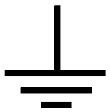
OH 50 A WISI COMPACTHEADEND Basic unit

- Headend basic unit for analogue and digital TV signals
- Slots for up to 14 modules
- 19" Rack mounting
- Wall mounting
- Integrated FM amplifier
- Easy programming with OH 41 handset
- Update via USB memory stick
- Connection via Ethernet LAN

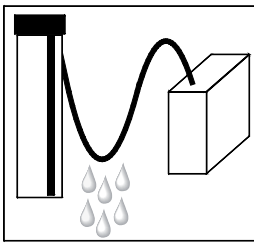
- HTTP (web browser access)
- Alarms and warnings via e-mail

Note: Disconnect OH 50 A mains power before installing modules!

Caution
The mains voltage must match the rated input voltage of the unit (230 VAC).

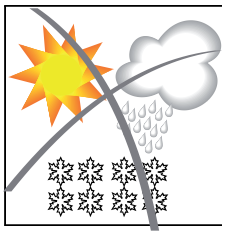


CAUTION GROUNDING!!
Chassis must be grounded and disconnected from line power before any RF connections are made. Improper grounding may result in irreversible damage of the equipment.

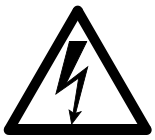


Connecting cable - Lay the cable so that no-one can trip over it.
- Lay the cable with a downward loop so that any water condensing on it can drip on the floor instead of running into the unit.

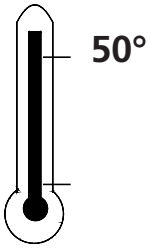
Selecting the installation location
Excessive temperatures will reduce the operating lifetime of the unit. Don't install the unit directly above or in the vicinity of radiators or heating systems where it would be subjected to thermal radiation or oil vapours.



Moisture
Water dripping or splashing onto the unit will damage it. If there is condensation on the unit, wait until this has evaporated before switching the unit on.



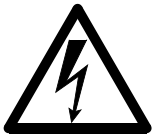
Caution - danger!
In accordance with EN 60728-1, the satellite antenna system must comply with the safety requirements with respect to grounding, potential equalisation, etc.



Service work
Service work may be carried out only by qualified personal. Always disconnect the supply voltage before starting any such work.

Ambient temperature - Not greater than 50 °C.

Thunderstorms
Avoid carrying out service work on the antenna system during thunder-storms.

