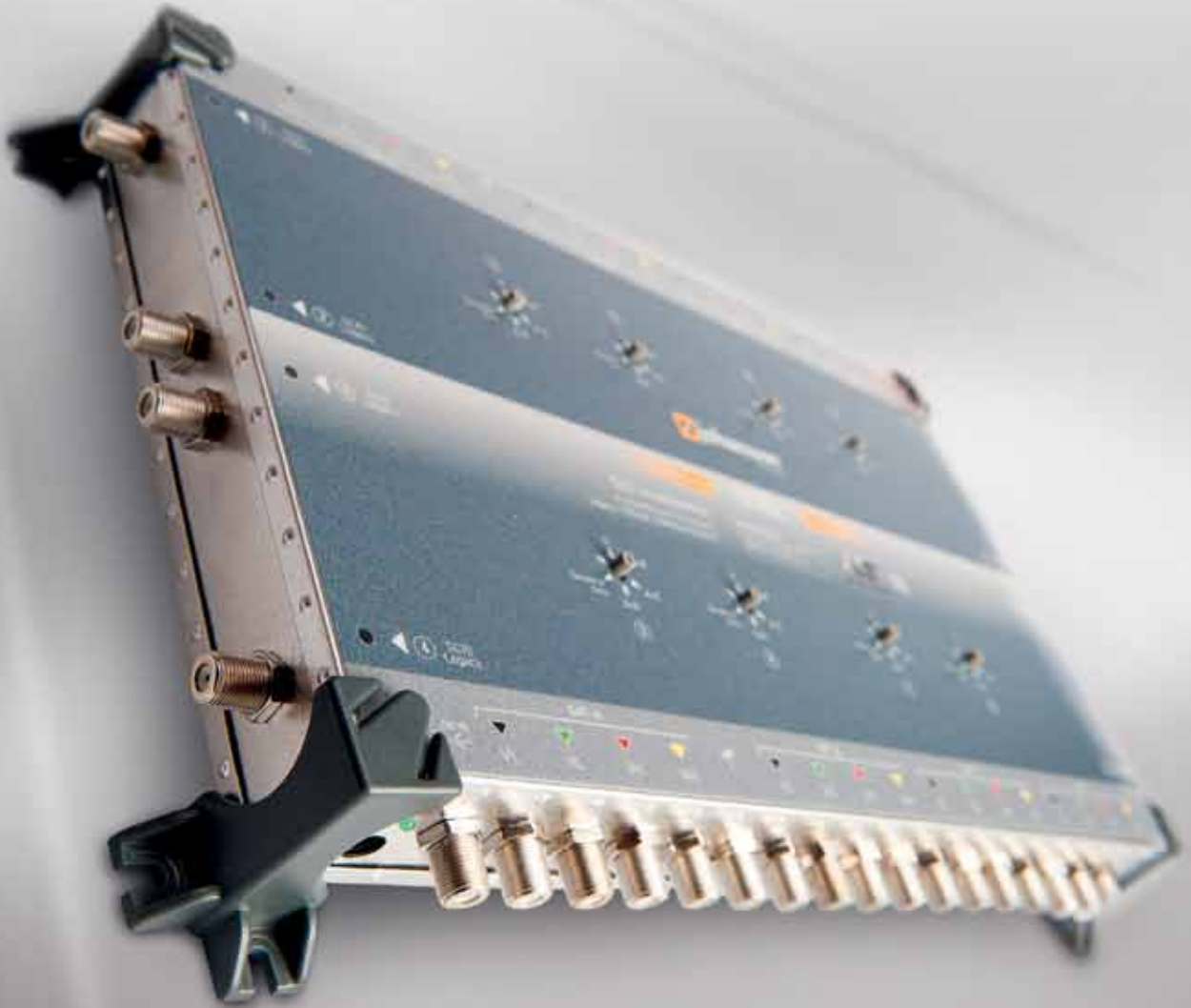


# Johansson

# CATALOGUE



EDITION 2013

 johansson®



# Johansson

## More than a name!

**Johansson** is the quality brand of the Unitron Group, an international RF electronics company, headquartered in Poperinge, Belgium.

**Johansson** stands for quality and reliability in reception and distribution of digital TV signals.

The **Johansson** state-of-the-art products and quality standards build on a company history of more than 50 years. The in-depth knowledge of RF- electronics and SAT-TV technology is accumulated in the minds and hands of our 100+ highly qualified employees. This know-how is embedded in the versatility and the quality of the **Johansson** products. For every application or situation, **Johansson** has a custom-made product or solution. This catalogue is a summary of what we have in our product range; feel free to explore our website [www.johansson.be](http://www.johansson.be) for updated application information and for contacting our specialists when solving Your specific application.

Buying a **Johansson** product is buying a state-of-the-art piece of electronics, which will do the job and will last for years.

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# Digital Modular Headend

- ▶ Johansson has developed a complete range of Digital Modular Headends (DMH), which are the ideal TV distribution system for middle-sized and large buildings (MDU). We offer a complete product range, consisting of COFDM (DVB-T) and QAM (DVB-C) modulators and IPTV streamers. All of these products are available with satellite, terrestrial or A/V inputs. Thanks to the modular design, the system is scalable to suit your specific needs. We also present our configuration software, called UUI (page 48).



# INDEX | DMH

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# Digital Modular Headend

ProQuad | DVB-S(2) → DVB-T

The **DVB-S(2) to DVB-T** modules each have 4 inputs allowing the reception of 4 different satellite bands per module. Because all modules have 4 satellite tuners and a built-in multiswitch, reception of 4 different transponders coming from one of the 4 input satellite bands is possible.

Depending on the type of module, up to 4 DVB-T multiplexes can be distributed per module, offering you one of the most flexible and cost-efficient solutions available on the market!

5302S | T | Q

- ▶ 4 satellite tuners (reception of 4 transponders per module)
- ▶ 4 satellite inputs (4 satellite bands per module)
- ▶ integrated multiswitch allows flexible routing of satellite programs to DVB-T multiplexes
- ▶ distribute up to 32 programs per module
- ▶ ref. 5303S/T/Q: decode up to 16 programs per module with multi-service CAM (encoded programs from all 4 tuners can be routed through 1 CAM)
- ▶ easy configuration with built-in webserver or optional UUI configuration software
- ▶ remote access possibility



5303S | T | Q

5302S | 5303S | 5302T | 5303T | 5302Q | 5303Q

## Input: DVB-S(2)

Number of inputs	-	4 with 4 active loop-through outputs (0 dB loss)
Tuner	-	4 tuners (4 transponders)
Frequency range	MHz	950-2150
Level	dBm	-55 to -25
Bandwidth	MHz	36
Modulation	-	DVB-S(2): QPSK, 8-PSK DVB-S: QPSK
LNB power (DC+tone)	V	0/13/18 + 22kHz DiSEqC®
LNB current per input	mA	max. 250

## Output: DVB-T

Number of outputs	-	1 with 1 loop through (max 1,5 dB loss)				
Frequency range	MHz	47-862 (VHF-UHF)				
Multiplexes	-	1	2 adjacent	4 adjacent		
Channel bandwidth	MHz	6/7/8				
Modulation	-	QPSK, 16-QAM, 64-QAM				
OFDM mode	-	2K				
Forward Error Correction (FEC)	-	1/2, 2/3, 3/4, 5/6, 7/8				
Guard interval	-	1/4, 1/8, 1/16, 1/32				
Output bitrate/mux	Mbps	up to 31,7				
Modulation Error Rate (MER)	dB	40				
Spectral inversion	-	yes				
Output level	dBµV	68 to 83 (adjustable)				
CI-slot	-	no	yes	no	yes	
Capacity	-	up to 8 programs		up to 16 programs		up to 32 programs

## General

Connectors	-	RF: 10 x "F" connector female Management: RJ-45 [Ethernet] DC: banana sockets
Power supply	VDC	15
Consumption	A	1,5
Operating temperature	°C	0 to +40
Dimensions	-	5 RU x 8 TE x 195 mm

# Digital Modular Headend

ProQuad | DVB-T → DVB-T



The **DVB-T** to **DVB-T** modules are the ideal solution to regenerate a poor quality DVB-T signal. But the 5310Q and 5311Q are much more powerful than a normal DVB-T regenerator! Each module has 4 DVB-T tuners, and 4 DVB-T modulators. Thanks to a built-in multiswitch, remapping of the programs between the input and the output is possible. This makes it possible to rearrange the multiplexes, delete some programs, change the DVB-T parameters,...

5310Q

5311Q



- ▶ 4 tuners allow reception of 4 multiplexes per module
- ▶ 4 output DVB-T multiplexes per module
- ▶ distribute up to 32 programs per module
- ▶ decode up to 16 programs per module with multi-service CAM (5311Q)
- ▶ easy configuration with builtin webserver or optional UUI configuration software
- ▶ remote access possibility

5310Q | 5311Q

Input: DVB-T		
Number of inputs	-	1 with 1 active loop-through output ( $\pm 1$ dB)
Tuner	-	4 tuners (4 multiplexes)
Frequency range	MHz	VHF: 174-230 UHF: 470-862
Level	dBm	-55 to -20
Bandwidth	MHz	6/7/8
Modulation	-	QPSK: 1/2, 2/3, 3/4, 5/6, 7/8 16-QAM: 1/2, 2/3, 3/4, 5/6, 7/8 64-QAM: 1/2, 2/3, 3/4, 5/6, 7/8
LNA power	V	0/5/12/24 (max. 100 mA)
Output: DVB-T		
Number of outputs	-	1 with 1 loop through (max 1,5 dB loss)
Frequency range	MHz	47-862 (VHF-UHF)
Multiplexes	-	4 adjacent
Channel bandwidth	MHz	6/7/8
Modulation	-	QPSK, 16-QAM, 64-QAM
OFDM mode	-	2K
Forward Error Correction (FEC)	-	1/2, 2/3, 3/4, 5/6, 7/8
Guard interval	-	1/4, 1/8, 1/16, 1/32
Output bitrate/mux	Mbps	up to 31,7
Modulation Error Rate (MER)	dB	40
Spectral inversion	-	yes
Output level	dBpV	68 to 83 (adjustable)
CI-slot	-	no   yes
Capacity	-	up to 32 programs
General		
Connectors	-	RF: 4 x "F" connector female Management: RJ-45 (Ethernet) DC: banana sockets
Power supply	VDC	15
Consumption	A	1,5
Operating temperature	°C	0 to +40
Dimensions	-	5 RU x 8 TE x 195 mm

# Digital Modular Headend

ProQuad | AV → DVB-T

The quad AV to DVB-T module has 4 inputs, to distribute up to 4 analog video sources over the coaxial network.

5330

- ▶ 4 AV stereo inputs per module
- ▶ easy configuration with built-in webserver or optional UUI configuration software
- ▶ change important parameters: LCN, resolution, brightness, contrast, hue, saturation,...
- ▶ ideal solution for CCTV or near-VOD!
- ▶ remote access possibility



5330

## Input: CVBS (A/V)

Number of inputs	-	4 x AV (CVBS)
Video processing	-	Conformance with IEC 13818-2 (MPEG2 video) and ISO/IEC 11172-3 (MPEG1 audio) standards
Video resolution	-	SIF: 352 x 288 SVCD: 480 x 576 HALF D1: 352 x 576 D1: 720 x 576 544: 544 x 576
Video bitrate	kbps	1500 to 7000 (Typ. 6000)
Audio volume	dB	-6 to +6 (Typ. 0)

## Output: DVB-T

Number of outputs	-	1 with 1 loop through (max 1,5 dB loss)
Frequency range	MHz	47-862 (VHF-UHF)
Multiplexes	-	2 adjacent
Channel bandwidth	MHz	6/7/8
Modulation	-	QPSK, 16-QAM, 64-QAM
OFDM mode	-	2K
Forward Error Correction (FEC)	-	1/2, 2/3, 3/4, 5/6, 7/8
Guard interval	-	1/4, 1/8, 1/16, 1/32
Output bitrate/mux	Mbps	up to 31,7
Modulation Error Rate (MER)	dB	40
Spectral inversion	-	yes
Output level	dBμV	68 to 83 (adjustable)
Capacity	-	4 programs

## General

Connectors	-	Video input: 4 x CINCH Audio input: 4 x 3,5 mm jack RF: 2 x "F" connector female Management: RJ-45 (Ethernet) DC: banana sockets
Power supply	VDC	15
Consumption	A	0,8
Operating temperature	°C	0 to +40
Dimensions	-	5 RU x 8 TE x 195 mm



# Digital Modular Headend

ProQuad | DVB-S(2) → DVB-C



The **DVB-S(2)** to **DVB-C** modules each have 4 inputs allowing the reception of 4 different satellite bands per module. Because all modules have 4 satellite tuners and a built-in multiswitch, reception of 4 different transponders coming from one of the 4 input satellite bands is possible. Depending on the type of module, up to 4 DVB-C multiplexes can be distributed per module, offering you one of the most flexible and cost-efficient solutions available on the market!

5352S | T | Q

- ▶ 4 satellite tuners (reception of 4 transponders per module)
- ▶ 4 satellite inputs (4 satellite bands per module)
- ▶ integrated multiswitch allows flexible routing of satellite programs to DVB-C multiplexes
- ▶ distribute up to 32 programs per module
- ▶ ref. 5353S/T/Q: decode up to 16 programs per module with multi-service CAM (encoded programs from all 4 tuners can be routed through 1 CAM)
- ▶ easy configuration with built-in webserver or optional UUI configuration software
- ▶ remote access possibility

5353S | T | Q



5352S | 5353S | 5352T | 5353T | 5352Q | 5353Q

Input: DVB-S(2)						
Number of inputs	-	4 with 4 active loop-through outputs (0 dB loss)				
Tuner	-	4 tuners (4 transponders)				
Frequency range	MHz	950-2150				
Level	dBm	-55 to -25				
Bandwidth	MHz	36				
Modulation	-	DVB-S(2): QPSK, 8-PSK DVB-S: QPSK				
LNB power (DC+tone)	V	0/13/18 + 22kHz DiSEqC®				
LNB current per input	mA	max. 250				
Output: DVB-C						
Number of outputs	-	1 with 1 loop through (max 1,5 dB loss)				
Frequency range	MHz	47-862 (VHF-UHF)				
Multiplexes	-	1	2 adjacent	4 adjacent		
Channel bandwidth	MHz	6/8				
Modulation	-	6 MHz: 64-QAM 8 MHz: 64-QAM/256-QAM				
Output bitrate/mux	Mbps	up to 51,3				
Modulation Error Rate (MER)	dB	40				
Spectral inversion	-	yes				
Output level	dBμV	68 to 83 (adjustable)				
CI-slot	-	no	yes	no	yes	no
Capacity	-	up to 8 programs		up to 16 programs		up to 32 programs
General						
Connectors	-	RF: 10 x "F" connector female Management: RJ-45 (Ethernet) DC: banana sockets				
Power supply	VDC	15				
Consumption	A	1,5				
Operating temperature	°C	0 to +40				
Dimensions	-	5 RU x 8 TE x 195 mm				

# Digital Modular Headend

ProQuad | DVB-T → DVB-C

The **DVB-T** to **DVB-C** modules allow the reception of 4 DVB-T multiplexes, which can be remapped and transmodulated to 4 DVB-C multiplexes.



- ▶ 4 tuners (reception of 4 multiplexes per module)
- ▶ 4 DVB-C output multiplexes per module
- ▶ integrated multiswitch allows flexible routing of terrestrial programs to DVB-C multiplexes
- ▶ distribute up to 32 programs per module
- ▶ ref. 5361Q: decode up to 16 programs per module with multi-service CAM (encoded programs from all 4 tuners can be routed through 1 CAM)
- ▶ easy configuration with built-in webserver or optional UUI configuration software
- ▶ remote access possibility

5360Q | 5361Q

Input: DVB-T		
Number of inputs	-	1 with 1 active loop-through output ( $\pm 1$ dB)
Tuner	-	4 tuners (4 multiplexes)
Frequency range	MHz	VHF: 174-230 UHF: 470-862
Level	dBm	-55 to -20
Bandwidth	MHz	6/7/8
Modulation	-	QPSK: 1/2, 2/3, 3/4, 5/6, 7/8 16-QAM: 1/2, 2/3, 3/4, 5/6, 7/8 64-QAM: 1/2, 2/3, 3/4, 5/6, 7/8
LNA power	V	0/5/12/24 (max 100 mA)
Output: DVB-C		
Number of outputs	-	1 with 1 loop through (max 1,5 dB loss)
Frequency range	MHz	47-862 (VHF-UHF)
Multiplexes	-	4 adjacent
Channel bandwidth	MHz	6/8
Modulation	-	6 MHz: 64-QAM 8 MHz: 64-QAM/256-QAM
Output bitrate/mux	Mbps	up to 51,3
Modulation Error Rate (MER)	dB	40
Spectral inversion	-	yes
Output level	dB $\mu$ V	68 to 83 (adjustable)
CI-slot	-	no   yes
Capacity	-	up to 32 programs
General		
Connectors	-	RF: 4 x "F" connector female Management: RJ-45 (Ethernet) DC: banana sockets
Power supply	VDC	15
Consumption	A	1,5
Operating temperature	°C	0 to +40
Dimensions	-	5 RU x 8 TE x 195 mm

# Digital Modular Headend

ProQuad | AV → DVB-C

The quad AV to DVB-C module has 4 inputs, to distribute up to 4 analog video sources over the DVB-C network.



