



# COMPACT HEADEND

FLEXIBLE HARDWARE-BASED HEADEND PLATFORM



**Compact,  
Powerful and  
Extremely Flexible**

# COMPACT HEADEND Flexible Hardware-Based Headend Platform



Thermally optimized housing

RF output to housing distribution equipment

-20 dB test point

Additional FM input

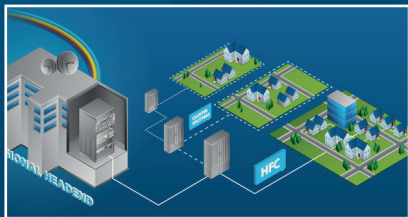
Slots for up to 14 twin modules

Ethernet interface to control the headend by a web browser

Connection for OH 41 (OK 41 A) handset

USB update interface  
External NIT injection

## Solutions with COMPACT HEADEND



**HFC**  
From the Headend to the wall-outlet:  
Everything for the cable network.



**HOUSING INDUSTRY**  
Headends for housing complexes,  
hotels and hospitals



**HOLIDAY RESORTS & CAMPS**  
Television for groups of holiday villas or  
assemblies of military barracks

# COMPACT HEADEND

## Compact, Powerful and Extremely Flexible

**Communication defines our everyday life, informs us, imparts knowledge and experience. It supports our understanding and helps us solving problems.**

WISI's highly-motivated staff is fully committed to provide you with the state-of-the-art technology for communication today and tomorrow.

Powerful technology, compact dimensions, modular and flexibly expandable; the new WISI COMPACT HEADEND System OH combines all the advantages of an innovative and affordable headend.

WISI Compact Headend OH is easy to configure. With up to 14 module slots it offers channel processing for 14 analogue or 28 digital channels in a 3 HU 19" rack chassis.

WISI Compact Headend OH operates on a high efficiency power supply, with low consumption modules in order to make a minimum ecological impact and a low operational cost. The USB connection and the RJ45 interface can be used to execute software updates for the basic unit as well as for the modules. Furthermore, all functions can be furnished from a distance per web browser.



Wall mounting of WISI  
Compact Headend OH.

