User Manual

Digital SCR Multiswitch

Ref. 9754 – 9754A

Ref. 9758 – 9758A

+ variants

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CONTENTS

1. INTRODUCTION

Product description

- 4 SAT in (for 1 Q or 2 WB LNBs)
- Auto detection for SCR and Legacy Mode
- Amplified/bypass terrestrial diplexer
- Die-cast housing optimized for user-friendly installation
- Available for different operator user bands
- A-version with active terrestrial amplifier

The 975x products are designed to support a wide range of new and existing multiswitch installations.

- Each 975x unit has:
  - 4 cascadable LNB inputs from universal Quattro LNB : VL HL VH HH
    or from 2 wideband LNBs: V & H + V & H
  - 1 terrestrial trunk.
  - 4 SCR/Legacy outputs (9754 & 9754A) or 8 SCR/Legacy outputs (9758 & 9758A)
- Each output can support a wide variety of satellite receivers :
  - In legacy mode, the 975x outputs can be used as a standard multiswitch.
  - In SCR mode, each 975x 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 using a power inserter (ref 9669). In cascaded systems, multiple power supplies might be needed. The Johansson reference for the power supply is 2460 or 2460UK.

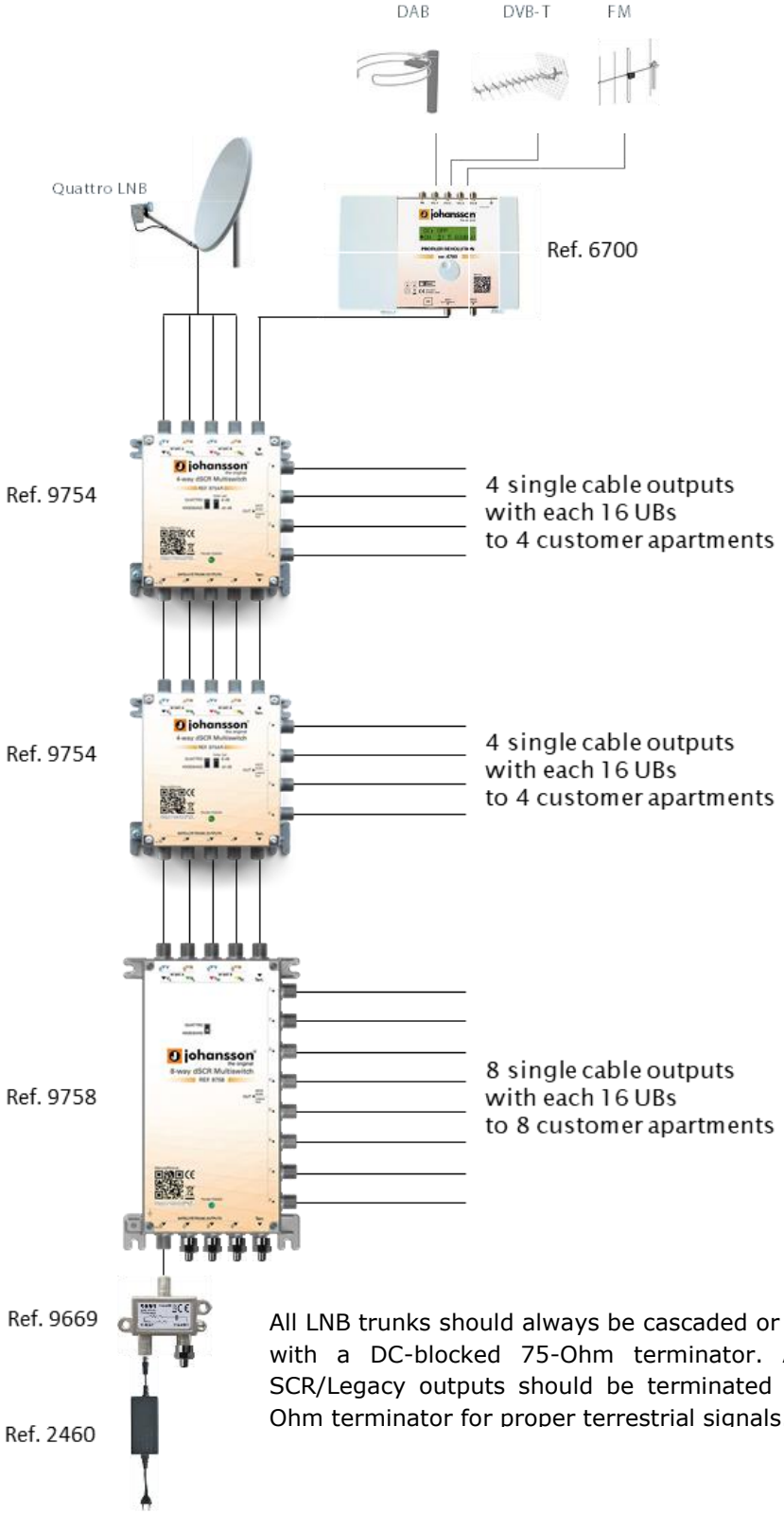
Package contents

- 1x Digital SCR Multiswitch (dSCR 9754 – 9754A – 9758 – 9758A)

2. INSTALLATION OF THE HARDWARE

1 power supply (ref 2460/2460UK) can feed: 4 4-way multiswitches (9754 – 9754A)
or: 2 8-way multiswitches (9758 – 9758A)

To feed power to the multiswitch, use a power inserter (ref 9669).



All 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.

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 using a power inserter (ref 9669).

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).

Wideband or Quattro LNB

The 4 Sattelite inputs can receive signals from 1 Quattro LNB (VL HL VH HH) or from 2 Wideband LNBs (V H + V H). Use the switch to select if the multiswitch receives signal from a Quattro or Wideband LNB.

Terrestrial path

The Terrestrial trunk is active (9754A & 9758A) or passive (9754 & 9758).
DOCSIS signals can pass through in both directions. (9754A & 9758A only in bypass mode)