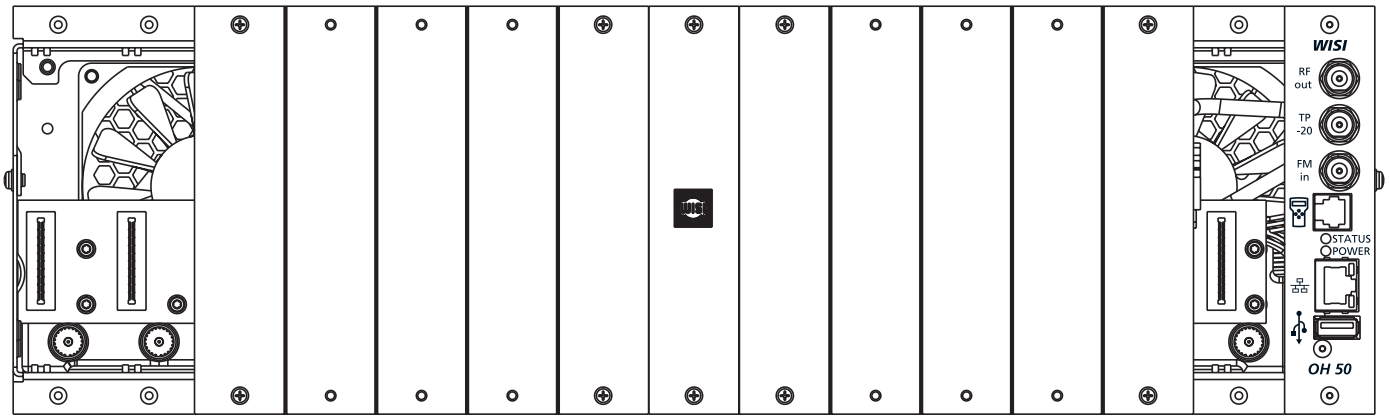


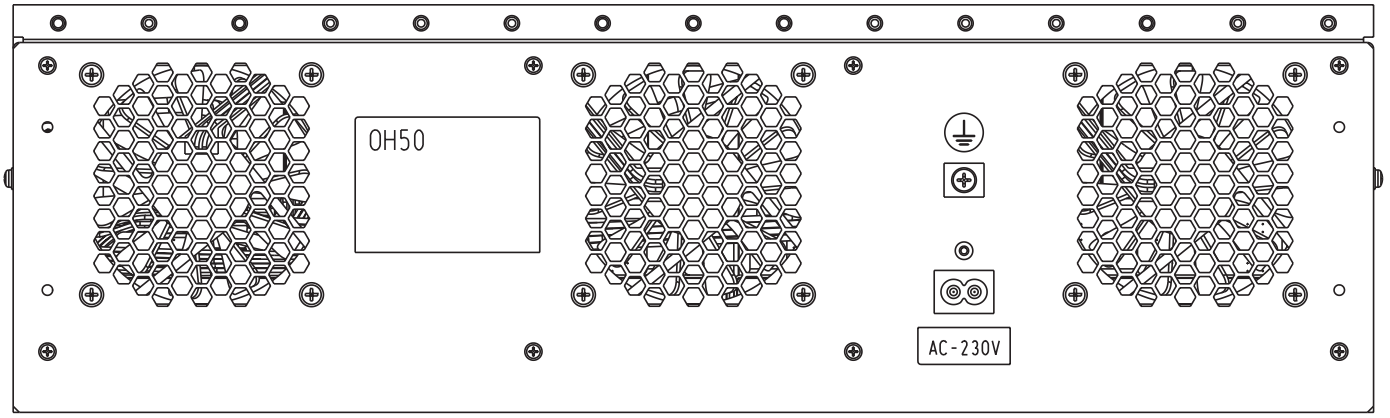
Caution - danger!
Fuses may be replaced only by qualified personnel. Only fuses of the same type and rating may be used.

Batteries
Do not throw exhausted batteries in the garbage. They must be disposed of separately.

All of our packing materials (cardboard boxes, packing notes, plastic films and plastic bags) can be recycled.

Connectors





Description of connectors

RF out = RF output; sum signal from the modules for injection into the distribution system

TP -20 = Test output -20 dB

FM in = Input FM amplifier, 25 dB

= Handset OH 41 (Accessory) for setting all parameters

LED "Status" = - The global alarm status display shows the alarm level of all OH modules.
It blinks the during communication with the modules.
The colour indicates the status of the modules
(green: ok, red: alarm, yellow: first scan)
- In the bootloader mode (flashing red)

LED "Power" = - Status depends on the temperature of the OH50A and the power input of all modules (green: ok, yellow: warning, red: alarm).

LAN = - Interface to connect the unit to a ethernet network for remote contol

= USB update interface

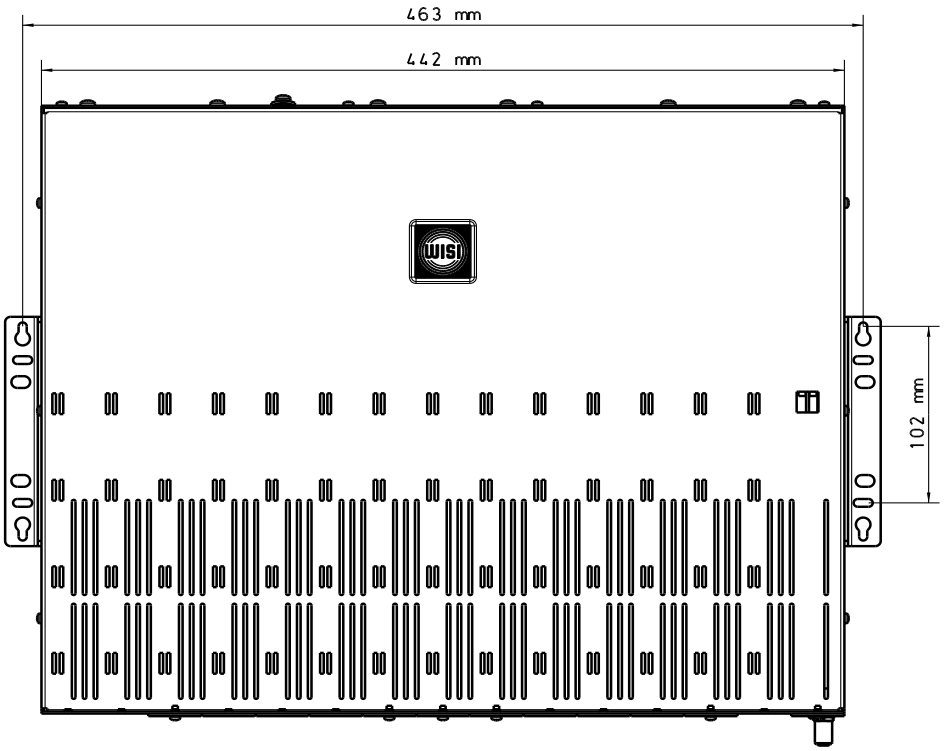
Backside:

AC 230V = Mains connection

= Potential equalization terminal

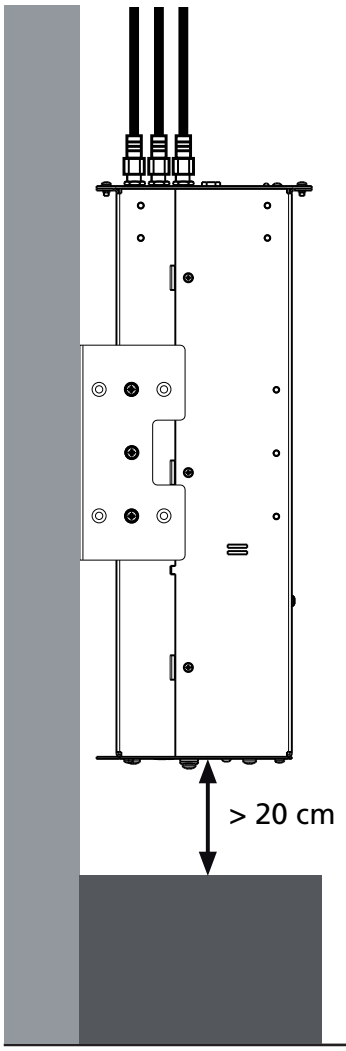
Wall Mounting/ Hole Distances

For wall mounting of the OH50 chassis please use the supplied angle brackets, and fix it at both sides (see drawing). Use only the supplied screws (M4x6).