5380

- ▶ 4 AV stereo inputs per module
- ▶ easy configuration with builtin webserver or optional UUI configuration software
- ▶ change important parameters: LCN, resolution, brightness, contrast, hue, saturation,...
- ▶ ideal solution for CCTV or near-VOD!
- ▶ remote access possibility

5380

Input: CVBS(A/V)		
Number of inputs	-	4 x AV (CVBS)
Video processing	-	Conformance with IEC 13818-2 (MPEG2 video) and ISO/IEC 11172-3 (MPEG1 audio) standards
Video resolution	-	SIF: 352 x 288 SVCD: 480 x 576 HALF D1: 352 x 576 D1: 720 x 576 544: 544 x 576
Video bitrate	kbps	1500 to 7000 (Typ. 6000)
Audio volume	dB	-6 to +6 (Typ. 0)

Output: DVB-C		
Number of outputs	-	1 with 1 loop through (max 1,5 dB loss)
Frequency range	MHz	47-862 (VHF-UHF)
Multiplexes	-	2 adjacent
Channel bandwidth	MHz	6/8
Modulation	-	6 MHz: 64-QAM 8 MHz: 64-QAM/256-QAM
Output bitrate/mux	Mbps	up to 51,3
Modulation Error Rate (MER)	dB	40
Spectral inversion	-	yes
Output level	dBμV	68 to 83 (adjustable)
Capacity	-	4 programs

General		
Connectors	-	Video input: 4 x CINCH Audio input: 4 x 3,5 mm jack RF: 2 x "F" connector female Management: RJ-45 (Ethernet) DC: banana sockets
Power supply	VDC	15
Consumption	A	0,8
Operating temperature	°C	0 to +40
Dimensions	-	5 RU x 8 TE x 195 mm

# Digital Modular Headend

ProStreamer | DVB-S(2) → IPTV

Thanks to 4 satellite inputs per module, each module is able to receive the 4 satellite bands. The modules have 4 satellite tuners and a multiswitch inside to offer a fully flexible interconnection between the inputs and the tuners. All IPTV modules have 2 separate Ethernet ports: one for streaming output and one for configuration. This allows the user to separate the streaming traffic from the configuration, to avoid unauthorized access.



- ▶ 4 satellite tuners (reception of 4 transponders per module)
- ▶ 4 satellite inputs (4 satellite bands per module)
- ▶ distribute up to 16 programs per module
- ▶ ref. 5203: decode up to 16 programs per module with multi-service CAM (encoded programs from all 4 tuners can be routed through 1 CAM)
- ▶ easy configuration with built-in webserver or optional UUI configuration software
- ▶ remote access possibility

	5202	5203
<b>Input: DVB-S(2)</b>		
Number of inputs	-	4 with 4 active loop-through outputs (0 dB loss)
Tuner	-	4 tuners (4 transponders)
Frequency range	MHz	950-2150
Level	dBm	-55 to -25
Bandwidth	MHz	36
Modulation	-	DVB-S(2): QPSK, 8-PSK DVB-S: QPSK
LNB power (DC+tone)	V	0/13/18 + 22kHz DiSEqC®
LNB current per input	mA	max. 250
<b>Output: IPTV</b>		
Standard	-	IEEE 802.3 10/100 Base-T
Protocol	-	Multicast IP/UDP
CI-slot	-	no   yes
Bitrate	Mbps	100
Capacity	-	up to 16 simultaneous streams
<b>General</b>		
Connectors	-	RF: 8 x "F" connector female Streaming: 1 x RJ-45 (Ethernet) Management: 1 x RJ-45 (Ethernet) DC: banana sockets
Power supply	VDC	15
Consumption	A	0,6   0,8
Operating temperature	°C	0 to +40
Dimensions	-	5 RU x 8 TE x 195 mm

# Digital Modular Headend

ProStreamer | DVB-T → IPTV



Many countries offer a nice bouquet of DVB-T programs, often free-to-air. With the **DVB-T to IPTV** modules, these programs can be distributed over the network via Ethernet. All modules have 4 DVB-T tuners, to receive 4 DVB-T multiplexes.

5210

5211

- ▶ 4 tuners allow reception of 4 multiplexes per module
- ▶ distribute up to 16 programs per module
- ▶ decode up to 16 programs per module with multi-service CAM
- ▶ easy configuration with builtin webserver or optional UUI configuration software
- ▶ remote access possibility



5210 | 5211

Input: DVB-T		
Input type	-	DVB-T
Number of inputs	-	1 with 1 active loop-through output ( $\pm 1$ dB)
Tuner	-	4 tuners (4 multiplexes)
Frequency range	MHz	VHF: 174-230 UHF: 470-862
Level	dBm	-55 to -20
Bandwidth	MHz	6/7/8
Modulation	-	QPSK: 1/2, 2/3, 3/4, 5/6, 7/8 16-QAM: 1/2, 2/3, 3/4, 5/6, 7/8 64-QAM: 1/2, 2/3, 3/4, 5/6, 7/8
LNA power	V	0/5/12/24 (100 mA max)
Output: IPTV		
Standard	-	IEEE 802.3 10/100 Base-T
Protocol	-	Multicast IP/UDP
CI-slot	-	no   yes
Bitrate	Mbps	100
Capacity	-	up to 16 simultaneous streams
General		
Connectors	-	RF: 2 x "F" connector female Streaming: 1 x RJ-45 (Ethernet) Management: 1 x RJ-45 (Ethernet) DC: banana sockets
Power supply	VDC	15
Consumption	A	0,5   0,7
Operating temperature	°C	0 to +40
Dimensions	-	5 RU x 8 TE x 195 mm

# Digital Modular Headend

ProStreamer | AV → IPTV

The quad AV to IPTV module has 4 inputs, to distribute up to 4 analog video sources over the Ethernet network.

5230

- ▶ 4 AV stereo inputs per module
- ▶ easy configuration with built-in webserver or optional UUI configuration software
- ▶ change important parameters: resolution, brightness, contrast, hue, saturation,...
- ▶ ideal solution for CCTV or near-VOD!
- ▶ remote access possibility



5230

## Input: CVBS (A/V)

Number of inputs	-	4 x AV (CVBS)
Video processing	-	Conformance with IEC 13818-2 (MPEG2 video) and ISO/IEC 11172-3 (MPEG1 audio) standards
Video resolution	-	SIF: 352 x 288 SVCD: 480 x 576 HALF D1: 352 x 576 D1: 720 x 576 544: 544 x 576
Video bitrate	kbps	1500 to 7000 (Typ. 6000)
Audio volume	dB	-6 to +6 (Typ. 0)

## Output: IPTV

Standard	-	IEEE 802.3 10/100 Base-T
Protocol	-	Multicast IP/UDP
Bitrate	Mbps	100
Capacity	-	4 streams

## General

Connectors	-	Video input: 4 x CINCH Audio input: 4 x 3,5 mm jack Streaming: 1 x RJ-45 (Ethernet) Management: 1 x RJ-45 (Ethernet) DC: banana sockets
Power supply	VDC	15
Consumption	A	0,65
Operating temperature	°C	0 to +40
Dimensions	-	5 RU x 8 TE x 195 mm

## Accessories | Power Supply Unit

5050ETH | 5050UKETH



5050ETH | 5050UKETH\*

Input voltage	VAC	90 to 264
Output voltage	VDC	15
Output power	W	150
Weight	kg	2
Dimensions	-	5 RU x 12 TE x 180 mm

\*The 5050UKETH is delivered with a UK power plug.

## Accessories | 19" Sub-Rack

5060ETH

Number of slots	-	Up to 9 modules (+ 1 power supply unit)
Blank plates	-	8 blank plates mounted
Weight	kg	3,3
Dimensions	-	19" x 5 RU x 195 mm

5060ETH



## Accessories | Fan Unit

5062ETH | 5062UKETH

5062ETH | 5062UKETH\*

Input voltage	VAC	90 to 264
Power consumption	VA	35
Weight	kg	4,9
Dimensions	-	19" x 2 RU x 155 mm

\*The 5062UKETH is delivered with a UK power plug.



# Digital Modular Headend

Accessories | RMU

**NEW**

The Remote Management Unit (RMU) enables any authenticated user to configure or monitor a specific headend remotely. The RMU is a very smart and powerful solution which connects with a server hosted by us and enables you to connect to any of your installations with any PC or Internet-connected device.

Setup of the unit is as simple as it is going to get:



1 Put the RMU in the 19" rack.



2 Connect the RMU to an Internet-connected switch, together with the DMH modules.



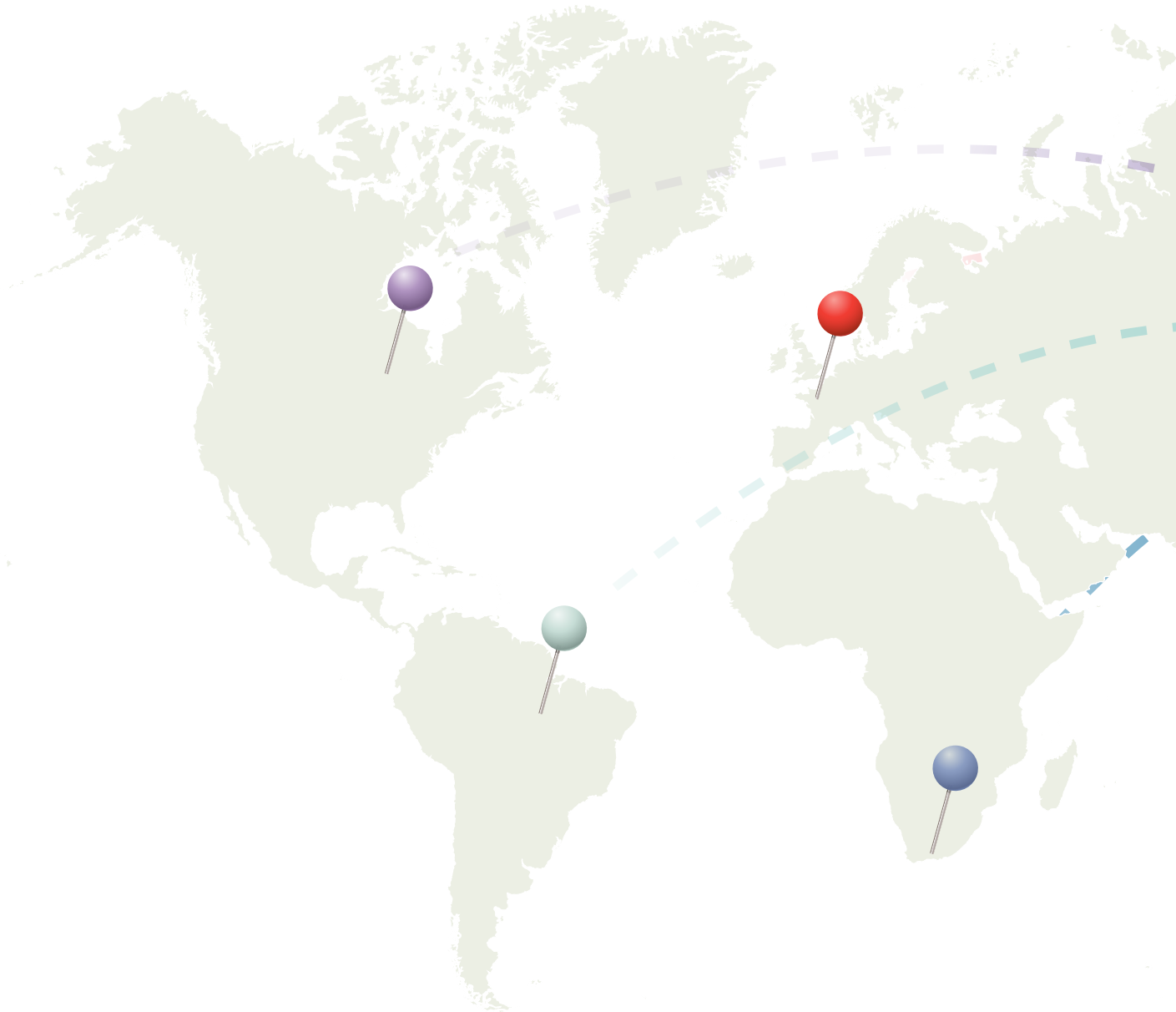
3 Connect the power.



4 Go to our hosted website, login and enter the unique code visible on the RMU.



5 You can now connect to this module from wherever you are on any PC!





- ▶ very simple installation
- ▶ powerfull configuration and monitoring tool with extended graphical user interface (embedded Universal User Interface)
- ▶ no network knowledge needed
- ▶ use our free application to manage all your installations remotely: google maps overview of all your installations, one button-connect to any installation, add pictures and comments regarding the installation...
- ▶ safe remote access with certificates and password authentication
- ▶ solve problems from wherever you are



5950

5950

Connectors	-	2 x USB DC: banana sockets Control: 1 x RJ-45
LEDs	-	1 x alarm LED 1 x power LED 1 x status LED
Power Supply	VDC	1,5
Consumption	A	0,6
Dimensions	-	5RU x 8TE x 180 mm



# Digital Compact Headend

- ▶ Johansson introduces the range of Digital Compact Headends, known as "Colosseum". Already shortly after their introduction in Germany, these compact TV distribution stations were recommended by several magazines for their ease of use, compactness and most off all, powerful performance! And this was exactly the goal of the Johansson Colosseum products: A plug&play solution to provide TV distribution in medium sized buildings. A key aspect of being plug&play is that the devices are preprogrammed for a specific region, enabling the installer to have a TV image in less than 2 minutes! The Colosseum is the perfect solution for hotels, motels, recreation parks, hospitals,... to replace the old analogue TV distribution system with a fully digital one!



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# Digital Compact Headend

Colosseum DVB-T CI

**NEW**

The Colosseum DVB-T CI (ref. 8501) is a plug&play compact headend for digital TV. The device is preprogrammed to distribute satellite programs in DVB-T (COFDM). Because all services and settings are preconfigured, the only thing you have to do is plug in the cables, and scan the TV's.

8501



- ▶ plug&play compact headend
- ▶ 8 transponders / 4 satellite bands / 8 COFDM multiplexes
- ▶ 2 CI slots: decode up to 32 encoded services
- ▶ preconfigured
- ▶ changes to the default settings can be made with a built-in webGUI or an optional Universal User Interface, called UUI
- ▶ innovative and compact design



Check out the website for more configurations.



# Digital Compact Headend

Colosseum DVB-T CI

**J** johansson

**NEW**

8501

## Input: QPSK (DVB-S2)

Number of inputs	-	4 satellite bands
Tuner	-	8 tuners (8 transponders)
Frequency range	MHz	950-2150
Level	dBm	-55 to -25
Bandwidth	MHz	36
Modulation	-	DVB-S2: QPSK, 8-PSK DVB-S: QPSK
LNB power (DC+tone)	V	0/13/18 + 22kHz DiSEqC®
LNB current per input	mA	max. 250

## Output: COFDM (DVB-T)

Number of outputs	-	1
Frequency range	MHz	47-862 (VHF-UHF)
Multiplexes	-	8 adjacent
Channel bandwidth	MHz	6/7/8
Modulation	-	QPSK, 16-QAM, 64-QAM
OFDM mode	-	2K
Forward Error Correction (FEC)	-	1/2, 2/3, 3/4, 5/6, 7/8
Guard interval	-	1/4, 1/8, 1/16, 1/32
Modulation Error Rate (MER)	dB	40
Spectral inversion	-	yes
Output level	dBµV	68 to 83 adjustable
CI-slot	-	2 slots
Capacity	-	up to 64 programs

## General

Connectors	-	RF: 20 x "F" connector female Management: 2 x RJ-45 (Ethernet) DC: banana sockets
Power supply	VDC	15
Consumption	A	3
Operating temperature	°C	0 to +40
Dimensions	mm	280 x 260 x 150

# Digital Compact Headend

## Colosseum DVB-T Germany

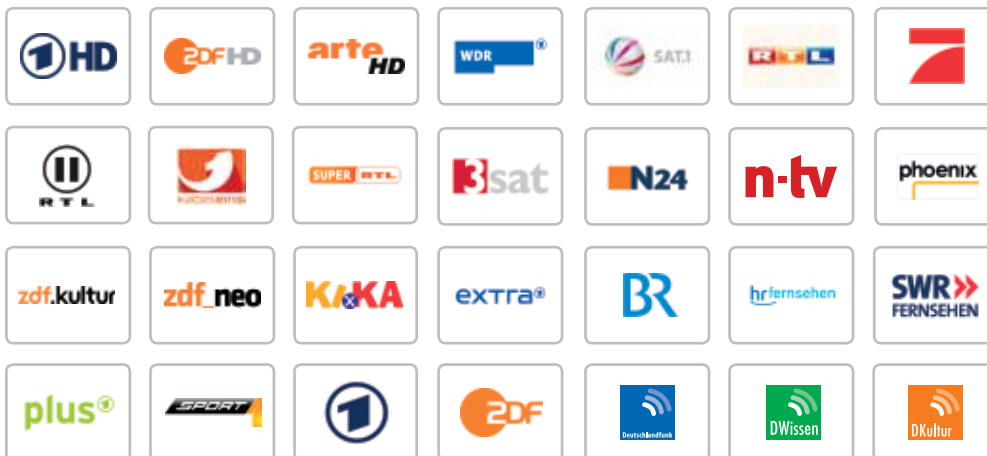
The Colosseum DVB-T (ref. 8500D) is a plug&play compact headend for digital TV. The device is preprogrammed to distribute 28 German satellite programs in DVB-T (COFDM). Because all services and settings are preconfigured, the only thing you have to do is plug in the cables, and scan the TV's.

This makes it an ideal solution to replace the old analogue headends during or after the switch-off.

8500D



- ▶ plug&play compact headend
- ▶ 8 transponders / 4 satellite bands / 8 COFDM multiplexes
- ▶ preconfigured with 28 German programs
- ▶ changes to the default settings can be made with a built-in webGUI or an optional Universal User Interface, called UUI
- ▶ innovative and compact design
- ▶ from analog to digital in 2 minutes!



Other configurations can be made on request with respect to our terms and conditions.



