

User Manual

SCR Multiswitch

Ref. 9743SK, 9745SK





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1. INTRODUCTION

Product description

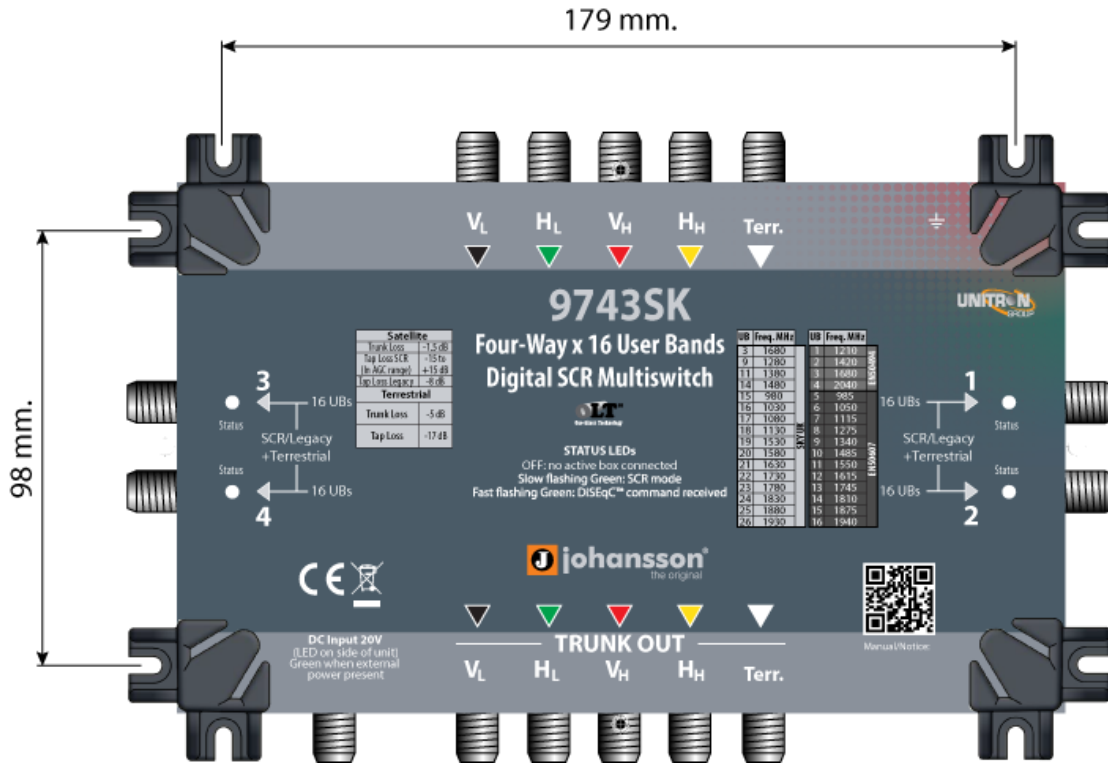
The 974xSK products are designed to support a wide range of new and existing multiswitch installations.

- Each 974xSK unit has:
 - 4 cascade-able LNB inputs from universal Quattro LNBF: VL HL VH HH
 - 1 terrestrial trunk.
 - 4 or 8 SCR/Legacy outputs (9743SK or 9745SK)
 - 1 DC input.
- Each output can support a wide variety of satellite receivers:
 - In legacy mode, the 974xSK outputs can be used as a standard multiswitch.
 - In SCR mode, each 974xSK output supports up to 16UBs 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 terrestrial part allows to support any service that operates below 1 GHz, which includes terrestrial reception, cable and DOCSIS reception.
- 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 powersupply is 2460 or 2460UK.

Package contents

- 1x Digital SCR Multiswitch (9743SK or 9745SK)