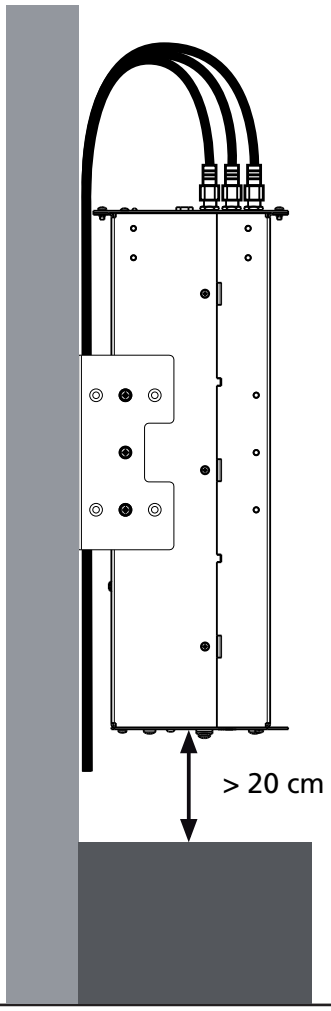


Wall Mounting versions

If the cables are fed from above the basic unit choose this wall mounting version.

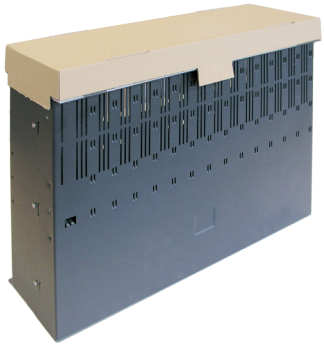


If the cables are fed from below the basic unit choose this wall mounting version to maintain the min. bending radius of the coaxial cable.



Dust protection cover

To protect the basic unit during the mounting process from dust, please leave the carton as a cover at the front of the housing.

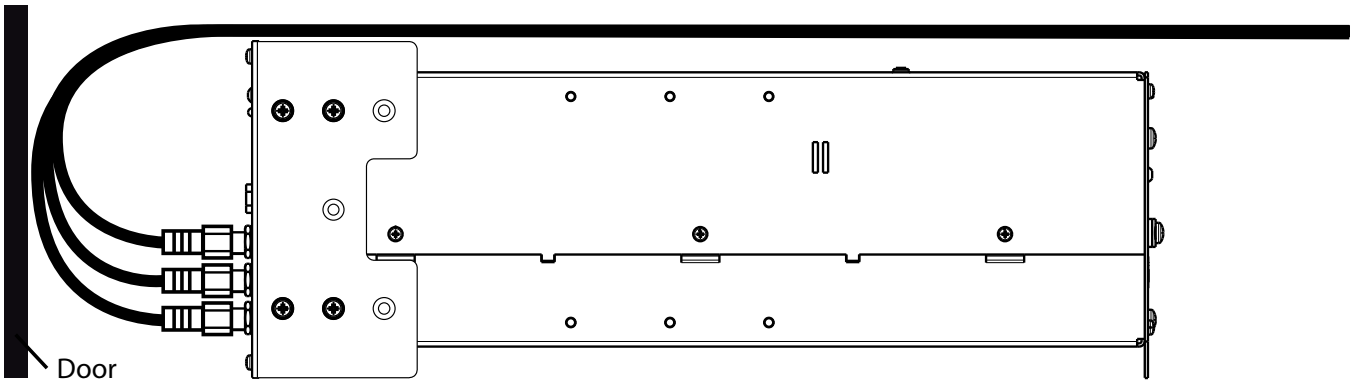


Assembly 19“-Rack

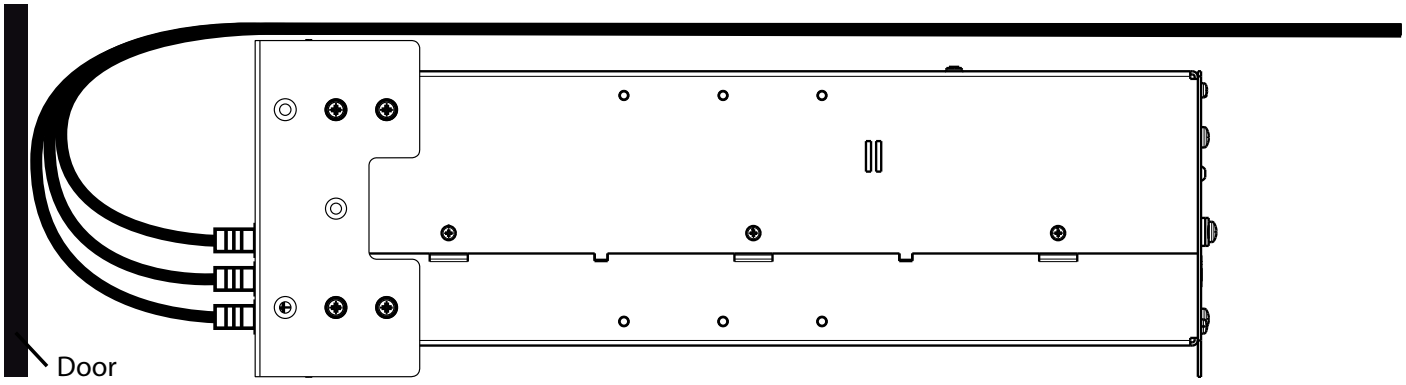
For 19”- mounting of the OH50 chassis please use the supplied angle brackets, and fix it at both sides (see drawing). Use only the supplied screws (M4x6).