# Digital Compact Headend

Colosseum DVB-T Germany



8500D

## Input: QPSK (DVB-S2)

Number of inputs	-	4 satellite bands
Tuner	-	8 tuners (8 transponders)
Frequency range	MHz	950-2150
Level	dBm	-55 to -25
Bandwidth	MHz	36
Modulation	-	DVB-S2: QPSK, 8-PSK DVB-S: QPSK
LNB power (DC+tone)	V	0/13/18 + 22kHz DiSEqC®
LNB current per input	mA	max. 250

## Output: COFDM (DVB-T)

Number of outputs	-	1
Frequency range	MHz	47-862 (VHF-UHF)
Multiplexes	-	8 adjacent
Channel bandwidth	MHz	6/7/8
Modulation	-	QPSK, 16-QAM, 64-QAM
OFDM mode	-	2K
Forward Error Correction (FEC)	-	1/2, 2/3, 3/4, 5/6, 7/8
Guard interval	-	1/4, 1/8, 1/16, 1/32
Modulation Error Rate (MER)	dB	40
Spectral inversion	-	yes
Output level	dBµV	68 to 83 adjustable
Capacity	-	up to 64 programs (preprogrammed with 28 services)

## General

Connectors	-	RF: 20 x "F" connector female Management: 2 x RJ-45 (Ethernet) DC: banana sockets
Power supply	VDC	15
Consumption	A	3
Operating temperature	°C	0 to +40
Dimensions	mm	280 x 260 x 150

# Digital Compact Headend

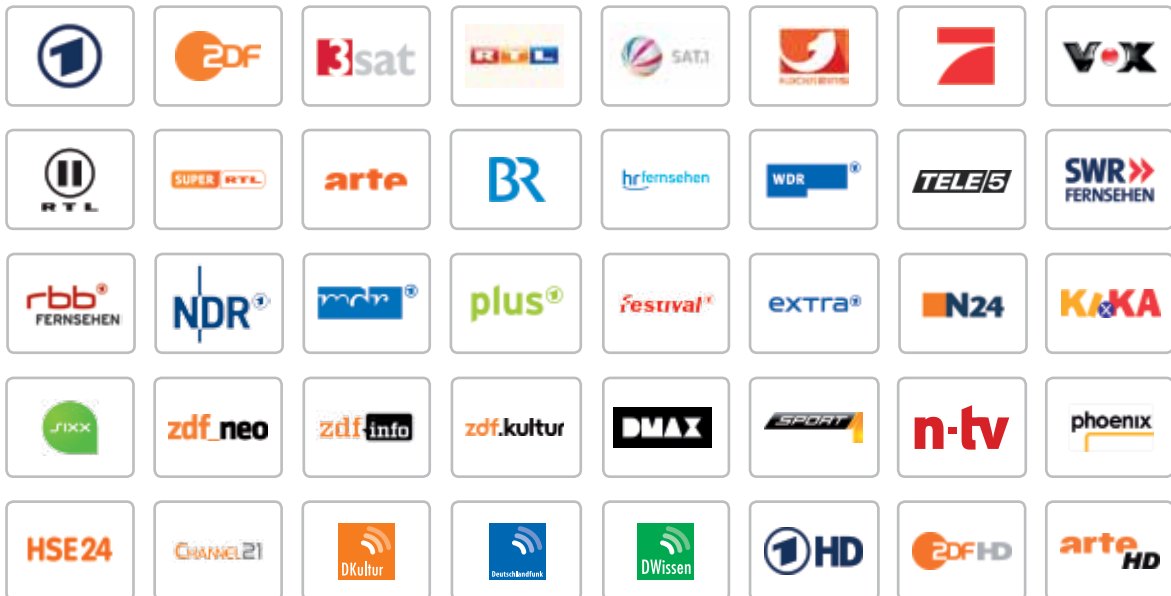
Colosseum DVB-C Germany

The Colosseum DVB-C (ref. 8550D) is a plug&play compact headend for digital TV. The device is preprogrammed to distribute 43 German satellite programs in DVB-C (QAM). Because all services and settings are preconfigured, the only thing you have to do is plug in the cables, and scan the TV's. This makes it an ideal solution to replace the old analogue headends during or after the switch-off.



8550D

- ▶ plug&play compact headend
- ▶ 8 transponders / 4 satellite bands / 8 QAM multiplexes
- ▶ preconfigured with 43 German programs
- ▶ changes to the default settings can be made with a built-in webGUI or an optional Universal User Interface, called UUI
- ▶ innovative and compact design
- ▶ from analog to digital in 2 minutes!



Other configurations can be made on request with respect to our terms and conditions.





# Digital Compact Headend

Colosseum DVB-C Germany



## 8550D

### Input: QPSK (DVB-S2)

Number of inputs	-	4 satellite bands
Tuner	-	8 tuners (8 transponders)
Frequency range	MHz	950-2150
Level	dBm	-55 to -25
Bandwidth	MHz	36
Modulation	-	DVB-S2: QPSK, 8-PSK DVB-S: QPSK
LNB power (DC+tone)	V	0/13/18 + 22kHz DiSEqC®
LNB current per input	mA	max. 250

### Output: QAM (DVB-C)

Number of outputs	-	1
Frequency range	MHz	47-862 (VHF-UHF)
Multiplexes	-	8 adjacent
Channel bandwidth	MHz	6/8
Modulation	-	6 MHz: 64-QAM 8 MHz: 64-QAM/256-QAM
Modulation Error Rate (MER)	dB	40
Spectral inversion	-	yes
Output level	dBµV	68 to 83 adjustable
Capacity	-	up to 64 programs (preprogrammed with 43 services)

### General

Connectors	-	RF: 20 x "F" connector female Management: 2 x RJ-45 (Ethernet) DC: banana sockets
Power supply	VDC	15
Consumption	A	3
Operating temperature	°C	0 to +40
Dimensions	mm	280 x 260 x 150

# Digital Compact Headend

## Colosseum AV

The Johansson Colosseum AV is the perfect solution to distribute AV sources (DVD, set-top boxes, PC, Camera,...) over the coaxial distribution network in DVB-T (COFDM) format. The Colosseum AV is a compact and plug&play solution.

8530 | 8530 UK



- ▶ distribute up to 8 AV sources over the coaxial network in digital (DVB-T) format
- ▶ compact and innovative design
- ▶ easy plug&play installation
- ▶ edit all kinds of parameters: LCN numbers (configurable for all countries), resolution, brightness, aspect ratio, hue, saturation, ...
- ▶ configure with built-in webGUI or optional advanced Universal User Interface (UUI)

8530/8530UK\*

### Input: CVBS (A/V)

Number of inputs	-	8 x AV (CVBS)
Video processing	-	Conformance with IEC 13818-2 (MPEG2 video) and ISO/IEC 11172-3 (MPEG1 audio) standards
Video resolution	-	SIF: 352 x 288 SVCD: 480 x 576 HALF D1: 352 x 576 D1: 720 x 576 544: 544 x 576
Video bitrate	kbps	1500 to 7000 (Typ. 6000)
Audio volume	dB	-6 to +6 (Typ. 0)

### Output: COFDM (DVB-T)

Number of outputs	-	1
Frequency range	MHz	47-862 (VHF-UHF)
Multiplexes	-	4 adjacent
Channel bandwidth	MHz	6/7/8
Modulation	-	QPSK, 16-QAM, 64-QAM
OFDM mode	-	2K
Forward Error Correction (FEC)	-	1/2, 2/3, 3/4, 5/6, 7/8
Guard interval	-	1/4, 1/8, 1/16, 1/32
Modulation Error Rate (MER)	dB	40
Spectral inversion	-	yes
Output level	dBµV	68 to 83 adjustable
Capacity	-	8 Audio-Video services

### General

Connectors	-	RF: 4 x "F" connector female Video input: 8 x CINCH Audio input: 8 x 3,5 mm jack Management: 2 x RJ-45 (Ethernet) DC: banana sockets
Power supply	VDC	15
Consumption	A	2
Operating temperature	°C	0 to +40
Dimensions	mm	280 x 260 x 150

\*The 8530UK is delivered with a UK power plug.

# Digital Compact Headend

Colosseum AV



## AV - sources input

## DVB-T coaxial distribution network



# Profilers

- ▶ The well-known Profilers are a range of programmable filter-amplifiers. The signals coming from multiple antennas can be combined, filtered, amplified, to offer the best possible signal for distribution of TV throughout the building. The profilers are very flexible and can be configured to your specific needs. We offer a broad range of profiler products, to fulfill your specific needs.



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# Profilers

## Super Profiler | Super Profiler SAT

The next generation profilers, commercialized as Profiler PLUS and Super Profiler, offer even better performance than their predecessors! Thanks to a new, in-house developed technology, the selectivity of the filters has noticeably increased. Because the new profilers have 4 UHF inputs, and 10 or 12 highly selective filters (depending on the model), even the most exotic situations are covered.

The Super Profilers have two built-in super selective single-channel filters with a selectivity of 30 dB at only 1 MHz. A very attractive feature is the frequency conversion: A multiplex can be converted to another frequency channel, offering you the possibility to manage your own frequency plan. This can be done by removing unwanted interferers, and moving the multiplexes of interest to other frequencies to avoid saturation or interference.

Configuration is either done with an innovative user interface on the PC (UUI), or with a standalone remote control unit (ref. 6565).



6630 | 6630 UK

- ▶ 7/8 inputs: 4 x UHF/BI-FM/BIII+DAB/AUX/SAT (6631/6631 UK only)
- ▶ highly selective filters thanks to new filter technology (LTE proof)
- ▶ 2 super selective single channel filters: 30 dB @ 1 MHz
- ▶ 8 UHF filter clusters (30 dB @ 16 MHz): 1 to 7 channels bandwidth
- ▶ frequency conversion functionality
- ▶ high output level: >120 dB $\mu$ V
- ▶ 2 programmable outputs
- ▶ high-efficiency and ultra-reliable power supply (detachable)
- ▶ easy programming by PC or dedicated control unit (ref. 6565)
- ▶ remote configuration possible
- ▶ 6630 UK/6631 UK are delivered with UK power cord



6631 | 6631 UK

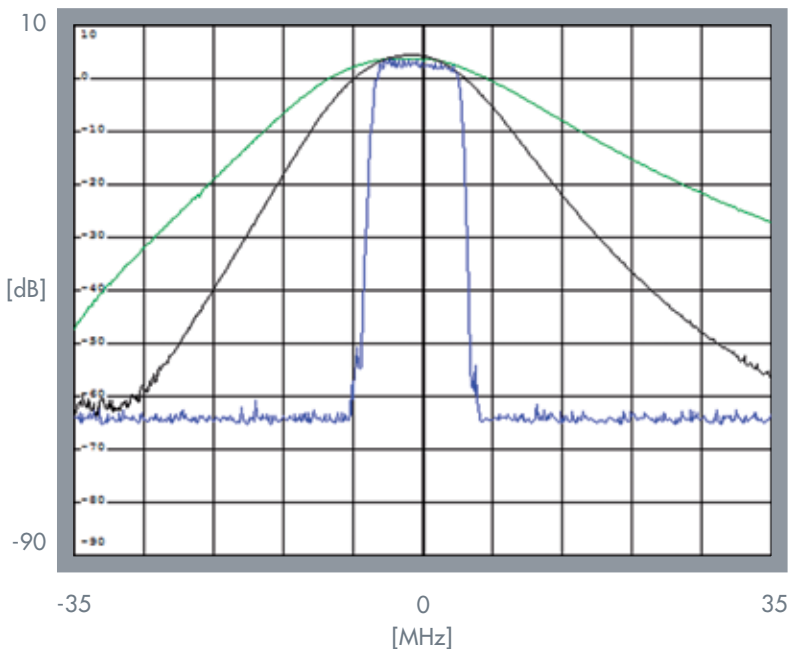


**FREQUENCY  
CONVERSION  
FUNCTIONALITY**



	6630/6630 UK								6631/6631 UK
INPUTS	-	BI-FM	BIII/DAB	AUX	UHF1	UHF2	UHF3	UHF4	SAT
Frequency range	MHz	47-68 88-108	174-240	47-862	470-862				950-2300
Filter bandwidth	MHz	-			8 x cluster filter: 8-56 (1-7 ch.) 2 x super filter: 8 (single channel)				-
Gain	dB	35	40	30	60				45
Gain adjustment	dB	20	20	20	30				20
Slope adjustment	dB	-							10
General UHF level adjustment	dB	-			+10 to -10				-
Noise figure	dB	7	5	15	6				9
Max. input level	dB $\mu$ V	80	80	100	105				90
Max. output level*	dB $\mu$ V	118	118	122	122				118
Selectivity	-	-			30 dB/1 MHz (2 x super filters) 30 dB/16 MHz (8 x cluster filters)				SAT/TERR.: >30 dB TERR./SAT: >25 dB
Return loss	dB	>10							
LNA remote voltage: 5/12/24 V LNA remote current	-	-	yes 100 mA	-	yes 100 mA total				0/13/18V and 0/22 kHz 300 mA
Outputs	-	2 x TV output 1 x Test output: -30 dB (12 VDC)							1 x TV output 1 x TV-SAT output 1 x Test output: -30 dB (12 VDC)
Configuration	-	PC (UUI software) or Control Unit (ref. 6565)							
Power supply	-	230-240 V~							
Operating temperature	°C	-5 to +50							
Dimensions	mm	325 x 220 x 60							

\*1 output active (2 outputs active: -5dB) | Terr.: -60 dBc/IM3 | SAT: -35 dBc/IM3



### SUPER SELECTIVE FILTERS

- ▶ First generation profiler: 15 dB @ 16 MHz
- ▶ Normal single-channel filter: 30 dB @ 16 MHz
- ▶ Super filter: 30 dB @ 1 MHz

# Profilers

## Profiler Plus



6620 | 6620 UK

- ▶ 7 inputs: 4 x UHF/BI-FM/BIII+DAB/AUX
- ▶ highly selective filters thanks to new filter technology (LTE proof)
- ▶ 10 (ref. 6620/6620 UK)/12 (ref. 6622/6622 UK) UHF filter clusters (30 dB @ 16 MHz): 1 to 7 channels bandwidth
- ▶ high output level: >120 dB $\mu$ V
- ▶ 2 programmable outputs
- ▶ high-efficiency and ultra-reliable power supply (detachable)
- ▶ easy programming by PC or dedicated control unit (ref. 6565)
- ▶ remote configuration possible
- ▶ 6620 UK/6622 UK are delivered with UK power cord



6622 | 6622 UK



6620/6620 UK | 6622/6622 UK

INPUTS	-	BI-FM	BIII/DAB	AUX	UHF1	UHF2	UHF3	UHF4
Frequency range	MHz	47-68 88-108	174-240	47-862	470-862			
Number of UHF cluster filters	-	-			6620/6620 UK: 10 x cluster filter 6622/6622 UK: 12 x cluster filter			
UHF cluster filter bandwidth	-	-			1-7 Ch. (8-56 MHz)			
Gain	dB	35	40	30	60			
Gain adjustment	dB	20	20	20	30			
General UHF level adjustment	dB	-			+10 to -10			
Noise figure	dB	7	5	15	6			
Max. input level	dB $\mu$ V	80	80	100	105			
Max. output level*	dB $\mu$ V	118	118	122	122			
Selectivity	dB/Ch $\pm$ 2	-			30			
Return loss	dB	>10						
LNA remote voltage: 5/12/24 V LNA remote current: 100 mA total	-	-	yes	-	yes			
Outputs	-	2 x TV output 1 x Test output: -30 dB (12 VDC)						
Configuration	-	PC (UUI software) or Control Unit (ref. 6565)						
Power supply	-	230-240 V~						
Operating temperature	°C	-5 to +50						
Dimensions	mm	325 x 220 x 60						

\*1 output active (2 outputs active: -5dB) | Terr.: -60 dBc/IM3



## Profiler Plus SAT

The Profiler PLUS headends are also available with satellite input. This offers a very flexible solution, where the profiler is capable of handling up to 4 UHF antennas, 3 VHF antennas and one LNB. Thanks to the UUI software or the dedicated control unit (ref. 6565), configuration of the profilers is easy.



6621 | 6621 UK

- ▶ 8 inputs: 4 x UHF/BI+FM/BIII+DAB/AUX/SAT
- ▶ highly selective filters thanks to new filter technology (LTE proof)
- ▶ 10 (ref. 6621/6621 UK)/12 (ref. 6623/6623 UK) UHF filter clusters (30 dB @ 16 MHz): 1 to 7 channels bandwidth
- ▶ high output level: >120 dB $\mu$ V
- ▶ 2 programmable outputs
- ▶ high-efficiency and ultra-reliable power supply (detachable)
- ▶ easy programming by PC or dedicated control unit (ref. 6565)
- ▶ remote configuration possible
- ▶ 6621 UK/6623 UK are delivered with UK power cord



6623 | 6623 UK

6621/6621 UK | 6623/6623 UK

INPUTS	-	BI-FM	BIII/DAB	AUX	UHF1	UHF2	UHF3	UHF4	SAT
Frequency range	MHz	47-68 88-108	174-240	47-862	470-862				950-2300
Number of UHF cluster filters	-	-			6621/6621 UK: 10 x cluster filter 6623/6623 UK: 12 x cluster filter				-
UHF cluster filter bandwidth	-	-			1-7 Ch. (8-56 MHz)				-
Gain	dB	35	40	30	60				45
Gain adjustment	dB	20	20	20	30				20
Slope adjustment	dB	-							10
General UHF level adjustment	dB	-			+10 to -10				-
Noise figure	dB	7	5	15	6				9
Max. input level	dB $\mu$ V	80	80	100	105				90
Max. output level*	dB $\mu$ V	118	118	122	122				118
Selectivity	dB/Ch $\pm$ 2	-			30				SAT/TERR.: >30 TERR./SAT: >25
Return loss	dB	-							>10
LNA remote voltage: 5/12/24 V LNA remote current	-	-	yes 100 mA	-	yes 100 mA total				0/13/18V and 0/22 kHz 300 mA
Outputs	-	1 x TV output 1 x TV-SAT output 1 x Test output: -30 dB (12 VDC)							
Configuration	-	PC (UUI software) or Control Unit (ref. 6565)							
Power supply	-	230-240 V~							
Operating temperature	°C	-5 to +50							
Dimensions	mm	325 x 220 x 60							

\*1 output active (2 outputs active: -5dB) | Terr.: -60 dBc/IM3 | SAT: -35 dBc/IM3

# Profilers

## Profiler

All profiler models have an automatic signal level equalizer, helping you to find the optimal gain for each filter. The profilers are equipped with a display, indication LEDs and a rotary button to make the configuration an easy task. Thanks to our memory-stick (ref. 6604), settings can easily be transferred from one unit to another. To avoid unauthorized people changing the settings, all Profiler products can be locked with a security code.

