Compact, Powerful and Extremely Flexible
COMPACT HEADEND
Flexible Hardware-Based Headend Platform

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

Thermally optimized housing
RF output to housing distribution equipment
20 dB test point
Additional FM input
Connection for OH 41 (OK 41 A) handset
USB update interface
External NIT injection
Ethernet interface to control the headend by a web browser
Slots for up to 14 twin modules
RF output to housing distribution equipment
-20 dB test point
Additional FM input
Connection for OH 41 (OK 41 A) handset
USB update interface
External NIT injection
Ethernet interface to control the headend by a web browser
Slots for up to 14 twin modules
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.
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

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Offset antenna

**OA100 x**

Surge protector

**DL 400**

Sockets

**DB 05**  **DB 07**

Coax cables

**MK 96 A**

Connecting cables

**BK 76, BK 96, DS xx**

Feed System

**OC 04 D**

Input Splitter

**DC28 351T**

Handset

**OH 41**

RF Splitter

**DM 04 D**

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**

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

- 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

**OH 38**
Twin A/V-modulator

**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

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

**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

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

**Features**
- Reception of two DVB-S/S 2 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

**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
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

OH 86 2
Twin DVB-C/-T/-T2 – QAM 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

OH 88 H
Twin DVB-S/S2 – COFDM-transmodulator with CI

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

OH 89 2
Twin DVB-C/-T/-T2 – COFDM transmodulator with CI

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

Remote access

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

ZG 80 installation set
Mounting set for attaching DC28 directly to the OH50A chassis.
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

<table>
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<tr>
<th>OH 16 SC - Compact transmodulator</th>
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<tr>
<td>Input frequency range</td>
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<td>Input level range</td>
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<tr>
<td>Symbol rate DVB-S</td>
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<tr>
<td>Symbol rate DVB-S2</td>
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<tr>
<td>Output frequency range</td>
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<tr>
<td>Output level</td>
</tr>
<tr>
<td>Modulation type</td>
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<tr>
<td>Symbol rate</td>
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<td>Operating voltage</td>
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<tr>
<td>Power consumption</td>
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<td>LNB supply voltage</td>
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<tr>
<td>LNB electrical power supply</td>
</tr>
<tr>
<td>Operating temperature range</td>
</tr>
<tr>
<td>Software-Update</td>
</tr>
<tr>
<td>Connector remote control</td>
</tr>
</tbody>
</table>

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

### WISI OH 38

**INPUT**
- **Video input level**: 1 V (1Vpp, ±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

### 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**: (1/4, 1/3, 2/5, 1/2, 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 (16APSK)/5, 2/3, 3/4, 5/6, 8/9, 9/10 (32APSK))

**OUTPUT**
- **Output frequency range**: 45...862 MHz
- **Output frequency steps**: 250 kHz
- **Frequency stability**: ±30 kHz
- **Output channel bandwidth (coupled)**: 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., l=12

### CONNECTORS
- **RCA-socket**: Audio in
- **BNC-socket**: Video in

### GENERAL DATA
- **Power consumption**: <10 W*  
  * For all modules without CAM
- **Operating temperature range**: -20°C...+55°C
- **LNB supply voltage**: 12 V DC < 0.8 A**  
  ** If nothing else is stated
- **LNB supply voltage**: 14...18 V
- **LNB electrical power supply**: 0.5 A (without CAM)

### Bit stuffing  
- Yes

### SI-Table handling  
- Yes

### NIT generation  
- Yes
### WISI OH 85 H

**INPUT**
- **Input frequency range**: 950...2150 MHz
- **Input frequency steps**: 1 MHz
- **Input level range**: 47...70 dBμV
- **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 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
- **Output level**: 85...103 dBμV (1 dB-steps)
- **Flatness**: 1 dB
- **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 Interval DVB-T**: 1/4, 1/8, 1/16, 1/32
- **FDD T2**: 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 Interval 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

**CONNECTORS**
- **F-socket**: 3 pcs.
- **Common Interface**: 2 pcs.

**GENERAL DATA**
- **Supply voltage DVB-T antenna**: 12 V DC

### 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 dBμV
- **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 Interval DVB-T**: 1/4, 1/8, 1/16, 1/32
- **FDD T2**: 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 Interval 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**: ±30 kHz
- **Output level**: 85...103 dBμV (Depending on QAM-symbol rate)
- **Flatness**: ±1 dB
- **Spurious suppression**: ≤50 dB
- **S/N**: ≥45 dB
- **MER**: ≥40 dB
- **Modulation**: 16-, 32-, 64-, 128-, 256-QAM
- **Symbol rate**: 3.45...6.9 MS/s
- **Spectral inversion**: normal or inverted
- **Interlacing**: Conv., l=12

**CONNECTORS**
- **F-socket**: 3 pcs.
- **Common Interface**: 2 pcs.

**GENERAL DATA**
- **Supply voltage DVB-T antenna**: 12 V DC

**FEC outer DVB-S**: RS-204, 188, 16
- **Bit stuffing**: Yes
- **PCR correction**: Yes
- **PID filtering and remapping**: Yes
- **Editing transponder tables**: Yes
### WISI OH 88 H

#### INPUT
- **Input frequency range**: 950...2150 MHz
- **Input frequency steps**: 1 MHz
- **Input level range**: 47...70 dBμV
- **AFC**: ±10 kHz
- **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)
- **QAM-Modulation type**: QPSK, 16QAM, 64QAM, 128QAM, 256QAM
- **QAM Symbolrate**: 1...7,2 Ms/s

#### OUTPUT
- **Output frequency range**: 45...862 MHz (channel A)
- **Output frequency steps**: 1 MHz
- **Frequency stability**: ±30 kHz
- **Output channel bandwidth (coupled)**: 2 x 7/8 MHz
- **Output level**: 95...105 dBμV
- **Flatness**: ±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
- **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 dBμV
- **FEC DVB-C**: Conv., RS 188, 204
- **QAM-Modulation type**: QPSK, 16QAM, 64QAM, 128QAM, 256QAM
- **QAM Symbolrate**: 1...7,2 Ms/s
- **FEC DVB-T**: Conv., K=7, G=1/2, 2/3, 3/4, 4/5, 5/6, 7/8
- **Modulation schema DVB-T**: QPSK, 6-4-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, 3/5, 2/3, 4/5, 5/6, 9/10
- **Modulation schema DVB-T2**: QPSK, 16QAM, 64QAM, 256QAM
- **Guard Interval DVB-T2**: 1/4, 1/8, 1/16, 1/32, 1/128, 19/256
- **FFT DVB-T2**: 1k, 2k, 4k, 8k, 16k, 32k

#### OUTPUT
- **Output frequency range**: 110...862 MHz
- **Output frequency steps**: 1 MHz
- **Frequency stability**: ±30 kHz
- **Output channel bandwidth (coupled)**: 2 x 7/8 MHz
- **Output level**: 95...105 dBμV
- **Flatness**: ±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

#### CONNECTORS
- **F-socket**: SAT IF in
- **Common Interface**: 2 pcs.

#### GENERAL DATA
- **Supply Voltage DVB-T antenna**: 12 V DC
Any video from any source to any device