Mounting 19" angle brackets

Standard mounting (use front holes of the brackets)

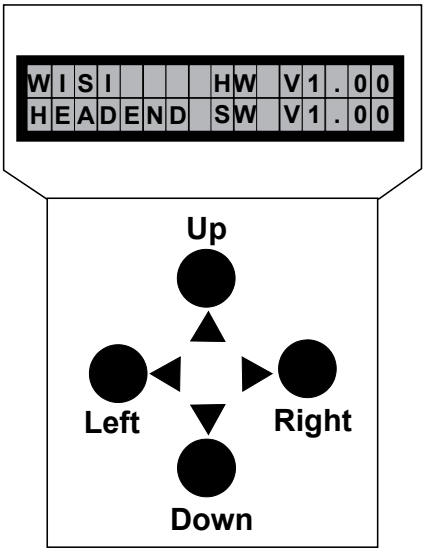


Mounting for a bigger bending radius of the connection cables (use rear holes of the brackets)



Recommendation For operation all slots need to be equipped with a module, or covered with a blanking plate. Modules with a CI-slot need to carry the supplied covers, even without CA-module. This is necessary to assure proper air flow for cooling.

Short Circuit In case of a short circuit or an overload of the power supply, the system reboots permanently (hiccup mode). The front LEDs of the modules and the display of the handset start to flash. After elimination of the malfunction the power supply switches back to the normal mode.



Note: After programming remove the handset from the connector.

Standby

Mains connected to basic unit and the mode „Initializing the modules" has finished (see next page).

Plug the handset into the socket on the basic unit.

Press the ► key to enter the module menu and system menu.

Modul menu

Module 1 OH77 → **Parameter menu**

Module 2 OH85 — DiSEqC

• — Sat-Freq → **Parameter sub-menu**

• — 1894

•

Module 14 OH88H

Modul menu

Press the ► key

▲▼ keys — Select module 1-14

► key — Move to parameter menu

◄ key — Back.

Parameter menu

▲▼ keys — Select parameter

► key — Move to parameter sub-menu

◄ key — Back

Parameter sub-menu

◄► keys — Select the digit to be changed
Cursor blinks below the digit, e.g. 1894
If the permissible range is exceeded, the unit returns to the parameter menu

▲▼ keys — Change the value, e.g. change 1894 to 1834

- **Saving data:** Data are saved automatically after leaving the parameter menu, or 60 seconds after the last entry.

Initializing the modules

- Connect OH 50 A to mains power
- Connect the handset OH 41
- Modules are scanned in the background (can take up to 1 min!)

The description of the menu structures can be found in the related manual of the module.

The system menu of the basic unit

The menu item "System settings“ offers the parameter setup of the basic unit.

By selecting "System settings“ the user accesses the following OH 50 A system parameters:

Update OH50A	Insert USB memory stick > Select OH50A-File (Image)
MultiUpdate Mod	Insert USB memory stick > Modules will be successively updated with latest software
UID License Code	UID for Remote License: 8C061251 (example) The Web-UI (optional feature) is locked by default. The UID License Code is needed to purchase and obtain a license key. This key is to be entered via Web-UI or USB memory stick.
LIC Load OH50A	Insert USB memory stick > Search for Unlock code and activate it
LIC Load Module	Insert USB memory stick > Search for License-File and transfer it to selected module. LIC to: 2 OH77 (example) > Insert USB memory stick
NIT Load Module	NIT Load (Import external NIT) NIT to: 2 OH77 (example) > Insert USB memory stick
CfgLoad	Insert USB memory stick > config. file is uploaded, the modules are configured accordingly (the modules have to remain at the same plug-in positions as in CfgSave)
CfgSave	Insert USB memory stick > the configuration of all modules is described in the config. file
StatSave	Insert USB memory stick > status (e.g. PLL-lock) of all modules is decribed in the status file
IP-Addr	IP address setting, e.g. 192.168.000.100
ETH-NetMask	Subnet-Mask, e.g. 255.255.255.000
ETH-Gateway	Gateway address setting, e.g. 192.168.000.001 (router/server for internet)
Port	Standard-Port for http = 80
FM-Att	FM-Attenuation 0…30 dB (attenuation at the FM input)
Out-Att	Out-Attenuation 0…15 dB (attenuation at the FM output)
I-Supply	Current I: <8750 mA (power consumption of installed modules)
SW-Version	Displays the current software version of OH 50 A
HW-Version	Displays the current hardware version of OH 50 A
BL-Version	Displays the current boot loader version of OH 50 A
Factory Reset	Reset OH 50 A to delivery status (all settings are deleted, the activation key remains)
Restart OH50A	Software-Reset OH50A
Restart System	Reset OH50 Headend (all modules)
Restore Web SW	Restore the factory default settings of the web interface

With the ◄ key, you step back from the "System settings" menu to the module selection menu. When the entry “system settings” is selected in the module selection menu and the ◄ button pushed afterwards, the device will move to standby immediately.

