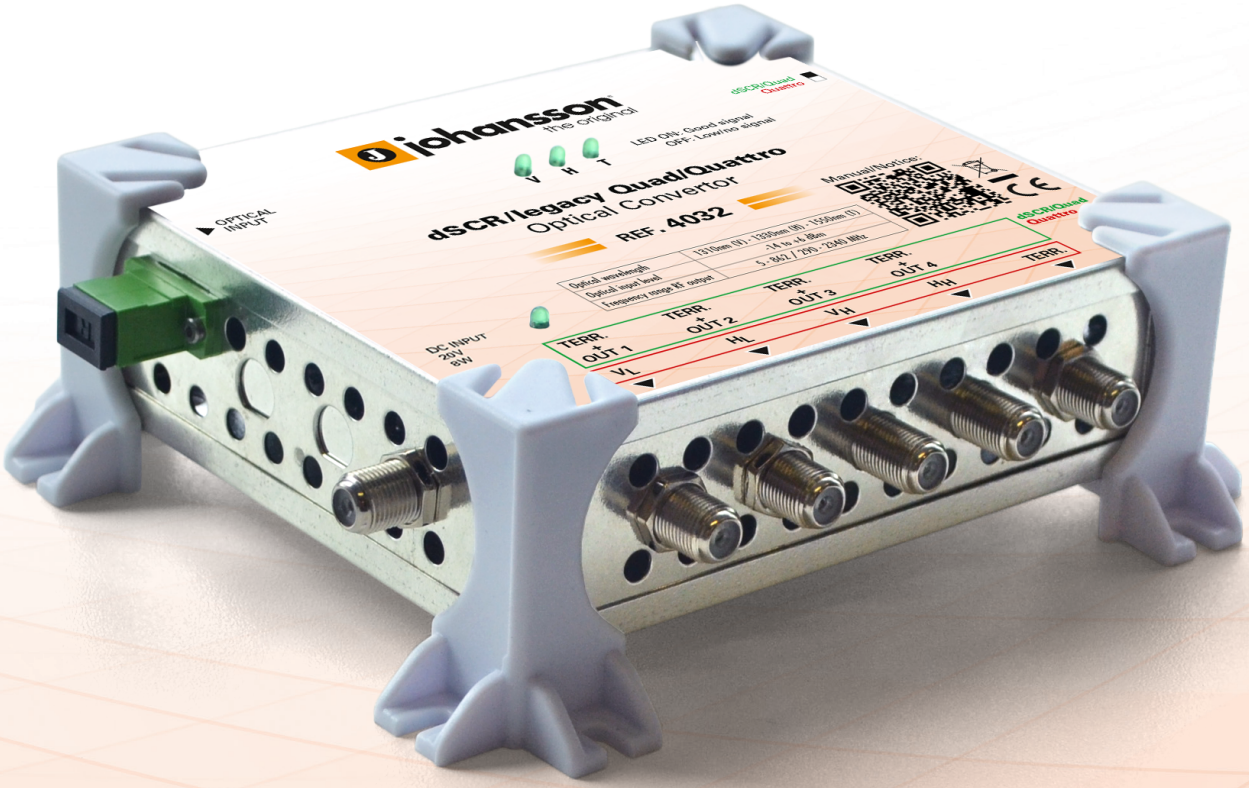
johansson
the original

Discover our new solutions for

Fiber Optical Distribution



UNITRON GROUP

EXCELLENT
PRODUCT RATING

Fiber Optical Distribution

We proudly present **our new fiber distribution range:** an easy-to-install solution to equip buildings with a fiber system or to replace traditional coaxial systems by a compact fiber system. This results in longer distance reach, lower signal degradation and lower equipment costs. These budget friendly products solve cable losses in large MDU's, ideal for high buildings, tourist areas, compounds, etc.

We offer an end-to-end solution starting from the LNB over fiber to the STB.
Our range includes:

- Fiber Headend with satellite wideband and terrestrial inputs
- Fiber receivers with satellite wideband and terrestrial outputs
- Fiber Termination Units with integrated SCR technology

The system is compatible with our new range of wideband dSCR multiswitches. It supports huge installations. In combination with our AGC/ASC wideband amplifier (ref. 9657) or our compact satellite convertor (ref. 9780), up to 128 passive splits can be reached.
All our products are compatible with single mode SC/APC cables.

Compared to our competitors, we offer higher signal quality over more splits.
We also offer a more qualitative solution for 2 satellite orbital positions.
Without a doubt, our satellite fiber distribution range will improve your installations.