# COMPACT HEADEND Sample Application

## Channel Processing

### OH 50 A

Base unit for 14 modules

### OH 88 H (SD/HD)

Twin DVB-S/S2 – COFDM-transmodulator with CI

### OH 89 2

Twin DVB-C/T-T2 - COFDM transmodulator with CI

## Offset antenna

OA100 x

## Feed System

OC 04 D

## Surge protector

DL 400

## Input Splitter

DC28 3S1T

## Sockets

DB 05

DB 07

## Handset

OH 41

## Coax cables

MK 96 A

## RF Splitter

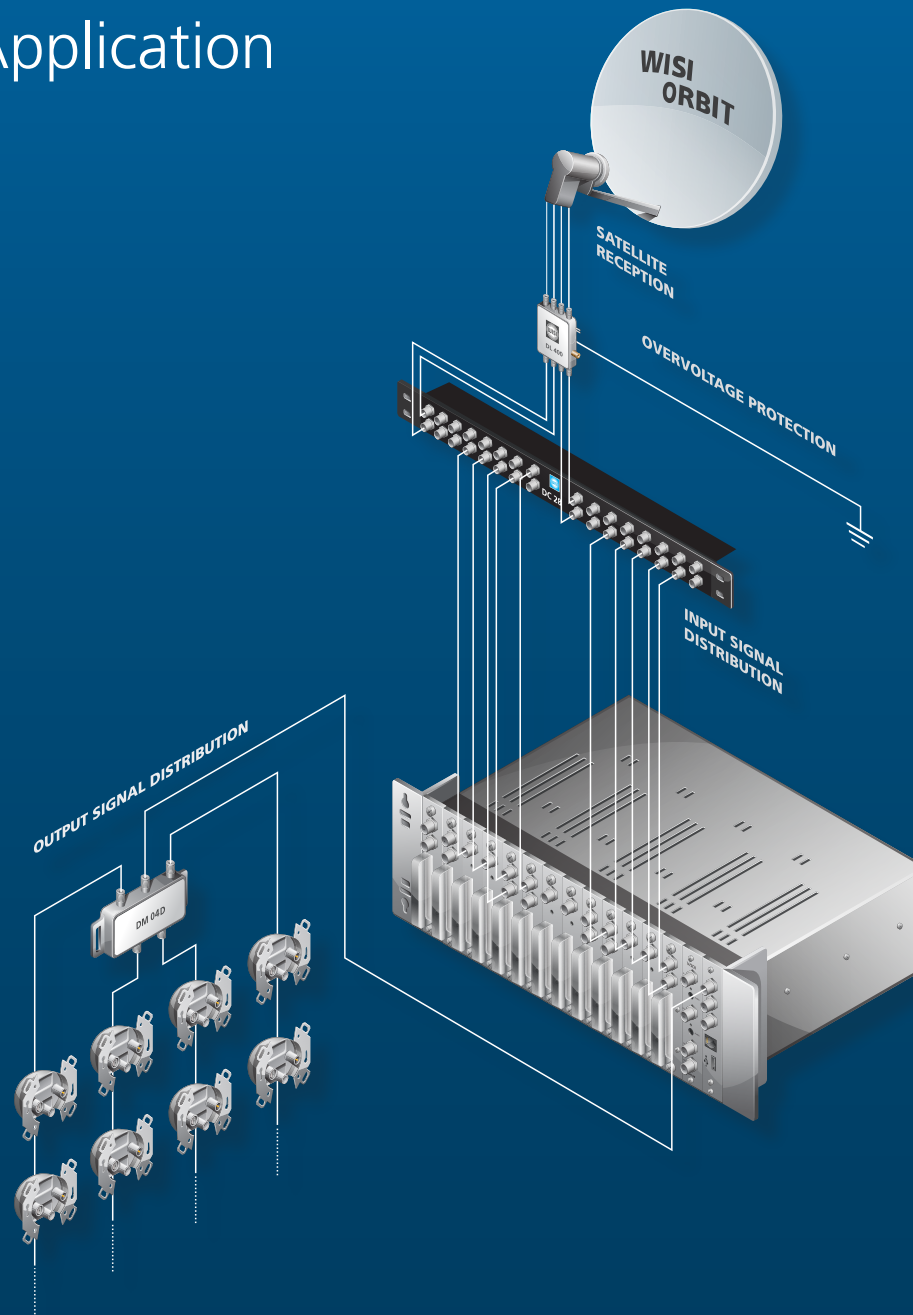
DM 04 D

## Connecting cables

BK 76, BK 96, DS xx

## Connectors

DV 15/N, DV 55, DV 85



# COMPACT HEADEND Base Units

## OH 50 A/R

Base unit for 14 modules  
(14 analogue or 28 digital channels)

## OH 40 A

Base unit for 7 modules  
(7 analogue or 14 digital channels)



### Base Units

Frequency range, TV:	47...862 MHz
Frequency range, FM:	87,5...108 MHz
Output level	110 dB $\mu$ V
Output attenuator	15 dB / 1-dB-steps
Input level FM	70...100 dB $\mu$ V
Attenuator FM	0...30 dB / 1-dB-steps
Output test jack	-20 dB
Operating voltage AC	180... 265 V AC (47... 63 Hz)
Power consumption	OH 50: < 195 W    OH 40: < 135 W
LNB supply voltage	12,5 V / 1,2 A
Connectors RF-Input/Output	F-socket
Test output	1 $\times$ F-socket
Connector Handset	RJ 11
Software-Update	USB
Connector remote monitoring	RJ 45
Operating temperature range	-20 °C ... + 55 °C

- Base units for analogue and digital TV signals
- Integrated FM amplifier
- Easy programming with OH 41 (OK 41 A) handset
- Suitable for wall and rack mounting
- Update and pre-programming via USB stick
- NIT/LCN editing
- High output power
- High efficiency
- Version R with redundant power supply
- Integrated LAN-interface for programming and remote access



