

HTLST2

REF. 3858



IKUSI

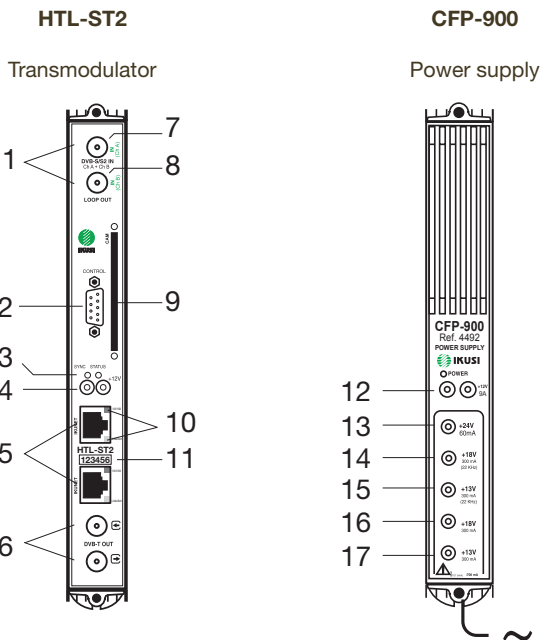


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General description



- 1 - Input splitter loop
- 2 - DB-9 port
- 3 - Status and Sync control LEDs
- 4 - DC Power
- 5 - RJ-45 ports for IKUNET bus
- 6 - DVB output coupling loop
- 7 - Input 1, in twin-input mode
- 8 - Input 2, in twin-input mode
- 9 - Slot for CAM
- 10 - Link/Act and 10/100 and control LEDs
- 11 - Module identification number

- 12 - Output +12 V (9 A)
- 13 - Output +24 V (60 mA)
- 14 - Output +18 V/22 kHz (300 mA)
- 15 - Output +13 V/22 kHz (300 mA)
- 16 - Output +18 V/0 kHz (300 mA)
- 17 - Output +13 V/0 kHz (300 mA)

This headend station is designed for broadcasting DVB-T/C signals based on open or encrypted DVB-S/S2 signals, and is made up of the following elements:

- **HTL-ST2** (Ref. 3858): DVB-S/S2 to DVB-T/C transmodulator.
- **CFP-900** (Ref. 4492): Power source +12 V/+24 V to select polarisation.

Mount base with capacity for 7 modules or 19" rack mount.

An **HTL-ST2 transmodulator module** places the selected services of two DVB-S/S2 channels of the FI-Sat 950-2150 MHz band in two COFDM/QAM channels. The module input connection is software configurable ("loop" or "dual input") and is equipped with DiSEqC function. Each transmodulator includes a Web server.

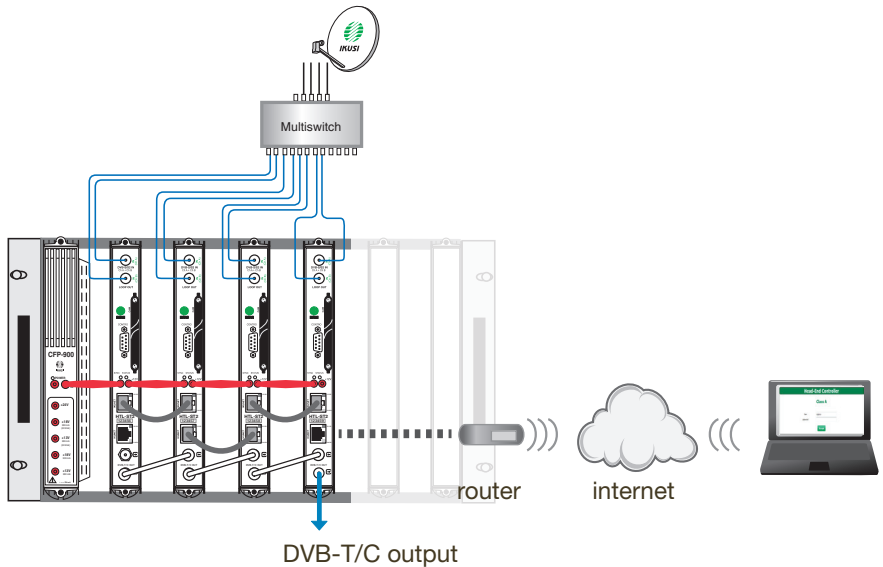
Installation and basic configuration

A PC with an ethernet network card and a CAT-5E ethernet cable is required in order to communicate with the headend station.



NOTE: To display the graphics provided by the headend station configuration programme, we recommend installing the Mozilla Firefox web browser on the control PC (www.mozilla.com).

Secure the modules on the base or rack one by one, following the instructions manuals for each module, and the input and output connections.



Remote configuration through web interface of a headend station comprising

4 HTL-ST2 modules, interconnected with an ethernet adapter (BUS IKUNET) + 1 CFP-900 power source.

Main characteristics

- > Generates 1 programme in the TV set for each language associated to the channel.
- > Add services without retuning TV sets.
- > Configuration wizard, “drag and drop”.
- > Easier complete remote control.
- > Ikusi Headend Discovery application

Headend connection

1. Connect the different cables from the multiswitch to the module inputs.
2. Interconnect the modules through the supplied ethernet adapters.
3. Interconnect the output line bridges.
4. Connect the power line.
5. Download the (*) IKUSI HEADEND DISCOVERY application from www.ikusi.tv, connect the PC to a headend station module through its ethernet connection with an RJ-45 cable.