More info: sales@unitrongroup.com

INDEX

FIBER OPTICAL DISTRIBUTION

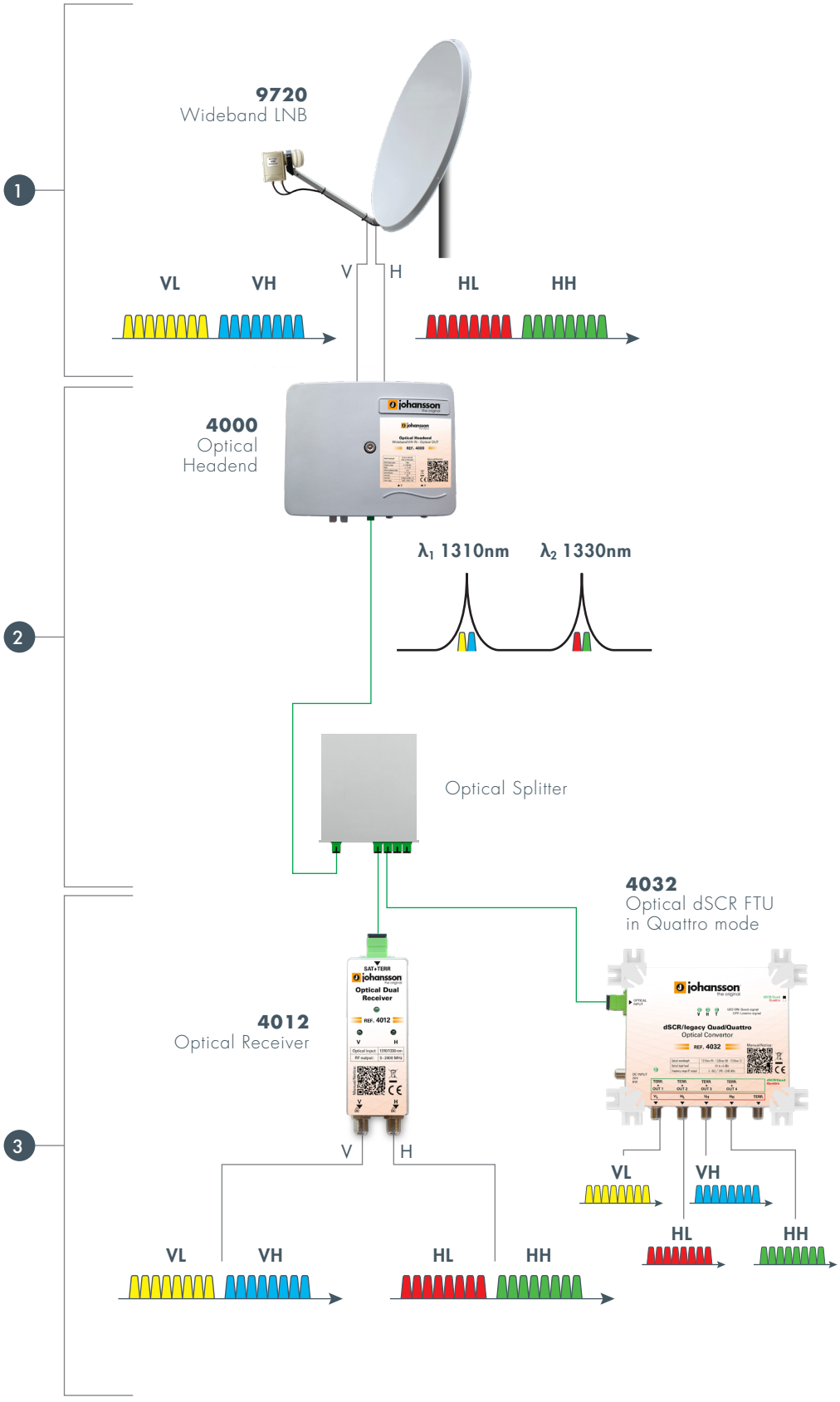
Fiber Optical Distribution

How our RF over Optical solution works

1 The Wideband LNB receives a satellite signal and converts it to Wideband V/H on coaxial network.

2 The optical headend converts Wideband V/H to optical wavelengths (1310nm and 1330nm) on 1 optical fiber cable. Terrestrial signal can be put on 1550nm using ref. 4001.

3 The optical receiver converts the 2 optical wavelengths to Wideband V/H. The optical dSCR FTU converts the optical wavelengths to Quattro (VL, VH, HL, HH) or to dSCR/Quad. The Quattro signal is perfect as a satellite trunk feed. In case of dSCR/Quad, the signal can be send to STBs.



Fiber Optical Distribution

4000 - 4001 Optical headend

This Optical Compact Headend converts 2 wideband satellite inputs into 2 wavelengths (1310nm – 1330nm) and puts them on 1 optical feed. The output signal is strong enough to support huge installations, with up to 128 passive splits. The 4001 Optical Compact Headend converts 1 input to 1550nm optical wavelength.

4000 I 4001

4000:

- 2 wideband V/H inputs
- frequency range: 5 - 2400 MHz
- 1 optical output (wavelengths: 1310nm (V) - 1330nm(H))
- 9 dBm output power

4001:

- 1 wideband input
- frequency range: 5-2400 MHz
- 1 optical output (wavelength 1550nm)
- 9 dBm output power
- optical input for loopthrough (from ref. 4000)

		4000	4001
Inputs	-	2 RF	1 RF + 1 optical (loopthrough from ref. 4000)
Outputs	-	1 Optical	
Optical wavelength	nm	1310 1330	1550
Frequency range	MHz	5 - 2400	
Optical output power	dBm	+9 per wavelength	
Ripple	dB	+/- 2.5	
Optimal input level*	dBµV	SAT: 80 per transponder TERR.: 70 per MUX	
Input attenuator	dB	0 - 15	
Laser type	-	DFB	
Laser LED control	-	Internal Green LED on	
LNB power supply	-	12.8V / max. 240 mA	
Power consumption without LNB power	W	9.0	6.0
Power supply	VAC	200 - 240	
Optical connector type	-	SC/APC	
RF connectors	-	F-female	
Operating temperature range	°C	-20 to +55	
Protection class	-	IP 50	
Dimensions	mm	225 x 190 x 86	
Weight	kg	1.800	

*Optimal input level with input attenuator set to 0 dB

Fiber Optical Distribution

4011 - 4012 - 4013 Optical single/dual/triple receiver

The optical receiver is developed for the transmission of broadband signals in medium and large Fiber Optic systems. The Optical receiver can convert one, two or three wavelengths. Ref. 4011 (Optical Single Receiver) converts 1550 nm to Satellite or Terrestrial signal. Ref. 4012 (Optical Dual Receiver) converts 1310 + 1330 nm to wideband V/H; Ref. 4013 (Optical Triple Receiver) converts 1310 + 1330 + 1550 nm to wideband V/H and Terrestrial signal.

4011 | 4012 | 4013

- optical input level: -15 to +4 dBm
- frequency range: 5 - 2400 MHz
- high reception quality even with high split ratios
- powering via V or H output (12V - 20V)
- AGC to boost signal level
- optical wavelengths: 1310nm (V), 1330nm (H), 1550nm (T)
- compatible with Johansson wideband Multiswitches (e.g. 9775, 9754, 9758, 9734, etc.) with double F male adaptors or jumpercables
- up to 128 passive splits

		4011	4012	4013
Optical inputs	-	1		
RF outputs	-	1	2	3
Optical wavelength	nm	1550	1310 1330	1310 1330 1550
Terrestrial output frequency range	MHz	-	-	5 - 1008
Satellite output frequency range	MHz	5 - 2400		
Optical input level	dBm	-15 to +4		
RF output level per Tr. (AGC)	dBµV	80		
Signal presence indicator	-	Green LED per wavelength		
Return loss	dB	10		
Optical connector type	-	SC/APC		
RF connector	-	75 Ohm F type (Female)		
Power consumption	W	1	2	3
Power supply	VDC	12 - 20 (via DC port)	12 - 20 (via V or H port)	
Power indicator	-	Green LED		
Operating temperature range	°C	-20 to +55		
Dimensions	mm	36 x 45 x 125	36 x 45 x 125	56 x 45 x 125
Weight	kg	0.110	0.110	0.165

Fiber Optical Distribution

4020 FiberTwist SAT

The Johansson optical FiberTwist SAT is a dSCR multiswitch with optical wideband satellite input signal. It offers the possibility to insert a terrestrial signal, which then is available together with the satellite signal on the RF output. For the optical transmitter we suggest the Johansson ref. 4000.