6600 | 6600A | 6600UK

- ▶ 6 inputs: BI-FM/BIII/VHF-UHF/3 x UHF  
(UK version : FM/BIII/VHF-UHF/3 x UHF)
- ▶ 10 UHF programmable clusters from 1 to 7 channels bandwidth.
- ▶ high gain (55 dB) and high power (120 dB $\mu$ V)
- ▶ 24 V remote power on UHF and VHF-UHF inputs  
(12V for 6600UK and 6600A)
- ▶ VHF-UHF split band amplifier with inter-stage attenuators
- ▶ -30 dB test output



6600 | 6600A | 6600UK

Inputs	-	BI-FM	BIII/DAB	VHF-UHF		UHF1	UHF2	UHF3
Frequency range	MHz	47-108**	174-240	47-240 + 470-862		470-862		
Filter bandwidth	-			-		1-7 Ch. (8-56 MHz)		
Cluster configuration	-			-		2	8	0
				-		2	7	1
				-		2	5	3
Gain	dB	35	40	40		55		
Gain adjustment	dB	20	20	20		30		
General UHF level adjustment	dB			-		+ 10 to -9		
Noise figure	dB	5	5	5		6		
Max. input level	dB $\mu$ V	75	85	80		105		
Max. output level*	dB $\mu$ V	115	115	VHF: 116	UHF: 116	116		
Selectivity	dB/Ch $\pm$ 2			-		15		
Return loss	dB			>10				
LNA remote voltage	V			-		24***		
LNA remote current	A			-		100 mA total		
Outputs	-			1 x TV output 1 x Test output: -30 dB				
Data transfer	-			DSUB9 connector				
Power supply	-			230-240 V~ / 15 VDC / 35 VA				
Operating temperature	°C			-5 to +50				
Dimensions	mm			265 x 220 x 95				

\*Terr.: -60 dBc/IM3  
 \*\*6600UK: 88-108MHz  
 \*\*\*6600A/6600UK: 12V

## Profiler VHF

The Profiler VHF is based on the normal Profiler, but offers 2 independent BIII/DAB inputs, and 2 programmable BIII/DAB filter clusters.

6603



- ▶ 6 inputs : BI-FM/2 x BIII/3 x UHF
- ▶ 8 UHF programmable clusters from 1 to 7 channels bandwidth
- ▶ 2 BIII programmable clusters from 1 to 4 channels bandwidth
- ▶ high gain (55 dB) and high power (120 dB $\mu$ V)
- ▶ 24 V remote power on BIII and UHF inputs
- ▶ VHF-UHF split band amplifier with inter-stage attenuators
- ▶ -30 dB test output

6603

Inputs	-	BI-FM	BIII/DAB 1	BIII/DAB 2	UHF1	UHF2	UHF3
Frequency range	MHz	47-108	174-240	174-240	470-862		
Filter bandwidth	-	-	1-4 Ch. (7-28 MHz)	1-4 Ch. (7-28 MHz)	1-7 Ch. (8-56 MHz)		
Cluster configuration	-				2	6	0
					2	5	1
					2	3	3
Gain	dB	35	40	40	55		
Gain adjustment	dB	20	30	30	30		
General UHF level adjustment	dB	-	+10 to -9				
Noise figure	dB	5	5	5	6		
Max. input level	dB $\mu$ V	75	75	80	105		
Max. output level*	dB $\mu$ V	112	100	100	116		
Selectivity	dB/Ch $\pm$ 2	28	25	25	15		
Return loss	dB	>10					
LNA remote voltage	V	-	24				
LNA remote current	A	-	100 mA total				
Outputs	-	1 x TV output 1 x Test output: -30 dB					
Data transfer	-	DSUB9 connector					
Power supply	-	230-240 V~ / 15 VDC / 35 VA					
Operating temperature	°C	-5 to +50					
Dimensions	mm	265 x 220 x 95					

\*Terr.: -60 dBc/IM3

# Profilers

## Profiler Lite 10

The Profiler Lite devices are a slimmed down version of the basic 6600 Profiler, offering the same flexibility, but a lower gain, less filter clusters and a lower number of inputs. These are ideal for smaller buildings, where the high gain of the 6600 Profiler is not needed.

6601 | 6601A | 6601UK

- ▶ 5 inputs : BI-FM/BIII/3 x UHF  
(UK version: FM/BIII/3 x UHF)
- ▶ 10 UHF programmable clusters from 1 to 7 channels bandwidth
- ▶ medium gain: 45 dB
- ▶ 24 V remote power on UHF inputs (12V for 6601UK and 6601A)
- ▶ VHF-UHF split band amplifier with inter-stage attenuators
- ▶ -30 dB test output



6601 | 6601A | 6601UK

Inputs	-	BI-FM	BIII/DAB	UHF1	UHF2	UHF3
Frequency range	MHz	47-108	174-240	470-862		
Filter bandwidth	-	-		1-7 Ch. (8-56 MHz)		
Cluster configuration	-	-	-	2	8	0
				2	7	1
				2	5	3
Gain	dB	35	40	45		
Gain adjustment	dB	20	20	30		
General UHF level adjustment	dB	-		+10 to -9		
Noise figure	dB	5	5	6		
Max. input level	dB $\mu$ V	75	80	105		
Max. output level*	dB $\mu$ V	115	115	110		
Selectivity	dB/Ch $\pm$ 2	-		15		
Return loss	dB	>10				
LNA remote voltage	V	-		24		
LNA remote current	A	-		100 mA total		
Outputs	-	1 x TV output 1 x Test output: -30 dB				
Data transfer	-	DSUB9 connector				
Power supply	-	230-240 V~ / 15 VDC / 30 VA				
Operating temperature	°C	-5 to +50				
Dimensions	mm	265 x 220 x 95				

\*Terr.: -60 dBc/IM3  
 \*\*6601UK: 88-108MHz  
 \*\*\*6601A/6601UK: 12V

6606



- ▶ 4 inputs : BI-FM/BIII/2 x UHF
- ▶ 8 UHF programmable clusters from 1 to 7 channels bandwidth
- ▶ medium gain: 45 dB
- ▶ 24 V remote power on UHF inputs
- ▶ VHF-UHF split band amplifier with inter-stage attenuators
- ▶ -30 dB test output

6606

Inputs	-	BI-FM	BIII/DAB	UHF1	UHF2
Frequency range	MHz	47-108	174-240	470-862	
Filter bandwidth	-	-		1-7 Ch. (8-56 MHz)	
Cluster configuration	-	-	-	8	0
				7	1
				5	3
Gain	dB	35	40	45	
Gain adjustment	dB	20	20	30	
General UHF level adjustment	dB	-		+10 to -9	
Noise figure	dB	5	5	6	
Max. input level	dB $\mu$ V	75	80	105	
Max. output level*	dB $\mu$ V	115	115	110	
Selectivity	dB/Ch $\pm$ 2	-		15	
Return loss	dB	>10			
LNA remote voltage	V	-		24	
LNA remote current	A	-		100 mA total	
Outputs	-	1 x TV output 1 x Test output: -30 dB			
Data transfer	-	DSUB9 connector			
Power supply	-	230-240 V~ / 15 VDC / 30 VA			
Operating temperature	°C	-5 to +50			
Dimensions	mm	265 x 220 x 95			

\*Terr.: -60 dBc/IM3

# Profilers

## Profiler SAT+ | Profiler SAT

In some situations the roof-top terrestrial antennas are accompanied by a satellite antenna, and both terrestrial and satellite signals have to be combined on the same coaxial cable for distribution throughout the building. The Profiler SAT series is the ideal product for these situations, by extending the normal Profiler with a satellite input.

- ▶ 1 SAT input + 6 Terrestrial inputs : BI-FM/BIII/VHF-UHF/3 x UHF
- ▶ 2 outputs: TV/TV-SAT
- ▶ 10 UHF programmable clusters from 1 to 7 channels bandwidth
- ▶ VHF-UHF-SAT split band amplifiers with inter-stage attenuators
- ▶ high gain (50 dB) and high output power (110 dB $\mu$ V)
- ▶ 0-13-18 V / 0-22 kHz remote power for LNB
- ▶ VHF-UHF split band amplifier with inter-stage attenuators
- ▶ -30 dB test output

### Profiler SAT+ | 6605



### Profiler SAT | 6602



- ▶ 1 SAT input + 6 Terrestrial inputs : BI-FM/BIII/VHF-UHF/3 x UHF
- ▶ 10 UHF programmable clusters from 1 to 7 channels bandwidth
- ▶ VHF-UHF-SAT split band amplifiers with inter-stage attenuators
- ▶ high gain (55 dB) and high output power (116 dB $\mu$ V)
- ▶ 0-13-18 V / 0-22 kHz remote power for LNB
- ▶ VHF-UHF split band amplifier with inter-stage attenuators
- ▶ -30 dB test output

### 6602 | 6605

INPUTS	-	BI-FM	BIII/DAB	VHF-UHF	UHF1	UHF2	UHF3	SAT
Frequency range	MHz	47-108	174-240	47-240 + 470-862	470-862			950-2300
Filter bandwidth	-				1-7 Ch. (8-56 MHz)			-
Cluster configuration	-				2	8	0	-
					2	7	1	
					2	5	3	
Gain (ref. 6602)	dB	35	40	40	55			40
Gain (ref. 6605)	dB	30	35	35	50			40
Gain adjustment	dB	20	20	20	30			20
Slope adjustment	dB	-						9
General UHF level adjustment	dB	-			+10 to -9			-
Noise figure	dB	5	5	5	6			8
Max. input level	dB $\mu$ V	75	80	80	105			90
Max. output level (ref. 6602)*	dB $\mu$ V	115	115	VHF: 116 - UHF: 116	116			116
Max. output level (ref. 6605)**	dB $\mu$ V	112	112	VHF: 113 - UHF: 113	110			116
Selectivity	dB/Ch $\pm$ 2	-			15			SAT/TERR.: >30 TERR./SAT.: >25
Return loss	dB	>10						
LNA/LNB remote voltage	V	-			24			0/13/18V and 0/22 kHz
LNA/LNB remote current	A	-			100 mA total			300 mA
Outputs (ref. 6602)	-	1 x TV-SAT output 1 x Test output: -30 dB						
Outputs (ref. 6605)	-	1 x TV output 1 x TV-SAT output 1 x Test output: -30 dB						
Data transfer	-	DSUB9 connector						
Power supply	-	230-240 V~ / 15 VDC / 45 VA						
Operating temperature	°C	-5 to +50						
Dimensions	mm	265 x 220 x 95						

\*Terr.: -60 dBc/IM3 | SAT: -35 dBc/IM3

\*\*1 output active (2 outputs active: -5dB) | Terr.: -60 dBc/IM3 | SAT: -35 dBc/IM3

In situations where a medium gain (in the order of 45 dB) is sufficient, and the high number of antenna inputs is not needed, the Profino could be the ideal solution! The Profino is more compact than a normal Profiler, and apart from the reduced number of inputs, filter clusters and gain, the operation is identical to the other Profilers.

### Profino | 6610

- ▶ 4 inputs : BI-FM , BIII / DAB and 2 x UHF
- ▶ 5 UHF clusters from 1 to 7 channels bandwidth
- ▶ BIII/ DAB input with 1 or 4 channels bandwidth filter
- ▶ BI-FM input for BI or FM or BI + FM
- ▶ high UHF input levels (up to 105 dB $\mu$ V)
- ▶ selectable remote power (12/24V) on BIII and UHF inputs
- ▶ -30 dB test output

### Profino Plus | 6611

- ▶ 4 inputs : FM, BIII / DAB and 2 x UHF
- ▶ 6 UHF clusters from 1 to 7 channels bandwidth
- ▶ BIII/ DAB input with 1 or 4 channels bandwidth filter
- ▶ BI-FM input for BI or FM or BI + FM
- ▶ high UHF input levels (up to 105 dB $\mu$ V)
- ▶ selectable remote power (12/24V) on BIII and UHF inputs
- ▶ -30 dB test output



	Inputs	-	BI-FM	BIII/DAB	UHF1	UHF2	
6610   6610UK	Frequency range	MHz	47-108	174-240	470-862		
	Filter bandwidth	-	-	1 or 4 Ch. (7 or 28 MHz)	1-7 Ch. (8-56 MHz)		
	Cluster configuration	-	47-68 MHz (BI) 88-108 MHz (FM) 47-108 MHz (BI+FM)	1 channel or 4 channels	3 4 5	2 1 0	
6611	Frequency range	MHz	88-108	174-240	470-862		
	Filter bandwidth	-	-	-	1-7 Ch. (8-56 MHz)		
	Cluster configuration	-	-	-	4 3 6	2 3 0	
6610   6610UK   6611	Gain	dB	35	35	45		
	Gain adjustment	dB	20	20 (6611)/30 (6610)		30	
	Noise figure	dB	5	5	6		
	Max. input level	dB $\mu$ V	75	85	110		
	Max. output level*	dB $\mu$ V	115	110	110		
	Selectivity	dB/Ch $\pm$ 2	20	30	15		
	Return loss	dB		>10			
	LNA remote voltage	V	-	12/24	12/24		
	LNA remote current	A	-	100 mA in total			
	Outputs	-		1 x TV output 1 x Test output: -30 dB			
	Data transfer	-		DSUB9 connector			
	Power supply	-		230-240 V~ / 12 VDC / 20 VA			
	Operating temperature	°C		-5 to +50			
Dimensions	mm		231 x 185 x 53				

\*Terr.: -60 dBc/1M3

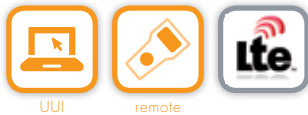
# Profilers

## 4 IF Channel Processor

The 6520 offers 4 super-selective SAW filters in one compact sized zamak diecast housing. These filters can be used to convert 4 digital terrestrial channels to another frequency in the UHF band. Of course it can also be used as a super-selective single-channel filter in case a normal UHF filter is not sufficient (e.g. strong interference from an LTE source, or adjacent channel interference).

The 6520 can also be used as an extension with an existing Profiler Plus or Super Profiler. By connecting the 6520 to the AUX input of the Profiler, 4 frequency converting SAW filters are added to the system. And of course, it is also possible to interconnect several 6520's to provide more frequency converting single-channel filters.

The 6520 can be controlled by means of a remote control (ref. 6565) or with the advanced Universal User Interface (UI) for extended configuration possibilities.



6520



- ▶ 4 super selective single-channel filters: 40 dB @ 1.25 MHz
- ▶ 4 frequency converters to convert a digital channel to another UHF frequency
- ▶ auto install functionality: device automatically finds all digital channels, and lets the user choose the channels of interest
- ▶ interconnection of several 6520's or use in combination with a Super Profiler or Profiler Plus
- ▶ medium gain: 40 dB

6520

Inputs	-	UHF	Bypass input
Frequency range	MHz	470-790	
Number of IF clusters	-	4	-
Filter bandwidth	MHz	8 (single-channel)	-
Gain	dB	40	-6
Gain adjustment	dB	30	-
Max. input level	dBµV	105	-
Max. output level*	dBµV	114	-
Selectivity	dB/± 1 MHz	30	-
Return loss	dB	10	10
Remote power	-	UHF IN: +5 VDC / 12 VDC (100 mA) Bypass: 24 VDC power pass from OUT (1 A)	
Outputs	-	1 x TV output/1x control port	
Power consumption	W	10	
Operating temperature	°C	-5 to +50	
Dimensions	mm	238 x 152 x 55	

\*Terr.: -60 dBc/IM3



## Programmable Filter - Equalizer

Ideal for smaller buildings, where the signals from several antennas have to be combined and equalized, where the high gain offered by the Profilers is not needed.

The 6510A single channel equalizer offers 6 single-channel filters in one small package. Because several countries distribute exactly 6 DVB-T multiplexes, this is a very compact solution. The bypass input enables the possibility to interconnect several 6510A's to extend the number of filters (e.g. when 6 additional multiplexes are added to distribute HD channels)



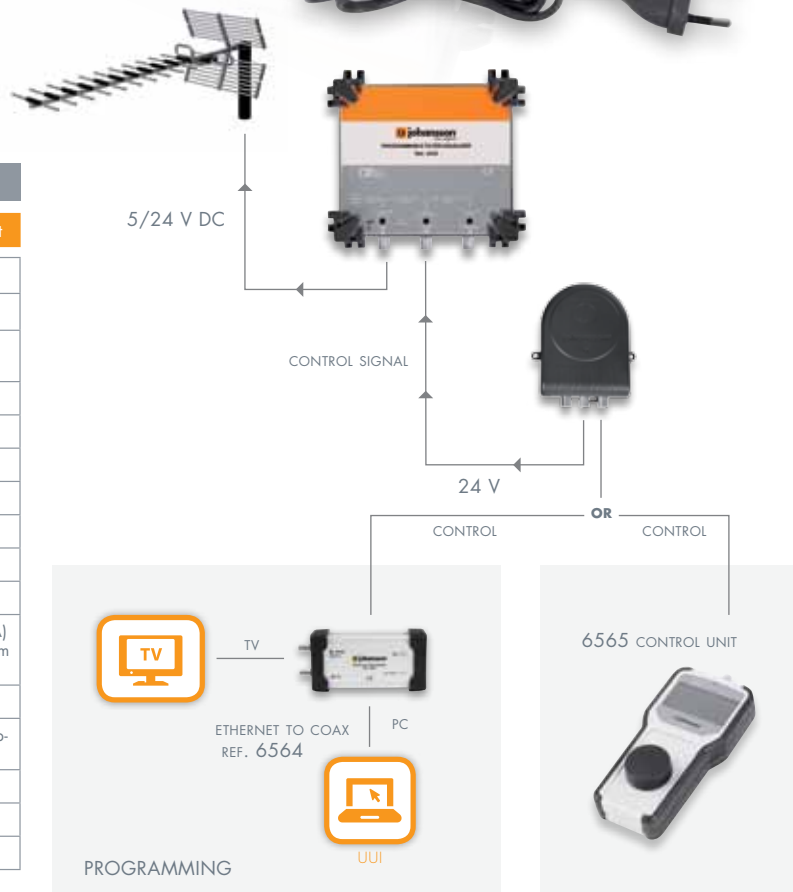
6510A

- ▶ 6 high selective single-channel filters
- ▶ extend the number of filters by interconnecting multiple units
- ▶ active filtering and amplification of the signal
- ▶ selectable remote power (5/12/24V)
- ▶ easy configuration with PC (UI) or dedicated control unit (ref. 6565)
- ▶ remote programming possible
- ▶ delivered with high-efficiency power supply