Saving changes:	By leaving the "System settings" menu. Without any user setting the standby display appears after 60 seconds, settings are not being stored.

Update function basic unit and modules

System recovery

Press the buttons ◄ ► simultaneously when power supply is applied. Then press ► button and choose Backup SW "yes", to start emergency application.

Update functions in the OH 50A menu "system settings"

The following steps are required for an software update:

1. Connect handset to the base unit, the handset must display the standby message.
2. Plug an USB memory stick into the USB port.
3. The following options are selectable:

- Multiupdate Mod	All modules are updated automatically, if a newer software is available on the USB memory stick. The update process starts. After the update the modules will be rebooted.
- Update OH 50A	Only the base unit is updated. After the update process is completed, the device will be rebooted. Be sure that a file with the name "OH50A__HW_Vx_xx_SW_Vx_xx.bin" is only present once on the USB memory stick.
- Cfgload	The settings from a configuration file on the USB memory stick are uploaded into the modules. Please note: the module types and their slot order have to be the same as those in the configuration file!
- Cfgsave	The display shows "Checking file". The current configuration of the modules is uploaded and saved to the USB memory stick (Config.OH50A_2014_05_01_14_15).

If an module update fails, the module remains in the bootloader. This is displayed on the web interface and on the handset. The module can be programmed again from the web interface. To program the module with the handset "Multiupdate Mod." has to be selected in the menu "System Settings" .

Update function Basic unit and modules

Note:

You will find the latest firmware here:
http://wisi.de/en/business/products/compact-headend/

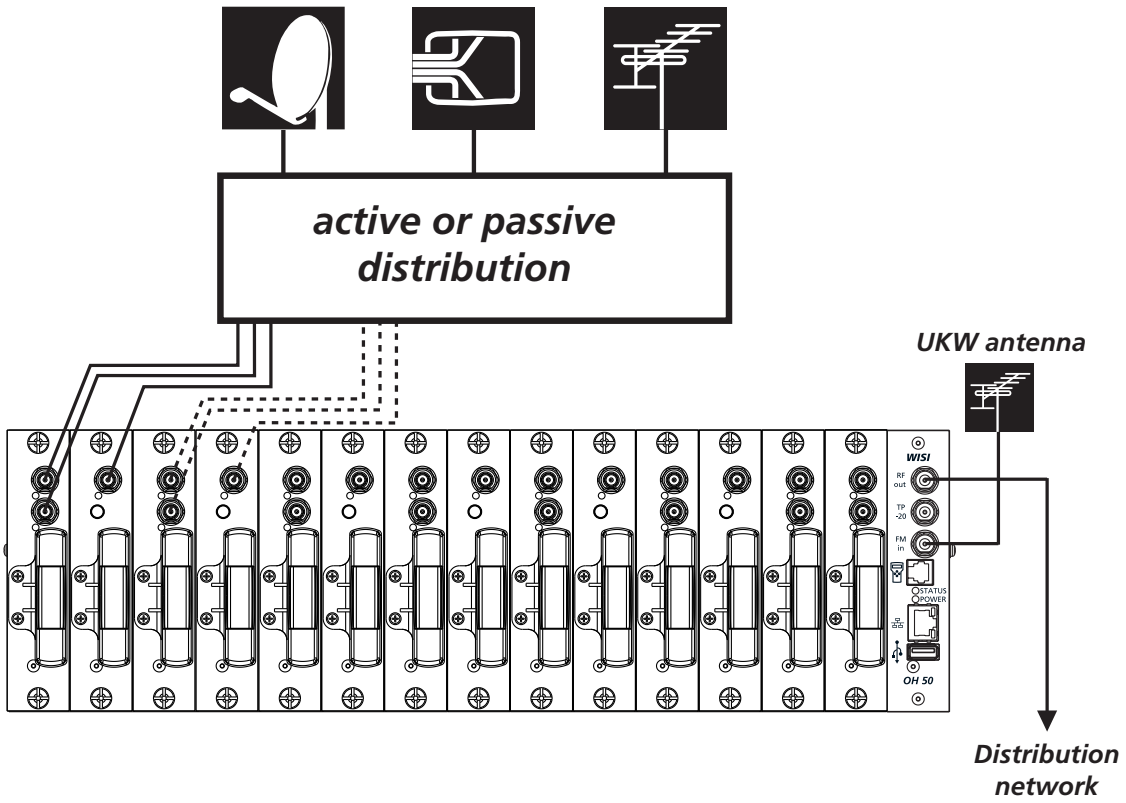
- Don't interrupt the power supply of the device during the update
- The used USB memory stick needs to be FAT32 formatted and must not be removed during the update is running.
- It is not allowed to change the names of the update or config files.
- The update or config files must be located in the root directory of the USB memory stick.

