Televes®

coax DATA 1Gbps HDTV

Ref.769301
Data Over Coax Gateway

Índice de contenido

Important safety information

Main installation considerations

- Please read this manual carefully before installing the product.
- To reduce risk of fire or electrical shock do not expose the equipment to rain or dampness.
- Do not remove the product cover while being connected to the mains.
- Do not block ventilation holes on the product.
- Please allow for some free space around the product to guarantee proper air circulation.
- The product should not be exposed to watter splash.
- Do not place the product near heat sources or in a high humidity environment.
- Do not install the equipment in an unstable or vibrating surface where it could face a shock.

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Safe operation

- Mains power requirements for this product are: 108-254 V~ 50/60 Hz.
- Should any liquid or object fall inside the product, please refer to a technically qualified service.
- To unplug the product from the mains please pull from the mains plug, never from the electrical cable.
- Do not connect the product to the mains untill all other connections have been made.
- The power socket should be near the equipment and easily accessible.

Electric security markings

CE marking compliance.

Product for indoor use.

Safety requirements for class II electrical products.

Waste management of electric and electronic equipment at the end of their working live.

Introduction

Data Over Coax Gateway

The **Data Over Coax Gateway** allows the transmission of IP data over coaxial cable and power distribution neworks as well as broadcast TV and other services.It includes a WLAN interface 802.11b/g/n for wireless   devices.

The Ethernet-Coaxial-Wifi Router   allows the connection of multiple devices through the coaxial and power network without the need of running extra cables and installing Hub's or Ethernet switches.

Ref.769301 Data Over Coax Gateway includes power supply connector, two F connectors for TV 769301_ DATA, three Ethernet RJ45 100Base-TX/10Base-T an USB connector and a WLAN 802.11bgn interface.

Main Specifications

■ Possibility of connecting a device sharing internet access using the existing infrastructure taking advantage of wireles technology.

■ Easy settting up procedure without the need of installing new hardware and/or software drivers.

■ **3xEthernet** (Ref.769301) 100 BASE-TX/10 BASE-T to allow the connection of multiple devices such as PC's, Set to boxes, video game consoles, etc.

■ WiFi 802.11bgn interface with 2x2 MIMO in the 2.4GHz band supporting up to 144 Mbps for 20MHz channels and up to 300 Mbps for 40MHz channels.

■ Posibility of switching off WiFi or selecting a low power mode interface by means of front panel switch.

■ **WPS** (Wireless protected setup button) feature avoiding the need of password setting.

■ Supporting all encryption and authentification WiFi protocols such as WEP, WPA/WPA2, 802.1x guaranteeing a secure connection.

■ Complying with IEEE 1901 specifications and including HomePlug AV PHY supporting **2880 p OFDM 4096/**1024/256/64/16/8 QAM, QPSK, BPSK and   ROBO mode carriers, capable of up to **700 Mbps** physical throughput and up to **350Mbps** UDP throughput over the coaxial network.

■ Working bandwidth on the coaxial network is **2-67,5 MHz** supporting a maximum attenuation of **85 dB**. There is no limit of minimum attenuation. It can support up to 1,2 Km of coaxial cable.

■ 5 front LED's show equipment status, Internet access, WiFi status, coaxial network status.

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- Dynamic signal adjustment based on channel conditions and powerful coding algorythm based on FEC & TCC (turbo convolutional codes) technique allowing communication with just 3dB of SNR.

- Advanced Encryption algorithm (AES-128) guaranteeing secure communications.

- Sharing high speed internet access. Supporting up to 243 slaves in the same distribution network. No need of Ethernet Hubs or switches.

- Supporting Quality of Service **(QoS)** and including packet classification rules and multiple transmission ques.

- Supporting IGMPv3 based multicast streams to implement efficient IPTV solutions. It can handle up to 32 different channels.

- Wide range power supply unit   ~108-254Vac 50/60Hz

- Robust and compact design in compliance with electrical safety legal requirements (EN 60950-1:2007/AC:2012), electromagnetic compatibility (EN 55022:2008) , inmunity(EN 55024:2011) and radiation over electric power wiring (EN 50412-2-1:2006) and electromagnetic spectrum (EN 300 328 V1.7.1, EN 62311:2008).

- Web interface to configure working parameters and network options.

System requierements

- Plug and Play system avoiding the need of any additional software or driver. For installation in MxU mode and that has a master device

- To configure the device a computer is needed with an Ethernet 100BASE-TX or IEEE 802.11bgn WiFI port.

- Complete web based software tool and advanced configuration application CoaxManager™ (basic configuration)/ CoaxManagerPro™ (advanced configuration).

- This software is available in: **www.televes.com**

Basic access to the product:

    IP Address: 172.16.0.1/255-255.255.0
     Web Access: http://172.16.0.1
    User: Admin
    Password: Televes1

Additional data for the default Wifi connection:

Wifi SSID: CoaxData-DoC-Wifi
Wifi Security Mode: WPA2/PSK
Wifi Password: Televes1

Package content

- Ref.769301 Data Over Coax Gateway
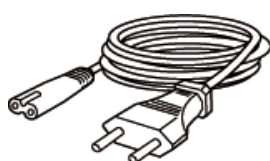- User guide
- 75 Ohm Coaxial load
- Power cord

CoaxDATA Home Wifi 1Gbps

Setup guide

75Ohm load

Power cord

CoaxData range of products

Ref.769301 is a part of a comprehensive range of products:

- Ref.769201 CoaxData™ 1Gbps-HDTV
- Ref.769202 CoaxData™ 1Gbps-HDTV with SFP
- Ref.769203 CoaxData™ 1Gbps-HDTV 1XEth
- Ref.769220 CoaxData™ Diplex filter TV-Data 2-68 Mhz / 87-2150 MHz
- Ref.769210 CoaxData™ SFP 1000 Base-X 2 F.O ethernet adapter.