(*) IKUSI
HEADEND
DISCOVERY

Definition of the master module

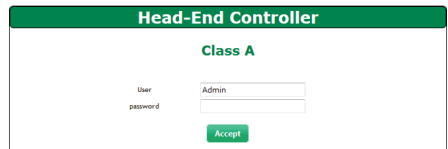
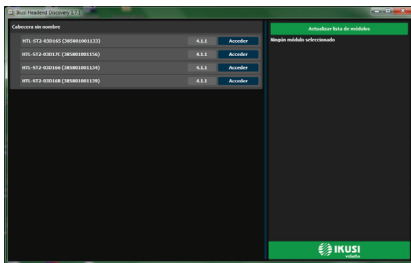
Communication with the headend takes place based on the definition of a module as a master and the others as slaves.

Control and access to the headend is through the master module, which allows us to configure the other modules. Open the IKUSI HEADEND DISCOVERY (the network card IPV6 protocol will be automatically enabled or permission will be requested to do so). The window will show the names of the connected modules along with the last six numbers of the MAC address and the batch serial number. Taking into account that each module is labelled with the last 6 numbers of the MAC, locate the one located in one end of the headend and click on the "Accept" button.

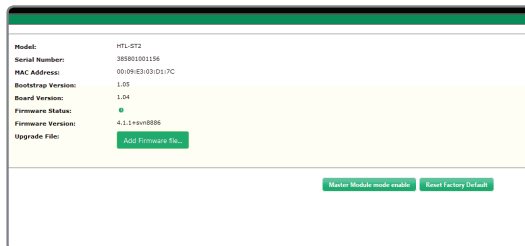
The application is redirected to the web interface, showing the access page with the word "Admin" in the User field. Enter the word "admin" in the Password field and click on the Accept button.



NOTE: To display the graphics provided in the system's configuration programme, we recommend installing the Mozilla Firefox 1.5 web browser or later (www.mozilla.com) on the control PC.



The screen shows the module identification in the selected module interface; click on the button "Convert into Master Module".



Note: The wizard opens automatically the first time the headend is configured, having first interconnected all the headend modules and created a master module.

The setup wizard will guide you simply and quickly through set-up.

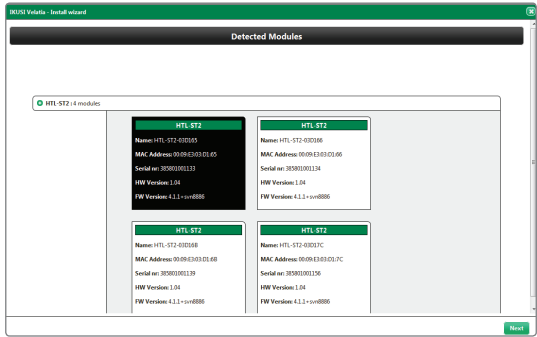
This wizard should be used once the PC has been connected to a module and the headend is fully interconnected by way of the IKUNET communication bus.

Click on the [x] in the top right of the screen to exit the wizard.

Detected Modules

The setup wizard shows an initial screen with the name of the headend and the number of modules; hover over with the mouse to show each of the modules with their main characteristics (name, serial number, MAC and version). One of them, with a black background, indicates that it has been designated as a master module.

... click on next



Global Configuration

The setup wizard shows several menu types:

NETWORK SETTINGS (this configuration is not necessary at this point):

Activate External Access and configure the IP address, netmask, main gateway and primary and secondary DNS servers. These details are not required when using DHCP (a protocol which allows a system connected to a network to obtain its configuration dynamically, i.e. without any intervention).

TV SETTINGS:

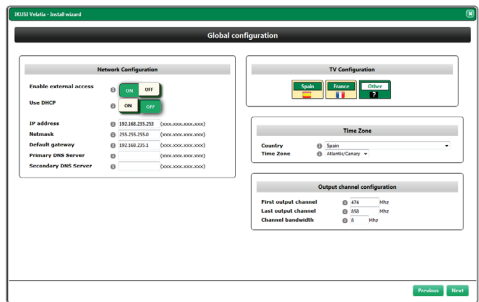
The setup wizard configures the output parameters by simply indicating the country and time zone required.

... click on next

OUTPUT CHANNELS SETTINGS:

When choosing Another country, make sure to check the range of output channels in which the module can be adjusted and the channel width in the pop-up window.

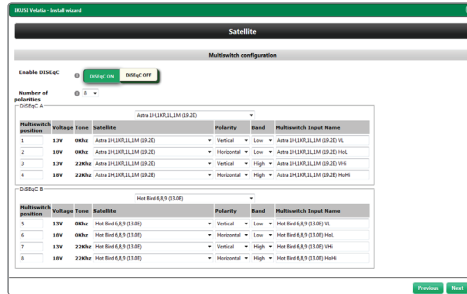
... click on next



Satellite

The wizard has a menu to configure DiSEqC and Satellites. By default it is configured to control a 4-input multiswitch, along with the Astra satellite and its four polarities, and it is also possible to add polarities and rename the multiswitch inputs with a personalised text.

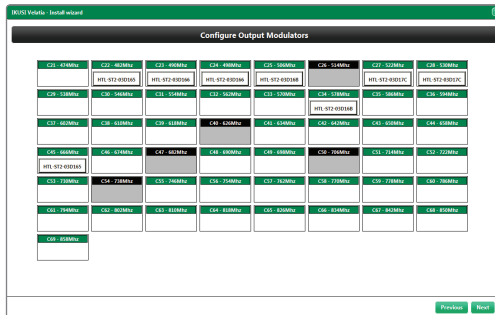
... click on next



Output channels settings

The setup wizard proposes a frequencies plan with all the available channels. The channels can be moved manually by clicking on them and dragging them to an empty/unoccupied channel, changing the organisation of the grid. To make it easier, the channels which are occupied by other services which do not form part of this headend can be checked by clicking on the boxes, which then change background colour.

