platform



# Updating Software (RSI)



Each RSI file contains the following software modules:

- Venice server (basic Venice software)
- Spycer (Spycer Agent)
- Videoboard firmware
- Device Manager
- Maintenance Server

# Updating Software (RSI)

Device	Serial No.	Version	Status	Material No.	Channel	MAC Address
<input type="checkbox"/> VENICE 5400 2RU	123456	4.73.1.20180511	remote connected	2906.1300.02	172.23.69.205.13217	ARP: 248E966F3594
<input type="checkbox"/> VENICE 5400 2RU	000000	4.73.0.20180425	remote connected	2906.1300.02	172.23.68.234.13217	ARP: 0015B2A483AE
<input type="checkbox"/> VENICE 5400 2RU	000000	4.73.0.20180405	remote connected	2906.1300.02	172.23.68.244.13217	ARP: 0015B2A4887D
<input type="checkbox"/> VENICE 5400 2RU	000000	4.73.0.20180405	remote connected	2906.1300.02	172.23.68.254.13217	ARP: 0015B2A488DC
<input type="checkbox"/> VENICE 5407 2RU	000007	4.73.0.20180428	remote connected	2906.1316.02	172.23.70.20.13217	ARP: 248E966F36AA
<input type="checkbox"/> VENICE 5407 2RU	000012	4.73.0.20180502	remote connected	2906.1316.02	172.23.69.90.13217	ARP: 248E966F3754
<input type="checkbox"/> VENICE 5407 2RU	000000	4.73.1.20180510	remote connected	2906.1316.02	172.23.69.140.13217	ARP: 0015B2A8F25D
<input type="checkbox"/> VENICE 5407 2RU	000003	4.73.0.20180503	remote connected	2906.1316.02	172.23.70.184.13217	ARP: 248E964C8C9C
<input type="checkbox"/> VENICE 5407 2RU	234567	4.73.0.20180413	remote connected	2906.1316.02	172.23.68.188.13217	ARP: D094663024DC
<input type="checkbox"/> VENICE 5407 2RU	000004	4.73.1.20180507	remote connected	2906.1316.02	172.23.70.220.13217	ARP: 248E964C341C
<input type="checkbox"/> VENICE 5407 2RU	000009	4.73.0.20180413	remote connected	2906.1316.02	172.23.69.239.13217	ARP: 248E966F362C
<input type="checkbox"/> VENICE 5414 2RU	101417	4.73.0.20180504	remote connected	2906.1322.02	172.23.68.31.13217	ARP: 248E967A5E44
<input type="checkbox"/> VENICE 5414 2RU	101416	4.73.0.20180309	remote connected	2906.1322.02	172.23.68.96.13217	ARP: 248E967A5E2C

Device Name: VENICE 5400 2RU  
Serial No.: 123456  
Version: 4.73.1.20180511  
Material No.: 2906.1300.02  
Channel: 172.23.69.205.13217  
MAC Address: ARP: 248E966F3594

Device	Serial No.	Version	Status	Material No.	Channel	MAC Address
<input type="checkbox"/> VENICE 5400 2RU	123456	4.73.1.20180511	remote connected	2906.1300.02	172.23.69.205.13217	ARP: 248E966F3594
<input type="checkbox"/> VENICE 5400 2RU	000000	4.73.0.20180425	remote connected	2906.1300.02	172.23.68.234.13217	ARP: 0015B2A483AE
<input type="checkbox"/> VENICE 5400 2RU	000000	4.73.0.20180405	remote connected	2906.1300.02	172.23.68.244.13217	ARP: 0015B2A4887D
<input type="checkbox"/> VENICE 5400 2RU	000000	4.73.0.20180405	remote connected	2906.1300.02	172.23.68.254.13217	ARP: 0015B2A488DC
<input type="checkbox"/> VENICE 5407 2RU	000007	4.73.0.20180428	remote connected	2906.1316.02	172.23.70.20.13217	ARP: 248E966F36AA
<input type="checkbox"/> VENICE 5407 2RU	000012	4.73.0.20180502	remote connected	2906.1316.02	172.23.69.90.13217	ARP: 248E966F3754
<input type="checkbox"/> VENICE 5407 2RU	000000	4.73.1.20180510	remote connected	2906.1316.02	172.23.69.140.13217	ARP: 0015B2A8F25D
<input type="checkbox"/> VENICE 5407 2RU	000003	4.73.0.20180503	remote connected	2906.1316.02	172.23.70.184.13217	ARP: 248E964C8C9C
<input type="checkbox"/> VENICE 5407 2RU	234567	4.73.0.20180413	remote connected	2906.1316.02	172.23.68.188.13217	ARP: D094663024DC
<input type="checkbox"/> VENICE 5407 2RU	000004	4.73.1.20180507	remote connected	2906.1316.02	172.23.70.220.13217	ARP: 248E964C341C
<input type="checkbox"/> VENICE 5407 2RU	000009	4.73.0.20180413	remote connected	2906.1316.02	172.23.69.239.13217	ARP: 248E966F362C
<input type="checkbox"/> VENICE 5414 2RU	101417	4.73.0.20180504	remote connected	2906.1322.02	172.23.68.31.13217	ARP: 248E967A5E44
<input type="checkbox"/> VENICE 5414 2RU	101416	4.73.0.20180309	remote connected	2906.1322.02	172.23.68.96.13217	ARP: 248E967A5E2C

