VLAN-toolbox 24-4

INSTRUCTION MANUAL

THIS DOCUMENT APPLIES TO

ALL 2U VLAN-TOOLBOX DEVICES

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IMPORTANT NOTE

The user is required to read and understand this manual before installing, operating, or servicing the device. Failure to follow the specified procedures and safety guidelines may result in equipment malfunction, personal injury, or hazardous situations. The manufacturer assumes no responsibility for damage or injury caused by negligence, improper handling, or failure to comply with the instructions provided. Under such circumstances, all associated risks and liabilities fall to the operator.

REPAIR & SERVICE

In the event of equipment malfunction, please contact our Technical Support Department at rma@srs-group.com, or reach out to the authorized distributor from whom the equipment was purchased. To ensure optimal performance and extend the service life of the device, only use replacement parts supplied or approved by the manufacturer.

For inquiries related to the functionality, operation, or applications of this equipment, please contact your local distributor or email us at sales@srs-group.com.

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1. SAFETY INFORMATION

The following general safety precautions have to be observed during all phases of operation, service, and repair of this equipment. Failure to comply with these precautions or with specific warnings in this manual violates safety standards of design, manufacture, and the intended use of this equipment.

DO NOT OPERATE IN AN EXPLOSIVE ATMOSPHERE!

Do not operate this equipment in the presence of flammable gases or fumes. Operation of any electrical instrument in such an environment constitutes a definite safety hazard.

WATER, MOISTURE, HEAT AND HUMIDITY

Do not operate this equipment near water or in areas with wet floors, also not in high humidity atmosphere where condensation forms on the equipment. It should never be placed near or over a heat register or other source of heated air and it should not be installed or operated without proper ventilation.

MAINTENANCE WORK PRECAUTIONS

Always ensure that the power to the equipment is disconnected before opening the equipment or commencing any maintenance work.

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2. PRODUCT DESCRIPTION

VLAN-toolbox is a rack-mount user interface for a network switch with 24 ports. Every output features LED indication of the signal status. The unit also provides a way to apply link aggregation (i.e., linked ports) and trunking for data transfer between switches.

All electrical components carry their own individual cSA/UL, CE and comply with European Directives. The components are housed in robust steel 19" rack casing with powder coating. Complete unit complies with the CE according to the Certification of conformity attached to this manual.

2.1. TECHNICAL SPECIFICATIONS

Size:
2U, 19'' format / 483 x 88 x 431 mm

Weight:
11.8 kg

PoE:
195W

Speed of individual etherCON ports:
1Gb/s

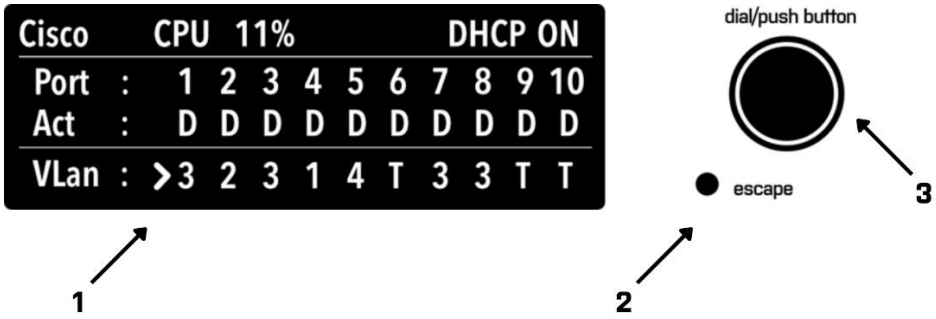
Speed of individual fiber ports:
10Gb/s

Speed of linked fiber ports:
40Gb/s

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3. PRODUCT OVERVIEW

3.1. CONTROLS OVERVIEW



1. DISPLAY
2. ESCAPE BUTTON
3. DIAL/PUSH BUTTON

The escape button (2) can be pressed to return to the previous step of whatever process you're working on. If you have changed a value, it will be reset to the original.

The data button (3) can be rotated and pressed. Pressing it can be used to confirm your selection and – on specific screens – to move the cursor.

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4. OPERATION & CONTROL

4.1. THE STARTUP PROCEDURE

VLAN-toolbox automatically starts the boot procedure after being plugged in. Please note that this procedure takes ±4 minutes. The progress bar at the bottom of the display shows that the process is progressing.