6510A			
Inputs	-	UHF	Bypass input
Frequency range	MHz	470-862	
Number of filters	-	6	-
Filter bandwidth	-	8 MHz (single channel)	-
Gain	dB	15	-2
Gain adjustment	dB	30	-
Noise figure	dB	5	-
Max. input level	dBμV	90	-
Max. output level*	dBμV	80	-
Selectivity	dB/Ch±2	40	-
Return loss	dB	>10	-
Remote power	-	IN: +5 VDC / 24 VDC (100 mA) Bypass: 24 VDC power pass from OUT (300 mA max.)	
Outputs	-	1 x TV output	
Power supply	-	Delivered with remote power supply (ref. 2434)	
Consumption	mA	120 (@24 VDC)	
Operating temperature	°C	-5 to +50	
Dimensions	mm	157 x 142 x 51	

\*Terr.: -60 dBc/IM3



# Profilers

## Programmable Filter - Equalizer

- ▶ 2 UHF inputs
- ▶ 6 UHF clusters from 1 to 7 channels bandwidth
- ▶ selectable remote power on all inputs

6503



\*Terr.: -60 dBc/IM3

6503 | 6503UK

Inputs	-	UHF1	UHF2
Frequency range	MHz	470-862	
Filter bandwidth	-	1-7 Ch. (8-56 MHz)	
Cluster configuration	-	6	0
		5	1
		3	3
Gain	dB	5	
Gain adjustment	dB	30	
Noise figure	dB	6	
Max. input level*	dBμV	95	
Max. output level	dBμV	75	
Selectivity	dB/Ch±2	20	
Return loss	dB	>10	
Selectable DC power pass	-	yes	
Outputs	-	1 x TV output	
Power supply	-	External power adapter: 230-240 V~ / 5 VDC / Ø2,1 mm DC jack	
Consumption	mA	300	
Operating temperature	°C	-5 to +50	
Dimensions	mm	157 x 142 x 51	

- ▶ 3 UHF inputs
- ▶ 10 UHF clusters from 1 to 7 channels bandwidth
- ▶ selectable remote power on all inputs

6504



\*Terr.: -60 dBc/IM3

6504 | 6504UK

Inputs	-	UHF1	UHF2	UHF3
Frequency range	MHz	470-862		
Filter bandwidth	-	1-7 Ch. (8-56 MHz)		
Cluster configuration	-	2	8	0
		2	7	1
		2	5	3
Gain	dB	5		
Gain adjustment	dB	30		
Noise figure	dB	6		
Max. input level	dBμV	95		
Max. output level*	dBμV	75		
Selectivity	dB/Ch±2	20		
Return loss	dB	>10		
Selectable DC power pass	-	yes		
Outputs	-	1 x TV output		
Power supply	-	External power adapter: 230-240 V~ / 5 VDC / Ø2,1 mm DC jack		
Consumption	mA	500		
Operating temperature	°C	-5 to +50		
Dimensions	mm	222 x 142 x 51		

6505



- ▶ 3 inputs: 1xVHF/2xUHF
- ▶ 9 UHF clusters from 1 to 2 channels bandwidth
- ▶ 1 single-channel VHF cluster
- ▶ 2 outputs: 1xVHF/1xVHF-UHF
- ▶ selectable remote power on all inputs

### 6505 | 6505UK

Inputs	-	VHF	UHF1	UHF2
Frequency range	MHz	174-230	470-862	
Filter bandwidth	-	1 Ch. (8 MHz)	1 or 2 Ch. (8 or 16 MHz)	
Cluster configuration	-	1	9	0
		1	6	3
		1	5	4
Gain	dB	5		
Gain adjustment	dB	30		
Noise figure	dB	10	6	
Max. input level	dBμV	85	95	
Max. output level*	dBμV	75		
Selectivity	dB/Ch±2	30	20	20
Return loss	dB	>10		
Selectable DC power pass	-	yes		
Outputs	-	1 x VHF output 1 x UHF output		
Power supply	-	External power adapter: 230-240 V~ / 5 VDC / Ø2,1 mm DC jack		
Consumption	mA	500		
Operating temperature	°C	-5 to +50		
Dimensions	mm	222 x 142 x 51		

\*Terr.: -60 dBc/IM3

# Profilers

## Active Combiners

The active combiners are designed for individual applications. In such situation, high gain is not required. The active combiner is the perfect solution for border zones, where several antennas are combined, to receive TV channels from different transmitters. In these situations, interference is a known problem, and the combination of the antenna signals cannot be done by simply inserting a combiner. This would cause the antenna signals to interfere with each other and signal quality will be very low.

The active combiner filters the wanted channels from several inputs, and combines these on the output, while rejecting all the other frequencies. The combiner itself is mounted on the roof, near the antennas, but configuration can be done remotely over the coaxial cable by PC or with a dedicated control unit (ref. 6565).



6550A | 6555A | 6556A | 6557A

- ▶ active filtering and amplification of signal
- ▶ 2 / 3 / 4 inputs
- ▶ up to 6 clusters
- ▶ bypass with GSM-rejector (ref. 6550A)
- ▶ 1 to 7 channels bandwidth per cluster
- ▶ high selective filters
- ▶ accurate equalization of levels
- ▶ delivered with high-efficiency power supply
- ▶ remote programming via PC (UUI) through coaxial cable or with dedicated control unit (ref. 6565)



# Profilers

## Active Combiners



	6550A	6555A
--	-------	-------

	6550A	6555A
Input	-	UHF/UHF bypass
Frequency range	MHz	470-862
Clusters	-	1/1 rejected
Bandwidth	MHz	8-56 (1 to 7 channels)
Gain	dB	15
Gain adjustment	dB	30
Noise figure	dB	6
Max output level*	dB $\mu$ V	80
Selectivity	dB/Ch $\pm$ 2	30
Consumption	mA	100 (24 VDC): power supply included
Dimensions	mm	185 x 144 x 71

	6556A	6557A
--	-------	-------

	6556A	6557A
Input	-	3 x UHF
Frequency range	MHz	470-862
Clusters	-	4
Bandwidth	MHz	8-56 (1 to 7 channels)
Gain	dB	15
Gain adjustment	dB	30
Noise figure	dB	6
Max output level*	dB $\mu$ V	80
Selectivity	dB/Ch $\pm$ 2	30
Consumption	mA	100 (24 VDC): power supply included
Dimensions	mm	185 x 144 x 71

\*Terr.: -60 dBc/IM3



# Profilers

## Profiler Accessories | Control Unit

The 6565 control unit is designed to control the Johansson products through the coax cable. Many products, like profilers, active combiners, ... can be configured with this device. Thanks to a clear OLED display and easy rotary button, configuration is made very easy. A great advantage is that you can control the Profiler from wherever you are in the building. Just connect the control unit to the nearest outlet and you will be able to configure the Profiler, without even standing next to it!



remote

6565



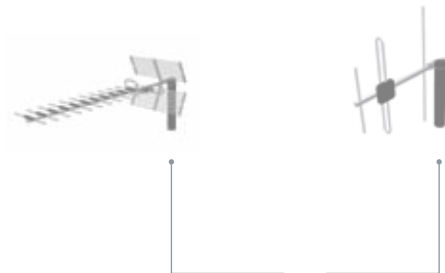
### Compatible products

- ▶ 6620(UK)/6621(UK)/6622(UK)/6623(UK)
- ▶ 6630(UK)/6631(UK)
- ▶ 6510A
- ▶ 6520
- ▶ 6550A/6555A/6556A/6557A

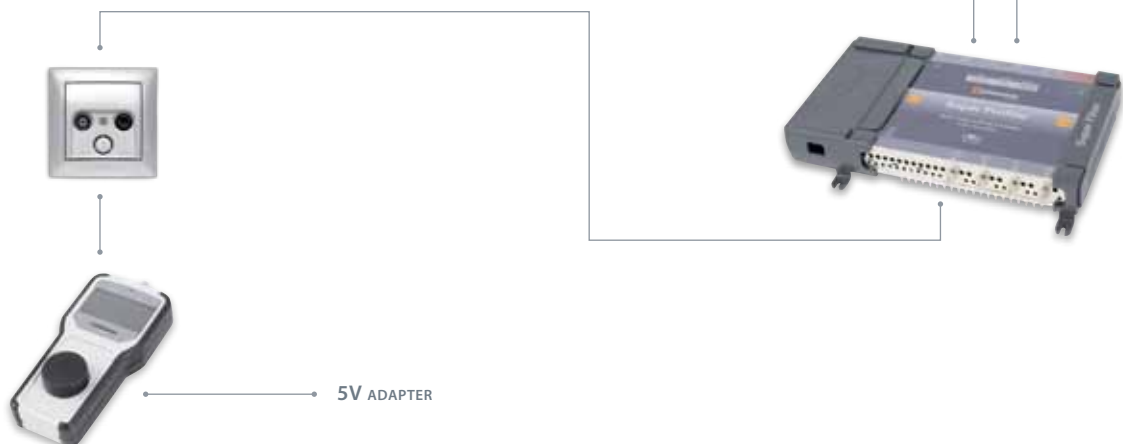
**ROTARY BUTTON  
FOR EASY CONTROL**

6565

Connectors	-	1 x F female (control port) 1 x 2,1 mm power jack
Operating voltage	V	5-24
Power supply	-	Delivered with 5V power adapter (can be powered through COAX)
Consumption	mA	160 (@5VDC)   70 (@24VDC)
Operating temperature	°C	-5 to +50
Dimensions	mm	176 x 83 x 43



**CONTROL ON DISTANCE  
THROUGH THE OUTLET**



The Ethernet to coax adapter allows coaxial devices to be configured through Ethernet. This adapter is inserted in the coax network. Data is transmitted between the Ethernet connection and the coaxial network. The adapter can be installed temporarily (just for configuration) or permanently. Configuration is done with the Universal User Interface.



6564

### Compatible products

- ▶ 6620/6621/6622/6623/6630/6631
- ▶ 6510A
- ▶ 6520
- ▶ 6550A/6555A/6556A/6557A

6564

Connectors	-	2 x F female (RF input/RF output) 1 x RJ-45 control port 1 x 2,1 mm power jack
Operating voltage	V	5-24
Power supply	-	Delivered with 5V power adapter (can be powered through COAX)
Consumption	mA	160 (@5VDC)   80 (@24VDC)
Operating temperature	°C	-5 to +50
Dimensions	mm	142 x 71 x 37

6604



- ▶ Compatible with:
  - ▶ 6600/6601/6602/6603/6605/6606/6607
  - ▶ 6610/6611
- ▶ 16 memory positions

6604

Memory capacity	16 memory slots
Memory type	EEPROM
Connectors	DSUB9 Male/Female
LED	3 color status indication LED
Dimensions	78 x 41 x 25 mm

# Configuration and Management Software

- ▶ The new Universal User Interface software from Johansson...  
**Be in the middle of your installations!**





# INDEX | Configuration and Management Software

▶ <b>Universal User Interface (UII)</b>	<b>50</b>
Overview	50
Rich Graphical User Interface	52
System Level Management	53
UII Cloud	54
Centralized Remote Management Tool	55

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# Configuration and Management Software

## Universal User Interface (UI) | Overview

The Universal User Interface (UI) is the newest configuration and management software of Johansson. This software platform enables the user to manage all programmable Johansson products with the same software! Imagine controlling a Profiler with the same application as a digital headend... With the UI, the sky is the limit!



p 55

### Centralized remote management tool

- ▶ Access all your systems from anywhere in the world
- ▶ Hosted solution: access your installation from every PC without installation
- ▶ Smart and bandwidth-efficient solution: HD screens, even with limited bandwidth
- ▶ Secure connection





**p 52**

### Rich and accessible user interface

- ▶ Import-export of settings
- ▶ Drag-and-drop functionality
- ▶ Status overview of your device
- ▶ Interactive dialogues and diagrams



**p 53**

### System level management

- ▶ Automatic device discovery
- ▶ Overview of all devices in the system
- ▶ Direct remote connection on system level
- ▶ Direct device status overview
- ▶ Hybrid environment: supports configuration of Ethernet and coaxial devices



**p 54**

### UUI cloud

- ▶ Online driver library
- ▶ Available 24/7
- ▶ Multitenant architecture
- ▶ Always up to date
- ▶ Automatic device support
- ▶ Future proof

# Configuration and Management Software

Universal User Interface (UI) | Rich Graphical User Interface

“ A picture is better than a thousand words. ”

One of the most important keywords throughout the design of the UI was “user experience”. The goal was to create an attractive and yet powerful and “easy to use” platform. It had to be fast and intuitive!

Thanks to the drag-and-drop functionality and the interactive diagrams, operations are made as easy as possible.

The visual overview of every device is a major advantage over alternative systems. Devices can be configured and monitored in a very graphical way. For headend modules, one can see the whole status of the device in one simple diagram (number of services at the output, which tuners are locked, which input is connected to which tuner, ...).

For programmable filters (Profiler®), one can even see a complete overview of the internal device and by simply clicking on the different parts, enable or disable them.

- ▶ Import-export of settings
- ▶ Drag-and-drop functionality
- ▶ Status overview of your device
- ▶ Interactive dialogues and diagrams



# Configuration and Management Software

Universal User Interface (UUI) | System level management

“ One application fits all devices. ”

We don't think in terms of one device, we think in terms of a system. A system is a combination of devices, including Ethernet devices and even coaxial devices (like a Profiler®). Therefore we decided to build one platform which supports a lot of our products (see list below). To enable pure coaxial devices being configured over an IP network, we made an Ethernet-to-Coax bridge as a translator between the Ethernet network and the coaxial bus. Now we are even able to remotely access a Profiler®, which is unique and has never been done before!

- ▶ Automatic device discovery
- ▶ Overview of all devices in the system
- ▶ Direct remote connection on system level
- ▶ Direct device status overview
- ▶ Hybrid environment: supports configuration of Ethernet and coaxial devices

## Compatible devices

- ▶ Profiler devices:
  - ▶ 6620/6621/6622/6623/6630/6631
  - ▶ 6510A
  - ▶ 6520
  - ▶ 6550A/6555A/6556A/6557A
  - ▶ 6564
  - ▶ 6565
- ▶ Digital Modular Headends:
  - ▶ 5202/5203/5210/5211/5230
  - ▶ 5302/5303/5330/5310/5311
  - ▶ 5352/5353/5360/5361/5380
- ▶ Digital Compact Headends:
  - ▶ 8501
  - ▶ 8500D
  - ▶ 8550D
  - ▶ 8530/8530UK
- ▶ ...



# Configuration and Management Software

## Universal User Interface (UUI) | UUI Cloud

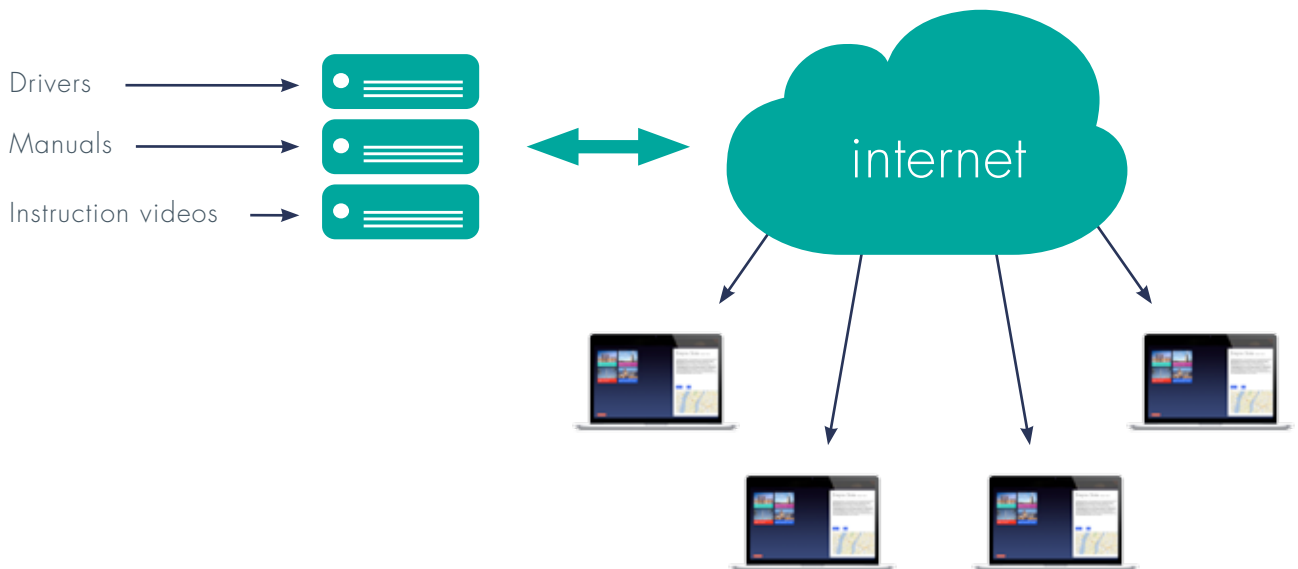
“ Always up to date. ”

Keeping your system up to date can be difficult. Surfing the Internet to find the latest user manual, or a newer firmware version,... It's all history thanks to the UUI cloud!

The UUI cloud is a centralized server hosted by Unitron where all updates (drivers, manuals, instruction videos,...) are being stored. When your UUI has Internet access it will automatically be kept up to date, and you never have to worry again if you have the latest version of the UUI or some part of it.

The UUI cloud is very intelligent as well, it will only download all packages you need, to not overload your network! You can also manually enable or disable the upgrade of some packages.