... click on next



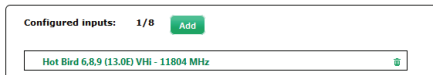
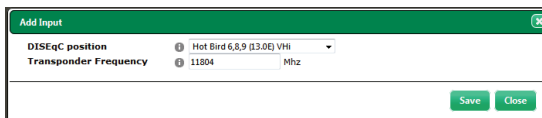
Input settings

The wizard has a menu to add the inputs. Pull down the DiSEqC position menu, select the satellite and key in the transponder frequency. Repeat this operation with the Add button for all the satellite inputs to be worked with.

Save: Click on the button to save the changes once all the inputs are configured.

... click on next

NOTE: A "recycle bin" icon to delete an entry.



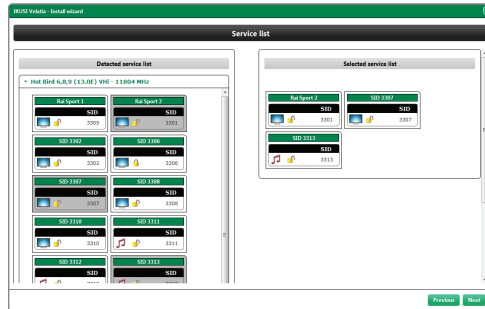
Service list

List of services found: Clicking on each input will display a drop-down list with all the services available in this frequency. Each service shows the SID (services identifier), the different icons show whether it is a TV or Radio service and whether it is encrypted (padlock) or free-to-air.

To select the required services, click on them to configure the "List of Selected Services". Click on the service again to deselect.

Repeat this operation for the different inputs.

... click on next



Selected audio services settings

Audio selection in selected services: Once all the services to be distributed have been selected, this screen can be used to configure the audio services in two modes:

NOTE: By clicking on the + symbol, all audio associated to the video service will be shown.

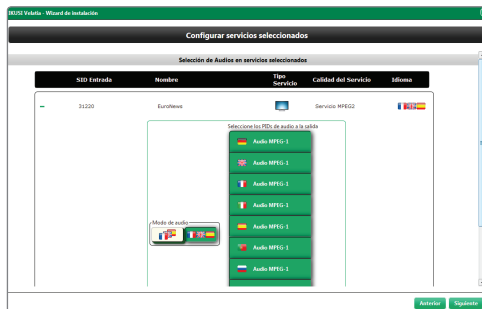
1. One channel for all audios: The TV set tunes a programme with all available audios, which the user can then choose using the language button on the TV remote control.

2. One channel for each audio: The TV set tunes a video and an audio in each programme and a programme for each audio the service contains. The user simply has to move through the programmes to find the required audio. This option is interesting in the hospitality sector (e.g. EURONEWS in English TV set programme 1; EURONEWS in French TV set programme 2, etc).

... click on next



NOTE: In the case number 2, click on the audio to deselect it.

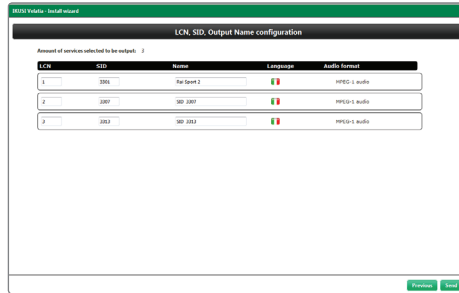


Configure LCN, SID, Output Name

This screen presents all the services resulting from the configuration:

The LCN assigned to each service, the SID, the name of the service, the audio present in each of them, the output signal format (SD/HD) where they can be edited.

... click on send



LCN	SID	Name	Language	Audio format
1	3001	Par Sport 2	IT	MPEG-1 audio
2	3002	SID_3002	IT	MPEG-1 audio
3	3003	SID_3003	IT	MPEG-1 audio

Finish configuration

The headend station is now configured, and the wizard shows the final screen with the services each module contains.

It may be the case that more services than the output module is capable of processing have been selected, in which case an error message will indicate that the requested configuration is not possible. Click back to the "Services offer" screen and delete one of the services.

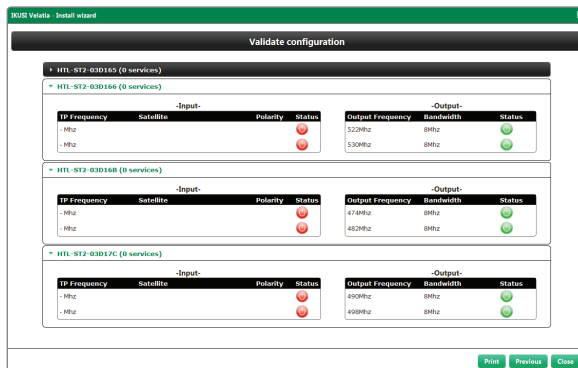
Before closing the wizard a *PDF* file can be printed with the configuration for registration purposes.

... click on print or close

To finish, the wizard asks us whether to continue and definitively leave the start menu.



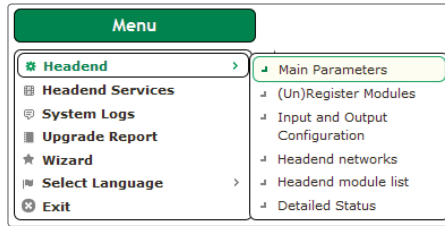
Note: A timer icon indicates that the interface is processing the information, stand by ...