The 4020 integrates several functions in one unique device. The insertion of the satellite signal is realized through one single glass fiber on which two wideband signals (V & H) are transmitted. These signals are converted into a dSCR signal and then provided to the final devices. The FiberTwist has been designed for Home Media Gateways and multi tuner receivers, the output level provided is still strong enough to forward it to up to three antenna sockets.

4020

- optical wavelengths: 1310nm (V), 1330nm (H)
- optical input level: -10 to +9 dBm
- terrestrial input range: 5 to 862 MHz (via RF input)
- SCR output level (per transponder): 85 dBµV (typ.)
- outputs: 1 with 10 userbands
- standards: DiSEqC 1.0/ DiSEqC 2.0/ EN 50494 (SCD)/ EN 50607 (SCD2)/ Universal LNB Voltage & Tone
- compatible with legacy STB's
- power supply: 12V - 20V / 500mA (included)

		4020
Optical inputs	-	1
Terrestrial inputs	-	1 (RF)
RF outputs	-	1 (dCSS/dSCR/Legacy/TERR.)
Optical wavelength	nm	1310 1330
Terrestrial frequency range	MHz	5 - 862
Satellite output frequency range	MHz	950 - 2150
Optical input level	dBm	-10 to +9
Terrestrial insertion loss	dB	3
dSCR & legacy output level per Tr (AGC)	dBµV	85
dCSS/dSCR UBs	-	10
Return loss	dB	10
Optical connector type	-	SC / APC
Output connector type	-	75 ohm F type (female)
Band and polarity selection	-	DiSEqC 1.0 (unidirectional) DiSEqC 2.0 (bidirectional) Standard EN50494/EN50607 SKY UK protocol Universal LNB Voltage & Tone
Satellite mode	-	Green LED (solid green for legacy and blinking green for dCCS)
Power consumption	W	5
Power supply via DC IN	VDC	12 - 20
Power indicator	-	Green LED for power
Operating temperature range	°C	-20 to +55
Dimensions	mm	110 x 110 x 25
Weight	kg	0.200

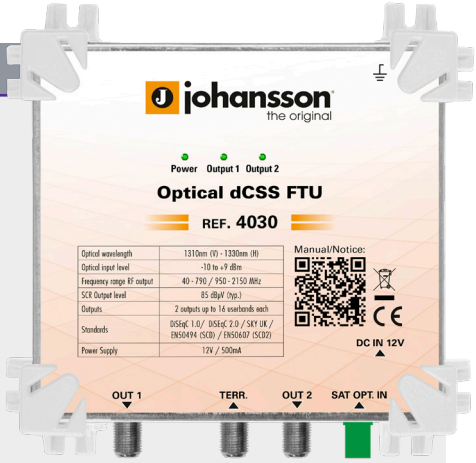
Fiber Optical Distribution

4030 dSCR FTU (2 dSCR outputs)

The new Johansson dSCR Fiber Termination Unit (FTU) converts 2 optical wavelengths to RF (SCR out to the STB). Quick and easy to install (no configuration needed).

4030

- optical wavelengths: 1310nm (V), 1330nm (H)
- optical input level: -10 to +9 dBm
- terrestrial input range: 5 to 862 MHz (via RF input)
- SCR output level (per transponder): 85 dBµV (typ.)
- outputs: 2 outputs (SAT + TERR) with 16 userbands each
- standards: DiSEqC 1.0 / DiSEqC 2.0 / SKY UK / EN 50494 (SCD) / EN 50607 (SCD2)/ Universal LNB Voltage & Tone
- compatible with legacy STB's
- power supply: 12V - 20V / 500mA



		4030
Optical inputs	-	1
Terrestrial inputs	-	1 (RF)
RF outputs	-	2 (dCSS/dSCR/Legacy/TERR.)
Optical wavelength	nm	1310 1330
Terrestrial frequency range	MHz	5 - 862
Satellite output frequency range	MHz	950 - 2150
Optical input level	dBm	-10 to +9
Terrestrial insertion loss	dB	6
dSCR & legacy output level per Tr (AGC)	dBµV	85
dCSS/dSCR UBs	-	2 x 16
Return loss	dB	10
Optical connector type	-	SC / APC
Output connector type	-	75 ohm F type (female)
Band and polarity selection	-	DiSEqC 1.0 (unidirectional) DiSEqC 2.0 (bidirectional) Standard EN50494/EN50607 SKY UK protocol Universal LNB Voltage & Tone
Satellite mode	-	Green LED (solid green for legacy and blinking green for dCCS)
Power consumption	W	5
Power supply via DC IN	VDC	12 - 20
Power indicator	-	Green LED for power
Operating temperature range	°C	-20 to +55
Dimensions	mm	140 x 140 x 50
Weight	kg	0.310

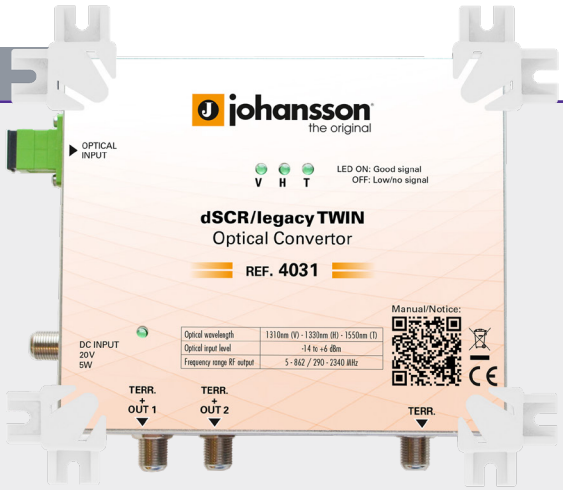
Fiber Optical Distribution

4031 dSCR/legacy TWIN FTU

This unique dSCR/legacy TWIN Optical Convertor with high output power has been developed to help installers overcome low signal quality in satellite fiber installations. This easy to use product will convert 3 optical wavelengths to 2 SAT+TERR and 1 TERR outputs.