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**Ref.769201 CoaxData™
1Gbps HDTV**

**Ref.769202 CoaxData™
1Gbps HDTV with SFP**

**Ref.769203 CoaxData™
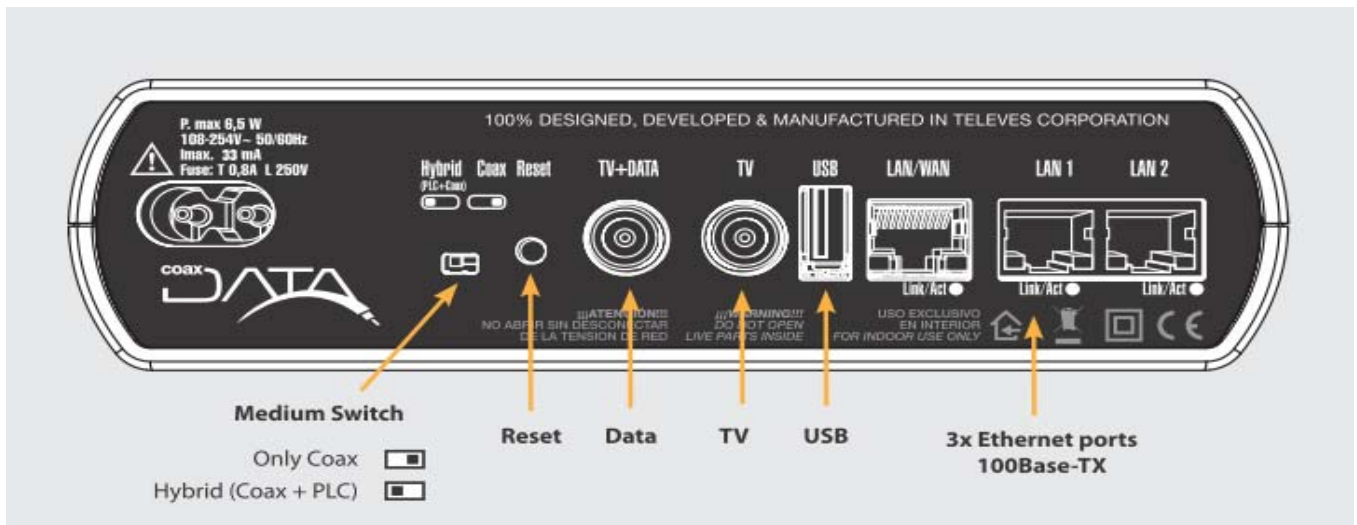1Gbps HDTV 1x Eth**

**Ref.769210 CoaxData™
SFP Module 1000 Base-X**

**Ref.769220 CoaxData™ 1Gbps
diplex filter TV-Data 2-68 Mhz /
87-2150 MHz**

Getting to know the Data Over Coax Gateway

Device connections

Ethernet ports

3 x RJ-45 ports   IEEE 802.3 100 BASE-TX/10 BASE-T compliant. These ports allow the connection of the CoaxData 1Gbps-HDTV to computers, VOIP telephones, Set Top Boxes, connected TV's,etc. They support speed autonegotiation and Auto-MDIX for ease and optimal working conditions.

Data input. TV + Data

Female F connector for data and TV input direct from the compatible TV socket.

TV output. TV

Female F connector to access TV channels.

Reset button / factory default configuration

Keeping the button pressed for a period under 5 seconds the device will reboot if the button is pressed for more than 5 seconds it will reload factory configuration.

- Please take into consideration that factory default will delete all configuration done on the equipment.
- The configuration of the coaxial interface of the product will not be affected by this button, as this is managed by using the CoaxManager application.
- IP default adress is : 172.16.0.1/Mask: 255.255.255.0
- Default user: **Admin** password: **Televes1**

Medium switch

At the back of the device this selects the transmission medium. Coaxial only (right), hybrid (coaxial & PLC) (left).
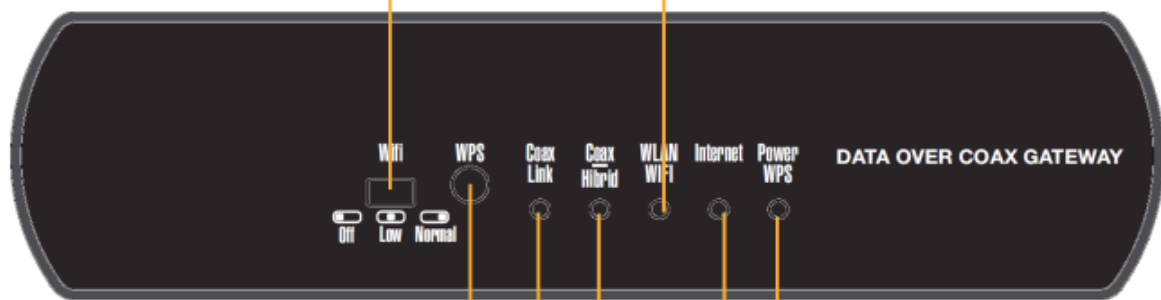
- Signal will always be present on the coaxial network.
- The Medium LED on the front panel will bright green (Coaxial mode) or orange (Hybrid mode).