Validate configuration									
H11-S12-03D165 (0 services)									
H11-S12-03D166 (0 services)									
-Input-					-Output-				
IP Frequency	Satellite	Polarity	Status	Output Frequency	Bandwidth	Status			
- MHz			⊘	522MHz	8MHz	⊕			
- MHz			⊘	530MHz	8MHz	⊕			
H11-S12-03D168 (0 services)									
-Input-					-Output-				
IP Frequency	Satellite	Polarity	Status	Output Frequency	Bandwidth	Status			
- MHz			⊘	410MHz	8MHz	⊕			
- MHz			⊘	452MHz	8MHz	⊕			
H11-S12-03D17C (0 services)									
-Input-					-Output-				
IP Frequency	Satellite	Polarity	Status	Output Frequency	Bandwidth	Status			
- MHz			⊘	490MHz	8MHz	⊕			
- MHz			⊘	498MHz	8MHz	⊕			

User interface description

The interface allows the user to communicate with the headend station. The schematic structure of the menus and submenus which make up the interface is as shown below:



1. HEADEND

1.1. Settings

Identification

IDENTIFIER: Used to enter a designation to identify the headend.

LOCATION: Used to enter the name of the city where the unit is installed.

INSTALLATION DATE: Used to enter the installation date of the head-end unit.

Save: Click on the button to keep the changes.

The screenshot shows the 'Identification' tab of the 'Headend Main Parameters Configuration' window. It contains fields for 'Identifier:', 'Location: Show map' (with a map icon and an example address: 'example:Paseo Miramon 170, 20014 San Sebastian, Spain'), and 'Installation Date:' (with a date picker icon and a format 'mm-dd-yyyy'). A green 'Save' button is at the bottom.

Password

USER: Enter the username. By default it is "admin"

OLD PASSWORD: Enter the current homepage password.

NEW PASSWORD: Enter the new password.

CONFIRM NEW PASSWORD: Re-enter the new password.

Save: Click on the button to keep the changes.

The screenshot shows the 'Password' tab of the 'Headend Main Parameters Configuration' window. It contains a 'User' dropdown menu (set to 'admin'), and three input fields for 'Old password:', 'New password:', and 'Confirm new password:'. A green 'Save' button is at the bottom.

Internet Access

INTERNET ACCESS: Internet access not only allows the headend to access the Internet (e.g. to show its location), but also allows an engineer to access and configure the headend from the outside. Click on the box to activate Internet access.

MAC ADDRESS: Shows the number which identifies the unit for the network connection.

The screenshot shows the 'Internet Access' tab of the 'Headend Main Parameters Configuration' window. It contains a 'Configure Internet Access:' checkbox (checked), a 'MAC Address:' field (00:09:E3:03:D1:65), a 'Use DHCP to get IP:' checkbox (unchecked), and fields for 'IP address:', 'Netmask:', 'Default gateway:', 'Primary DNS Server:', and 'Secondary DNS Server:'. A green 'Save' button is at the bottom.

USE DHCP: Enable the checkbox for the DHCP server to automatically assign an IP address. Disable the checkbox to manually enter the IP address, the netmask and the preset gateway.

IP ADDRESS: Enter the IP address if DHCP is not enabled.

NETMASK: Enter the netmask if DHCP is not enabled.

GATEWAY: Shows the gateway IP address. Enter the preset gateway if DHCP is not enabled.

PRIMARY AND SECONDARY DNS SERVER: In order to use a DNS server, first enter the primary and secondary DNS server IP address as given by the domain provider.

Save: Click on the button to keep the changes.

Country

The screenshot shows the 'Country' tab of the 'Headend Main Parameters Configuration' window. It contains the following fields:

- Current Date and Time:** 12:20 01-23-2015 (HH:MM mm-dd-yyyy)
- Country:** Spain
- Time Zone:** Atlantic/Canary

A 'Save' button is located at the bottom left of the configuration area.

CURRENT DATE AND TIME: Shows the current time and date.

COUNTRY: Used to enter the country where the unit is installed.

TIME ZONE: The time zone is presented depending on the country entered.

Save: Click on the button to keep the changes.

LNB and Multiswitch

The screenshot shows the 'LNB and Multiswitch' tab of the 'Headend Main Parameters Configuration' window. It contains the following fields and a table:

- LNB:**
 - Local Oscillator Low Frequency (MHz): 9750
 - Local Oscillator High Frequency (MHz): 10600
- Multiswitch:**
 - Input number: 8
 - DiSeqC A
- Table:**

Position	Voltage	Tone	Satellite	Polarity	Band	Multiswitch
1	13V	0Khz	Astra 1H1KRJL1M (19.2E)	Vertical	Low	Astra 1H1KJ
2	18V	0Khz	Astra 1H1KRJL1M (19.2E)	Horizontal	Low	Astra 1H1KJ
3	13V	22Khz	Astra 1H1KRJL1M (19.2E)	Vertical	High	Astra 1H1KJ
4	18V	22Khz	Astra 1H1KRJL1M (19.2E)	Horizontal	High	Astra 1H1KJ

LOCAL OSCILLATOR FREQUENCY (MHz): Used to enter the local oscillator frequency value for the high and low band and inform the master module of the presence and characteristics of the multiswitch.

MULTISWITCH. INPUT NUMBER: Click on the drop-down list to select the number of multi-switch inputs.

For connection without multiswitch, select the value "0" as input number.

For connection with multiswitch, select the value corresponding to the number of multiswitch inputs. Then use the LNB/multiswitch drop-down list:

MULTISWITCH POSITION, VOLTAGE AND TONE

SATELLITE: Designation of the multiswitch input signal for identification in subsequent configurations. IKUSI recommends identifying the type of satellite, polarity and signal band.