4.2. VLAN PRESETS

The VLAN-toolbox has nine VLANs available by default. Each of these has a setting that suits the specific application. For the sake of clarity, the numbering of the VLANs is limited to tens. Based on the application, the overview looks like this:

Vlan-10	Control-1	
Vlan-20	Audio-oIP	
Vlan-30	Dante-Pri	
Vlan-40	Dante-Sec	
Vlan-50	Art-Net	
Vlan-60	sACN	
Vlan-70	Light-oIP	
Vlan-80	Video-oIP	
Vlan-90	Intercom	

Trunk	Ethernet 1Gb/s
Trunk LAG 1-4	Ethernet 1Gb/s (group 1-4)
Trunk LAG 5-6	Fiber 1Gb/s (group 5-6)
Trunk LAG 7-8	Fiber 10Gb/s (group 7-8)

When the VLAN-toolbox is reset to factory settings, the VLAN assignment from the table above applies.

4.3. ASSIGNING VLAN TO A PORT

To separate data streams such as DANTE, sACN and Video over IP, they can be individually assigned to different ports of VLAN-toolbox. The first twenty Ethernet ports are divided into groups of two. Therefore, assignments apply to ports 1 + 2 (G1), 3 + 4 (G2), etc.

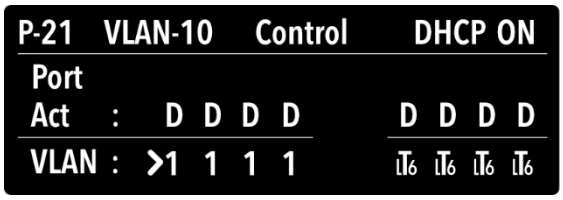


1. Rotate the data button to move the cursor on the display to the VLAN row (bottom) until it reaches the desired port.
2. Press the data button and rotate it to select the desired VLAN. The left LED above the selected port changes color depending on the chosen VLAN.
3. When the port is active, the right LED turns green. When power over Ethernet (PoE) is active, the right LED turns orange. This LED turns red when a port load of 85% is exceeded.

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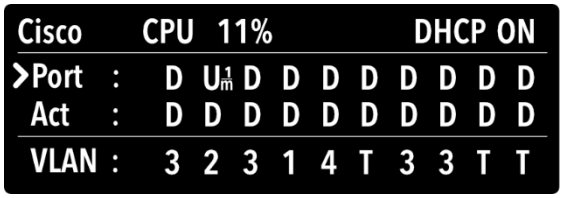
4.4. REAR ETHERNET PORTS AND FIBER PORTS

When the cursor is moved past the last group (G10), a new screen opens with access to the four Ethernet ports on the back of the VLAN toolbox 24-4 and the four fiber ports. At the top left, the display shows which port you have selected: P-21 to P-24 for the four Ethernet ports on the back and F-1 to F-4 for the four fiber ports.



4.5. PORT STATUS

On the display, the status of each of port can be found directly under the port number.