WiFi Swich
- Left: Wifi OFF (no radio)
- Center: WiFi ON/Low Power (+3dBm)
- Right: WiFi ON/Normal Power (+17dBm)

WiFi LED
Green Normal Power
Orange Low Power
Red WiFi OFF

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WiFi   WPS   Coax Link   Coax Hibrid   WLAN WIFI   Internet   Power WPS   DATA OVER COAX GATEWAY

Off   Low   Normal

WPS Button

Coaxial Link
Green   Throughput > 300Mps
Orange 170 Mbps < Throughput < 300Mbps
Red   Throughput < 170Mbps

Power LED
Green Running OK
Orange Loading firmware
Red Boot fail

Internet LED
Green Internet OK
Orange AP Bridge Mode
Red Internet Fail

Medium LED
Green: Only Coaxial
Orange: Hybrid (Coax+PLC)

WPS Button

WPS (Wireless protected setup) allows the easy configuration of a wireless secure connection with other devices supporting the WPS protocol. Simply push the button and activate the WPS function on the wireless device.

The WPS function will be active for 2 minutes, during this period of time the client should stablish a secure connection.

While the WPS mode is active the power LED will blink orange, once the connection has been finalised the WPS mode will stop and should a connection to a different device be needed the WPS button should be pressed again.

WiFi switch

El conmutador WiFi allows three positions and hence WiFi status:

- **OFF** (left): radio is off, LED will bright red. .
- **Low Power** (Center): WiFi radio will be on in low power mode. This mode will reduce exposure to radiation and interference in nearby networks. The maximum radiated power will not exceed 3dBm. In this mode the WiFi LED will bright orange.
- **Normal** (Right): WiFi radio will be on in normal mode. The maximum radiated power will be of 17 dBm In this mode the WiFi LED will bright green.

Front & rear pannel LEDs

The product has 5 LED's on its front pannel show different working conditions of the device. Furthermore 3 LED's on the rear pannel show status and activity of the ethernet ports.

Power LED

This LED shows the status of the device.

- **Green**: Normal working conditions.
- **Orange**: Device is booting and loading configuration. The product will use this colour to indicate configuration events such as the activation of the WPS mode.
- **Red**: Indicates that the device has detected an error while booting.

Internet LED

This LED indicates the status of the connection to the internet.

- **Green**: The device is connected to the internet.

- **Red**: The device is not connected to the internet. Verify all connections of the equipment and the correct configuration of the gateway supplied by the ISP.

- **Orange**: The device has been configured to AP Bridge. In this working mode there is a bridge between the three interfaces Ethernet-Coaxial/PLC-WiFi.

WLAN LED

This LED shows the status of the WiFi network.

- **Green**: WiFi is On. Maximum output power +17 dB.
- **Orange**: WiFi is ON in low power mode. Maximum output power is +3 dBm.
- **Red** : WiFi en OFF.

Medium Coaxial / Hybrid LED

Shows the selected transmission medium on the front pannel switch.

- **Green**. Coaxial only.
- **Orange**. Hybrid, Coaxial + PLC. Connection stablished through both coaxial & power line network.

Link status LED

This LED indicates both the quality of the connection and the activity on the coaxial/power line interface.

- **Green**: Higher quality connection.Optimal performance.

- **Orange**: Good quality connection.
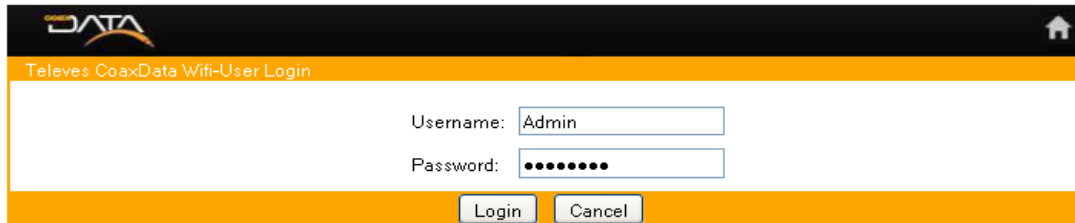
- **Red**: Poor quality connection.

Ethernet LED's

Each back pannel ethernet port has an LED indicating negotiated speed as well as activity on the port. Each RJ45 port supports speed autonegotiation.