POLARITY: Click on the drop-down list to select the vertical or horizontal polarity.

BAND: Click on the drop-down list to select the band: Low or High.

MULTISWITCH INPUT NAME: Informs of the multiswitch input being described.

Save: Click on the button to keep the changes.

Headend Firmware

The screenshot shows the 'Headend Main Parameters Configuration' window with the 'Headend Firmware' tab selected. It displays a table with three rows of firmware information. Below the table is a button labeled 'Add Firmware file...'. The table data is as follows:

Name	Model	Version
HTL-ST2-03D165	HTL-ST2	4.1.1+svn8886
HTL-ST2-03D168	HTL-ST2	4.1.1+svn8886
HTL-ST2-03D166	HTL-ST2	4.1.1+svn8886

It presents the list of the headend modules with name, type of module and installed firmware version.

"Add firmware file..."

Settings Backup

The screenshot shows the 'Headend Main Parameters Configuration' window with the 'Configuration Backup' tab selected. It contains two main sections: 'Generate the configuration backup:' with a 'Configuration Report' button, and 'Select the configuration file:' with an 'Add Backup file...' button.

Used to create a backup of the current configuration of the station or apply an update.

Configuration report: Used to save the backup copy in the location chosen by the user or download it to another station.

Add a backup file: Used to choose backup files stored in any of the available storage units.

Default Settings

The screenshot shows the 'Headend Main Parameters Configuration' window with the 'Default Configuration' tab selected. It displays a table with three rows of default configuration information. Below the table is a button labeled 'Apply default configuration'. The table data is as follows:

<input checked="" type="checkbox"/>	Name	Model	Type
<input checked="" type="checkbox"/>	HTL-ST2-03D165	HTL-ST2	Master
<input checked="" type="checkbox"/>	HTL-ST2-03D168	HTL-ST2	Slave
<input checked="" type="checkbox"/>	HTL-ST2-03D166	HTL-ST2	Slave

APPLY DEFAULT CONFIGURATION: Used to carry out a factory reset module by module or for the whole headend station at the same time.

NOTE: Do not disconnect the module until the end of the reset process.

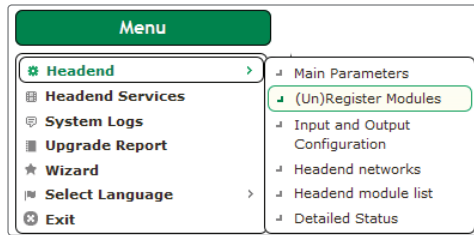
The window shows the following information for each module:

NAME: Shows the module identification designation.

MODEL: Shows the model designation.

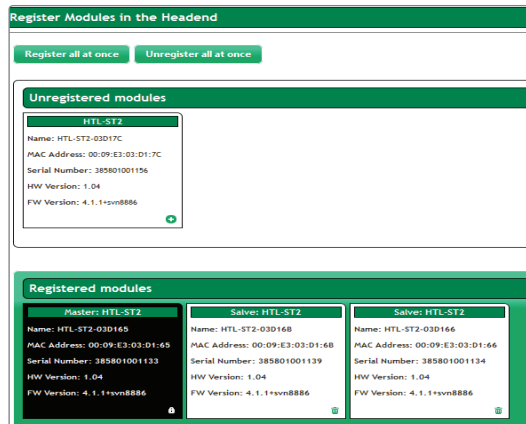
TYPE: Master or slave.

Clicking on any of the boxes will activate the "apply default configuration", moving on to the reset confirmation window. Enabling the box to the left of the title will select all the headend modules.





1. HEADEND

1.2. Modules register.



All the modules which are connected to the IKUNET bus must appear on the screen inside a cell headed by the type of module and the function it represents within the headend (slave). It also shows the identification name, the MAC address, the serial number and the hardware version, all of which are factory-set.

The master module is the only one which, given its condition, is "locked" and cannot be de-registered; it is clearly differentiated by its black background.

The other modules can be registered or de-registered by clicking on the  symbol or the recycle bin icon  respectively, and, more straightforwardly, by clicking on each of the modules and dragging them from one window to the other.

A pop-up message shows whether the action has been carried out correctly or there has been any type of error.

REGISTER ALL: Used to act on all modules at the same time and register them jointly in the headend.

UNREGISTER ALL: Used to act on all modules at the same time and delete them jointly in the headend.



1. HEADEND

1.3. Headend settings

Inputs

Input and Output configuration

Input CA Embedded Output

Name	Model					
HTL-ST2-03D165	HTL-ST2					
Input	Frequency	Synchronized	BER/PER	C/N	Signal Quality	Receiver
Input 1	1204 MHz	✓	0.00E+0	11.7 dB		
Input	Frequency	Synchronized	BER/PER	C/N	Signal Quality	Receiver
Input 2	1511 MHz	✓	0.00E+0	11.7 dB		
Name	Model					

A drop-down icon can be used to modify the parameters of Inputs 1 and 2 of each module. Click on the drop-down list to access the following options:

Input Parameters1

Multiswitch Astra 1H,1KR,1L,1M (19.2E) VB

IF Band (BIS): Low Low

Status: Disabled Disabled

Transponder Frequency: 11900 MHz

Intermediate Frequency (BIS): 2150 MHz

Save

Input Parameters2

RF Input: 2 Inputs

Multiswitch

IF Band (BIS): Low

Status: Disabled Disabled

Transponder Frequency: 11900 MHz

Intermediate Frequency (BIS): 2150 MHz

Save

MULTISWITCH: Used to select the multiswitch signal (or the LNB signal) to be received.