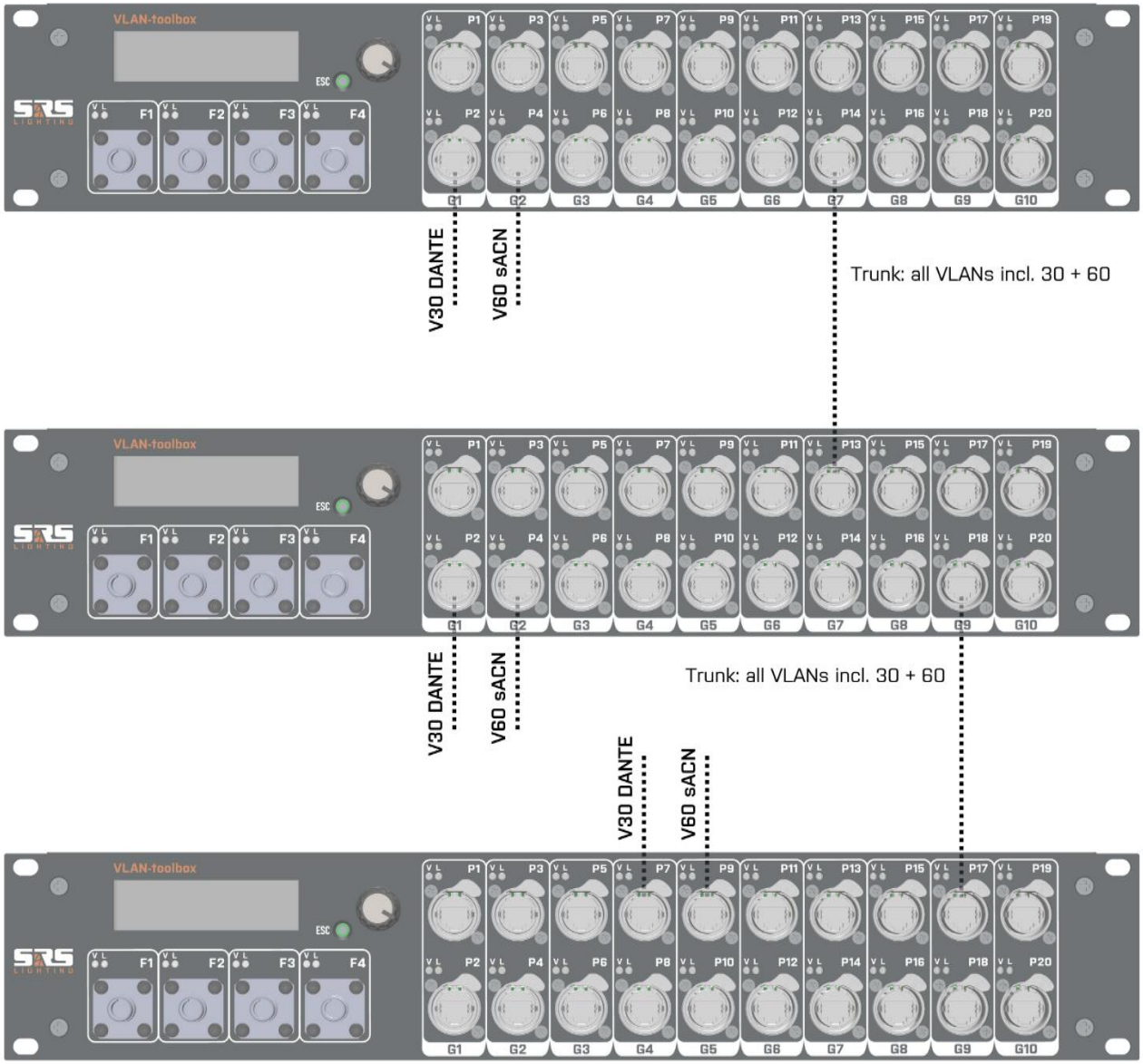
In the example above, port 3 (of group 2) is active (Up) and the rest is inactive (Down). This port operates at a speed of 100Mbit/s. Trunking (T) has been selected for ports 11 + 12 (group 6), 17 + 18 (group 8) and 19 + 20 (group 10).

When VLAN-toolbox is reset to factory settings, all Ethernet ports are routed to VLAN 10 (1) and fiber connectors – to trunking (T).