4031

- unique product in the market with high output power
- optical wavelengths: 1310nm (V), 1330nm (H), 1550nm (T)
- optical input level: -14 to +4 dBm
- 3 outputs (2 dSCR/legacy/TERR. + 1 TERR.)
- AGC on all output ports
- signal quality indicator per wavelength
- energy efficient
- power supply: 20V via DC IN or from STB
- can be used in systems with up to 128 splits



		4031
Optical inputs	-	1
RF outputs	-	3 (2 dSCR/Legacy/TERR. + 1 TERR.)
Optical wavelength	nm	1310 1330 1550
Terrestrial output frequency range	MHz	40 - 790
Satellite output frequency range	MHz	950 - 2150
Optical input level	dBm	-14 to +4
Signal presence indicator	-	Green LED per wavelength
dCSS/dSCR UBs	-	2 x 16
Output level dSCR/Legacy (AGC)	dBµV	80
Output level TERR. (AGC)	dBµV	70
Return loss	dB	10
Optical connector type	-	SC / APC
Output connector type	-	75 ohm F type (female)
Band and polarity selection	-	DiSEqC 1.0 (unidirectional) DiSEqC 2.0 (bidirectional) Standard EN50494/EN50607 SKY UK protocol Universal LNB Voltage & Tone
Power consumption	W	5
Power supply via DC IN	VDC	20
Power supply via output (STB)	VDC	12 - 20
Power indicator	-	Green LED for power
Operating temperature range	°C	-20 to +55
Dimensions	mm	166 x 136 x 50
Weight	kg	0.310

Fiber Optical Distribution

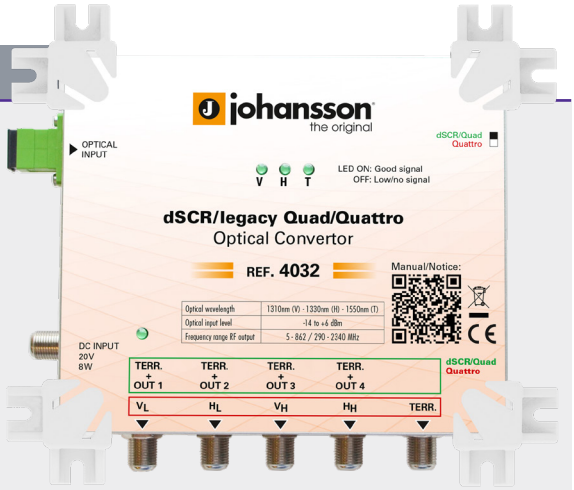
4032 dSCR/legacy Quad/Quattro FTU

This unique dSCR/legacy Quad/Quattro Optical Convertor with high output power has been developed to help installers overcome low signal quality in satellite fiber installations. This easy to use product can be used in dSCR/Quad or Quattro mode.

In **Quad** mode, 3 optical wavelengths are converted to 4 x dSCR or legacy + TERR.
In **Quattro** mode, the product serves as a satellite trunk output, as 3 wavelengths are converted to V_L, H_L, V_H, H_H, TERR.

4032

- unique product in the market with high output power
- optical wavelengths: 1310nm (V), 1330nm (H), 1550nm (T)
- optical input level: -14 to +4 dBm
- 5 outputs
  - Quad mode: 4 x dSCR/Legacy + TERR.
  - Quattro mode: V_L, H_L, V_H, H_H, TERR (serves as satellite output trunk)
- AGC on all output ports
- signal quality indicator per wavelength
- energy efficient
- power supply: 20V via DC IN or from STB
- can be used in systems with up to 128 splits



		4032 Quattro mode	4032 Quad mode
Optical inputs	-	1	
RF outputs	-	5 (V_L, H_L, V_H, H_H, T)	4 (dSCR/legacy/TERR.)
Optical wavelengths	nm	1310 1330 1550	
Terrestrial output frequency range	MHz	40 - 790	
Satellite output frequency range	MHz	950 - 2150	
Optical input level	dBm	-14 to +4	
Signal presence indicator	-	Green LED per wavelength	
dCSS/dSCR UBs	-	-	4 x 16
Output level dSCR/Legacy (AGC)	dBµV	80	
Output level TERR. (AGC)	dBµV	75	65
Return loss	dB	10	
Optical connector type	-	SC / APC	
Output connector type	-	75 ohm F type (female)	
Band and polarity selection	-	DiSEqC 1.0 (unidirectional) DiSEqC 2.0 (bidirectional) Standard EN50494/EN50607 SKY UK protocol Universal LNB Voltage & Tone	
Power consumption	W	8	
Power supply via DC IN	VDC	20	
Power supply via output (STB)	VDC	12 - 20	
Power indicator	-	Green LED	
Selection Quad or Quattro mode	-	Via switch	
Operating temperature range	°C	-20 to +55	
Dimensions	mm	166 x 136 x 50	
Weight	kg	0.500	

Fiber Optical Distribution

9780 Compact Satellite Convertor

The 9780 is the new generation converter for satellite signals to be used in MDU's.
The compact plug-and-play module has a straightforward and easy configuration.
Perfect for equalizing and optimizing satellite transponders as input for your optical headend.

9780

- programmable satellite IF converter
- up to 32 or 64 DVB-S/S2 transponders
- 4 satellite inputs (Quattro/Quad/Wideband LNB)
- realtime AGC on all individual transponders
- read-out of input level strength: no need for field strength meter
- 112 dBµV output level
- auto-tuning functionality
- can be used in systems with up to 128 splits

		9780
Inputs	-	4 SAT (wideband/quattro/quad)
Outputs	-	1 main (SAT) + 1 test port (-30dB)
Frequency range	MHz	Sat.: 290 - 2340
Input level	dBµV	40 - 95
SAT output power (per transponder)	dBµV	112
SAT output power (35dB/IM3)	dBµV	132
SAT output level flatness	dB	<1
SAT output level adjustment	dB	20
Slope adjustment	dB	15
SAT gain	dB	>70
Number of transponders	-	32 or 64
Conversion	-	Yes (all transponders)
Transponder bandwidth	MHz	1 - 64 (per 1 MHz steps)
Selectivity	dB	35 (@ 1 MHz)
Return loss	dB	10
Auto tuning	-	Yes (incoming transponders are copied from input 1 to output)
ESD protection	-	All inputs
DC@ SAT input DC load current @ SAT input	- mA	13V/18V/Bypass & 0/22kHz selectable by SW 500
SD port	-	Yes (for copy configuration)
Operating temperature	°C	-5 to +50
Power supply Power consumption	V W	100 - 240 25
Dimensions	mm	217 x 165 x 59
Weight	kg	0.800

Fiber Optical Distribution

9657 AGC & ASC Wideband Amplifier

Before the Wideband V/H signal is inserted in the Optical Headend (ref. 4000), the signal must be amplified. The Ref. 9657 AGC & ASC Wideband Amplifier is the perfect solution for this, because it optimizes your Wideband V/H signal in real-time. To do so, it uses Automatic Gain Control (AGC) and Automatic Slope Control (ASC).