### OH 50 with DC 28

- Clearly structured signal feeds
- Efficient 19" rack passive splitters
- SAT / Terrestrial and dual versions
- LNB Power passing



### OH 50 with OH 84

- OH84 with smart distribution by integrated IF switching matrix
- Remotely controllable 4x4 input selector
- Loop through signal feeding from both ends
- No external splitter required
- Excellent price/channel ratio

## COMPACT HEADEND Accessories



### DC 28 Input splitter

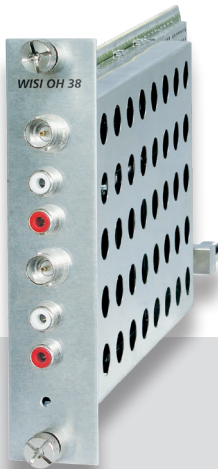
- Four signal inputs and 28 signal outputs
- Four individual 7 way splitters in four blocks with 7 outputs per block
- DC bypass for LNC voltage supply



### OH 41 Handset

- For Programming of parameters
- With a data memory, illuminated display and LED illumination

### OH 38 Twin A/V-modulator



### OH 84 4ch DVB S/S2-QAM transmodulator



### OH 85 H Twin DVB-S/S2 – QAM transmodulator with CI



#### Features

- Modulation of 2 A/V-signals into 2 analogue TV-channels
- Multi-standard
- Vestigial sideband stereo modulators without channel bonding.
- Video-/audio interface in BNC/RCA

#### Features

- Reception of four DVB-S/S2 signals and transmodulation into four DVB-C channels
- Integrated switching matrix
- IF loop-through function
- PID filtering
- NIT- and LCN-editing
- Reception of MPEG-2 and MPEG-4 signals

#### Features

- Reception of two DVB-S/S2 signals and transmodulation into two QAM-channels
- 2 CI slot
- License OH51A for NIT and LCN editing
- NIT- and LCN-editing
- Remultiplex functionality
- Reception of MPEG-2 and MPEG-4 signals



### ZG 80 installation set

Mounting set for attaching DC28 directly to the OH50A chassis



### Remote access

Integrated interface for remote management, NIT injection, software updates, and alarm email messages via a regular web browser and email account.

### OH 86 2

Twin DVB-C/-T/-T2 – QAM transmodulator with CI



### OH 88 H

Twin DVB-S/S2 – COFDM-transmodulator with CI



### OH 89 2

Twin DVB-C/-T/-T2 – COFDM transmodulator with CI



#### Features

Reception of two DVB-C/-T/-T2-signals and transmodulation into two QAM-channels

2 CI slot

NIT- and LCN-editing

PID filtering

Remultiplex functionality

Reception of MPEG-2 and MPEG-4 signals

#### Features

Reception of two DVB-S/S2-signals and transmodulation in two COFDM-channels (coupled)

2 CI slot

NIT- and LCN-editing

PID filtering

Remultiplex functionality

Reception of MPEG-2 and MPEG-4 signals

#### Features

Reception of two DVB-T/-T2/-C-signals and transmodulation in two COFDM-channels (coupled)

2 CI slot

NIT- and LCN-editing

PID filtering

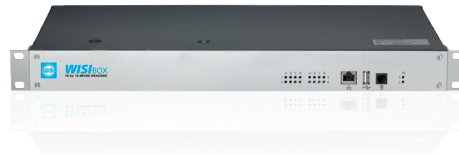
Remultiplex functionality

Reception of MPEG-2 and MPEG-4 signals

# WISIBOX Compact transmodulator

## WISIBOX OH 16 SC

16 channel DVB-S/S2 - QAM transmodulator



- Reception of 16 DVB-S/S2 signals and transmodulation in 16 DVB-C channels
- DiSEqC 1.0
- Input frequency range 950...2150 MHz
- Output frequency range 47...862 MHz
- Integrated distribution matrix
- Programming and remote access via web browser
- PID filtering
- NIT and LCN generation
- Integrated FM amplifier
- 19" rack - or wall installation