IF BAND: Low or High.

STATUS: Used to enable or disable each of the two module inputs.

TRANSPONDER FREQUENCY: Used to select the transponder frequency value to be received.

IF INTERMEDIATE FREQUENCY (MHz): Used to select the intermediate frequency value to be received.

INPUT REGIME: Used to modify the input speed value.

Save: Click on the button to keep the changes.



NOTE: Whenever the same polarity is used for the 2 inputs, access Input Parameters 2 and choose "1 input + loop" in the drop-down list.

CAM

Input and Output configuration

Input CA Embedded Output

Name	Model	MAX Allowed PIDs	CAM Status
HTL-ST2-03D165	HTL-ST2	0 / 0	Check CAM

MMI Access

Name	Model	MAX Allowed PIDs	CAM Status
HTL-ST2-03D16B	HTL-ST2	0 / 0	Check CAM
HTL-ST2-03D166	HTL-ST2	0 / 0	Check CAM

This window provides information on the CAM

Outputs

Input and Output configuration

Input CA Embedded Output

Name	Model	Attenuation
HTL-ST2-03D165	HTL-ST2	<input type="range"/>

Output	Frequency	BitrateMax	Free Space	OFDM Mode	Min. C/N (Theoretical)	Modulation
Output 1	474 MHz	31.67 (Mbps)	69 %	8K	20.1 (db)	OK
Output 2	482 MHz	31.67 (Mbps)	86 %	8K	20.1 (db)	OK

Name	Model	Attenuation
HTL-ST2-03D16B	HTL-ST2	<input type="range"/>

An ATTENUATION bar on the right of the screen can be used to equalise the headend module outputs.

Manually configure the entire headend attenuation values when all the modules are interconnected, through the frequency spectrum screen of a field gauge. These values will remain in red colour until saved, with the process taking a few seconds.

It can also be used to modify the operation parameters of the 2 module outputs assigned in the headend. All modules can be equalised at the same time from the same screen. The numbers in red indicate that the change was not completed.

Output Parameters1

Status: Enabled

Frequency: 474 MHz

OFDM Mode: 8K

Bandwidth: 8 MHz

Guard Interval: 1/32

Constellation: 64 QAM

Code Rate: 7/8

STATUS: Used to enable or disable each of the two module outputs.

FREQUENCY (MHz): Used to modify the output frequency value.

COFDM MODE: Click on the drop-down list to select the number of output channel sub-carriers, 2k or 8k.

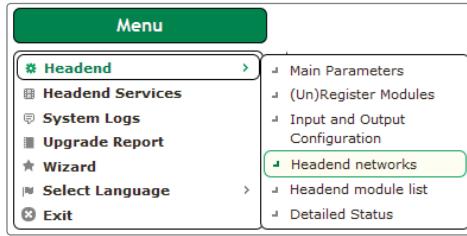
BANDWIDTH (MHz): Click on the drop-down list to select the bandwidth output signal bandwidth value.

GUARD TIME: Click on the drop-down list to select the FEC encoding convolutional code (error detection).

CONSTELLATION: Click on the drop-down list to select the digital constellation system.

CODE RATE: Click on the drop-down list to select the FEC encoding convolutional code (error detection).

Save: Click on the button to keep the changes.



1. HEADEND

1.4. Headend networks.

Network settings

Headend Networks					
Network Configuration					
Network name	NID	ONID	Current Number of Modules	Number of registered Modules	DVB SI Tables
TV HTL	1	8442	3	3	

Click on the drop-down list to check and edit the following parameters:

Network configuration		
Name:	TV HTL	<input type="text" value="TV HTL"/>
NID:	1	<input type="text" value="1"/>
ONID:	8442	<input type="text" value="8442"/>
Cell ID:	50000	<input type="text" value="50000"/>
Auto Service List:	Disabled	<input type="checkbox"/> Disabled <input type="checkbox"/>
NIT LCN Mode:	Europe Mode	<input type="text" value="Europe Mode"/>
NIT Pattern:	No NIT Pattern	<input type="text" value="No NIT Pattern"/>

NETWORK NAME: Shows the proposed network name.

NID: Shows the network identifier.

ONID: Shows the originating network identifier.

Cell ID: Click to modify the number of cells to be assigned to the COFDM channel output.

AUTOMATIC SERVICES LIST: Activate the box to include a service_list_descriptor in the NIT, generated by the master module and based on the services available at the headend station output.

LCN MODE NIT: Click on the drop-down list to select the LCN transmission standard in the NIT: EUROPEAN STANDARD (by default), NORDIG STANDARD V1 2, NORDIG STANDARD V2 3, GENERIC MODE (e.g., for Australia). Disable to not enter LCN.

NIT MODEL: Click on the drop-down list to select one of the three available NIT models:

NO STANDARD NIT: The master module generates a NIT from zero, based on the selected output frequencies, the output services and the selected LCNs.






NIT INTEGRATION: Calculates a new NIT based on the NITs in the input signals; if there is relevant information in the input NITs, it is sent to the output.

INPUT NITs: Calculates a new NIT based on the NITs as DVB-S/S2 input signals standard.


DVB-SI TABLES: Click on the to download the headend module tables.

Save: Click on the button to keep the changes.