9657

- Automatic Gain Control and Automatic Slope Control on both satellite lines (V/H)
- DC input for powering amplifier and LNB
- Selectable between Wideband LNB (290 - 2400 MHz) and Universal LNB (950 - 2150 MHz)
- Output level selectable for up to 16 splits or 64 splits

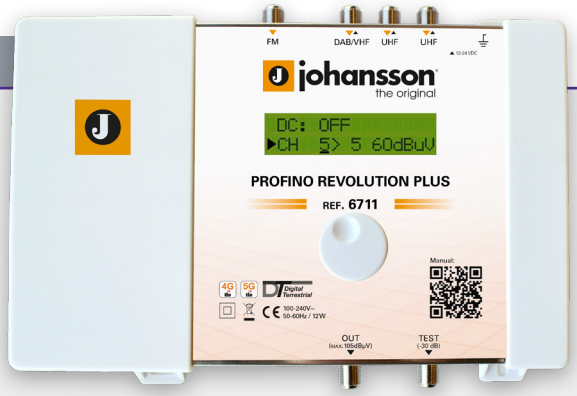
		9657
Inputs	-	2 SAT (V/H)
Outputs	-	2 SAT (V/H)
Frequency range	MHz	290 - 2400 (Wideband) or 950 - 2150 (Universal)
Gain	dB	20
Noise figure	dB	5
Gain adjustment	dB	20 (Automatic Gain Control)
Slope adjustment	dB	15 (Automatic Slope Control)
Output level	-	70 or 80 dBµV per transponder (selectable)
Consumption	-	150 mA from 20 VDC external power supply or input/output
Dimensions	mm	129 x 114 x 51
Weight	kg	0.300

Fiber Optical Distribution

6711 Profino Revolution Plus

Perfect for equalizing and optimizing terrestrial signals as input for your optical headend.
The Johansson Profino Revolution Plus has no equivalent on the market due to its revolutionary technology. As the market leader in digital terrestrial programmable filter amplifier technology, we are currently selling in more than 30 countries.

6711



- programmable terrestrial filter amplifier
- 4 inputs: 1 FM + 1 DAB/VHF + 2 UHF
- read-out of input level strength: no need for field strength meter
- can process and convert 30 channels
- sharpest filters on the market (50 dB on adjacent channels)
- real-time AGC on all individual multiplexes
- flex matrix: complete flexibility in assigning filters from any input
- the Profino Revolution Plus facilitates straightforward configuration and is the most cost-efficient Profiler on the market
- RED compliant
- **equalize and optimize terrestrial signals for your optical installation** (70 dBµV output power is optimal: you might use the test port (-30 dB)

4G Lte 5G Lte

		6711
Inputs	-	1 FM + 1 DAB/VHF + 2 UHF
Outputs	-	1 main (FM-DAB-VHF-UHF) + 1 test port (-30 dB)
Frequency range	MHz	FM: 88 - 108 I VHF: 174 - 240 I UHF: 470 - 862
LTE Protection	MHz	Automatic selection: 694, 790 or OFF
Input level	dBµV	FM: 37 - 77 I VHF: 45** - 109 I UHF: 45** - 109
FM output power (60dB/IM3)	dBµV	113
VHF/UHF output power (60dB/IM3)	dBµV	115
VHF/UHF output power (35dB/IM3)	dBµV	126
VHF/UHF output power with 1 MUX	dBµV	105
VHF/UHF output power with 6 MUX	dBµV	105
Conversion	-	Yes (from any VHF-UHF channel to any VHF-UHF channel)
Add MUXes	-	Per 1 or 2 MUXes
Number of MUXes	-	30 (15 filters)
Gain	dB	FM: 35 I VHF: >60 I UHF: >60
Gain adjustment	dB	FM: 20 I VHF/UHF: Channel AGC
General attenuator	dB	20
VHF/DAB attenuator	dB	15
Selectivity	dB/ 1MHz	35
Return loss	dB	10
Output MER	dB	VHF: 35 I UHF: 35
ESD protection	-	All inputs
Remote voltage for preamp Remote current	V mA	12 or 24 100 (total for the 3 inputs)
Operating temperature	°C	-5 to +50
Power Supply Power Consumption	Vac W	100 - 240 12
Dimensions	mm	217 x 165 x 59
Weight	kg	0,8

***Patent pending (6700)**
** For 64QAM with code rate 3/4

Fiber Optical Distribution

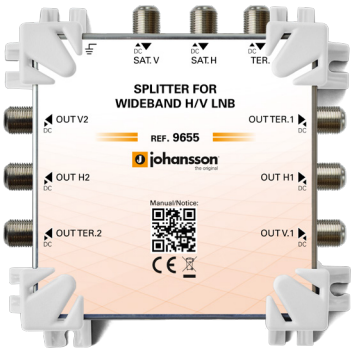
Wideband Distribution Products that might come in handy for your installation