Activation of the OH51A remote monitoring function

Note

You need the UID of the device to activate the integrated OH51A remote monitoring function. You will fi nd these on the type and packaging label of the device (see below).

System configurations example



Channel processing for analogue and digital satellite programmes
The ***WISI COMPACT*** *HEADEND* permits the processing of analogue and digital TV programmes in networks.

Adjusting the system levels
The output level must always be set to the permissible system output level.
For every module the output level can be adjusted by the parameter menu "Out-Att".

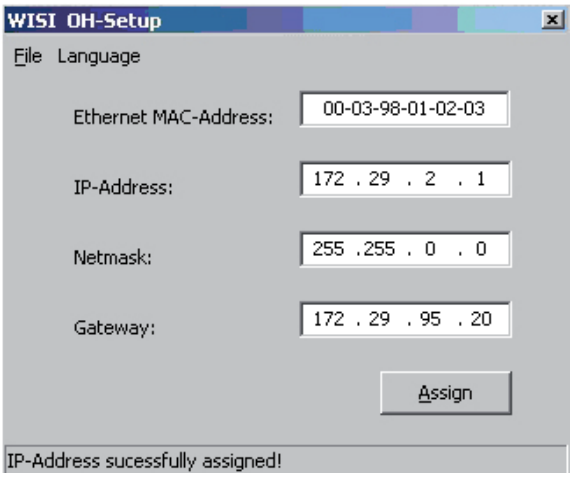
Default factory IP parameter values and SNMP community strings

IP address	*192.168.0.20*
Netmask	*255.255.255.0*
Gateway	*192.168.0.1*
DHCP	*disabled (DHCP functionality is disabled)*
E-Mail	*disabled*
HTTP Port	*80 (standard)*
SNTP	*disabled (time syncronisation server disabled)*
Sync Install Time	*24 (time syncronisation all 24 hours)*

OH-Setup Windows Tool

The WISI tool named "WISI OH-Setup" (filename 'OHSetup.exe') has to be copied on a PC with operating system Windows XP / 7. An ethernet connection between this PC and the OH50A unit is required.

Start the program. Complete the four fields with the correct Ethernet MAC Address of the OH50A unit (see label at OH rack: 00-03-98-...) and the wanted IP parameters (IP-Address, Network mask, Gateway).



Now press the button "Assign" for setting these parameters. The tool checks first, if the IP address is valid and still free. Afterwards the IP parameters of the OH50A unit will be set and stored.

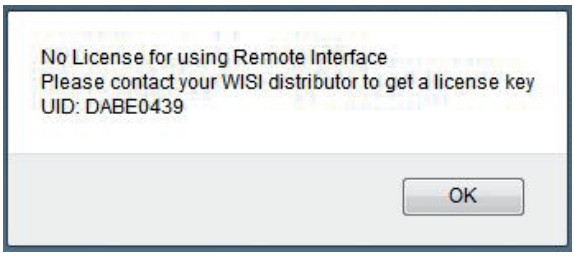
Please check the message in the lower status line of the window, if the assignment has succeeded or not.

OH 41 Handset

While the handset is being used (Modul Menü) the web interface is disabled and displays "Handset in use". After 60 seconds the handset automatically returns to the standby display. The web interface is now enabled again. The handset has higher priority than the web interface.

Activation of the web interface:

The Web UI of the newly purchased OH 50 A is locked. After login with the username "user" the following message will appear:



WISI converts the Unique ID (UID) into an unlock code for a license fee:

After entering the unlock code the device is permanently unlocked.