Modules in networks

Headend Networks				
Network Configuration		Modules in networks		
Name		Model		
	HTL-ST2-03D165	HTL-ST2		
Edit	Output	Frequency	ONID	
	Output 1	474 MHz	8442 (0x20FA)	
	Output 2	482 MHz	8442 (0x20FA)	
	HTL-ST2-03D16B	HTL-ST2		
	HTL-ST2-03D166	HTL-ST2		

A drop-down icon  can be used to edit the following parameters:

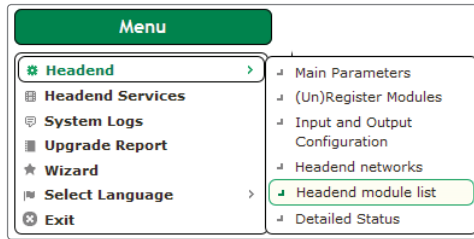
Output Configuration 1 

ONID:	8442	<input type="text" value="8442"/>
TSID:	23	<input type="text" value="23"/>

ONID: Network operator identifier which disseminates the input signal (by default 8442).

TSID: Numeric identifier assigned to a transponder/multiplex.

Save: Click on the button to keep the changes.



1. HEADEND

1.5. Headend modules list

This section contains all the information on the main parameters of the headend station.

Headend Module List						
TV HTL						
NIT status		SDT status		TOT status		IKUNET status
▲		✓		✓		✓
Name	Model	MAC	Alarm / Status	IKUNET Identific		
HTL-ST2-03D165	3	00:09:E3:03:01:65	▲	ON		
Input N	Frequency	Receiver	Signal Quality	Status		
Input 1	1204 MHz	✓	📶	✓		
Input 2	1511 MHz	✓	📶	✓		
Output N	Frequency	Current Bitrate	Modulator	Overflow	Status	
Output 1	474 MHz	31.668 (Mbps)	✓	✓	✓	
Output 2	482 MHz	31.668 (Mbps)	✓	✓	✓	
HW	TEMP	SYSTEM	CAM	DECRYPTED	NIT	IKUNET
✓	✓	✓	▲	✓	✓	✓
Name	Model	MAC	Alarm / Status	IKUNET Identific		

The first window shows the following details:

NAME: Name to identify each module.




MODEL: Module type designation.

MAC: Number which identifies each module for the network connection.


ALARM/STATUS: Operation alarm in the module.


IKUNET IDENTIFICATION: The ON button is used to identify the module position (the red LED flashes).

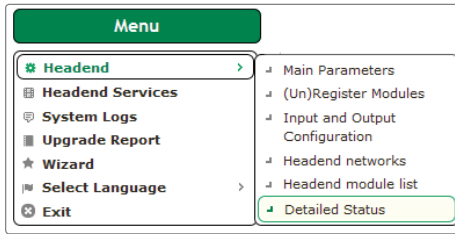
RESTART MODULE: Used to restart the module.

Three icons    identify the different windows which can be accessed:

 The drop-down list shows basic module information.

 This icon shows detailed information on the status of the module, input parameters, output parameters and CAM (where appropriate).

 The drop-down list shows the option of editing the name of the module, which by default is the MAC address.
Save: Click on the button to keep the changes.



1. HEADEND

1.6. Status details

This section contains all the information on the status of the headend modules.

The screen shows the input and output parameters corresponding to each module, along with the alarms and CAM details.

Show Status Details

HTL-ST2-03D165
HTL-ST2-03D16B
HTL-ST2-03D166

Module Status Details

Generate detailed module diagnostics: Module Diagnostic

Input 1

Configuration : 1204 Mhz
 Status : ✓
 BER (post-viterbi) : 0.00E+0
 C/N : 11.7 dB
 Modulation : DVB-S
 Signal Quality :

Input 2

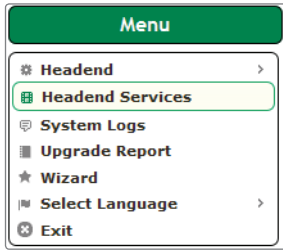
Configuration : 1511 Mhz
 Status : ✓
 BER (post-viterbi) : 0.00E+0
 C/N : 11.7 dB
 Modulation : DVB-S
 Signal Quality :

Output 1

Configuration : 474 Mhz
 Output Status : ✓
 BitRate Max. : 31.67 Mbps
 Number of Services : 2
 Minimum Null Packages : 52 %
 Current Null Packages : 53 %
 Overload : ✓

Output 2

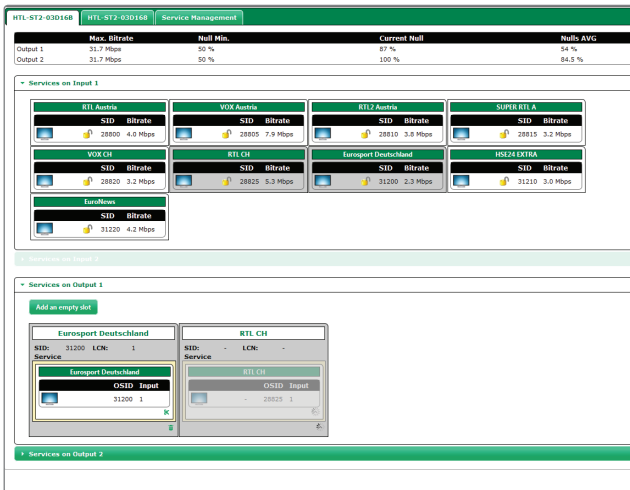
Configuration : 482 Mhz
 Output Status : ✓
 BitRate Max. : 31.67 Mbps
 Number of Services : 1
 Minimum Null Packages : 84 %
 Current Null Packages : 86 %
 Overload : ✓



2. HEADEND SERVICES

2.1. Headend transport process

This function is used to manage all services available in the different headend inputs, distributing them towards the outputs, by simply dragging each service from the input window to the output window.