### OH 16 SC - Compact transmodulator

<b>Input frequency range</b>	950...2150 MHz
<b>Input level range</b>	47...90 dB $\mu$ V
<b>Symbol rate DVB-S</b>	1...53 Mbaud
<b>Symbol rate DVB-S2</b>	1...45 MSps 8PSK, 1...35 MSps 16APSK, 1...28 MSps 32APSK
<b>Output frequency range</b>	45...862 MHz
<b>Output level</b>	100...115 dB $\mu$ V
<b>Modulation type</b>	32-, 64-, 128-, 256-QAM
<b>Symbol rate</b>	4,48...7,00 MS/s
<b>MER</b>	$\geq$ 40 dB
<b>Operating voltage</b>	180...265 V AC (47...63 Hz)
<b>Power consumption</b>	<70 W
<b>LNB supply voltage</b>	14/18 V (22kHz); DiSEqC 1.0
<b>LNB electrical power supply</b>	max. 1 A
<b>Operating temperature range</b>	-20...+45 °C
<b>Software-Update</b>	USB
<b>Connector remote control</b>	RJ 45

The compact headend OH 16 SC is easy to install and offers a lot of interesting features. By using a multi switch with 5, 9, 13 or 17 inputs in front of the headend and the DiSEqC functionality, ensures that transponders of up to four different satellite positions can be received, transmodulated and distributed. Network integration is possible via DHCP that supports remote maintenance and programming via the web browser without any additional software. The headend set-up is user-friendly, it generates automatically an IP address for the connected PC and by entering "OH16" or the programmed IP address the operator has access to the headend. LCN, NIT generating, PID filtering and an integrated FM combiner complete the range of functions.



# COMPACT HEADEND Technical Specifications

## GENERAL DATA

Power consumption	<10 W*
Operating temperature range	-20°C...+55°C
LNB supply voltage	12 V DC < 0,8 A**

\* For all modules without CAM

\*\* If nothing else is stated

## WISI OH 38

### INPUT

Video input level	1 V (1V <sub>ss</sub> , ±0,4 V)
Video input bandwidth	20...5000 Hz
Audio input impedance	600...10000 Ω
Audio input level	-4 dBm/1 kHz
Audio input level range	-6...+6 dB
Audio input bandwidth	40...15000 Hz

### OUTPUT

Output frequency range	45...862 MHz
Output frequency steps	250 kHz
Frequency stability	±0,030 MHz
Output channel bandwidth	7/8 MHz
Output level	90...105 dBμV
Spurious suppression	>55 dB
TV standards	B/G, D/K, I, L, M
Audio format	Mono/Stereo/Dual
S/N Video	>57 dB
S/N Audio	>50 dB
Flatness	±1,5 dB
Group delay	<80 ns

### CONNECTORS

RCA-socket	Audio in
BNC-socket	Video in

## WISI OH 84

### INPUT

Input frequency range	950...2150 MHz
Input frequency steps	1 MHz
Return loss IN	>8 dB
Isolation internal multiswitch	>30 dB
Input level range	47...90 dBμV
AFC	±10 MHz
Modulation	QPSK (EN300421), QPSK 8PSK (EN302307)16APSK, 32APSK
Symbol rate	QPSK: 1...53 MS/s; 8PSK: 1...45 MS/s; 16APSK: 1...35 MS/s; 32APSK: 1...28 MS/s
Spectral inversion	normal or inverted
FEC outer DVB-S	RS 204-16
FEC inner DVB-S	1/2, 2/3, 3/5, 5/6, 7/8
FEC outer DVB-S2	BCH
FEC inner DVB-S2	(1/4, 1/3, 2/5, 1/2, 3/5, 2/3, 3/4, 4/5, 5/6, 8/9, 9/10 (QPSK)/5, 2/3, 3/4, 5/6, 8/9, 9/10 (8PSK)/5, 2/3, 3/4, 5/6, 8/9, 9/10 (8PSK)/5, 2/3, 3/4, 5/6, 8/9, 9/10 (8PSK)