Setting up the CoaxData Home WiFi

Setting up of the product

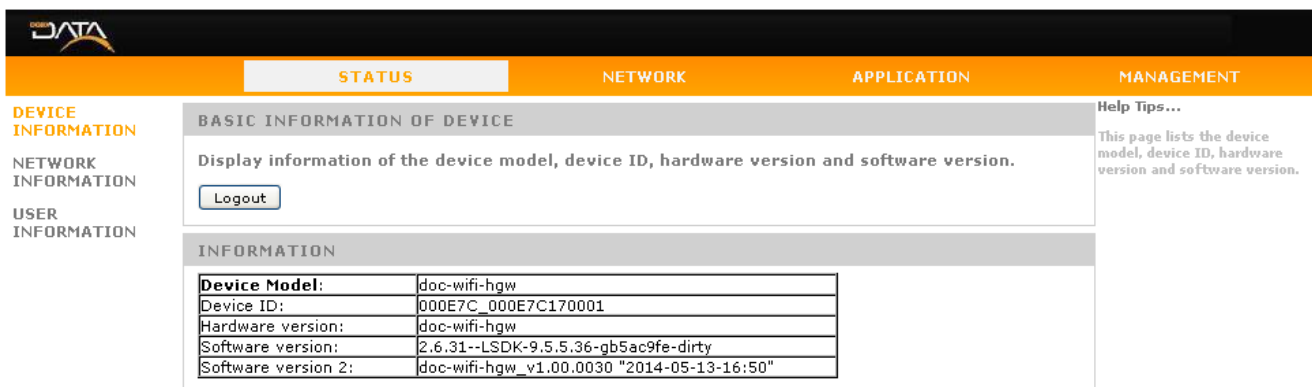The configuration of the device has to be carried out by means of a web browser.

- Connect a device with a web browser to the CoaxData Home Wifi and access the IP adress : http://172.16.0.1 Default user is. Admin and default password is : Televes1.
- Remenber to change these parameters through the configuration options on the Device management section.
- Should you have forgotten Username and / or Password please reset the equipment to factory configuration and reconfigure it.

Device status

- **Device Information**: Information about firmware and hardware version on the product.

Network Information:

Shows network information of the device. This information is related to the selected working mode of the product.

- **AP Bridge mode**: The device will work as an ethernet bridge on the three interfaces Coaxial/PLC-Ethernet-WiFi.

- **Router mode** : In this mode the option shows information related to the conection stablished by the ISP's router. In this mode there is a WAN interface (Coaxial/PLC) and interfaces for the LAN network Ethernet & WiFi.

> **Service Mode**: Internet
> **Connection Name**: 1_INTERNET_R_VID
> **Default Gateway/Subnet Mask**: IP adress being giben by the ISP's gateway.
> **DNS Server**: DNS server being being determined by the Gateway.

Packets counters for the WAN Interface supply information about the activity on this interface.

- **User Information:** Information is supplied on the LAN interfaces and status of the WiFi interface, working mode and packets counters.

```
WLAN INTERFACE INFORMATION

WLAN Interface Basic Information:

Wireless Network Connection
Status:                          Enable
Channel:                         5
Rate(Mbps):                      Auto
Multicast Rate(Mbps):            Auto
Mode:                            ng20
Transmit Power:                  1
BSSID:                           00:0E:7C:17:00:03
SSID Hidden Attribute:           Visual

SSID1 Name:                      CoaxData-DoC-Wifi
SSID1 Encrypted Status:          11i
SSID1 Device Mode                RootAP

Ethernet Ports Statistics:
```

Interface	Receive				Send			
	Bytes	Pkts	Errs	Drops	Bytes	Pkts	Errs	Drops
ath0	102039	1008	0	0	8452174	20323	24	24

```
Associated Devices List:

00:0E:7C:17:00:07
80:CF:41:BE:C3:1A
Associated Devices of CoaxData-DoC-Wifi Number: 2
```

- For the three ethernet interfaces the assigned IP adress (LAN IP adress) is shown as well as packets counters of each interface port.

```
ETHERNET INFORMATION

Home Gateway Information:

IP Address:              172.16.0.1
Net Mask:                255.255.255.0

Ethernet Ports Statistics:
```

| Interface	Receive				Send			
	Bytes	Pkts	Drops	Errs	Bytes	Pkts	Drops	Errs
Ethernet LAN1	80124	196	0	0	376664	853	0	0
Ethernet LAN2	0	0	0	0	0	0	0	0
Ethernet LAN3	0	0	0	0	0	0	0	0
Ethernet LAN4	0	0	0	0	0	0	0	0

Setting up of the working mode

The working mode hast to be set through the Web interface on the **Network Settings.** The produt has two operation modes deppending on the type of network bein deployed.

AP Bridge Mode

- **AP Bridge**: This mode brings up a local network where communication between all interfaces is allowed. This type of network is mostly indicated for home use.
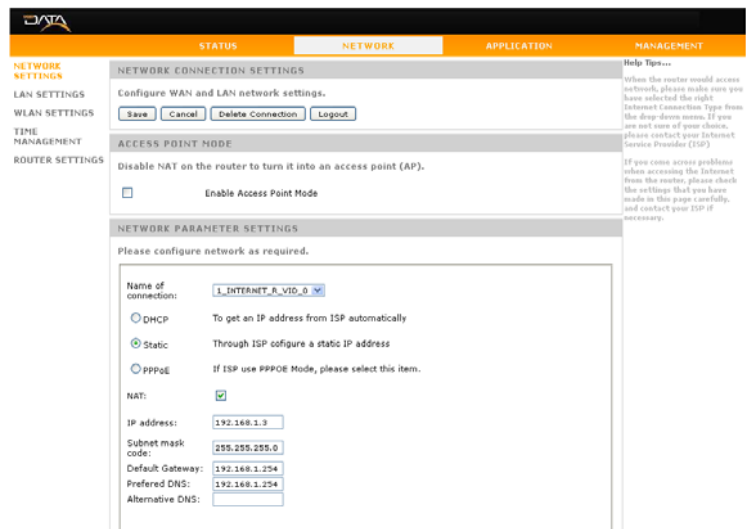
  IMPORTANT NOTE: In this mode the CoaxManager application can be used to configure the coaxial/plc interface.
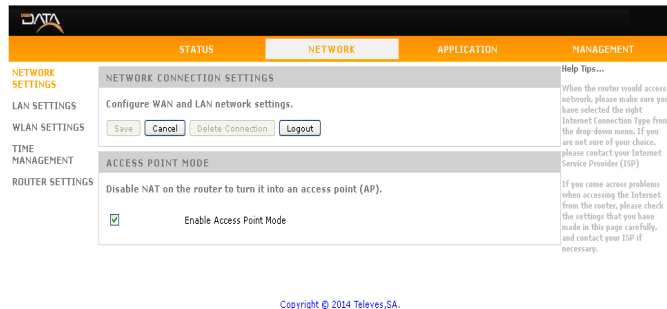