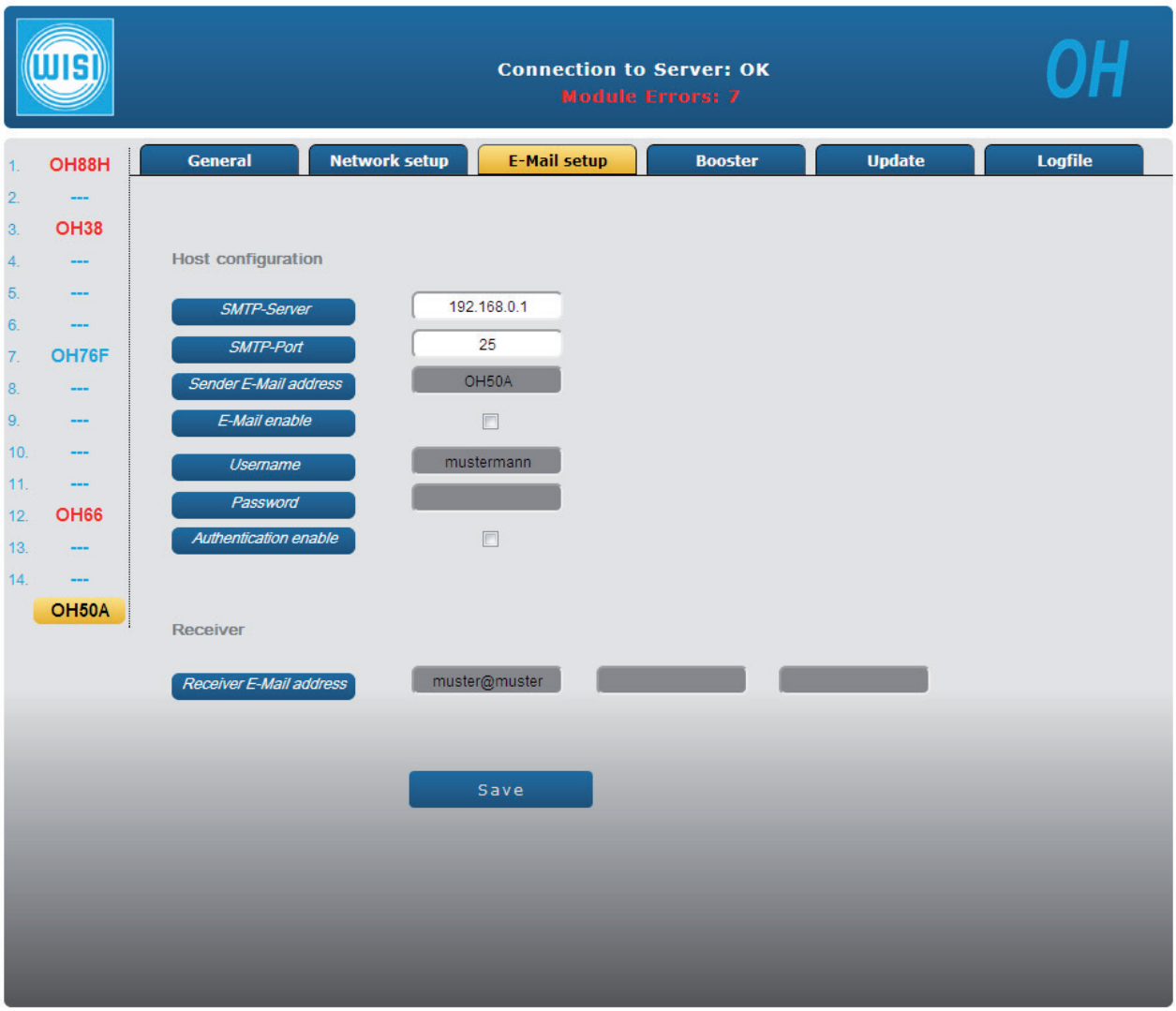
Web Interface

An ethernet connection between the PC (with an installed webbrowser) and the OH50A unit is required.
One of the following webbrowsers are recommended:

- *Internet Explorer from v8, v9 recommended*
- *Firefox from version 15*
- *Safari from version 5.1.7*
- *Opera from version 12.15*
- *Google Chrome from version 27.0.1453.116*

1. *In order to set up the chassis via web interface, the current IP address of the OH50A module has to be known. Setting the address is possible with the handset*
2. *Read write access: Log in under user name "user".*
   Enter password ("wisi" is used as factory setting).
   Read only access: Log in under user name "read". No password needed.
3. *Select tab "Network settings" under "OH50A".*
4. *If changes in the IP parameters are necessary, the button "save" has to be pressed.*
5. *The browser is being redirected to the new address.*

The tab "E-Mail setup" allows up to 3 addresses to which fault reports concerning the modules or the OH 50A base unit are sent (alarm). The OH50A can request server-side authentication (user name, password). Please note: Transmitted data is not encrypted.