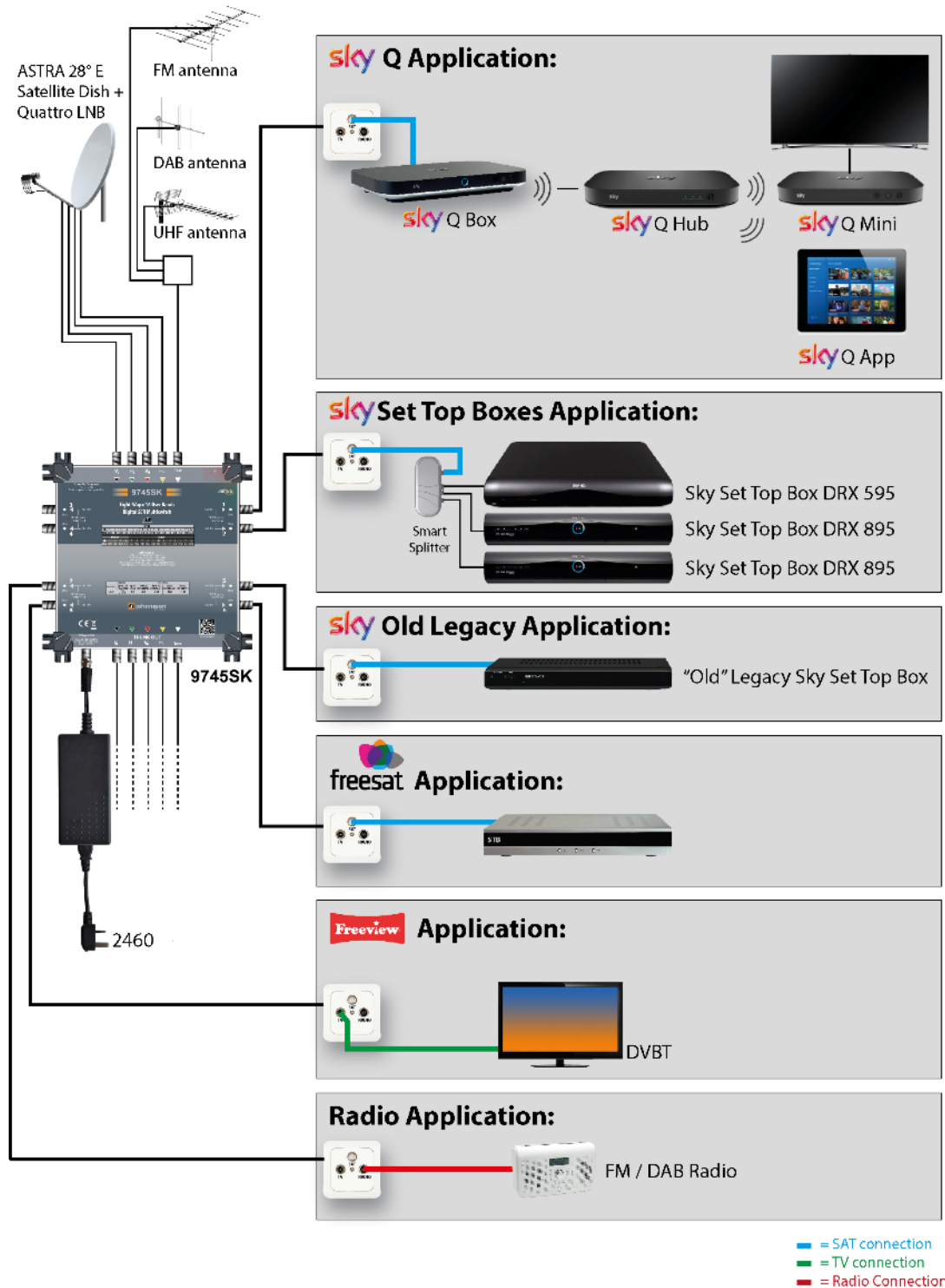
Mounting



	A	B
9743SK	98 mm	179 mm
9745SK	179 mm	179 mm

Typical application for the UK

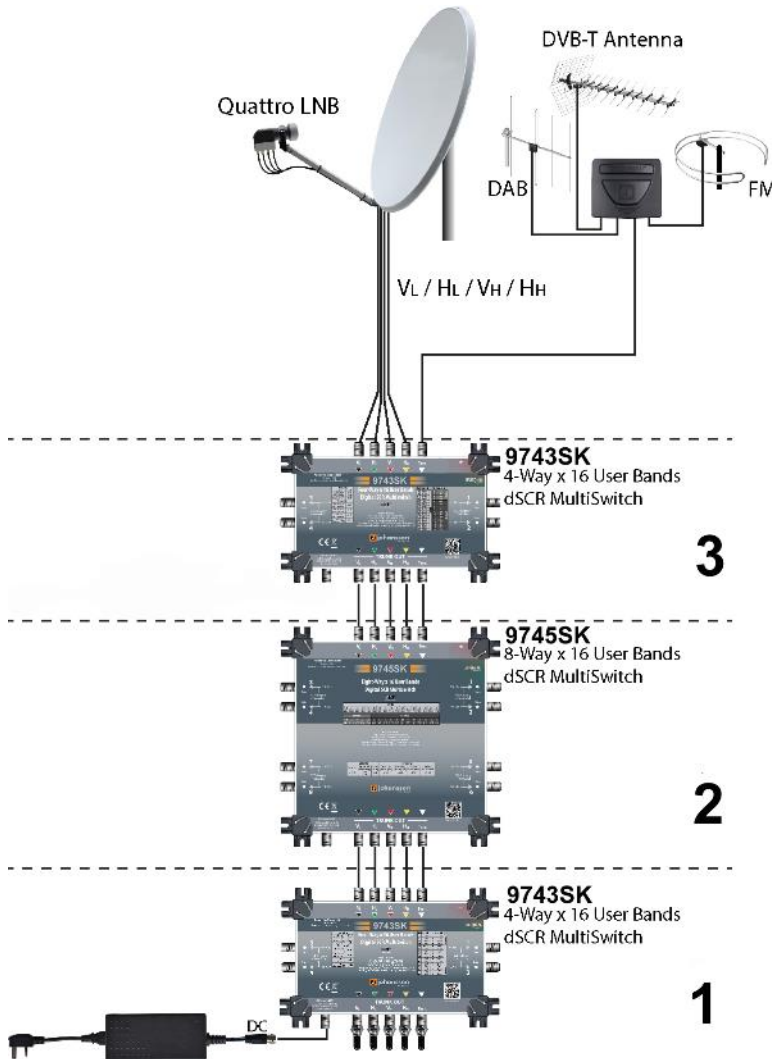
Connection examples with Digital SCR Multiswitches for the UK



2. INSTALLATION OF THE HARDWARE

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

Ref.	Amount of products per power supply
9743SK	4
9745SK	2



All 4 LNB trunks should always be cascaded or terminated with a DC-blocked 75-Ohm terminator. All unused SCR/Legacy outputs should be terminated with a 75-Ohm terminator for proper terrestrial signals.

In this example 1 multiswitch is installed per floor. Only 1 power supplies is used to power the 3 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 (Terrestrial is DC blocked).

Terrestrial path

The Terrestrial trunk is passive and DOCSIS signals can pass through in both directions.

The Terrestrial trunk should always be terminated with a 75-Ohm terminator.

dSCR Modes:

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

The 974xSK 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 16 User Bands can be generated and can be tuned independent of each other to any LNB input and transponder. The 974xSK is compatible with the Sky, 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

9743SK		9745SK	
Satellite			
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	-2.5 (-1.5 Typical)	-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		