Router Mode

- **Router**: This is the factory default working mode. Under this mode the device will route between the coaxial/plc (WAN) interface and the Ethernet / WiFi (LAN) interfaces.

Router mode supports three configuration protocols depending on the type of access to the internet. DHCP (Authomatic), Static and PPPoE.

- **DHCP**: This mode sets the configuration of the WAN interface (coaxial/PLC) through a DHCP server connected to the Master of the network.
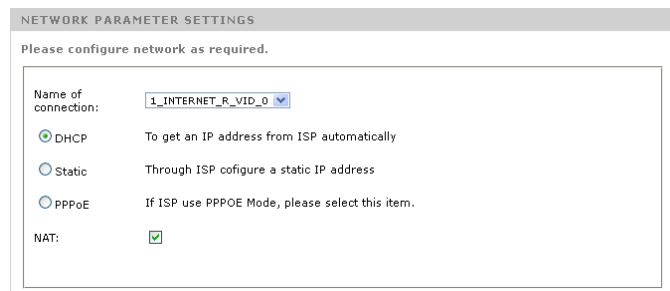
■ **Static Configuration:** Allows the manual configuration of the IP parameters of the WAN interface.
IP Address/Subnet Mask:
Gateway: IP Adress of the router connected to the Master device.
DNS: IP Adress of the Domain Names Server

NETWORK PARAMETER SETTINGS
Please configure network as required.

Name of connection: 1_INTERNET_R_VID_0
○ DHCP   To get an IP address from ISP automatically
● Static   Through ISP cofigure a static IP address
○ PPPoE   If ISP use PPPOE Mode, please select this item.
NAT: ☑
IP address: 192.168.1.10
Subnet mask code: 255.255.255.0
Default Gateway: 192.168.1.254
Prefered DNS: 192.168.1.254
Alternative DNS:

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■ **PPPoE:** Should the authentification protocol be implemented though a PPPoE (Point to Point Protocol over Ethernet) protocol.
User: PPPoE user name
Password: service password
Connection Trigger: Indicates whether the connection is stablished on demand or always.

NETWORK PARAMETER SETTINGS
Please configure network as required.

Name of connection: 1_INTERNET_R_VID_0
○ DHCP   To get an IP address from ISP automatically
○ Static   Through ISP cofigure a static IP address
● PPPoE   If ISP use PPPOE Mode, please select this item.
NAT: ☑
User: 12345670
Password: ••••••••
Name of service:
Connection Trigger Mode: Always On

LAN interface set up.

The product includes a LAN interface to stablish connection between the local devices and the internet and to build a bridge between the ethernet ports and the WiFi network.

■ **LAN Settings**: This options configures the IP adress and mask of the LAN.

■ **DHCP Server:** Allows the activation of a DHCP server in the LAN section which will assign adresses dynamically to each device. The range of IP's and lease time can be also defined.

■ **Restricted IP Address List:** Should a device connected on the LAN need a static IP adress, this can be set by linking it to the MAC adress of the network host in the DHCP server. A typical application for this would be servers, STB's, etc.

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WiFi interface set up

The configuration of this interface hast two different elements: La configuración de la antena WiFi es dividida en dos partes fundamentales

- **Radio configuration**: In this part the RF parameters of the network can be configured. Operation Mode, frequency, and bandwidth.

- **Access point configuration**: In this part the VAP (virtual access points) can be configured. For each network the name and the security should be set.

Configuration of the radio interface

The WiFI interface supports the IEEE 802.11bgn standard.

- **Enable Radio:** It allows the activation of the WiFi network. This option is controlled by the switch located on the front pannel of the product.

■ **WiFi Mode:** Selects the WiFi mode

Estándar	Descripción
802.11b	802.11 supporting 11Mbps througput
802.11g	802.11 supporting 54Mbps througput
802.11ng20	802.11n supporting 144Mbps, througput with 20Mhz bandwidth channels.
802.11ng40plus 802.11ng40minus	802.11n supporting 300Mbps througput with 40Mhz bandwidth channels.