- ▶ Online driver library
- ▶ Available 24/7
- ▶ Multitenant architecture
- ▶ Always up to date
- ▶ Automatic device support
- ▶ Future proof



# Configuration and Management Software

Universal User Interface (UI) | Centralized remote management tool

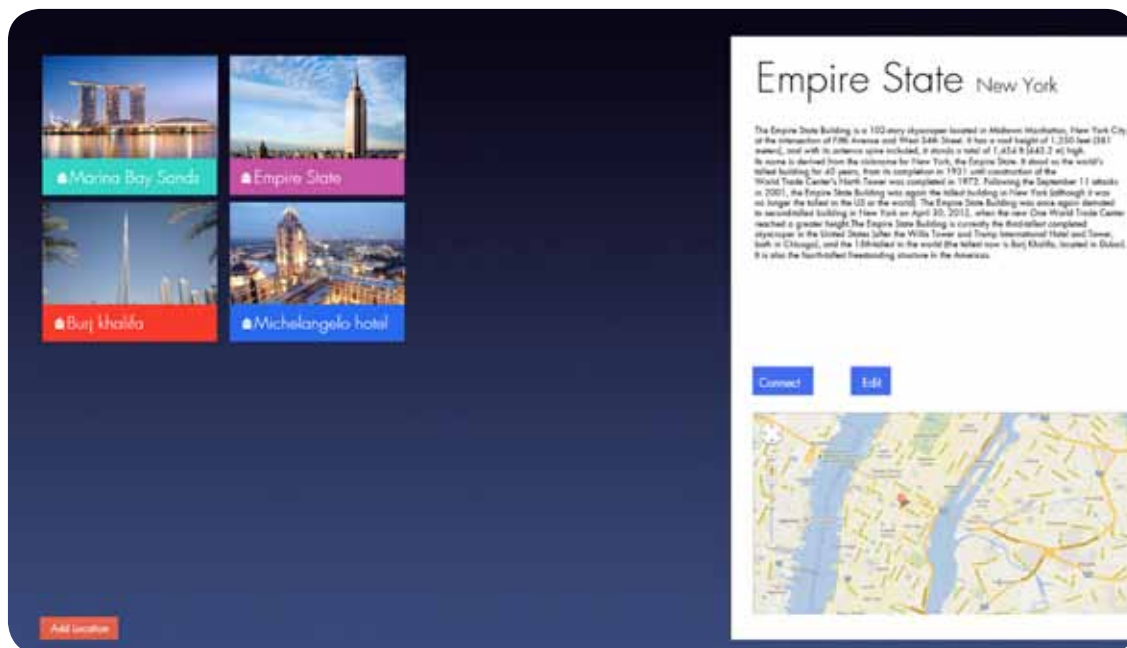
“ Remote access from wherever you are. ”

Many installers of TV systems have customers all over a country, or even across several countries. How can you easily manage all those installations, without driving around all day? The answer is our remote management tool!

With this new hosted solution, we provide a tool to access all your installations from wherever you are, without installing any software! Just surf to the website, login and you can connect with any of your installations. There is even Google maps integration with pinpoints on all your locations and an indication of the status of the system. This enables you to quickly identify possible problems in one of your installations and performing actions, even before it has been noticed!

The webtool is perfect in combination with the Remote Management Unit (page 16).

- ▶ Access all your systems from anywhere in the world
- ▶ Hosted solution: access your installation from every PC without installation
- ▶ Smart and bandwidth-efficient solution: HD screens, even with limited bandwidth
- ▶ Secure connection



# Amplifiers

- ▶ An essential part in the distribution of TV signals over coaxial cables is the amplifier. In domestic applications, this will typically be a masthead preamplifier while large collective installations require high-power distribution amplifiers. With the upcoming LTE (4G) signals in several countries, big disturbances will arise in the TV systems that are not LTE-protected. This is why we present a whole new range of amplifiers that makes your installations future proof, and offer you the best TV images possible!





# INDEX | AMPLIFIERS

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# Amplifiers

## Terrestrial Distribution Amplifiers

The new distribution amplifiers from Johansson set the new standard! The amplifiers are fully LTE-ready and have a high gain, ensuring a perfect signal quality throughout the building. Thanks to the new technologies used, the amplifiers are far more efficient than their predecessors.



- ▶ 3/4 inputs
- ▶ VHF-UHF input with return path (ref. 7774, 7775), ideal for CATV applications
- ▶ split-band amplifiers with interstage attenuators and dynamic range of 30 dB
- ▶ high gain (up to 40 dB), high output power (>122 dBμV)
- ▶ slope adjustment on VHF-UHF (ref. 7774, 7775)
- ▶ high input power: up to 110 dBμV (saturation of input virtually impossible)
- ▶ 5/12 VDC switchable remote voltage to power a preamplifier
- ▶ thanks to the new technology used, the efficiency of the amplifiers is 400% better compared to older amplifiers!
- ▶ green solution: 5,5W for high power model / <3W for mid and low-power models
- ▶ zamak diecast housing
- ▶ detachable power supply included
- ▶ -30 dB test output
- ▶ UK versions are delivered with UK power plug

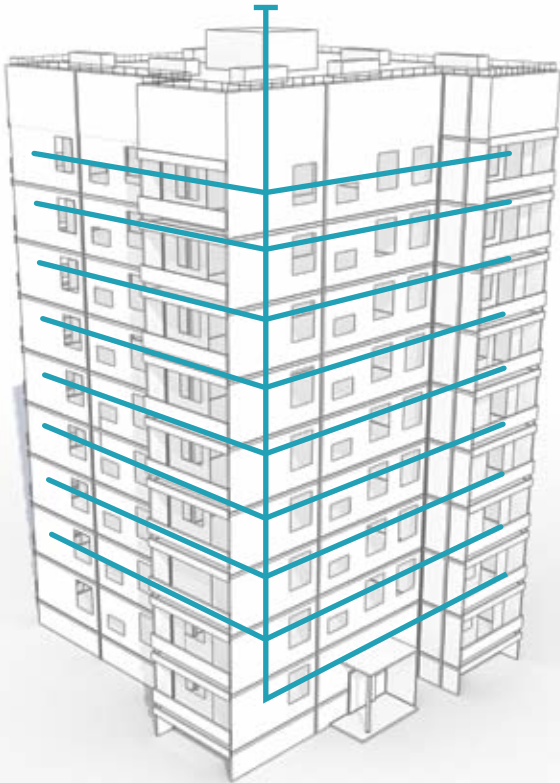
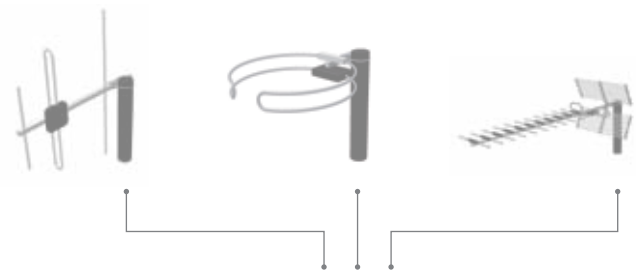


7773(UK) | 7774 (UK) | 7775(UK)

		7773(UK)	7774(UK)	7775(UK)
Inputs	-	FM BIII/DAB UHF	FM BIII/DAB UHF VHF-UHF	FM BIII/DAB UHF VHF-UHF
Frequency range	MHz	FM: 88-108 BIII/DAB: 174-240 UHF: 470-790	FM: 88-108 BIII/DAB: 174-240 UHF: 470-790 VHF-UHF: 5-1000 (RP: 5-65)	FM: 88-108 BIII/DAB: 174-240 UHF: 470-790 VHF-UHF: 5-1000 (RP: 5-65)
Gain	dB	FM: 8 to 30 BIII/DAB: 8 to 30 UHF: 20 to 40	FM: -12 to 20 BIII/DAB: -12 to 20 UHF: -4 to 26 VHF-UHF: -4 to 26	FM: 0 to 32 BIII/DAB: 0 to 32 UHF: 5 to 40 VHF-UHF: 5 to 40
Return path loss	dB	-	-2	-2
Slope adjustment	dB	-	VHF-UHF: -18 to -8	VHF-UHF: -18 to -8
Max. input power	dBμV	90	110	110
Max. output power	dBμV	110	116	>122
Noise figure	dB	FM: 9 BIII/DAB: 9 UHF: 6	FM: 8 BIII/DAB: 7 UHF: 5 VHF-UHF: 6,5	FM: 8 BIII/DAB: 7 UHF: 5 VHF-UHF: 6,5
Return loss	dB	>10	>10	>10
Remote power	-	UHF: 5 VDC (200 mA) /12 VDC (100 mA)	BIII/DAB: 5 VDC (200 mA) /12 VDC (100 mA) UHF: 5 VDC (200 mA)/12 VDC (100 mA)	BIII/DAB: 5 VDC (200 mA) /12 VDC (100 mA) UHF: 5 VDC (200 mA)/12 VDC (100 mA)
Supply voltage	VAC	200-264	200-264	200-264
Power consumption	W	1,5	3	5,5
Dimensions	mm	238 x 152 x 55		

# Amplifiers

Terrestrial Distribution Amplifiers



# Amplifiers

## Wideband Indoor Amplifier

7720

- ▶ 1 wideband input: 47-862 MHz (VHF-UHF)
- ▶ 2 outputs
- ▶ adjustable gain: 13-28 dB
- ▶ power LED indicator
- ▶ wall mounting with 2 supplied screws



7720

Frequency range	MHz	47-862
Adjustable gain	dB	13-28
Noise figure	dB	4,0
Max. output level	dB $\mu$ V	98
Return loss (input/output)	dB	10
Isolation between outputs	dB	15
Power	-	230V~/10VA
Dimensions	mm	115 x 74 x 56

## VHF-UHF Indoor Amplifier

7722

- ▶ 1 input: 40-300 MHz + 470-862 MHz
- ▶ 2 outputs
- ▶ adjustable VHF gain: 8-28 dB
- ▶ adjustable UHF gain: 15-30 dB
- ▶ power LED indicator



7722

Frequency range	MHz	40-300 + 470-862
Adjustable gain	dB	VHF: 8-28/UHF: 15-30
Noise figure	dB	4,0
Max. output level	dB $\mu$ V	107
Return loss (input/output)	dB	10
Isolation between outputs	dB	15
Remote power	-	no
Power	-	230V~/6,5VA
Dimensions	mm	102 x 76 x 54

# Amplifiers

## UHF Preamplifier KIT

**NEW**



KIT 7327 | 2425

- ▶ 1 input/1 output
- ▶ LTE (4G) rejection
- ▶ low-noise
- ▶ 15 dB gain
- ▶ low power consumption: only 15 mA
- ▶ power indication LED
- ▶ 5-24 VDC operating voltage
  
- ▶ 5 V high efficiency power supply
- ▶ power LED
- ▶ wall or DIN-rail mountable



### 7327

Frequency range	MHz	470-790
Gain	dB	15
Noise figure	dB	3,0
Max. input level	dB $\mu$ V	88
Max. output level	dB $\mu$ V	103
Power supply	VDC	5-24
Consumption	mA	15
Dimensions	mm	120 x 115 x 50

### 2425

Outputs	-	1
Insertion loss	dB	1
AC input voltage/Frequency/Power	-	230 V~ / 50 Hz / 1,3 W
DC output voltage	VDC	5
Output current	mA	25
Dimensions	mm	110 x 78 x 41

# Amplifiers

## UHF Preamp KIT

NEW



KIT 7328 | 2434

- ▶ 1 input/1 output
- ▶ LTE (4G) + GSM rejection
- ▶ low-noise
- ▶ 15-35 dB adjustable gain
- ▶ power indication LED
- ▶ 24 VDC operating voltage
  
- ▶ 24 V high-efficiency power supply
- ▶ short-circuit protection
- ▶ 2 outputs
- ▶ power LED
- ▶ wall or DIN-rail mountable



		7328
Frequency range	MHz	470-790
Gain	dB	15-35
Noise figure	dB	2,0
Max. input level	dBpV	80
Max. output level	dBpV	105
Power supply	VDC	24
Consumption	mA	50
Dimensions	mm	120 x 115 x 50

		2434
Outputs	-	2
Insertion loss	dB	4
Isolation between outputs	dB	10
AC input voltage/Frequency/Power	-	230 V~ / 50 Hz / 4,8 W
DC output voltage	VDC	24
Output current	mA	150
Dimensions	mm	110 x 94 x 41

# Amplifiers

## VHF/UHF Bypass Preamplifier KIT

**NEW**



KIT 7460 | 2434

- ▶ 1 x VHF input/1 x UHF input
  - ▶ 1 wideband output
  - ▶ up to 105 dB $\mu$ V output power
  - ▶ 0-20 dB adjustable gain on VHF
  - ▶ 15-35 dB adjustable gain on UHF
  - ▶ LTE (4G) + GSM rejection
  - ▶ low-noise
  - ▶ power indication LED
  - ▶ DC power pass
  - ▶ 24 VDC operating voltage
- 
- ▶ 24 V high-efficiency power supply
  - ▶ short-circuit protection
  - ▶ 2 outputs
  - ▶ power LED
  - ▶ wall or DIN-rail mountable



7460

Inputs	-	VHF	UHF
Frequency range	MHz	174-240	470-790
Gain	dB	0-20	15-35
Noise figure	dB	3,5	2,5
Max. input level	dB $\mu$ V	107	85
Max. output level	dB $\mu$ V	105	
Power supply	VDC	24	
Consumption	mA	50	
Dimensions	mm	120 x 115 x 50	

2434

Outputs	-	2
Insertion loss	dB	4
Isolation between outputs	dB	10
AC input voltage/Frequency/Power	-	230 V~ / 50 Hz / 4,8 W
DC output voltage	VDC	24
Output current	mA	150
Dimensions	mm	110 x 94 x 41

# Amplifiers

## VHF/UHF Preamp KIT

**NEW**



KIT 7462 | 2434

- ▶ 1 universal input: VHF only, UHF only or VHF+UHF (switchable with jumpers)
- ▶ 2 wideband outputs
- ▶ up to 105 dB $\mu$ V output power
- ▶ 7-22 dB adjustable gain on VHF
- ▶ 7-22 dB adjustable gain on UHF
- ▶ LTE (4G) + GSM rejection
- ▶ low-noise
- ▶ power indication LED
- ▶ DC power pass (with jumper)
- ▶ 5-24 VDC operating temperature
  
- ▶ 24 V high-efficiency power supply
- ▶ short-circuit protection
- ▶ 2 outputs
- ▶ power LED
- ▶ wall or DIN-rail mountable



### 7462

Inputs	-	VHF only / UHF only / VHF-UHF
Frequency range	MHz	174-240/470-790/174-240+470-790
Gain	dB	VHF: 7-22 UHF: 7-22
Noise figure	dB	VHF: 3,5 UHF: 3,5
Max. input level	dB $\mu$ V	80
Max. output level	dB $\mu$ V	105
Power supply	VDC	5-24
Consumption	mA	35 mA @ 24VDC / 90 mA @ 5 VDC
Dimensions	mm	112 x 98 x 56

### 2434

Outputs	-	2
Insertion loss	dB	4
Isolation between outputs	dB	10
AC input voltage/Frequency/Power	-	230 V~ / 50 Hz / 4,8 W
DC output voltage	VDC	24
Output current	mA	150
Dimensions	mm	110 x 94 x 41



# Amplifiers

## VHF/UHF Preamplifier KIT

**NEW**



KIT 7463 | 2434



- ▶ 2 universal input: VHF only, UHF only or VHF+UHF (switchable with jumpers)
- ▶ 2 wideband outputs
- ▶ up to 105 dB $\mu$ V output power
- ▶ 7-22 dB adjustable gain on VHF
- ▶ 7-22 dB adjustable gain on UHF
- ▶ LTE (4G) + GSM rejection
- ▶ low-noise
- ▶ power indication LED
- ▶ DC power pass (with jumper)
- ▶ 5-24 VDC operating temperature
  
- ▶ 24 V high-efficiency power supply
- ▶ short-circuit protection
- ▶ 2 outputs
- ▶ power LED
- ▶ wall or DIN-rail mountable

7463			
Inputs	-	VHF only / UHF only / VHF-UHF (switchable with jumpers)	VHF only / UHF only / VHF-UHF (switchable with jumpers)
Outputs	-	2 x wideband output	
Frequency range	MHz	174-240/470-790/174-240+470-790	
Gain	dB	VHF: 7-22 UHF: 7-22	VHF: 7-22 UHF: 7-22
Noise figure	dB	VHF: 3,5 UHF: 3,5	
Max. input level	dB $\mu$ V	80	
Max. output level	dB $\mu$ V	105	
Power supply	VDC	5-24	
Consumption	mA	50 mA @ 24 V / 120 mA @ 5 V	
Dimensions	mm	112 x 98 x 56	

2434		
Outputs	-	2
Insertion loss	dB	4
Isolation between outputs	dB	10
AC input voltage/Frequency/Power	-	230 V~ / 50 Hz / 4,8 W
DC output voltage	VDC	24
Output current	mA	150
Dimensions	mm	110 x 94 x 41

# Amplifiers

## UHF Preamplifier

**NEW**



- ▶ 1 input/1 output
- ▶ LTE (4G) rejection
- ▶ low-noise
- ▶ 15 dB gain
- ▶ low power consumption: only 15 mA
- ▶ power indication LED
- ▶ 5-24 VDC operating voltage



7327

7327

Frequency range	MHz	470-790
Gain	dB	15
Noise figure	dB	3,0
Max. input level	dBμV	88
Max. output level	dBμV	103
Power supply	VDC	5-24
Consumption	mA	15
Dimensions	mm	120 x 115 x 50

## UHF Preamplifier

**NEW**



- ▶ 1 input/1 output
- ▶ LTE (4G) + GSM rejection
- ▶ low-noise
- ▶ 15-35 dB adjustable gain
- ▶ power indication LED
- ▶ 24 VDC operating voltage



7328

7328

Frequency range	MHz	470-790
Gain	dB	15-35
Noise figure	dB	2,0
Max. input level	dBμV	80
Max. output level	dBμV	105
Power supply	VDC	24
Consumption	mA	50
Dimensions	mm	120 x 115 x 50

# Amplifiers

## VHF/UHF Preamplifier

**J** johansson

**NEW**



7460



- ▶ 1 x VHF input/1 x UHF input
- ▶ 1 wideband output
- ▶ up to 105 dB $\mu$ V output power
- ▶ 0-20 dB adjustable gain on VHF
- ▶ 15-35 dB adjustable gain on UHF
- ▶ LTE (4G) + GSM rejection
- ▶ low-noise
- ▶ power indication LED
- ▶ DC power pass
- ▶ 24 VDC operating voltage

7460

Inputs	-	VHF	UHF
Frequency range	MHz	174-240	470-790
Gain	dB	0-20	15-35
Noise Figure	dB	3,5	2,0
Max. input level	dB $\mu$ V	107	85
Max. Output level	dB $\mu$ V	105	
Power supply	VDC	24	
Consumption	mA	50	
Dimensions	mm	120 x 115 x 50	

