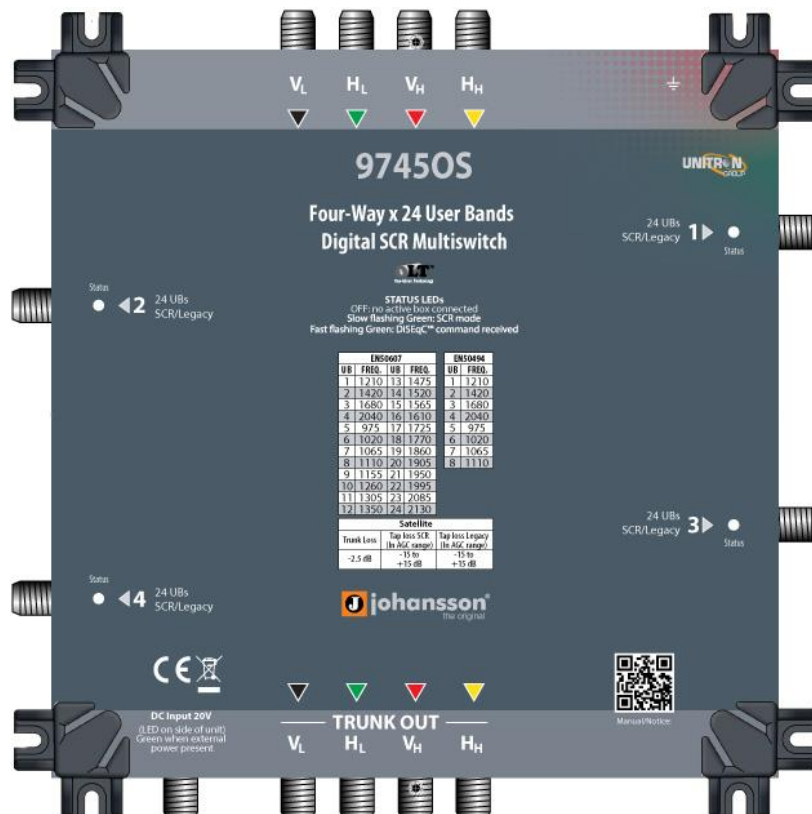




# User Manual

## SCR Multiswitch

Ref. 97450S



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# 1. INTRODUCTION

## Product description

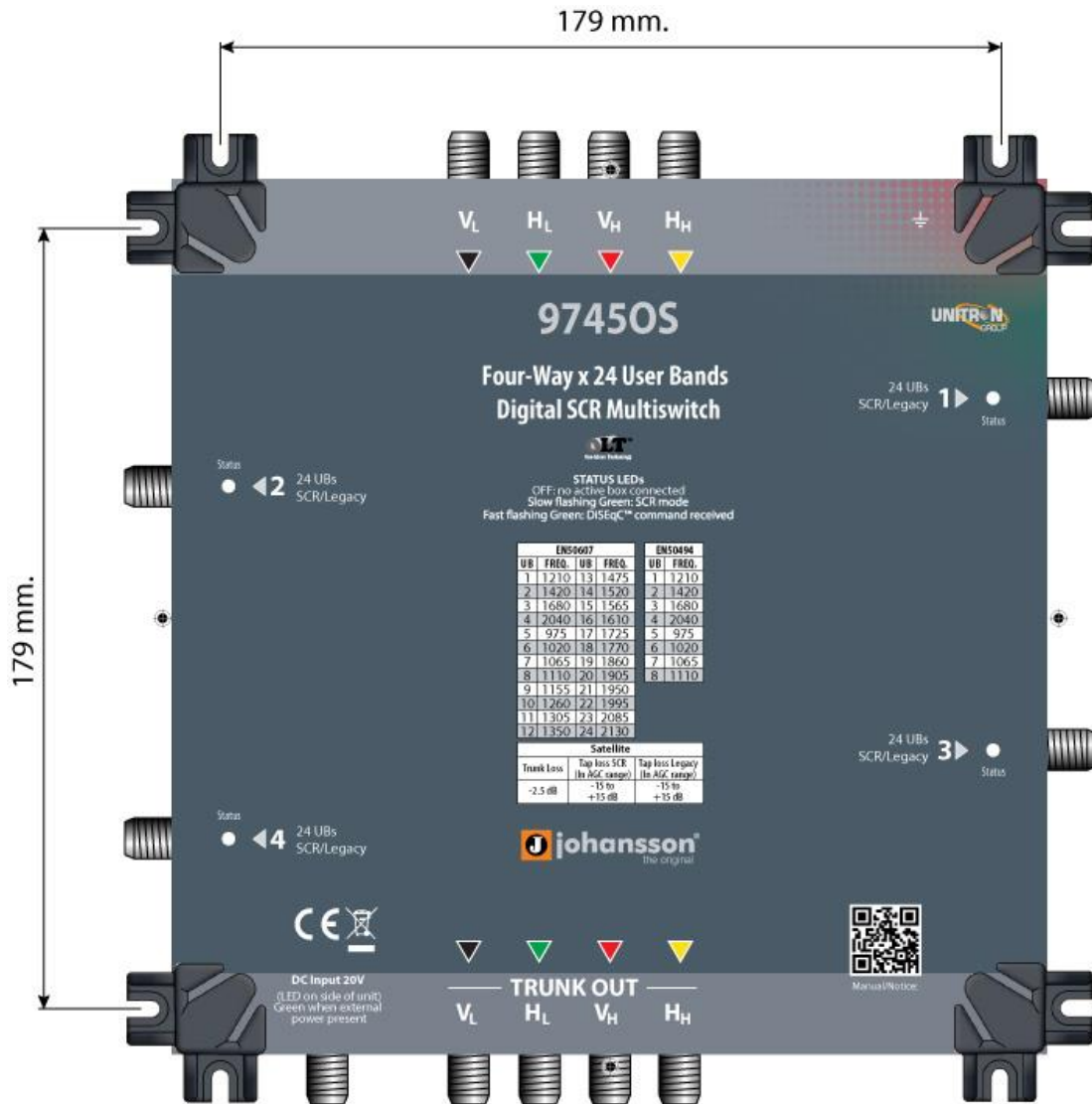
The 9745OS products are designed to support a wide range of new and existing multiswitch installations.

- Each 9745OS unit has:
  - 4 cascadable LNB inputs from universal Quattro LNB: VL HL VH HH
  - 4 SCR/Legacy outputs
  - 1 DC input.
- Each output can support a wide variety of satellite receivers:
  - In legacy mode, the 9745OS outputs can be used as a standard multiswitch.
  - In SCR mode, each 9745OS output supports up to 24UBs with all versions of the single cable technology. This includes OLT, SCR, CSS, EN50494, EN50607, and newer versions.
- As all outputs are independent, the installation can be a mix of legacy and SCR connections.
- The trunks enable to cascade multiple products to support big installations of more than 100 households in MDU applications, like apartments, or more than 100 rooms in hospitality environments, like hotels.
- The DC power can be inserted at any product. In cascaded systems, multiple power supplies might be needed. The Johansson reference for the power supply is 2460.