Terrestrial			
Operating Frequency Range	5 – 862 MHz		
Inputs	1		
Outputs * (Trunk)	1		
Trunk Lines in to out	-4 Typical	-7 Typical	
In to SCR out	-17 Typical	-21 Typical	
dSCR Output Ports			
dSCR Output Ports	4	8	
Supported Output Modes	SCR + Legacy + DTT/DAB/FM		
SCR Mode Indication	Multicolor/Flashing LED		
SCR Output Power per Txp	-23 dBm Min (-21 dBm Typical), AGC controlled		
SCR channel bandwidth	46 MHz		
SCR User Bands	16		
SCR Standard (auto detect & switch)	Sky UK SCR, 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: 6W per pair of ports
DC from trunk lines out to in	Yes (not for terrestrial trunk)
Supply current to LNB	Yes
Short circuit protection & power on diagnostics	Yes
Ground tags	1
Operating Temperature Range	-20 to +50 °C, Indoor housing

Sky UK		EN50607		EN50494	
UB	FREQ	UB	FREQ	UB	FREQ
3	1680	5	985	1	1210
9	1280	6	1050	2	1420
11	1380	7	1115	3	1680
14	1480	8	1275	4	2040
15	980	9	1340		
16	1030	10	1485		
17	1080	11	1550		
18	1130	12	1615		
19	1530	13	1745		
20	1580	14	1810		
21	1630	15	1875		
22	1730	16	1940		
23	1780				
24	1830				
25	1880				
26	1930				

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 is YYWW format, example 1447 = year 2014 – week 47.
For the serial number barcodes, the date corresponds to the 4 first numbers



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