## VHF/VHF-UHF universal preamplifier (1 input/2 outputs)

**NEW**

7462



- ▶ 1 universal input: VHF only, UHF only or VHF+UHF (switchable with jumpers)
- ▶ 2 wideband outputs
- ▶ up to 105 dB $\mu$ V output power
- ▶ 7-22 dB adjustable gain on VHF
- ▶ 7-22 dB adjustable gain on UHF
- ▶ LTE (4G) + GSM rejection
- ▶ low-noise
- ▶ power indication LED
- ▶ DC power pass (with jumper)
- ▶ 5-24 VDC operating voltage

7462

Inputs	-	VHF only / UHF only / VHF-UHF
Frequency range	MHz	174-240/470-790/174-240+470-790
Gain	dB	VHF: 7-22 UHF: 7-22
Noise figure	dB	VHF: 3,5 UHF: 3,5
Max. input level	dB $\mu$ V	80
Max. output level	dB $\mu$ V	105
Power supply	VDC	5-24
Consumption	mA	35 mA @ 24VDC / 90 mA @ 5 VDC
Dimensions	mm	112 x 98 x 56



# Amplifiers

VHF/VHF-UHF universal preamplifier (2 inputs/2 outputs)

**NEW**



7463



- ▶ 2 universal inputs: VHF only, UHF only or VHF+UHF (switchable with jumpers)
- ▶ 2 wideband outputs
- ▶ up to 105 dB $\mu$ V output power
- ▶ 7-22 dB adjustable gain on VHF
- ▶ 7-22 dB adjustable gain on UHF
- ▶ LTE (4G) + GSM rejection
- ▶ low-noise
- ▶ power indication LED
- ▶ DC power pass (with jumper)
- ▶ 5-24 VDC operating voltage

7463			
Inputs	-	VHF only / UHF only / VHF-UHF (switchable with jumpers)	VHF only / UHF only / VHF-UHF (switchable with jumpers)
Outputs	-	2 x wideband output	
Frequency range	MHz	174-240/470-790/174-240+470-790	174-240/470-790/174-240+470-790
Gain	dB	VHF: 7-22 UHF: 7-22	VHF: 7-22 UHF: 7-22
Noise figure	dB	VHF: 3,5 UHF: 3,5	
Max. input level	dB $\mu$ V	80	
Max. output level	dB $\mu$ V	105	
Power supply	VDC	5-24	
Consumption	mA	50 mA @ 24 V / 120 mA @ 5 V	
Dimensions	mm	112 x 98 x 56	

## 5V Power Supply

2425



- ▶ 5 V high-efficiency power supply
- ▶ output current: 25 mA
- ▶ 1 output
- ▶ power LED
- ▶ wall or DIN-rail mountable
- ▶ short-circuit protected

2425		
Outputs	-	1
Insertion loss	dB	1
AC input voltage/Frequency/Power	-	230 V~ / 50 Hz / 1,3 W
DC output voltage	VDC	5
Output current	mA	25
Dimensions	mm	110 x 78 x 41

## USB Power Supply

Use the USB port of your TV, Set-top box, DVD player,... to power a preamplifier.  
 This is a very power-efficient solution, which guarantees the preamplifier is switched-on, only when you need it!  
 And of course, you don't need another power plug...



- ▶ green solution: power-down your preamplifier, by switching-off your TV
- ▶ 1 output
- ▶ output current: up to 300 mA
- ▶ power indication LED
- ▶ wall or DIN-rail mountable
- ▶ short-circuit protected


**2426**

		2426
Outputs	-	1
Insertion loss	dB	1
DC input voltage (USB)	VDC	5
DC output voltage	VDC	5
Output current	mA	300
Dimensions	mm	110 x 78 x 41

## 24V Power Supply

**NEW**

- ▶ high-efficiency
- ▶ 2 outputs
- ▶ 24V stabilized
- ▶ short-circuit protection
- ▶ power LED indicator
- ▶ wall or DIN-rail mountable


**2434**

		2434
Outputs	-	2
Insertion loss	dB	4
Isolation between outputs	dB	10
AC input voltage/Frequency/Power	-	230 V~ / 50 Hz / 4,8 W
DC output voltage	VDC	24
Output current	mA	150
Dimensions	mm	110 x 94 x 41

## Distribution Accessories

- ▶ Johansson offers a wide range of high-quality accessories for the distribution of terrestrial, cable and satellite TV. All products are designed with the future LTE-networks in mind and make sure your TV distribution system is future-proof!



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# Distribution Accessories

## Filters | LTE + GSM Filter

Long Term Evolution (LTE) is a consequence of the digitization of the TV-signals. Digital signals offer a great bandwidth-advantage, which will be used for next-generation telecommunication applications (4G). This implies the UHF channels 61-69 will no longer be used for TV-purposes, and have to be filtered-out carefully to avoid interference! Our LTE-ready products offer strong filtering capabilities for the UHF channels 61-69 and the GSM-band.

## Filters | LTE + GSM Filter

- ▶ >15 dB LTE rejection
- ▶ wall or mast mountable with strap
- ▶ indoor/outdoor use

6022



		6022
Frequency range	MHz	5-790
Cut off channel	-	60
Insertion loss	dB	1
LTE (4G) rejection	dB	20
GSM rejection 880-960 MHz	dB	60
DC power pass	mA	500
Connectors	-	2 x F female
Mounting	-	Wall/Mast
Dimensions	mm	112 x 98 x 56



## Filters | LTE Filter

- ▶ 25 dB LTE rejection
- ▶ in-line small housing
- ▶ indoor use

6023



		6023
Frequency range	MHz	5-774
Cut off channel	-	58
Insertion loss	dB	1
LTE (4G) rejection	dB	25
DC power pass	mA	500
Connectors	-	2 x F female
Mounting	-	Indoor Use
Dimensions	mm	72 x 22 x 17





# Distribution Accessories

## Filters | LTE Filter (indoor)

- ▶ 30 dB LTE rejection
- ▶ indoor use (direct plug-in mounting behind TV)
- ▶ IEC connectors

6030



		6030
Frequency range	MHz	5-782
Cut off	-	59
Insertion Loss	dB	1
LTE (4G) rejection	dB	30
DC power pass	mA	500
Connectors	-	IEC male/female
Mounting	-	Indoor Use
Dimensions	mm	67 x 33 x 22

## Filters | LTE Filter

**NEW**

- ▶ frequency range: 5-782 (6024) / 5-790 (6025)
- ▶ high LTE (4G) rejection: 50 dB
- ▶ indoor and outdoor mountable

6024 | 6025



		6024	6025
Frequency range	MHz	5-782	5-790
Cut off channel	-	59	60
Insertion loss	dB	1	1
LTE (4G) rejection	dB	50	50
DC power pass	mA	500	500
Connectors	-	2 x F female	2 x F female
Mounting	-	Indoor/outdoor (indoor flange provided)	Indoor/outdoor (indoor flange provided)
Dimensions	mm	112 x 98 x 56	112 x 98 x 56

## Filters | LTE Tetra Filter

- ▶ Tetra filter
- ▶ wall or mast mountable with strap
- ▶ outdoor use

6040



		6040
Channels	C	21-60
Bandwidth	MHz	471-790
Insertion loss	dB	1,5
Attenuation channel	dB	25 min
Return loss	dB	10 min
Dimensions	mm	112 x 98 x 56

# Distribution Accessories

Splitters | Wideband Indoor Splitters 5-2300 MHz



- ▶ 2, 3, 4, 6, 8-way wideband splitters
- ▶ low insertion loss
- ▶ nickel plated zinc diecast housing
- ▶ "F"-type connectors
- ▶ DC power pass on all ports (diode protection)

		4502	4503	4504	4506	4508
Way	-	2	3	4	6	8
Frequency	MHz	5-2300	5-2300	5-2300	5-2300	5-2300
Insertion loss	dB	6,5	11	11	16	18
Isolation	dB	16	20	20	20	20
Return loss in/out	dB	10	10	10	10	10
DC power pass (out/in)	-	2	3	4	6	8
Dimensions (mm)	mm	47x56x21	47x77x21	47x77x21	57x120x25	57x120x25

# Distribution Accessories

Combiners | TV Combiners



- ▶ low-loss
- ▶ indoor/outdoor use

		1269	1281	1200A
Inputs (DC power pass=*)	MHz	VHF: 40-230 * UHF: 470-862 *	UHF1: 470-862 * UHF2: 470-862 *	FM: 88-108 VHF-UHF: 40-68 + 175-862 (rej. FM) *
Insertion loss	dB	VHF: 0,5 UHF: 1,0	UHF1: 4,5 UHF2: 4,5	FM: 1,0 VHF-UHF: 1,0 (FM rejection >20)
Dimensions	mm	112 x 98 x 56		

		1352	1353
Inputs (DC power pass=*)	MHz	VHF: 40-230 * UHF1: 470-862 * UHF2: 470-862 *	BI-FM: 40-108 * BIII: 170-230 * UHF: 470-862
Insertion loss	MHz	VHF: 0,5 UHF1: 4,5 UHF2: 4,5	BI-FM: 1,0 BIII: 1,0 UHF: 2,0
Dimensions	mm	112 x 98 x 56	

		1464
Inputs (DC power pass=*)	MHz	BI-FM: 40-108 * BIII: 170-230 * UHF1: 470-862 * UHF2: 470-862 *
Insertion loss	dB	BI-FM: 0,5 BIII: 0,5 UHF1: 3,5 UHF2: 3,5
Dimensions	mm	112 x 98 x 56

# Distribution Accessories

## DiSEqC Switches

9232



9234



9232 | 9234

Number of inputs	-	2	4
Frequency range	MHz	950-2150	950-2150
Insertion loss	dB	2,5	4
Isolation	dB	15	15
Switching control	-	Tone Burst and DiSEqC 1.0	DiSEqC 1.0
Consumption	mA	25 max.	25 max.
Dimensions	mm	105 x 105 x 37	

## Twin DiSEqC Switch 5/2

9920



- ▶ switch for 2 TWIN LNB's combined with terrestrial

9920

Frequency range	MHz	Sat.: 950-2150 - Terr.: 5-862
Insertion loss	dB	Sat.: 4 max. - Terr.: 8 max.
Switching control	dB	Tone Burst and DiSEqC 1.0/1.1
Isolation each SAT in/out	dB	40 min
Isolation SAT/TERR	dB	30 min
Current	mA	20 mA per receiver
DC power pass on SAT inputs	mA	350 max
Dimensions	mm	112 x 98 x 56

# Distribution Accessories

Combiners | TV-SAT Combiners

9506

- ▶ indoor combiner
- ▶ DC power pass



9501



		9501	9506
Band/Insertion loss (DC power pass=*)	MHz	VHF-UHF 5-862/1 dB	VHF-UHF 5-862/2 dB
	MHz	SAT* 950-2150 /2 dB	SAT* 950-2150 /2,5 dB
Isolation	dB	> 15 (Terr.) > 30 (Sat.)	> 15 (Terr.) > 40 (Sat.)
Note	-	indoor use	outdoor use
Dimensions	mm	61 x 51 x 16	112 x 98 x 56

## Line Amplifiers | DTT Line Amplifier

7317



- ▶ low noise UHF line amplifier
- ▶ ideal to pump up low level signals and reject impulse noise in DTT reception
- ▶ powered with 5V of DTT (DVB-T) receiver

7317

Band	dB	UHF C 21- 69
Frequency	MHz	470-862
Gain	dB	15
Noise figure	dB	2,0
Max. Output level	dB $\mu$ V	102
Consumption	mA	20
Voltage supply range	V	5 to 24
Dimensions	mm	72 x 22 x 17

## Line Amplifiers | Satellite Line Amplifiers

9604



- ▶ sloped gain for compensating coaxial cable losses
- ▶ available in 3 versions with different bandwidth
  - ▶ 40-2150 MHz
  - ▶ 950-2150 MHz
  - ▶ 40-3650 MHz (for use in combination with stacker-destacker)

9604 | 9617 | 9637

		9604	9617	9637
Frequency range	MHz	950-2150	40-2150	40-3650
Gain	dB	13 (950 MHz)	9 (40 MHz)	7 (40 MHz)
		18 (2150 MHz)	12 (860 MHz)	10 (860-850 MHz)
			13 (950 MHz)	13 (2150 MHz)
			16 (2150 MHz)	15 (3650 MHz)
Noise figure	dB	4	4	7
Max. Output level	dB $\mu$ V	110	110	110
Power supply	V	13-18 / 30 mA	13-18 / 30 mA	13-18 / 30 mA
DC power pass	mA	500 max.	500 max.	500 max.
Dimensions	mm	72 x 22 x 17		77 x 21 x 15

# Distribution Accessories

## Others | Attenuator

9609



- ▶ small housing
- ▶ adjustable attenuation: 0-20 dB
- ▶ DC power pass

9609

Frequency range	MHz	700-2150
Attenuation	dB	0-20 adjustable
DC power pass	-	yes
Dimensions	mm	77 x 22 x 17

## Others | 22 kHz Tone Blocking Filter

9613



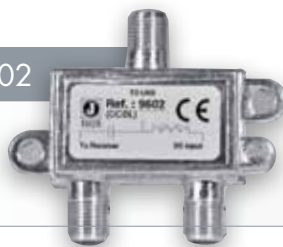
- ▶ small housing
- ▶ low insertion loss

9613

Frequency range	MHz	950-2150
Insertion loss	dB	1
DC loss	V	0,5 typ.
Dimensions	mm	77 x 22 x 17

## Others | DC Block - DC Inserter

9602



- ▶ block DC voltage to receiver
- ▶ pass DC voltage to LNB

9602

Frequency range	MHz	40-2150
Insertion loss	dB	1
DC power pass	mA	500 max.
Dimensions	mm	61 x 51 x 16

# Distribution Accessories

## Others | DC Block

9631



- ▶ block DC voltage from input to output

9631

Frequency range	MHz	5-2300
Attenuation	dB	1
Dimensions	mm	72 x 22 x 17

## Others | F-F Galvanic Isolator

9620



- ▶ high galvanic isolation of both center and shield
- ▶ small design

9620

Frequency range	MHz	5-2150
Galvanic isolation	VDC	400-800
Capacitor value	nF	center: 1 / shield:4
Dimensions	mm	51 x 14 x 14

## Others | Priority Switch

9337



- ▶ priority switching
- ▶ signal by pass

9337

Frequency range:	MHz	950 - 2150
Insertion loss	dB	< 3,5
Isolation	dB	> 15
Signal by pass	-	22 KHz tone and 13/18V power
Switch control	-	Coaxial voltage 0V/13-18V of the priority satellite receiver Power > 10.0V = ON/<7.0 = OFF
DC loss	V	1.0 max.
Dimensions	mm	61 x 51 x 16

# Multiswitches & OLT

- ▶ Multiswitches are a key element in the distribution of satellite signals throughout big buildings. Johansson introduces a new range of multiswitches, with the OLT technology integrated. This means up to 3 tuners can be connected to one output, offering a very efficient solution!





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# Multiswitches & OLT

## OLT Multiswitch

The new range of OLT multiswitches has arrived! In most installations, the cost of coaxial cables can take big proportions. By using the new range of Johansson OLT multiswitches, this cost can be divided by 3!

The devices have 4/8 or 16 satellite inputs and an LTE-protected passive terrestrial input. All outputs can operate in OLT mode or in legacy mode. Thanks to the legacy support, the multiswitch can be used even if no SCR set-top boxes are installed yet, making it a very flexible solution.



9740 | 9742



- ▶ 4 satellite inputs and LTE protected passive terrestrial input
- ▶ ref. 9740/9740I/9740D: 4 outputs (up to 12 tuners)
- ▶ ref. 9742/9742I/9742D: 8 outputs (up to 24 tuners)
- ▶ wide range of satellite input levels (60 to 91 dB $\mu$ V) ensures robust operation
- ▶ high output power (AGC controlled)
- ▶ supports auto-tuning of set-top boxes
- ▶ low trunk-loss (ideal for cascading several multiswitches)
- ▶ multistandard support: EN50494/BSkyB/Legacy (backwards compatible with old set-top boxes)
- ▶ DC input (ref. 9933/9933UK) for LNB powering when no power inserter (ref. 9930) is used

		9740/9740D	9742/9742D	9740I	9742I
Inputs	-	1 x Terrestrial 4 x Satellite			
Outputs	-	4 outputs (up to 12 tuners)	8 outputs (up to 24 tuners)	4 outputs (up to 12 tuners)	8 outputs (up to 24 tuners)
Frequency	MHz	Ter.: 5-790 (LTE protected) SAT: 950-2150			
SCR channels	MHz	1280/1382/1484		1210/1420/1680	
Supported standards	-	EN50494 / BSkyB / Legacy			
Max. input level SAT	dB $\mu$ V	91			
Max. output level SAT	dB $\mu$ V	SCR mode: 90 Legacy mode: 80			
Trunk loss	dB	Ter.: 3* SAT: 2	Ter.: 5* SAT: 2,5	Ter.: 3 SAT: 2	Ter.: 5 SAT: 2,5
Return loss in/out	dB	> 10			
Tap loss (Terrestrial)	dB	typ. 24			
LNB remote current	mA	500			
STB current	mA	85			
Operating temperature	°C	-20 to +50			
Dimensions	mm	122 x 158 x 50	202 x 158 x 50	122 x 158 x 50	202 x 158 x 50

\* 9740D/D9742D have terminated terrestrial trunk line.