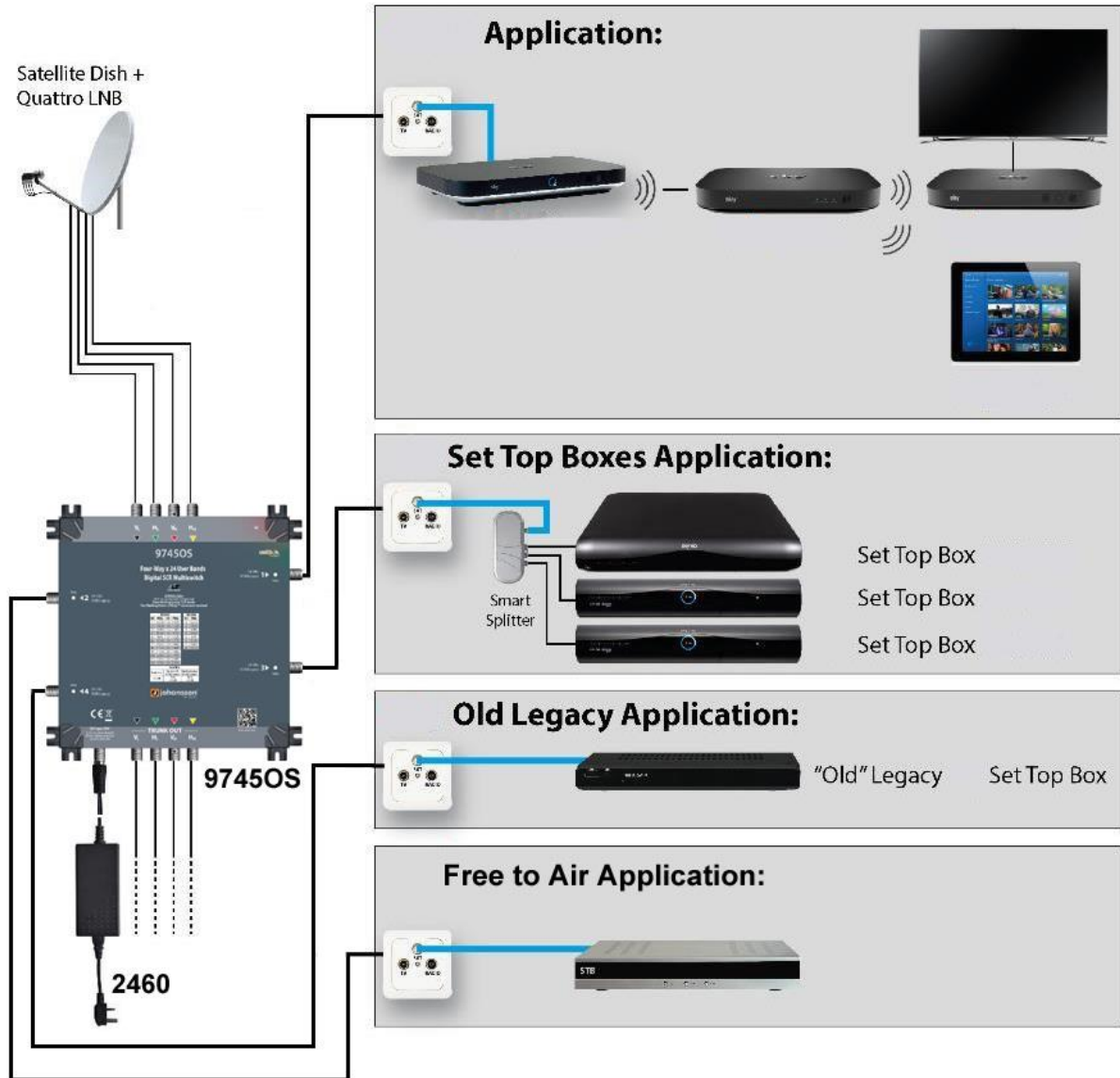
## Package contents

- 1x Digital SCR Multiswitch (97450S)