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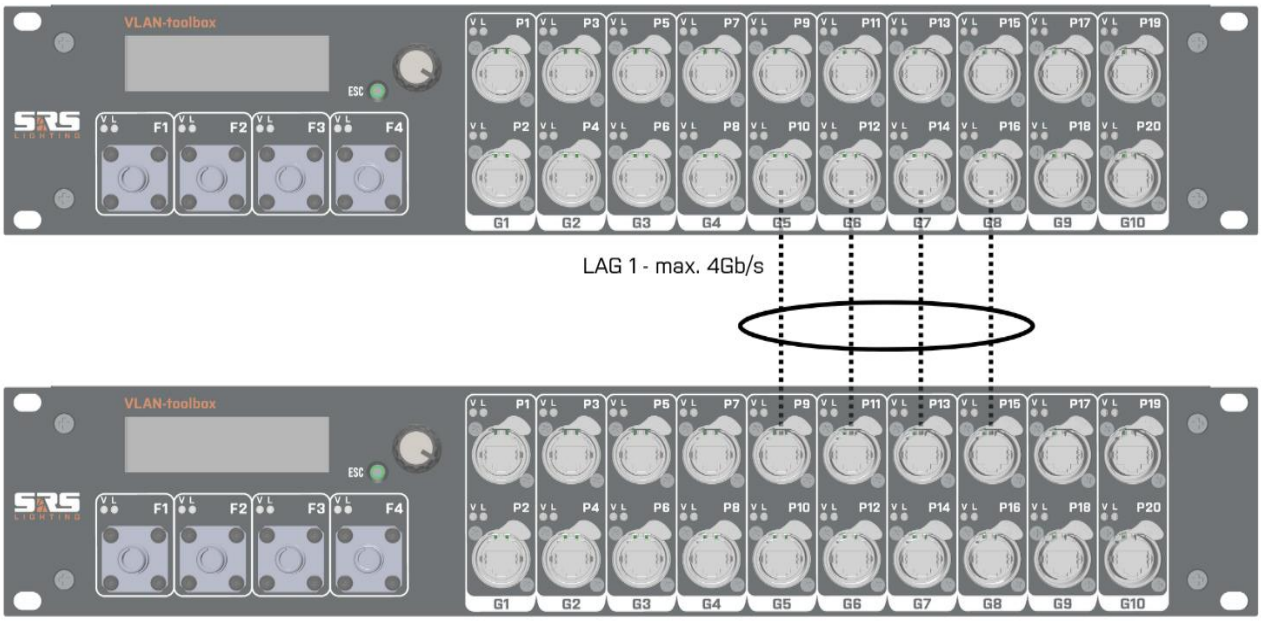
4.6. USING TRUNKING (T)

A trunking port transports all VLANs. This is ideal for transporting data from one switch to another over a single cable. The second switch can then separate the data stream, after which the original VLANs can be assigned to the desired ports again.

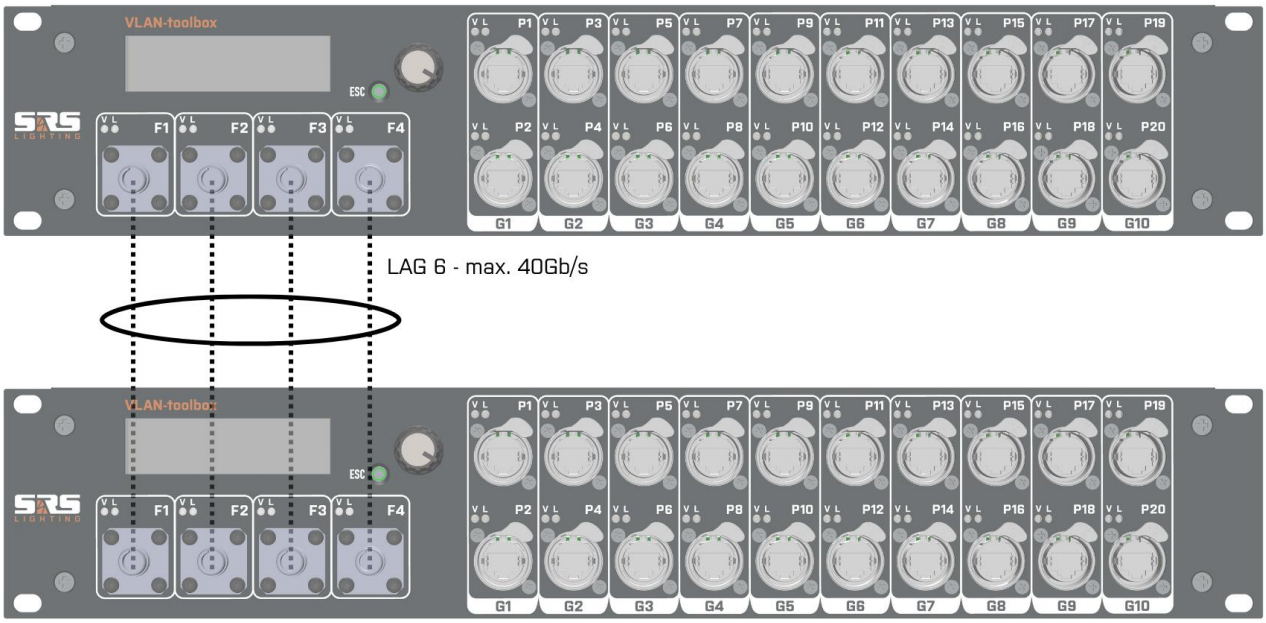


4.7. USING TRUNK GROUPS (LAG)

Using trunk groups, aka LAGs, allows the user to combine multiple trunks into a single logical link to increase bandwidth and create redundancy. This way, the data stream is not interrupted if one of the lines is broken.