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

Active or bypass mode on the 9754A and 9758A:
Use the switch to select the terrestrial amplification: -8 dB or -20 dB

dSCR Modes:

The 975x can work in two modes on each output independently – SCR Mode and Legacy Mode.

The default mode is Legacy. The module will automatically 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:

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 975x 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:

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

		9754	9754A	9758	9758A
Trunk inputs/outputs	-	SAT: 4 TERR: 1			
Outputs* (dSCR/dCSS/Legacy/TERR)	-	4	4	8	8
Frequency	MHz	SAT: 290 – 2340 TERR: 88 – 862			
Min. input level SAT	dBµV	Universal LNB: 62 Wideband LNB: 67			
Max. input level SAT	dBµV	Universal LNB: 106 Wideband LNB: 106			
Max. input level TERR	dBµV	-	Amplified: 109 Bypass: 121	-	Amplified: 109 Bypass: 121
Trunk return loss	dB	> 10			
Trunk insertion Loss	dB	SAT: 2 TERR: 1.5		SAT: 4 TERR: 3	
SAT positions	-	Universal LNB: 1 Wideband LNB: 2			
dSCR channel output power	dBµV	88 (AGC controlled)			
Output return loss	dB	> 10			
TERR tap loss	dB	18	Bypass: 20 Amplified: 8	22	Bypass: 24 Amplified: 12
SCR channels (16 users/output)	MHz	Between 950 and 2150			
Supported standards	-	EN 50494 (SCD) EN 50607 (SCD 2) BSKYB Legacy			
Trunk termination DC block required	Ohm	75 (SAT & TERR)			
DC power via SAT trunks	V	20			
Consumption	W	10		20	
Operating temperature	˚C	-20 to +50 (indoor housing)			
Dimensions	mm	124 x 117 x 39		204 x 117 x 39	

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

5. Channel Plans

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				

Cyfrowy Polsat (PL)			
EN50494		EN50607	
UB	FREQ	UB	FREQ
1	1210	1	1210
2	1420	2	1420
3	1680	3	1680
4	2040	4	2040
5	978	5	978
6	1028	6	1028
7	1072	7	1072
8	1116	8	1116
		9	1160
		10	1271

6. 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

7. 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., 2017W32 = year 2017 week 32) or "YYWW" (e.g., 1732 = year 2017 week 32).

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