## Mounting



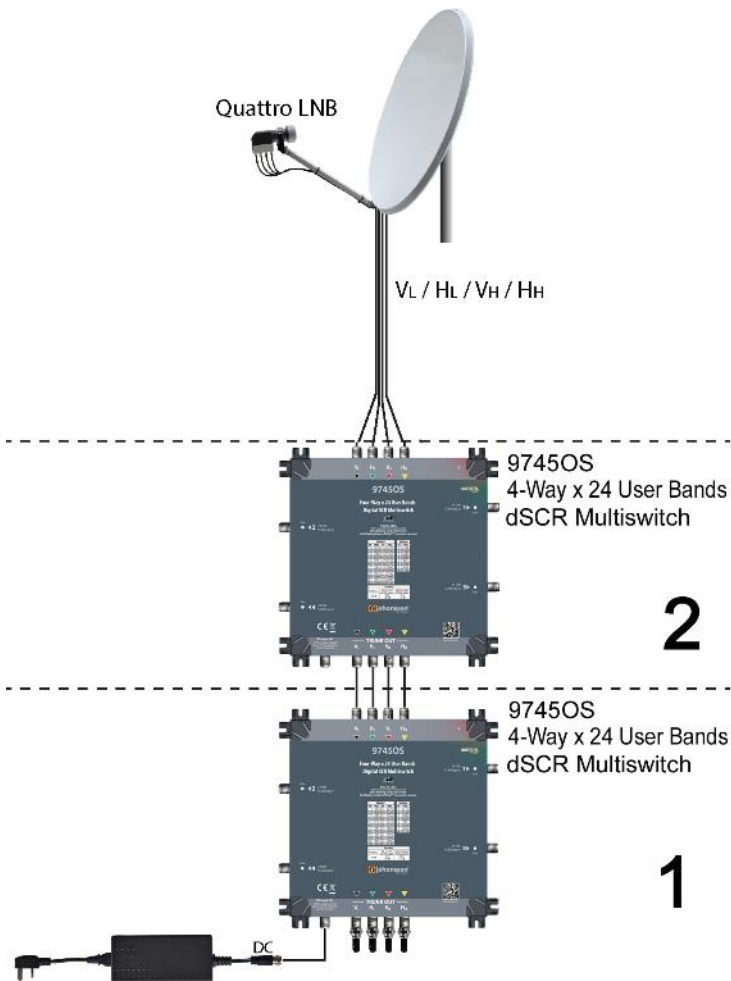
## Typical application



## 2. INSTALLATION OF THE HARDWARE

The optional power supply (ref 2460) can feed multiple multiswitches.

Ref.	Amount of products per power supply
97450S	2



All 4 LNB trunks should always be cascaded or terminated with a DC-blocked 75-Ohm terminator.

In this example 1 multiswitch is installed per floor. Only 1 power supplies is used to power the 2 multiswitches.

## 3. CONFIGURATION OF THE MODULE

### Power to Trunk

The cascaded system is powered by the trunks, this means that the trunks power both the cascaded Digital SCR Multiswitches as well as the LNB and trunk amplifiers. Trunk power can be inserted at the "DC Input" of 1 or more cascaded units.

This allows an efficient sharing of the power from multiple units and creates a natural backup system.

DC pass-through on the trunks is foreseen for the 4 Sat trunks only.

### dSCR Modes:

SCR mode:                Slow blinking **GREEN**  
Legacy mode:            Solid **GREEN**

The 9745OS can work in two modes on each output independently – SCR Mode and Legacy Mode.

The default mode is Legacy Mode. The module will automatic switch from Legacy to SCR mode upon the first DiSEqC command when a SCR set top box is connected. If SCR mode has been activated, that specific output needs to be powered-off to go back to Legacy Mode.

#### **SCR mode: status LED slow blinking green**

When a compatible Set Top Box is connected and set in "SCR Mode" up to 24 User Bands can be generated and can be tuned independent of each other to any LNB input and transponder. The 9745OS is compatible with the EN50607 and EN50494 CENELEC-standard. The set top box sends the desired data for the LNB input and frequency selected in DiSEqC commands.

#### **Legacy mode: status LED solid green**

When a Legacy Set Top Box (non-SCR Compatible) is connected to any of the ports, the dSCR works like a standard multiswitch allowing only one tuner to be connected to each output and allowing the tuner to select a single band, polarity and frequency from the relevant transponder using 13/18 V and 0/22 kHz tone switching.

## 4. TECHNICAL SPECIFICATIONS

<b>97450S</b>	
<b>Satellite</b>	
Operating Frequency Range	950 – 2150 MHz
Inputs	4
Outputs * (Trunk)	4
Max and Min Input Txp Power Level	-35 to -5 dBm
Trunk lines in to out gain	-4 Max (-2.5 Typical)
In to SCR out gain	-15 to +15 Typical, AGC controlled
In to legacy out gain	-15 to +15 Typical, AGC controlled
Return loss	>8
<b>dSCR Output Ports</b>	
dSCR Output Ports	4
Supported Output Modes	SCR + Legacy
SCR Mode Indication	Multicolor/Flashing LED
SCR Output Power per Txp	-23 dBm Min (-21 dBm Typical), AGC controlled
SCR channel bandwidth	40 MHz
SCR User Bands	24
SCR Standard (auto detect & switch)	CENELEC EN50494, CENELEC EN50607, Universal LNB tone & volts
Legacy Output Power per Txp	-23 dBm Min (-21 dBm Typical), AGC controlled
DiSEqC signaling	DiSEqC compliant