■ **Channel:** Indicates the channel being used by the WiFi network.Occupied bandwidth deppends on the chosen WiFi mode. There are 13 possible channels.
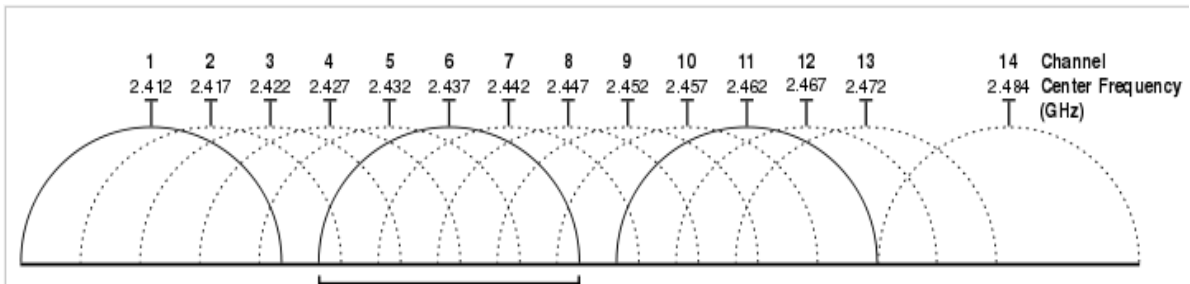
Primary channel	Frequency (MHz)	80211ng20 (20Mhz) Blocks	80211ng40minus 40MHz above			80211ng40minus 40MHz below		
			2nd ch.	Center	Blocks	2nd ch.	Center	Blocks
1	2412	1–3	5	3	1–7	Not Available		
2	2417	1–4	6	4	1–8	Not Available		
3	2422	1–5	7	5	1–9	Not Available		
4	2427	2–6	8	6	2–10	Not Available		
5	2432	3–7	9	7	3–11	1	3	1–7
6	2437	4–8	10	8	4–12	2	4	1–8
7	2442	5–9	11	9	5–13	3	5	1–9
8	2447	6–10	12	10	6–13	4	6	2–10
9	2452	7–11	13	11	7–13	5	7	3–11
10	2457	8–12	Not Available			6	8	4–12
11	2462	9–13	Not Available			7	9	5–13
12	2467	10–13	Not Available			8	10	6–13
13	2472	11–13	Not Available			9	11	7–13

■ **Transmission Power:** Shows the RF power of the WiFi network. RF power will be set by the working mode of the WiFi Network. Maximum allowed power for a WiFi network (+17dBm) will not be exceeded. Minimum RF power will be +3dBm.

   NOTE: RF power will be set by the switch on the front pannel of the product.

■ **Channel expansion Mode:** Should   any of the 40MHZ bandwidth modes be chosen (802.11ng40plus, 802.11ng40minus), this mode defines how the bandwidth expansion should be done.

• **Static:** The bandwidth expansion is done following the channel table.

• **Dynamic:** The bandwidth expansion is done following an algorthm that identifies adjacent channels to optimize overall performace of the system.

WiFi Access points configuration

Configuration of the access point is done through the definition of one or more VAPS (Virtual access points).

WIRELESS SETTINGS

Select SSID: CoaxData-DoC-Wifi ▼
☑   Enable Wireless
☐   Hidden SSID
SSID: CoaxData-DoC-Wifi
Device Mode: Root AP ▼
BSSID: 00:0E:7C:17:00:03
>>Show Advance Setting

For each of the interfaces it es needed to specify:

■ **New VAP:** Defines a new WiFi VAP.

WIRELESS SETTINGS

Configure the basic features of Wi-Fi: enable or disable the Wi-Fi device, set the SSID and Passphrase.

Save   Delete   Cancel   Logout

■ **SSID**: (Service Set Identifier): Identifier (name) of the WiFi network.

■ **Hidden SSID**: If this option is activated every user needs to manually configure the WiFi network which will not be detected through an scann process.

■ **Device Mode:** Operation mode of the equipment.

■ **Root AP:** In this mode the WiFi interface performs as a Master AP, activating the WDS (Wireless distribution System) mode. This mode builds a transparent bridge between the WiFi network and the Ethernet interfaces in Router mode or a bridge WiFi-Ethernet-Coax/PLC in Bridge mode. This is the recommended and factory default mode.

■ **AP**: This mode is similar to the Root AP but with the WDS mode deactivated as this protocol might not be supported by all WiFi enabled devices. In this mode there is no transparent bridge between WiFi devices and the ethernet ports. WiFi user will only have access to the WAN interface.

■ **WDS Station**: This mode allows the product to work as a WiFi client of other WiFi networks. It activates the WDS mode to guarantee connectivity to the Ethernet ports.

■ **Station**: This mode is similar to the WDS Station mode but without a bridge between the WiFi network and the ethernet ports.

Security configuration of the WiFi network

The device supports four security levels on the WiFi network.

■ **NONE**: WiFi network is open. There is no access restriction.

■ **WEP**: (Wired equivalent privacy), legacy WiFi security protocol with low robustness. Its use is not recommended but for compatibility reasons.

WIRELESS SECURITY MODE

In order to protect your privacy, enable and configure wireless security features. The device supports 3 wireless security modes: WEP, WPA-PSK and WPA2-PSK.

Network Authentication : WEP
WPS State: Configured
WPS PIN Code: 12345670

Basic Authentication Mode: None
Key length: 64-bit
The Index Of Current Network Key: 1
Network Key1:
Network Key2:
Network Key3:
Network Key4:

128-bit key needs to input 13 ASCII characters
64-bit key needs to input 5 ASCII characters:

■ **Key Length**: 64-bit or 128-bit WEP key length.

■ **Network Key**: WEP Password, it must have 13 characters for 128 bits or 5 characters for a 64 bit password.