# Multiswitches & OLT

## OLT Multiswitch

**NEW**



9750 | 9752



- ▶ 8 satellite inputs (2 satellite positions) and LTE protected passive terrestrial input
- ▶ ref. 9750/9750I/9750D: 4 outputs (up to 12 tuners)
- ▶ ref. 9752/9752I/9752D: 8 outputs (up to 24 tuners)
- ▶ wide range of satellite input levels (70 to 100 dB $\mu$ V) ensures robust operation
- ▶ high output power (AGC controlled)
- ▶ supports auto-tuning of set-top boxes
- ▶ low trunk-loss (ideal for cascading several multiswitches)
- ▶ multistandard support: EN50494/BSkyB/Legacy (backwards compatible with old set-top boxes)
- ▶ DC input (ref. 9933/9933UK) for LNB powering when no power inserter (ref. 9930) is used

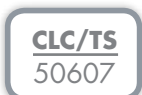
		9750/9750D	9752/9752D	9750I	9752I
Inputs	-	1 x Terrestrial 8 x Satellite (2 satellite positions)			
Outputs	-	4 outputs (up to 12 tuners)	8 outputs (up to 24 tuners)	4 outputs (up to 12 tuners)	8 outputs (up to 24 tuners)
Frequency	MHz	Ter.: 5-790 (LTE protected) SAT: 950-2150			
SCR channels	MHz	1280/1382/1484		1210/1420/1680	
Supported standards	-	EN50494 / BskyB / Legacy			
Max. input level SAT	dB $\mu$ V	100			
Max. output level SAT	dB $\mu$ V	SCR mode: 90 Legacy mode: 80			
Trunk loss	dB	Ter.: 3* SAT: 2,5	Ter.: 5* SAT: 3	Ter.: 3 SAT: 2,5	Ter.: 5 SAT: 3
Return loss in/out	dB	> 10			
Tap loss (Terrestrial)	dB	typ. 24			
LNB remote current	mA	500			
STB current	mA	85			
Operating temparture	°C	-20 to +50			
Dimensions	mm	122 x 142 x 50	222 x 222 x 50	122 x 142 x 50	222 x 222 x 50

\* 9750D/9752D have terminated terrestrial trunk line.

# Multiswitches & OLT

## OLT Multiswitch

**NEW**



9760 | 9762



- ▶ 16 satellite inputs (4 satellite positions) and LTE protected passive terrestrial input
- ▶ ref. 9760/9760I/9760D: 4 outputs (up to 12 tuners)
- ▶ ref. 9762/9762I/9762D: 8 outputs (up to 24 tuners)
- ▶ wide range of satellite input levels (70 to 100 dBμV) ensures robust operation
- ▶ high output power (AGC controlled)
- ▶ supports auto-tuning of set-top boxes
- ▶ low trunk-loss (ideal for cascading several multiswitches)
- ▶ multistandard support: EN50494/CLC-TS 50607/BSkyB/Legacy (backwards compatible with old set-top boxes)
- ▶ switches to select input mode when working in EN50494: A/A+B/A+C/A+D/Terrestrial Only (selectable for each output)
- ▶ DC input (ref. 9933/9933UK) for LNB powering when no power inserter (ref. 9930) is used

		9760/9760D	9762/9762D	9760I	9762I
Inputs	-	1 x Terrestrial 16 x Satellite (4 satellite positions)			
Outputs	-	4 outputs (up to 12 tuners)	8 outputs (up to 24 tuners)	4 outputs (up to 12 tuners)	8 outputs (up to 24 tuners)
Frequency	MHz	Ter.: 5-790 (LTE protected) SAT: 950-2150			
SCR channels	MHz	1280/1382/1484		1210/1420/1680	
Supported standards	-	EN50494 / CLC-TS 50607 / BSkyB / Legacy			
Max. input level SAT	dBμV	100			
Max. output level SAT	dBμV	SCR mode: 90 Legacy mode: 80			
Trunk loss	dB	Ter.: 3* SAT: 2,5	Ter.: 5* SAT: 3	Ter.: 3 SAT: 2,5	Ter.: 5 SAT: 3
Return loss in/out	dB	> 10			
Tap loss (Terrestrial)	dB	typ. 24			
LNB remote current	mA	500			
STB current	mA	85			
Operating temperature	°C	-20 to +50			
Dimensions	mm	350 x 142 x 50	350 x 222 x 50	350 x 142 x 50	350 x 222 x 50

\* 9760D/9762D have terminated terrestrial trunk line.

# Multiswitches & OLT

## OLT Multiswitch

**NEW**

The 9730 I is a 4 x 1 cascadable OLT multiswitch with 4 user bands, following the CENELEC EN50494 standard. The product is perfectly fitted for the Italian market with the user bands on frequencies 1210/1420/1680/2040 MHz.



9730I



- ▶ 4 satellite inputs
- ▶ compatible with CENELEC EN50494
- ▶ user band frequencies: 1210/1420/1680/2040 MHz
- ▶ DC power pass for LNB powering
- ▶ high output power (AGC controlled)
- ▶ supports auto-tuning of set-top boxes
- ▶ low trunk-loss (ideal for cascading several multiswitches)
- ▶ delivered with wall mounting tool

9730I

		9730I
Inputs	-	4 x satellite
Cascade outputs	-	4 x satellite
Frequency	MHz	SAT: 950-2150
Outputs	-	1 output (up to 4 tuners)
User bands	-	4
SCR channels	MHz	1210/1420/1680/2040
Supported standards	-	EN50494
Max. input level SAT	dBµV	95
Max. output level SAT	dBµV	90
Trunk loss	dB	< 1 dB
Return loss in/out	dB	> 10
LNB remote current	mA	0
STB current	mA	Max. 200
Operating temperature	°C	-20 to +50
Dimensions	mm	104 x 75 x 35

# Multiswitches & OLT

## Smart Splitter

Standard splitters can give collisions when two commands come at the same time or when one of the set-top boxes uses a permanent high voltage. A smart splitter captures the commands of the different set-top boxes and serializes them to guarantee no collisions happen.

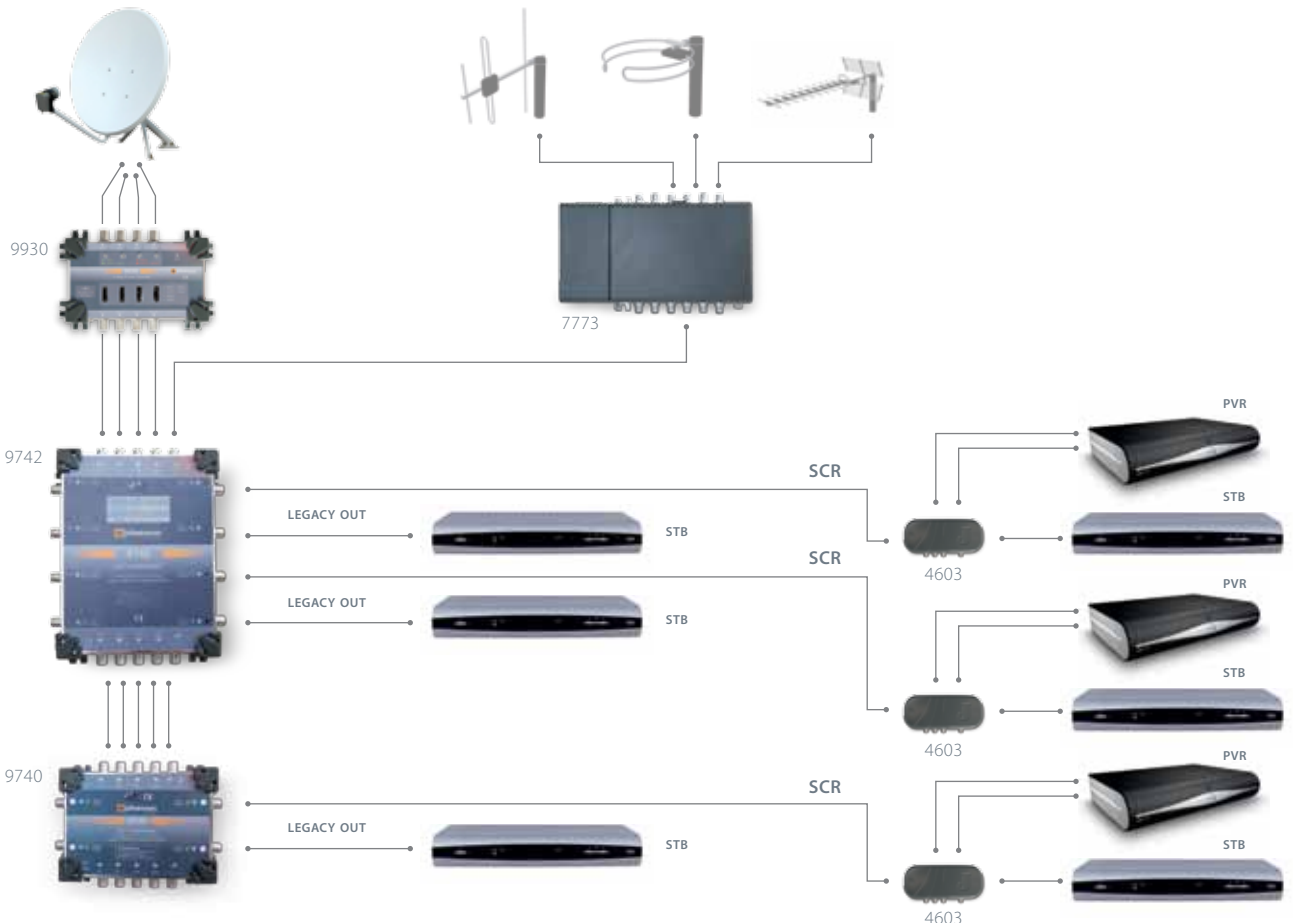


4603



- ▶ indoor housing
- ▶ 3-way
- ▶ no power adapter needed
- ▶ buffers and sends out the different command signals

		4603
Way	-	3
Frequency	MHz	5-2150
Insertion Loss	dB	9
Return loss in/out	dB	> 10
DC power pass	mA	500 max.
Input voltage	VDC	10 min. / 20 max.
Message buffer	-	3/receiver port
Dimensions	mm	40 x 68 x 140



# Multiswitches & OLT

## Multi Band Converter (Stacker-Destacker)

**NEW**

The Stacker-Destacker is the perfect solution to upgrade an old single-cable system with a twin (or quad) LNB to be used in combination with a dual input receiver (PVR) or 2 separate single input receivers. The advantage of using the Stacker-Destacker is that you don't need an additional cable. The Stacker converts the frequencies of the second input, so it is literally stacked above the frequencies of the first input. The Destacker converts the frequencies back to the original ones.

This new version of the Stacker-Destacker doesn't need an additional power adapter. Thanks to the built-in attenuator with adjustment, it is protected against high input signals, avoiding saturation of the device.

9645 KIT

- ▶ no power adapter needed! Power the device with the satellite receiver.
- ▶ built-in adjustable attenuator to protect against high input signals
- ▶ Transparent for unidirectional DiSEqC® (receive signals from up to 4 satellites)
- ▶ wide band 5-2150 MHz to combine terrestrial signals (FM, DAB, TV)
- ▶ no additional coax cable needed between dish and receiver
- ▶ no need to replace the existing cable
- ▶ transparent system
- ▶ no degradation of picture
- ▶ HD compliant



9645 KIT

### Converter

Inputs	MHz	1 X 5-2150 1 x 950-2150
Output	MHz	5-3550 MHz with "F" High Quality connector
Insertion loss/gain	dB	Terr.: - 1/Sat.: -4 Converted SAT.: + 6
Max. Input level	dBµV	pos. 1 (0 dB) = 88 dBµV   pos. 2 (10 dB att.) = 98 dBµV
Power consumption	W	0,7
Dimensions	mm	125 x 115 x 45

### Customer Device

Input		5-3550 MHz with "F" High Quality connector
Outputs	MHz	1 x 5-2150 1 x 950-2150
Insertion loss/gain		Terr.: - 1/Sat.: -4 Converted SAT.: +4
Max. Input level	dBµV	93
Consumption	W	0.7
Dimensions	mm	140 x 90 x 40

General specification	-	Operating system up to 75 m* CT100 or 17 VAtC coaxial cable
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\* Optional power adapter available to extend cable length.

# Multiswitches & OLT

## Power Inserter

The 9930 is a satellite power inserter, which can be used to ensure a universal LNB is locked on the correct satellite band. Each of the 4 inputs can be configured to deliver the desired control signals (13/18V + 0/22 kHz). The selected control signal is indicated by a bi-color LED.

- ▶ 4 satellite inputs / 4 satellite outputs
- ▶ frequency range: 5-2150 MHz
- ▶ current/input: up to 350 mA
- ▶ low insertion loss: <1 dB
- ▶ independent satellite band for each input (indicated by bi-color LED)



		9930
Inputs	-	4
Frequency range	MHz	5 - 2150
Insertion loss	dB	< 1
Isolation between ports	dB	> 35
Return loss	dB	> 10
Control signals	VDC	switchable : 13/18/13 + tone/18 + tone
Added power supply adapter	-	20V - 1A
Dimensions	mm	158 x 102 x 51

## Power Supply

- ▶ compatible with:
  - ▶ 9740/9742/9750/9752/9760/9762
  - ▶ 9934/9935



		9933   9933UK
AC input	-	230 V~/50 Hz
DC output	VDC	15
Max. Output/ current	A	2
Connector	mm/female	Jack 2,1
Dimensions	mm	176 x 71 x 47

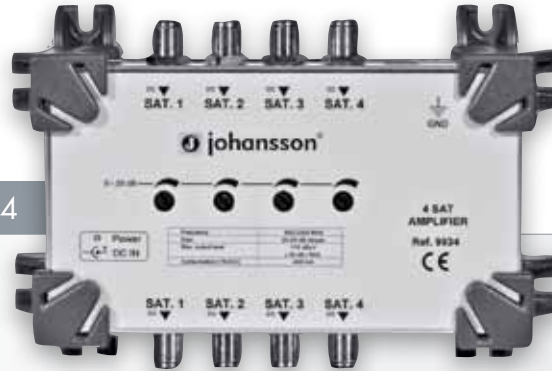


# Multiswitches & OLT

## Satellite IF Amplifiers

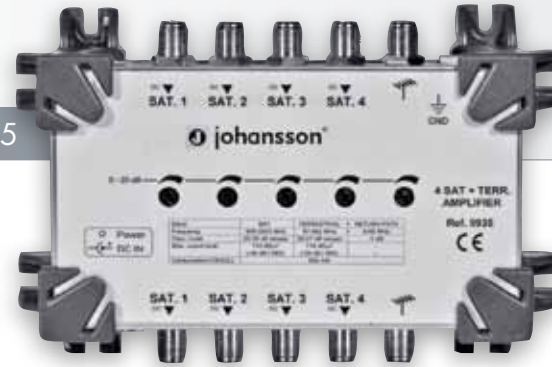


9934



- ▶ separate adjustment for gain and slope on every line
- ▶ DC input for powering trunk line amplifiers & LNB

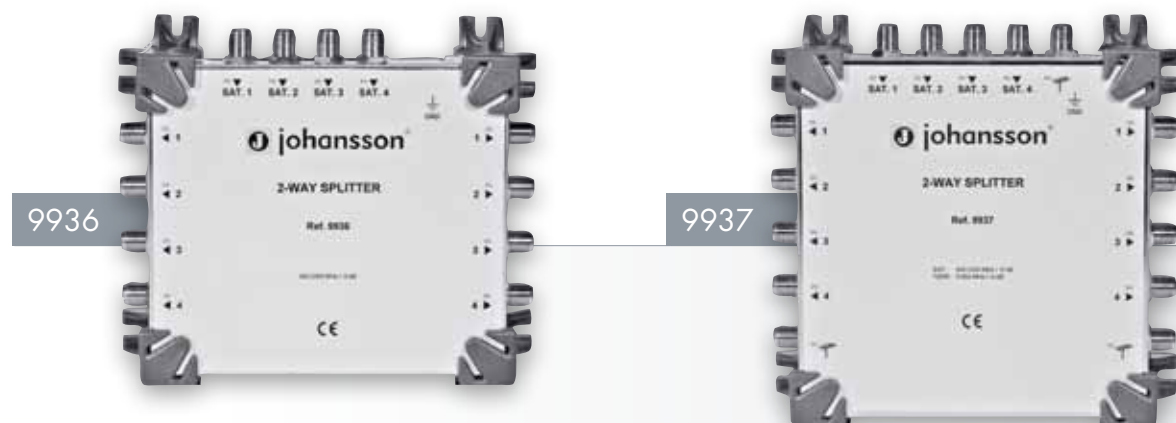
9935



		9934	9935
Inputs	-	4 SAT	4 SAT + 1 TERR
Outputs	-	4	5
Frequency range	MHz	950-2300	Sat.: 950-2300 MHz Terr.: 5-65 MHz + 87-862 MHz
Gain	dB	20-25 dB (sloped)	Sat.: 20-25 dB (sloped) Terr.: 87-862 MHz - 20-27 dB (sloped) return path: - 1 dB
Noise figure	dB	5	Sat.: 5 dB - Terr.: 6 dB
Gain adjustment	dB	20	Sat.: 20 dB - Terr.: 20 dB
Max. Output level	-	110 dB $\mu$ V (-35 dB/IM3)	Sat.: 110 dB $\mu$ V (-35 dB/IM3) Terr.: RP: passive 87-862 MHz: 114 dB $\mu$ V (-54 dB/IM3)
Consumption	-	400 mA from 15 VDC external power supply or input/output	500 mA from 15 VDC external power supply or input/output
Dimensions	mm	158 x 102 x 51	158 x 102 x 51

# Multiswitches & OLT

## Satellite Splitters



- ▶ 2-way satellite splitter
- ▶ terrestrial input/output (ref. 9937)
- ▶ DC power pass
- ▶ 5 dB loss

		9936	9937
Nb of inputs	-	4 SAT	4 SAT + 1 Terr
Nb of outputs	-	2 x 4	2 x 5
Frequency range	MHz	950-2300	Sat.: 950-2300 Terr.: 5-862
Loss	dB	5	Sat.: 5 - Terr.: 5
DC power pass in / out	-	yes	yes
Dimensions	mm	158 x 142 x 51	158 x 162 x 51

# Multiswitches & OLT

## Satellite Taps



- ▶ 2-way satellite tap
- ▶ terrestrial input/output (ref. 9939)
- ▶ DC power pass
- ▶ loss: 10 dB (tap loss) / 1 dB (through loss)

		9938	9939
Nb of inputs	-	4 SAT	4 SAT + 1 TERR
Nb of outputs	-	4 taps/ 4 through	5 taps/ 5 through
Frequency range	MHz	950-2300	Sat.: 950-2300 Terr.: 5-862
Tap loss	dB	-10	Sat.: -10 Terr.: -13
Through loss	dB	-1	Sat.: -1 Terr.: -1
DC power pass in/tap/out	-	yes	yes
Dimensions	mm	142 x 158 x 51	142 x 158 x 51

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