# Updating Software (RSI)

RSI Software Distribution

Device List  
Please select your target devices...

Device	Serial No.	Version	Status	Material No.	Channel	MAC Address	Connection	More info
<input type="checkbox"/> VENCE 5400 2RU	130006	4.73.1.20180431	remote connected	2906.1300.02	172.23.68.205.13217	ARP: 04636C1204	Socket	venice#400-145...
<input type="checkbox"/> VENCE 5400 2RU	000000	4.73.0.20180425	remote connected	2906.1300.02	172.23.68.254.13217	ARP: 0015B2A463AE	Socket	venice#400-145...
<input type="checkbox"/> VENCE 5400 2RU	000000	4.73.0.20180425	remote connected	2906.1300.02	172.23.68.254.13217	ARP: 0015B2A4687D	Socket	venice#400-145...
<input type="checkbox"/> VENCE 5400 2RU	000000	4.73.0.20180425	remote connected	2906.1300.02	172.23.69.254.13217	ARP: 0015B2A468DC	Socket	venice#400-148...
<input type="checkbox"/> VENCE 5407 2RU	000007	4.73.0.20180428	remote connected	2906.1316.02	172.23.70.20.13217	ARP: 24E966F36A4	Socket	venice#407-000...
<input type="checkbox"/> VENCE 5407 2RU	000012	4.73.0.20180502	remote connected	2906.1316.02	172.23.69.90.13217	ARP: 24E966F3754	Socket	venice#407-000...
<input type="checkbox"/> VENCE 5407 2RU	000000	4.73.1.20180510	remote connected	2906.1316.02	172.23.69.140.13217	ARP: 0015B2A5F25D	Socket	venice#407-148...
<input type="checkbox"/> VENCE 5407 2RU	000003	4.73.0.20180503	remote connected	2906.1316.02	172.23.70.184.13217	ARP: 24E966C2C6C	Socket	venice#407-000...
<input type="checkbox"/> VENCE 5407 2RU	204567	4.73.0.20180413	remote connected	2906.1316.02	172.23.68.188.13217	ARP: 0D9468C024DC	Socket	venice#407-234...
<input type="checkbox"/> VENCE 5407 2RU	000004	4.73.1.20180507	remote connected	2906.1316.02	172.23.70.220.13217	ARP: 24E966C341C	Socket	venice#407-000...
<input type="checkbox"/> VENCE 5407 2RU	000009	4.73.0.20180413	remote connected	2906.1316.02	172.23.69.239.13217	ARP: 24E966F362C	Socket	venice#407-000...
<input type="checkbox"/> VENCE 5414 2RU	101417	4.73.0.20180504	remote connected	2906.1322.02	172.23.68.31.13217	ARP: 24E967A5E44	Socket	venice#414-101...
<input checked="" type="checkbox"/> VENCE 5414 2RU	101416	4.73.0.20180309	Ready, see report for details!	2906.1322.02	172.23.68.96.13217	ARP: 24E967A562C	Socket	venice#414-101...

13 R&S Devices found

Send Log

Back Install Exit Help