### OUTPUT

Output frequency range	45...862 MHz
Output frequency steps	250 kHz
Frequency stability	±30 kHz
Output channel bandwidth (couplet)	4 x 8 MHz
Output level	88...103 dBμV (1 dB-steps)
Flatness	1 dB
Spurious suppression	>50 dB at QAM 256
SNR	≥45 dB
MER	≥40 dB
Interlacing	Conv., I=12

Bit stuffing	Yes
SI-Table handling	Yes
NIT generation	Yes

## GENERAL DATA

LNB supply voltage	14...18 V
LNB electrical power supply	0,5 A (without CAM)

**WISI OH 85 H****INPUT**

Input frequency range	950...2150 MHz
Input frequency steps	1 MHz
Input level range	47...70 dB $\mu$ V
AFC	$\pm$ 10 MHz
Modulation	QPSK, 8PSK
Symbol rate	10...30 MS/s
Spectral inversion	normal or inverted
FEC outer DVB-S	RS 204,188, 16
FEC inner DVB-S	Viterby Conv. (1/2, 2/3, 3/4, 5/6, 7/8)
FEC outer DVB-S2	BCH
FEC inner DVB-S2	LDPC 1/2, 3/5, 2/3, 3/4, 4/5, 5/6, 8/9, 9/10

**OUTPUT**

Output frequency range	110...862 MHz
Output frequency steps	1 MHz
Frequency stability	$\pm$ 30 kHz
Output channel bandwidth (coupled)	2 x 8 MHz
Output level	85...103 dB $\mu$ V (1 dB-steps)
Flatness	1 dB
Modulation type	16-256 QAM
Symbol rate	3.45...6.9 MS/s
Spurious suppression	>50 dB
SNR	$\geq$ 45 dB
MER	$\geq$ 40 dB
Interlacing	Conv., I=12
Bit stuffing	Yes
PCR correction	Yes
PID filtering and remapping	Yes
Editing transponder tables	Yes

**CONNECTORS**

F-socket	SAT IF in
Common Interface	2 pcs.

**WISI OH 86 2****INPUT**

Input frequency range	45...862 MHz
Input frequency steps	0.250 MHz
channel bandwidth DVB-T2	1,7 / 5 / 6 / 7 / 8 MHz
Input level range	47...90 dB $\mu$ V
QAM Modulation type	QPSK, 16QAM, 64QAM, 128QAM, 256QAM
QAM Symbolrate	1...7,2 Mbaud
FEC DVB-T	Conv., K=7, G=1/2, 2/3, 3/4, 4/5, 5/6, 7/8
Modulation scheme DVB-T	QPSK, 16-, 64-QAM
Guard Intervall DVB-T	1/4, 1/8, 1/16, 1/32
FFT DVB-T	2k, 8k switchable
FEC DVB-T2	LDPC/BCH-Code 1/2, 2/3, 3/4, 4/5, 5/6, 3/5
Modulation scheme DVB-T2	QPSK, 16QAM, 64QAM, 256QAM
Guard Intervall DVB-T2	1/4, 1/8, 1/16, 1/32, 1/128, 19/128, 19/256
FFT DVB-T2	1k, 2k, 4k, 8k, 16k, 32k

**OUTPUT**

Output frequency range	45...862 MHz (channel A)
Output frequency steps	1 MHz
Frequency stability	$\pm$ 30 kHz
Output channel bandwidth (coupled)	2 x 8 MHz
Output level	85...103 dB $\mu$ V (Depending on QAM-symbol rate)
Flatness	$\pm$ 1 dB
Spurious suppression	$\geq$ 50 dB
S/N	$\geq$ 45 dB
MER	$\geq$ 40 dB
Modulation	16-, 32-, 64-, 128-, 256-QAM
Symbol rate	3,45...6,9 MS/s
Spectral inversion	normal or inverted
Interlacing	Conv., I=12

FEC outer DVB-S	RS-204,188,16
Bit stuffing	Yes
PCR correction	Yes
PID filtering and remapping	Yes
Editing transponder tables	Yes

**CONNECTORS**

F-socket	3 pcs.
Common Interface	2 pcs.