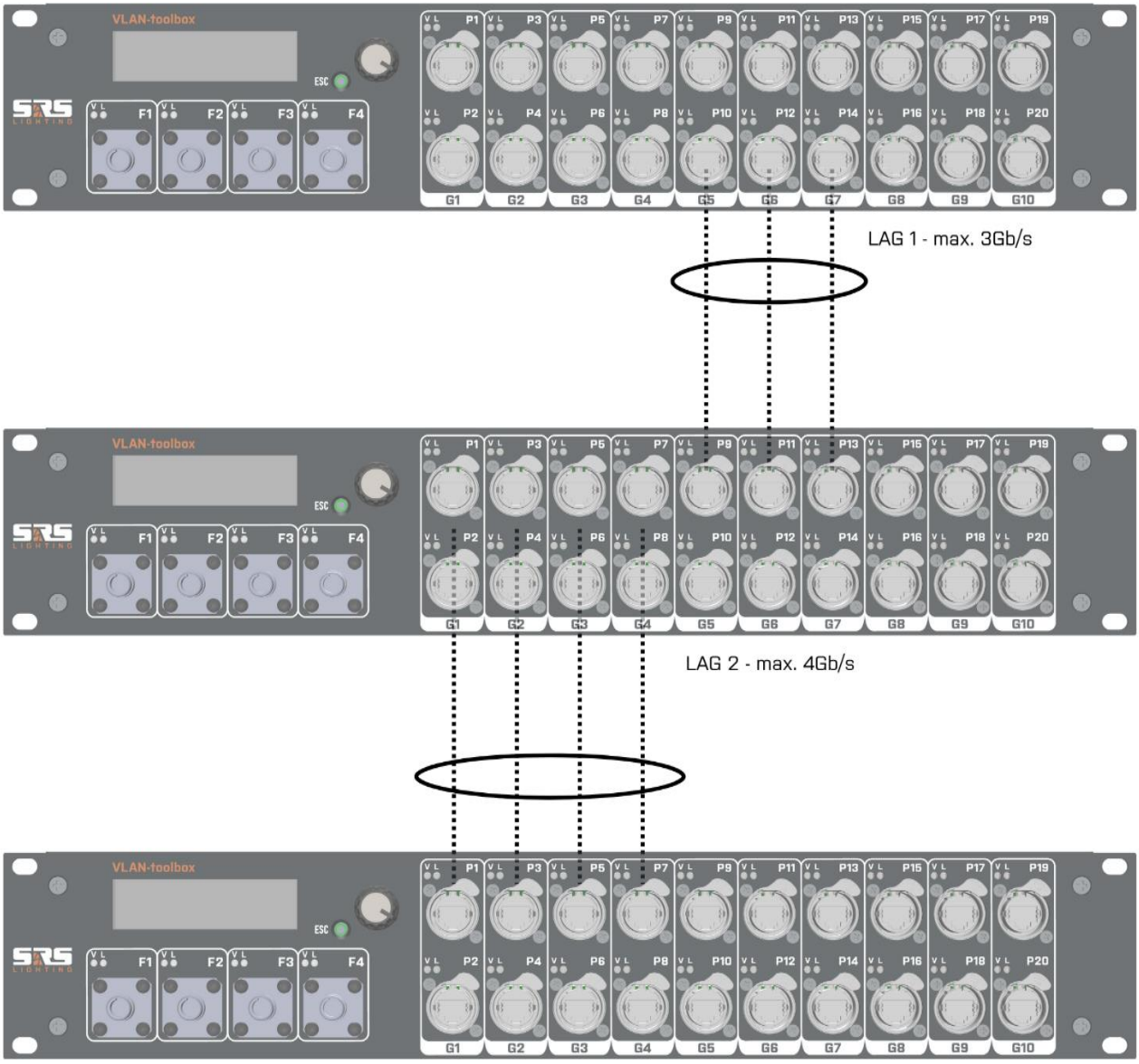
In the example below, LAG 6 is assigned to fiber ports. Thanks to that, data speed of 40Gb/s can be achieved over a distance of 10 km.