■ **Index**: There are up to four different keys. By selecting the index the desired key for the VAP can be selected. This allows the change of keys within a list of used keys.

■ **WPA-PSK/WPA2-PSK** (WiFi Protected Access): Wireless protected access. Improved security protocol for WiFi networks. WPA2 is the last version of this protocol.

WIRELESS SECURITY MODE

In order to protect your privacy, enable and configure wireless security features. The device supports 3 wireless security modes: WEP, WPA-PSK and WPA2-PSK.

Network Authentication : WPA2-PSK
WPS State: Configured
WPS PIN Code: 12345670

WPA Passphrase Key: •••••••• Click here to display
WPA Encryption: TKIP AES

■ **WPA Passphrase key**: WiFi network password. Default password is: Televes1.

■ Encryption method: WPA/WPA2

 • **TKIP**: Encryption method for WPA/WPA2.

○ **AES**: Encryption method for WPA/WPA2. This is the most robust encryption method and the recommended option.

Autentificación WiFi	Security level
NONE	No access restriction
WEP 64-bit	VERY LOW
WEP 128-bit	LOW
WPA/PSK	AVERAGE
WPA2/PSK	AVERAGE
WPA/AES	HIGH
WPA2/AES	HIGH

Advanced configuration of the device

Routing tables

Routing tables allow setting routes based on ranges of IP adresses. For each route a gateway will be defined. There are two ways to set these routing tables:

■ **RIP** (Router Internet Protocol): This protocol allows different routers to exchange their routing tables to establish the optimal route to forward IP packets.

The device can activate RIP in all or some of the interfaces.

■ **Static Router Table**: It is possible to manually set IP routes. Tis routes are defined with the following information:

• **Destination network**: Defined with a set of an IP Adress and a mask. For example: 10.0.0.1/255.0.0.0.

• **Gateway:** The router which will forward the traffic to their final destination.The IP Adress of the gateway has to be within the same network range as the device.

Setting up the time on the system

Time on the system can be set by configuring the NTP (network time protocol) and defining the servers that will set the time. It has to be defined the Time Zone. GMT+0 is the default option.

Advanced NAT Configuration

When the product is working in Router mode the NAT option will be automatically activated. Should this option not be required, just unselect.

Should the NAT option be activated, the following options will be available:

- **ALG Configuration** (Application Level Gateway): this option allows the possibility of adding to the firewall advanced parameters so that the selected services will be supported. As an example , SIP service will allow an incomming call reaching the IP phone on the LAN even with the firewall activated due to the fact that the VoIP telephone has been identified.This will be done in a transparent mode for the end use without the need of further configuration.

- **DMZ host** (Demilitarized zone host): In this option a host on the LAN will have all ports open except thoses mentioned on the NAT section (see next option).

- **Virtual Server (Port Forwarding)**: This option allows the propagation of ports to the LAN. It allows services such as web, ftp servers, etc to be reached from the Internet.
  - As an example Port 1234 of the host 172.16.0.11, can be reached through port 1234 of the router.
  - Do take into consideration that it is recommended to assign a fixed IP Adress to those services being on the NAT table. The **Restricted IP Address** will be helpful in this case.

NAT -- VIRTUAL SERVER

Select server name and input the Ip address then click button "Save".This service will forward the
IP packets to specified server.
To change it is something like the "External initial port" or "Internal initial port" is changed.

INTERNET Connection
Name   1_INTERNET_R_VID_0 ▾

Server IP Address:

Internal Server Name:

External Port

Protocol   TCP ▾

Internal port

Source IP

NAT --VIRTUAL SERVER LIST

Virtual server is to use a computer in the lan side as a server,the data of remote devices flow from
the WAN side and directly access this server,32 configurations at most.

Server Name	External Port	Protocol	Internal port	Server IP Address	Source IP	Delete
game port	1234	TCP	1234	172.16.0.11		Delete

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Changing the password

This option allows the change of the username and password to access the web interface of the product.

- ■ It is strongly recommended to change de default user and password to increase security of the system.

- ■ Through the save and load configuration options it makes it easier to simplify the configuration of a set of devices on a system.

- ■ The Reset option will load factory default configuration including usename and password: user: Admin password: Televes1.

USER MANAGEMENT

Change your username and password here.

[Save] [Cancel] [Logout]

ACCESS CONTROL-- PASSWORD

User Name: Admin
New Password: ••••••••
Confirm the
Password: ••••••••

Device Management

DEVICE MANAGEMENT

Options to restart device, upgrade the firmware, restore factory defaults, or create USB backup configurations.

[Logout]

DEVICE RESTART

Please wait. The UI will navigate back here when the device is restarted.

[Restart]

SAVE CONFIGURATION

This feature allows you to download and save the configuration of the device to a local file.

[Save]

LOAD CONFIGURATION

This feature allows you to restore device configuration from a saved file.

Select a configuration file: [Examinar...] No se ha seleccionado ningún archivo.

[Load]

UPGRADE FIRMWARE

This feature allows you to upgrade the firmware. Click Browse, select the firmware upgrade file, and then click Start Upgrade.

Select a file to upgrade: [Examinar...] No se ha seleccionado ningún archivo.

[Start Upgrade]

RESTORE FACTORY DEFAULTS

This feature allows you to reset all of the configuration settings to their default values.

[Restore Defaults]

- **Device Restart**: The device will reboot.