Click on the drop-down list  to access the following options:

LCN OFFSET: Defines the LCN position of the first service.

The following parameters are used to control the output flow and the free space in the band:

MAXIMUM BITRATE: For the output configuration.

% FREE (MIN) : This is used to check the minimum free space available taken by the module since a specific interval.

% FREE (CURRENT): Used to check the current free space.

% FREE (MEAN): Used to check the percentage of space in a specific interval.



Note: Leaving at least 15% free bandwidth is recommended.

Within each module, the available services of each of the two inputs can be used in either of the two output channels.

Output Services

Add empty slot to the output 1
✕

Name of the Slot

Input of the Service:

SID:

ADD EMPTY SLOT: Used to create an empty slot in order to add a service in the future.

Complete the following details: Name of the slot, service input, SID.

The "clone" option is used to copy a service in the same output as many times as necessary. This means a different audio can be assigned to each one on the same video.

Click on the recycle bin icon to delete a service.

The changes will be saved when returning the TV set.

The "cut" option (scissors icon) provides the option to delete the current service and leave the space empty in order to position another one in its place, thus avoiding having to retune the TV set. A service can also be replaced by dragging another one onto it.

Services Management

Once the services grid is complete, the LCN, PID and SID parameters can be edited using the SERVICES MANAGEMENT tab.

Save: Click on the button to keep the changes.

Transport Processing of the Headend

TV HTL

LCN Offset
 1

Block PIDs
Data

Decrypt PIDs
Automatic

HTL-ST2-03D165

HTL-ST2-03D168

HTL-ST2-03D166

Service Management

LCN	Service name	SID	Decrypt	Edit PIDs	Module	Input	Output
26	<input type="checkbox"/> Rai Sport 1	3305	<input type="checkbox"/>		HTL-ST2-03D165	Input1	Output1
27	<input checked="" type="checkbox"/> Al Jazeera	708	<input type="checkbox"/>		HTL-ST2-03D165	Input2	Output1
28	<input type="checkbox"/> Al Jazeera	3306	<input type="checkbox"/>		HTL-ST2-03D165	Input2	Output2
50	<input type="checkbox"/> TELESUR	13737	<input type="checkbox"/>		HTL-ST2-03D168	Input2	Output1
53	<input type="checkbox"/> SCT PROMO d	13772	<input type="checkbox"/>		HTL-ST2-03D168	Input2	Output2

Store Configuration

Menú

- Cabecera >
- Servicios cabecera >
- Logs del sistema**
- Reporte de actualización
- Asistente instalación
- Seleccionar idioma >
- Salir

3. SYSTEM LOGS

This query screen is used to obtain an overview of all incidents in the status of the headend in chronological order.

Logs del sistema

TODO HEADEND UI SYSTEM INPUT OUTPUT CAM

Todo Error Alerta Aviso

Todos los módulos ▾

Nivel de Log	Fecha	Hostname	Subsistema	Msj
●	Jan 14 10:09:29	HTL-ST2-03D165	HEADEND	Generated new NIT with NID 1 and version 4
●	Jan 14 10:09:28	HTL-ST2-03D165	HEADEND	Generated network SDT with version 4
●	Jan 14 10:07:41	HTL-ST2-03D165	HEADEND	Register module HTL-ST2-03D17C to headend
●	Jan 14 10:07:36	HTL-ST2-03D165	HEADEND	Register module HTL-ST2-03D166 to headend
●	Jan 14 10:07:33	HTL-ST2-03D165	HEADEND	Register module HTL-ST2-03D168 to headend
●	Jan 14 10:07:31	HTL-ST2-03D165	INPUT	Bad Signal Quality!!!

Menú

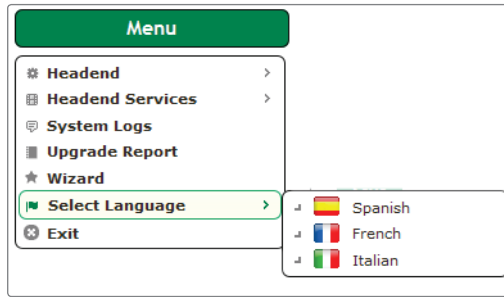
- Cabecera >
- Servicios cabecera >
- Logs del sistema
- Reporte de actualización**
- Asistente instalación
- Seleccionar idioma >
- Salir

4. UPDATE REPORT

This screen is used to see if all the firmware upgrades have been completed successfully.

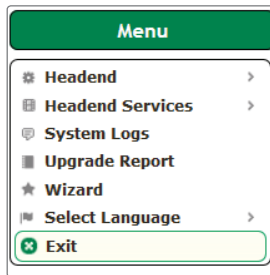
Reporte de actualización

Hostname	Nombre	Versión	Estado	Fecha	Msj
HTL-ST2-03D165	HTL-ST2-03D165	4.1.1+svn8886	✓	16-12-2014	OK
HTL-ST2-03D168	HTL-ST2-03D168	4.1.1+svn8886	✓	16-12-2014	OK
HTL-ST2-03D166	HTL-ST2-03D166	4.1.1+svn8886	✓	16-12-2014	OK
HTL-ST2-03D17C	HTL-ST2-03D17C	4.1.1+svn8886	✓	16-12-2014	OK



5. LANGUAGE SELECTION

Used to select the application language.



6. LEAVE

Used to leave the interface, returning to the home screen.

The image shows a login screen titled 'Head-End Controller' with a green header. Below the header is the text 'Class A'. There are two input fields: 'User' with the value 'Admin' and 'password'. Below the fields is a green 'Accept' button.



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