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IMPORTANT NOTE

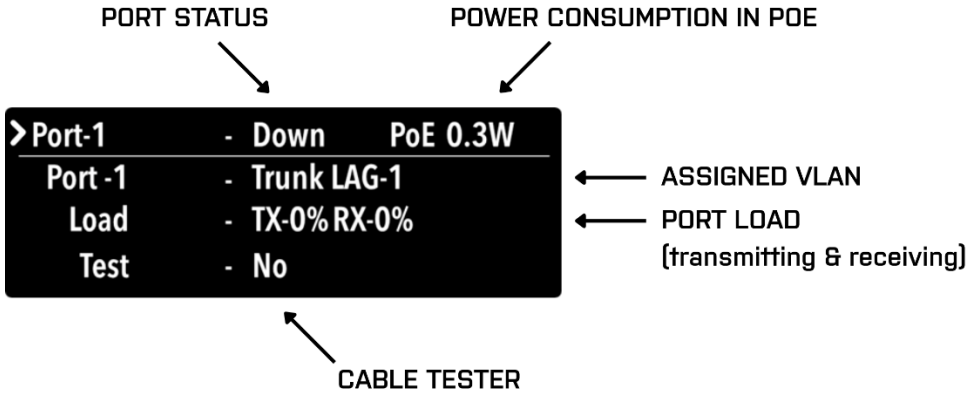
If LAG 1 is used between switches A and B, LAG 2 should be used to transfer the same data package between switches B and C. The same lag cannot be used between multiple switches.



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4.8. REQUESTING PORT INFORMATION

Rotate the data button to place the cursor at PORT. Press the data button.

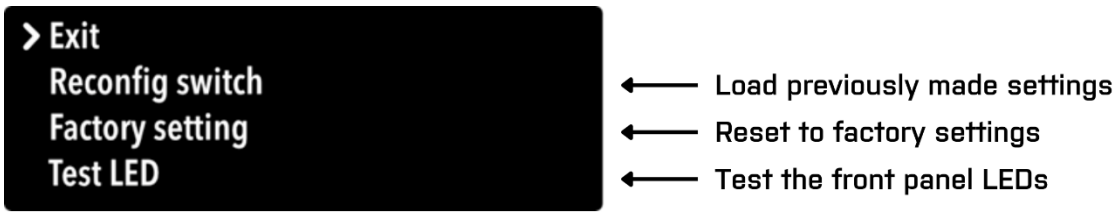


a) Move the cursor to Port-1 and press the data button to change VLAN assigned to the port.
b) Move the cursor to Test, press the button, select Cable test and press the data button again to test the cable connected to the port:

MESSAGE	MEANING
Cable okay	the connected cable is okay
No cable	no cable is connected
Impedance	impedance error
Open cable	connection is interrupted
Short cable	short circuit detected (wire pair)
Not tested	test could not be performed

4.9. ENTERING MAIN MENU

Hold the escape key for 6-7 seconds to open the main menu:



The *Reconfig switch* and *Factory setting* functions both take some time, and *Reconfig switch* has a downtown of ±4 minutes as a result.

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4.10. ENABLING DHCP SERVER

The VLAN-toolbox can distribute IP addresses to devices connected to it, assuming that the device in question does not have a static IP address. To do this, the DHCP server must be enabled. Make sure that there is never more than one DHCP server active within a network.



1. Rotate the data knob to move the cursor in the display to DHCP (top row).
2. Press the data button to select the DHCP function. Rotate the button to turn DHCP function ON or OFF.

4.11. ASSIGNING DHCP SERVER IP RANGE TO A VLAN

1. Rotate the data button to place the cursor at VLAN.
2. Press the data button to open the VLAN menu.
3. Rotate the data button to select the VLAN for which you want to set the DHCP range. Press the button to move the cursor to the value you want to change and rotate to adjust the value.

IMPORTANT NOTE

Make sure the DHCP pool ranges of different VLANs do not overlap.