Ref. 9720 Wideband LNB

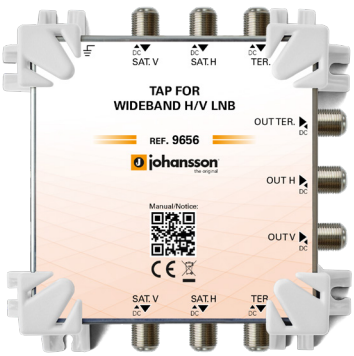
Ref. 9646 Wideband to Quattro Convertor

Ref. 9653 Wideband Line Amplifier

Ref. 9654 Wideband Trunk Amplifier



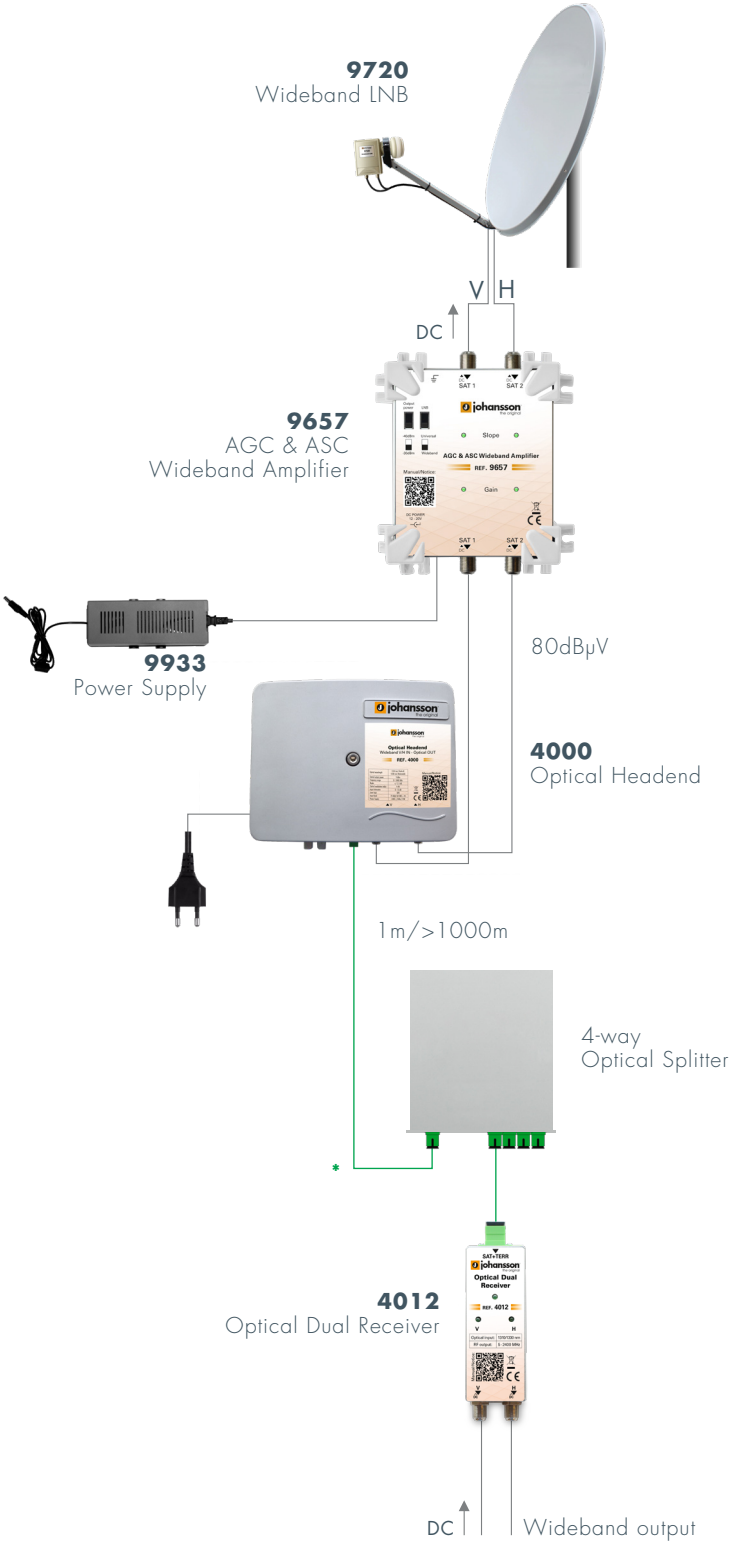
Ref. 9655 Wideband 2 Way Splitter



Ref. 9656 Wideband 2 Way tap