\*: Unused ports needs to be terminated with 75 Ohm DC-blocked terminator



DC Power	
DC Power Connector	Unit can be powered via PWR port or trunk lines (all F-types)
Power Indication	Green LED (front of unit)
Power Supply Voltage	15 to 20 VDC
Max Power consumption	SCR mode: 4W per port
DC from trunk lines out to in	Yes
Supply current to LNB	Yes
Short circuit protection & power on diagnostics	Yes
Ground tags	1
Operating Temperature Range	-20 to +50 °C, Indoor housing

EN50607		EN50607		EN50494	
UB	FREQ	UB	FREQ	UB	FREQ
1	1210	13	1475	1	1210
2	1420	14	1520	2	1420
3	1680	15	1565	3	1680
4	2040	16	1610	4	2040
5	975	17	1725	5	975
6	1020	18	1770	6	1020
7	1065	19	1860	7	1065
8	1110	20	1905	8	1110
9	1155	21	1950		
10	1260	22	1995		
11	1305	23	2085		
12	1350	24	2130		

## 5. SAFETY INSTRUCTIONS



**Read these instructions carefully before connecting the unit**



To prevent fire, short circuit or shock hazard:

- Do not expose the unit to rain or moisture.
- Install the unit in a dry location without infiltration or condensation of water.
- Do not expose it to dripping or splashing.
- Do not place objects filled with liquids, such as vases, on the apparatus.
- If any liquid should accidentally fall into the cabinet, disconnect the power plug.



To avoid any risk of overheating:

- Install the unit in a well aery location and keep a minimum distance of 15 cm around the apparatus for sufficient ventilation
- Do not place any items such as newspapers, table-cloths, curtains, on the unit that might cover the ventilation holes.
- Do not place any naked flame sources, such as lighted candles, on the apparatus
- Do not install the product in a dusty place
- Use the apparatus only in moderate climates (not in tropical climates)
- Respect the minimum and maximum temperature specifications



To avoid any risk of electrical shocks:

- Connect apparatus only to socket with protective earth connection.
- The mains plug shall remain readily operable
- Pull out power plug to make the different connections of cables
- To avoid electrical shock, do not open the housing of adapter.



**Maintenance**



Only use a dry soft cloth to clean the cabinet.



Do not use solvent



For repairing and servicing refer to qualified personnel.



**Dispose according your local authority's recycling processes**

## 6. CONDITIONS OF WARRANTY

Unitron N.V. warrants the product as being free from defects in material and workmanship for a period of 24 months starting from the date of production indicated on it. See note below.

If during this period of warranty the product proves defective, under normal use, due to defective materials or workmanship, Unitron N.V, at its sole option, will repair or replace the product. Return the product to your local dealer for reparation

### **THE WARRANTY IS APPLIED ONLY FOR DEFECTS IN MATERIAL AND WORKMANSHIP AND DOES NOT COVER DAMAGE RESULTING FROM:**

- Misuse or use of the product out of its specifications.
- Installation or use in a manner inconsistent with the technical or safety standards in force in the country where the product is used
- Use of non-suitable accessories (power supply, adapters...).
- Installation in a defect system.
- External cause beyond the control of Unitron N.V. such as drop, accidents, lightning, water, fire, improper ventilation...

### **THE WARRANTY IS NOT APPLIED IF**

- Production date or serial number on the product is illegible, altered, deleted or removed.
- The product has been opened or repaired by a non-authorized person.

### **NOTE**

Date of production can be found in the product's serial number code. The format will either be "YEAR W WEEK" (e.g., 2016W01 = year 2016 week 1) or "YYWW" (e.g., 1447 = year 2014 week 47).



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