**GENERAL DATA**

Supply voltage DVB-T antenna	12 V DC
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## WISI OH 88 H

## INPUT

Input frequency range	950...2150 MHz
Input frequency steps	1 MHz
Input level range	47...70 dB $\mu$ V
AFC	$\pm$ 10 MHz
Modulation type	QPSK, 8PSK
Symbol rate	10...30 MS/s
FEC outer DVB-S	BCH
FEC inner DVB-S	Viterby Conv. (1/2, 2/3, 3/4, 5/6, 7/8)
FEC outer DVB-S2	BCH
FEC inner DVB-S2	LDPC 1/2, 3/5, 2/3, 3/4, 4/5, 5/6, 8/9, 9/10

## OUTPUT

Output frequency range	110...862 MHz
Output frequency steps	1 MHz
Frequency stability	$\pm$ 30 kHz
Output channel bandwidth (coupled)	2 x 7/8 MHz
Output level	95...105 dB $\mu$ V
Flatness	$\pm$ 1 dB
Spurious suppression	>50 dB
S/N	>41 dB
MER	>37 dB
Modulation	QPSK, 16-, 64-QAM
FEC	1/2, 2/3, 3/4, 5/6, 7/8
Guard interval	1/4, 1/8, 1/16, 1/32
FFT mode	2 k/8 k
Bit stuffing	Yes
PCR correction	Yes
PID filtering and remapping	Yes
Editing transponder tables	Yes

## CONNECTORS

F-socket	SAT IF in
Common Interface	2 pcs.

## WISI OH 89 2

## INPUT

Input frequency range	45...862 MHz
Input frequency steps	0,250 MHz
Channel bandwidth DVB-T2	1,7 / 5 / 6 / 7 / 8 MHz
Input level range	47...90 dB $\mu$ V
FEC DVB-C	Conv., RS 188, 204
QAM-Modulation type	QPSK, 16QAM, 64QAM,- 128QAM, 256QAM
QAM Symbolrate	1...7,2 Mbaud
FEC DVB-T	Conv., K=7, G=1/2, 2/3, 3/4, 4/5, 5/6, 7/8
Modulation schema DVB-T	QPSK, 16-, 64-QAM
Guard Interval DVB-T	1/4, 1/8, 1/16, 1/32
FFT DVB-T	2k, 8k switchable
FEC DVB-T2	LDPC/BCH-Code 1/2, 2/3, 3/4, 4/5, 5/6, 3/5
Modulation scheme DVB-T2	QPSK, 16QAM, 64QAM, 256QAM
Guard Intervall DVB-T2	1/4, 1/8, 1/16, 1/32, 1/128, 19/128, 19/256
FFT DVB-T2	1k, 2k, 4k, 8k, 16k, 32k

## OUTPUT

Output frequency range	45...862 MHz (channel A)
Output frequency steps	250 kHz
Frequency stability	$\pm$ 30 kHz
Output channel bandwidth (coupled)	2 x 6/7/8 MHz
Output level	82...97 dB $\mu$ V (Depending on QAM-symbol rate)
Flatness	$\pm$ 1 dB
Spurious suppression	>50 dB
S/N	>41 dB
MER	>37 dB
Modulation	QPSK, 16-, 64-QAM
FEC	1/2, 2/3, 3/4, 5/6, 7/8
Guard interval	1/4, 1/8, 1/16, 1/32
FFT Mode	2k, 8k switchable

Bit stuffing	Yes
PCR correction	Yes
PID filtering and remapping	Yes

## CONNECTORS

F-socket	SAT IF in
Common Interface	2 pcs.

## GENERAL DATA

Supply Voltage DVB-T antenna	12 V DC
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Any video from  
any source to  
any device