Fiber Optical Distribution

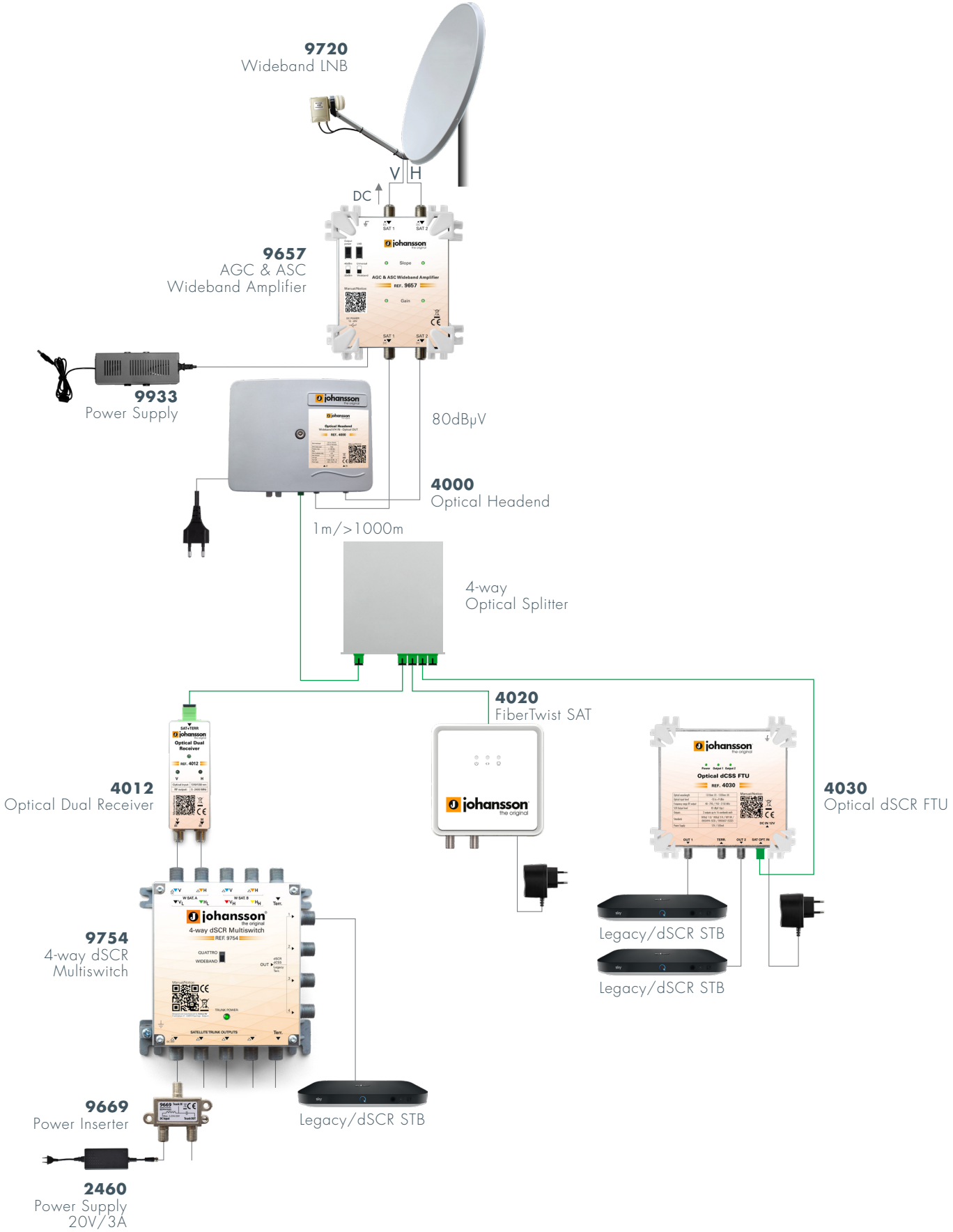
USE CASE 1 Wideband only



*Optical cables: Use single mode SC/APC cables

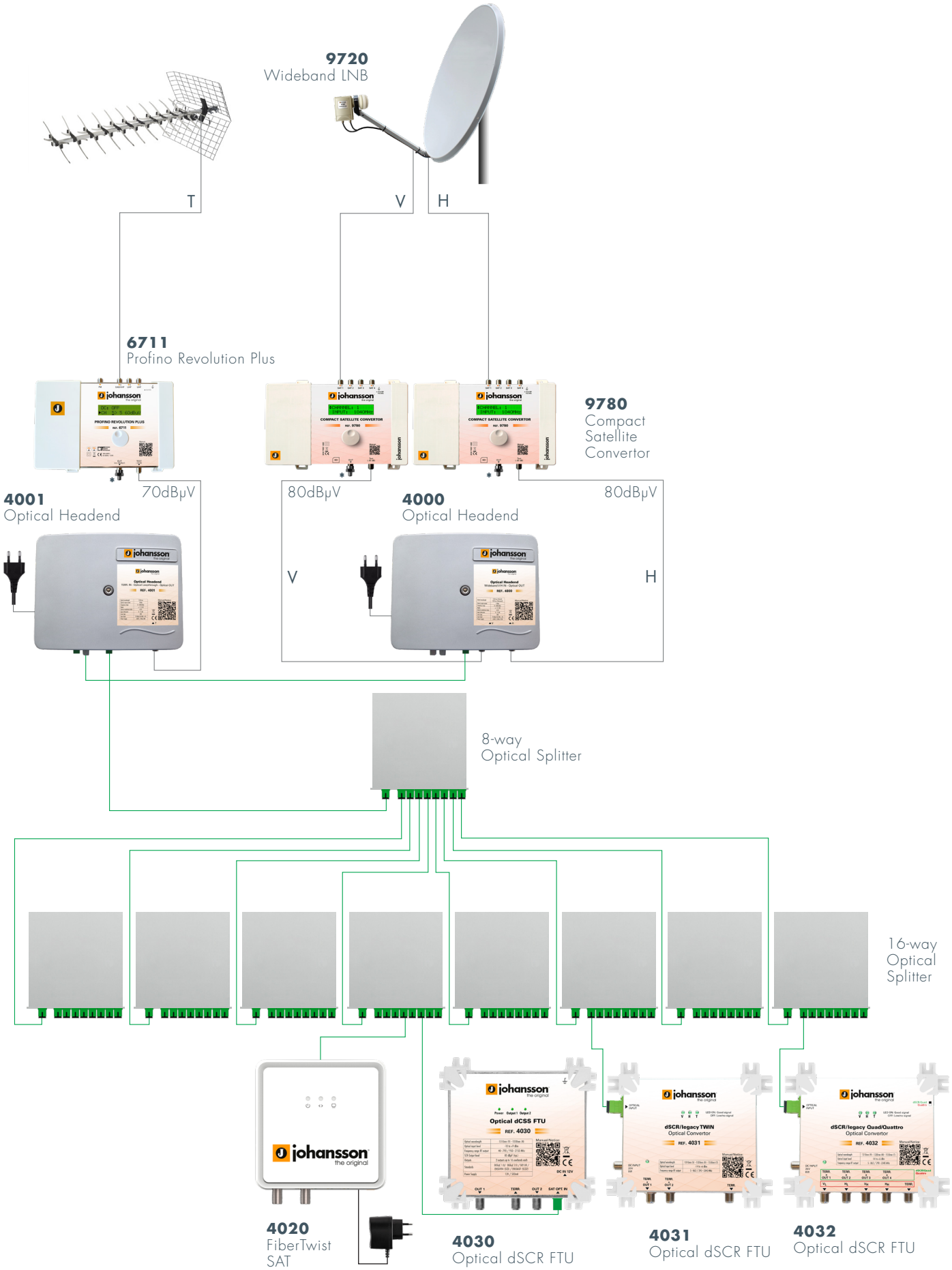
Fiber Optical Distribution

USE CASE 2 Wideband to SCR (Up to 64 splits)