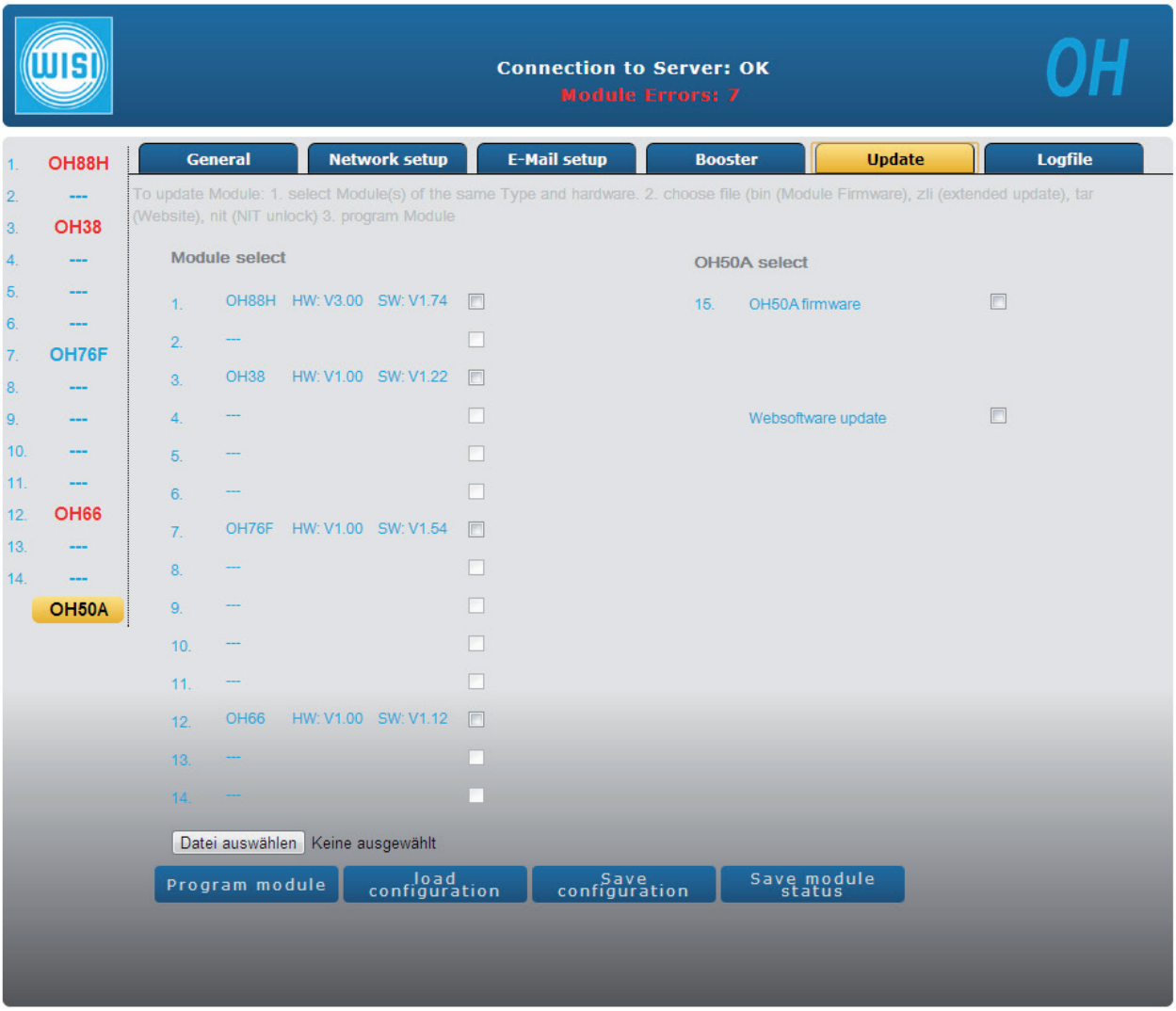
Web Interface

The tab "update" gives the abillity to update the modules software. The software has to suit the type of module and the hardware version has to match. Modules of the same type ca be programmed simultaneously. Select all modules of the same type, select the software on the computer and choose "program Module". The programming process for all modules is being started.

Extended updates for the MPEG decoder etc. (filename.zli) as well as the NIT table of a module (filename.nit) can be transferred through the website. A new website can be programmed as well. The activation code (. Onl file) for the modules (ex.: to utilize the external Nit) can be transmitted in the same way.*
Select "Websoftware update", choose websoftware (filename.tar) and select "program Module".
Run a firmware update by selecting "OH50A Firmware" > Datei laden > "program Module". OH50A reboots.

To save the module configuration select the checkboxes for the modules and click "save configuration".

To upload config files to the modules select the file on your PC and click "load configuration".
You do not have to tick the checkboxes. The sequence and type of the modules in the chassis has to correspond to the sequence of the modules on the update file.



Specifications

Booster amplifier	
Frequency range TV	47–862 MHz
Frequency range FM	87,5–108 MHz
Output impedance	75 Ω
Output return loss	> 14 dB
Output level	110 dBµV
Output attenuator	0-15 dB / 1 dB steps
Input level (FM)	70–100 dBµV
FM attenuator	0-30 dB / 1dB steps
CTB	> 60 dB
CSO	> 60 dB
Test output	-20 dB

Power supply	
Input voltage	180… 265 VAC (47… 63 Hz)
Max. power consumption	< 185 W
Efficiency	≤ 89 %
Output voltage	12,5 V
Output current	12 A
LNB power	12,5 V 1,2 A
PFC	EN 61000-3-2

Ethernet (”LAN”)	
Interface	10/100 Base-T, RJ-45 female jack
2 Leds	green for link/activity, yellow for speed

Protocol	
Data Link Layer	Ethernet
Network Layer	IP, ICMP
Transport Layer	UDP, TCP
Application Layer	DHCP (for automatic IP address assignments) (UDP Port 123, for time and date synchronisation), SNTP, RFC 4330 HTTP (web server access)

Speed	10/100 Mbps
Duplex	half-duplex/full-duplex, autosensing
IP Version	4

Remote Bus (OH backplane, communicates with all connected OH modules)	
Interface	board connector, 20 pins, RS-485
Protocol	Module ASCII
Speed	115 kbaud
Duplex	half-duplex

General specifications

Dimensions	443 (19“) x 132 (3HU) x 351 mm
Connectors	
FM-input	1 x F-connector
RF-output	1 x F-connector
Test-output	1 x F-connector
Handset control	RJ 11
Software update	USB-A
Remote connection	RJ 45
Operating temperature range	-20 °C to + 50 °C
Nominal temperature range	+5 °C to + 50 °C

WISI Communications GmbH & Co. KG

excellence in digital ...

06/14