Fixed location IP (DHCP enabled)					SUBNET DHCP RANGE
	Static		DHCP		
	FROM	TO	FROM	TO	
VLAN-10* Control-1	192 168 10 101	192 168 10 200	192 168 10 201	192 168 10 250	255 255 255 0
VLAN-20* Audio-oIP	192 168 30 101	192 168 30 200	192 168 30 201	192 168 30 250	255 255 255 0
VLAN-30* Dante-Pri	169 254 11 5	169 254 100 250	169 254 101 5	169 254 101 250	255 255 0 0
VLAN-40 Dante-Sex	172 31 11 5	172 31 100 250	172 31 101 5	172 31 101 250	255 255 0 0
VLAN-50* Artnet	2 0 11 5	2 0 100 250	2 0 101 5	2 0 101 250	255 255 0 0
VLAN-60* sACN	10 101 11 5	10 101 100 250	10 101 101 5	10 101 101 250	255 255 0 0
VLAN-70* Light-oIP	10 102 11 5	10 102 100 250	10 102 101 5	10 102 101 250	255 255 0 0
VLAN-80* Video-oIP	192 168 168 101	192 168 168 200	192 168 168 201	192 168 168 250	255 255 255 0
VLAN-90* Intercom	192 168 90 101	192 168 90 200	192 168 90 201	192 168 90 250	255 255 255 0

* Intermediate VLAN for optional internal use (11 to 19, 21 to 29 etc.)
** Facilitating/fixed location > universe 101 and up
** Universe 101 virtual master fader / universe 102 power switch
Gateway (VLAN IP - XXX.XXX.XXX.001)

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Visiting company IP				
	Static		DHCP	
	FROM	TO	FROM	TO
VLAN-10* Control-1	192 168 10 5	192 168 10 80	192 168 10 81	192 168 10 100
VLAN-20* Audio-oIP	192 168 30 5	192 168 30 80	192 168 30 81	192 168 30 100
VLAN-30* Dante-Pri	169 254 101 5	169 254 250 250	169 254 251 101	169 254 250 250
VLAN-40 Dante-Sex	172 31 101 5	172 31 250 250	172 31 251 101	172 31 250 250
VLAN-50* Artnet	2 0 101 5	2 0 250 250	2 0 251 101	2 0 250 250
VLAN-60* sACN**	10 101 101 5 universe 0 to 100	10 101 250 250	10 101 251 101	10 101 250 250
VLAN-70* Light-oIP	10 102 101 5	10 102 250 250	10 102 251 101	10 102 250 250
VLAN-80* Video-oIP	192 168 168 5	192 168 168 80	192 168 168 81	192 168 168 100
VLAN-90* Intercom	192 168 90 5	192 168 90 80	192 168 90 81	192 168 90 100

** Preference for visiting party, universe 1 to 101

4.12. NOTIFICATIONS

WHEN PORT STATUS CHANGES TO "UP"

- ! Err Duplicate-IP – two identical IP addresses OR two DHCP servers are active;
- ! VLAN-mismatch Pxx – two different VLANs are connected to one port (xx);
- ! STP Blocking: a loop has occurred on the port in question.

WHEN SETTING IP RANGE FOR THE DHCP SERVER

- ! ILLEGAL – an error was made when setting the IP range in relation to the subnet mask. The original value is reset.
- ! OVERLAP – an overlap in IP range between newly set value and previously set one. The original value is reset.

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5. WARRANTY

This unit is covered by a two-year manufacturer's warranty. For information regarding extended warranty terms, please contact the manufacturer at sales@srs-group.com.

The warranty applies exclusively to original factory-installed components and ensures their correct operation under normal usage conditions.

The warranty shall be void under the following circumstances:

- ! Any original component has been tampered with or modified without authorization;
- ! The equipment is operated outside of its intended or specified usage conditions;
- ! The electrical power supply does not meet required specifications;
- ! Mechanical damage is present, including damage caused by overload or improper use.

ADDRESS

SRS Group s.r.o.
Pri majeri 4
831 07 Bratislava
Slovakia

CONTACT DETAILS

Phone: +421 2 32661800
Email: sales@srs-group.com

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DECLARATION OF CONFORMITY

According to guidelines 89/336 EEC and 92/31 EEC:

Name of manufacturer:	SRS Group s.r.o.
Registered seat:	Pri majeri 4 831 07 Bratislava Slovakia

Declares that the product

Type of product:	VLAN-toolbox 24-4
Name of product:	**92911X / VLAN-toolbox XX-X**
Year of construction:	2025

Corresponds with the following harmonized standards:

EN ISO 12100:2010

EN 60670-24:2014/A1

IEC 364

IEC 60204-1

IEC 946-5-1

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Bratislava, 10. 7. 2025

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