Fiber Optical Distribution

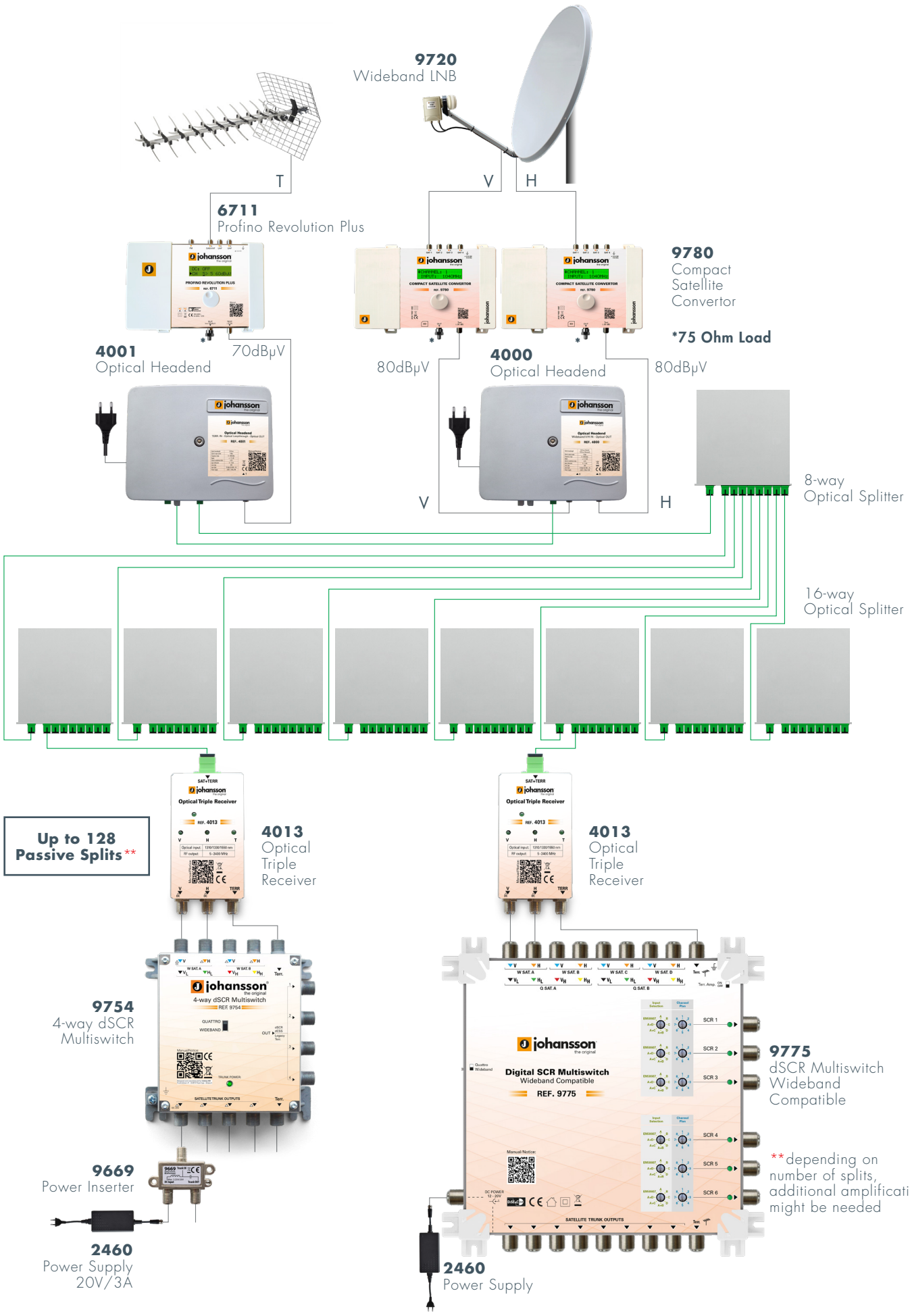
USE CASE 3 Wideband to SCR + Terrestrial (up to 128 splits)



*75 Ohm Load

Fiber Optical Distribution

USE CASE 4 Wideband to SCR + Terrestrial (up to 128 splits)

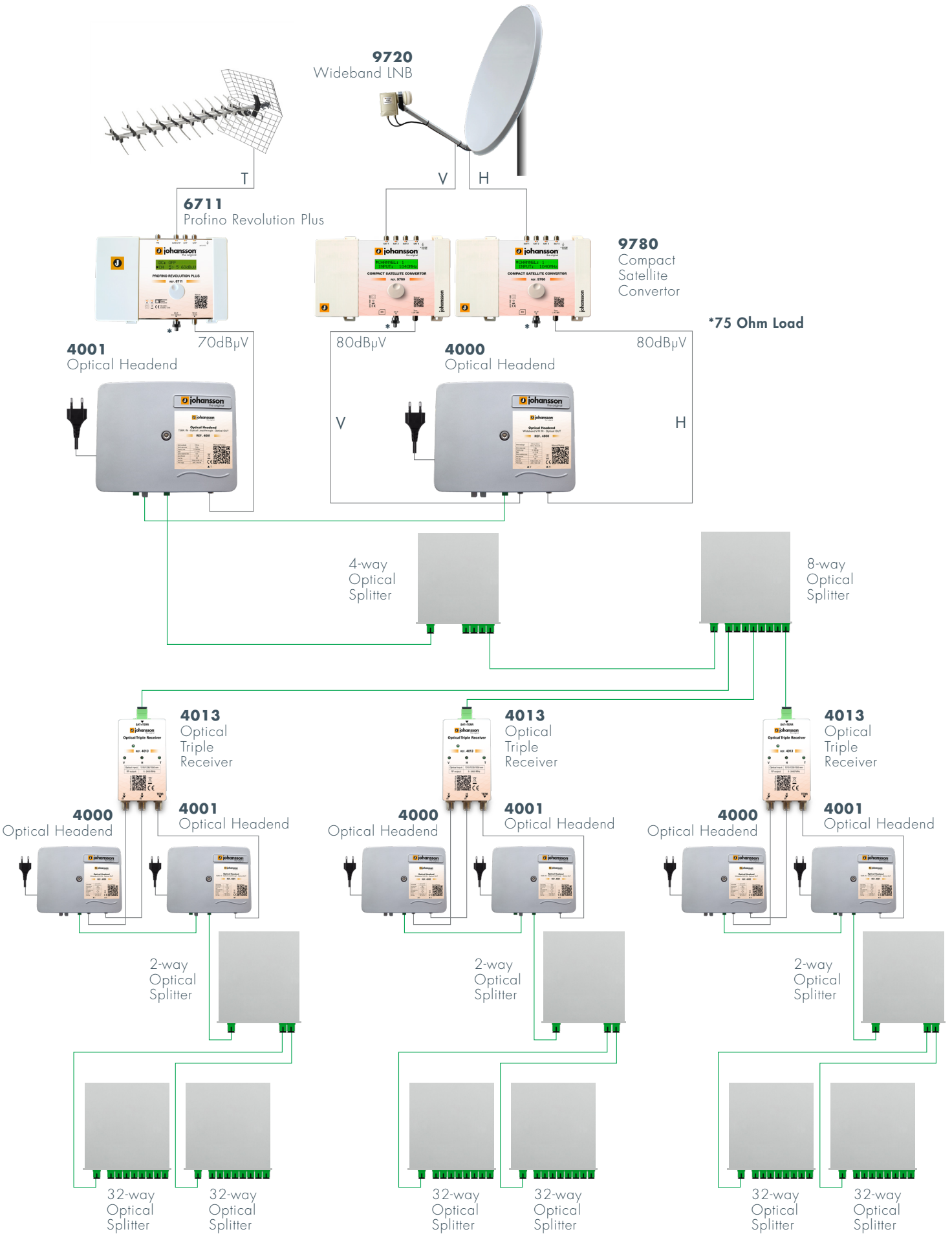


Fiber Optical Distribution

USE CASE 5 dLNB + Terrestrial over 1 wavelength (up to 64 splits)

Fiber Optical Distribution

USE CASE 6 Wideband to SCR + Terrestrial (200 to … splits)



Our flexible team offers you
for **every evolution**
a **custom made solution**

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