- **Save Configuration**: Saves the actual configuration of the device on a file. This file can be used as backup or to clone this configuration in other devices.

- **Load Configuration**: Loads the configuration on a device. After the loading has finished, the device will reboot and start with the new parameters.

- **Firmware upgrade**: This option will load a new firmware to the device. This file can only be supplied by Televes. The upgrade process might take up to 3 minutes and the product should not be powered off during this process as it might face permanent malfunction.

- **Restore Factory Defaults:** This option will restore the configuration of the product to factory default. It has the same effect as pushung the reset button for over 5 seconds.

Installing the CoaxData Home WiFi 1Gps

The Data Over Coax Gateway is preconfigured as an MxU slave, Coaxial, Mask 3[Coax 7,5-65MHz] to be able perform a plug and play installation. This configuration assumes that there is a Televes mxU Master (769201, 769202 or 769203) connected to a gateway with internet access. Ref 769301 performs as an slave on the access points of the coaxial network.

Distribución coaxial

MDU/MTU (MXU)

Instalaciones en las que se comparte el acceso a un ISP. Especialmente indicadas en:

▶ Grandes distribuciones MATV/SMATV.
▶ CATVs
▶ HFC (Redes híbridas fibra/coaxial).
▶ Instalaciones singulares como hoteles, residencias, hospitales, etc.
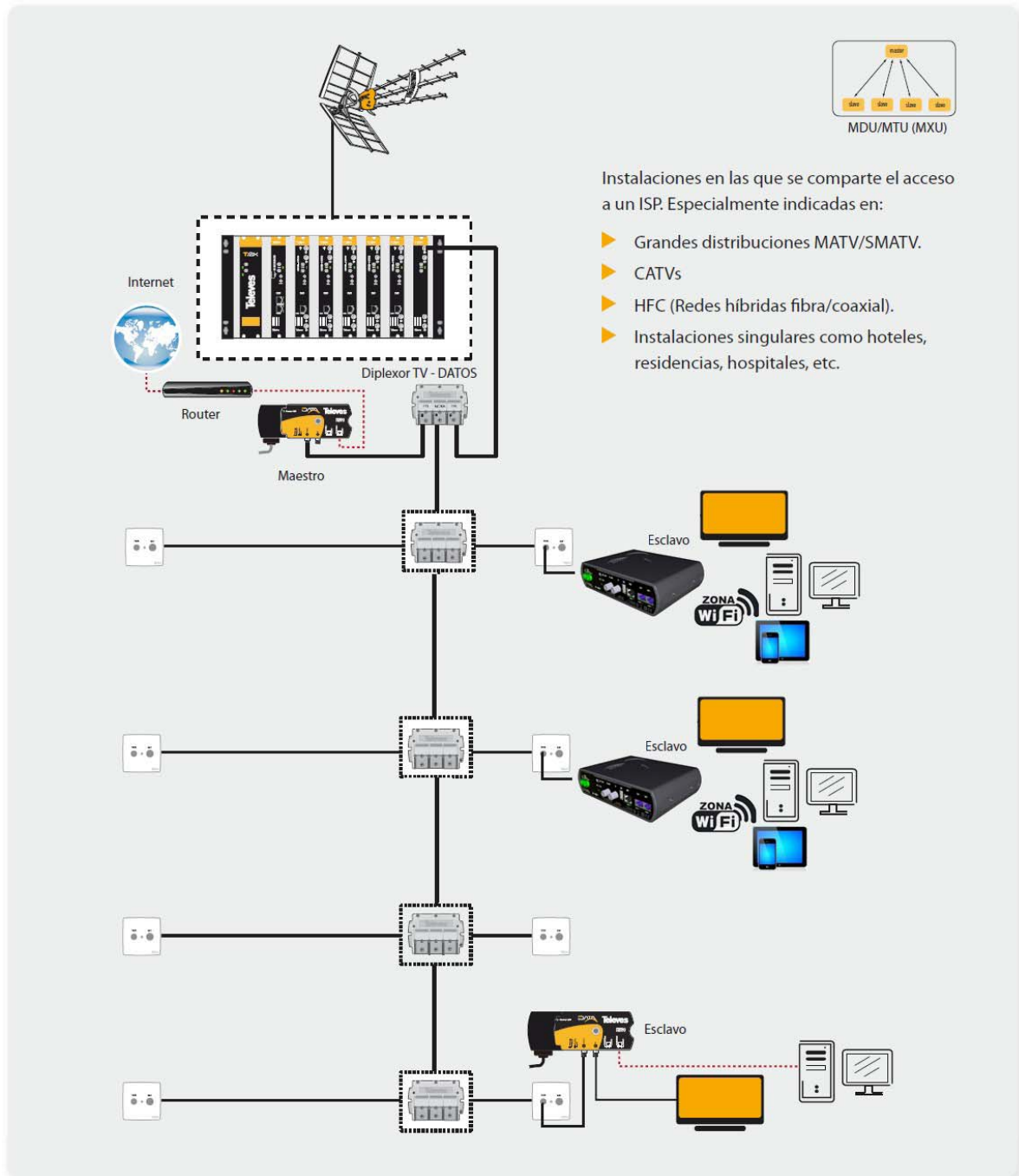
Setting up of the Master on the system

To guarantee the performance of the system it is necessary to install a Master device on the headend. To configure the Master the CoaxManager application has to be used.

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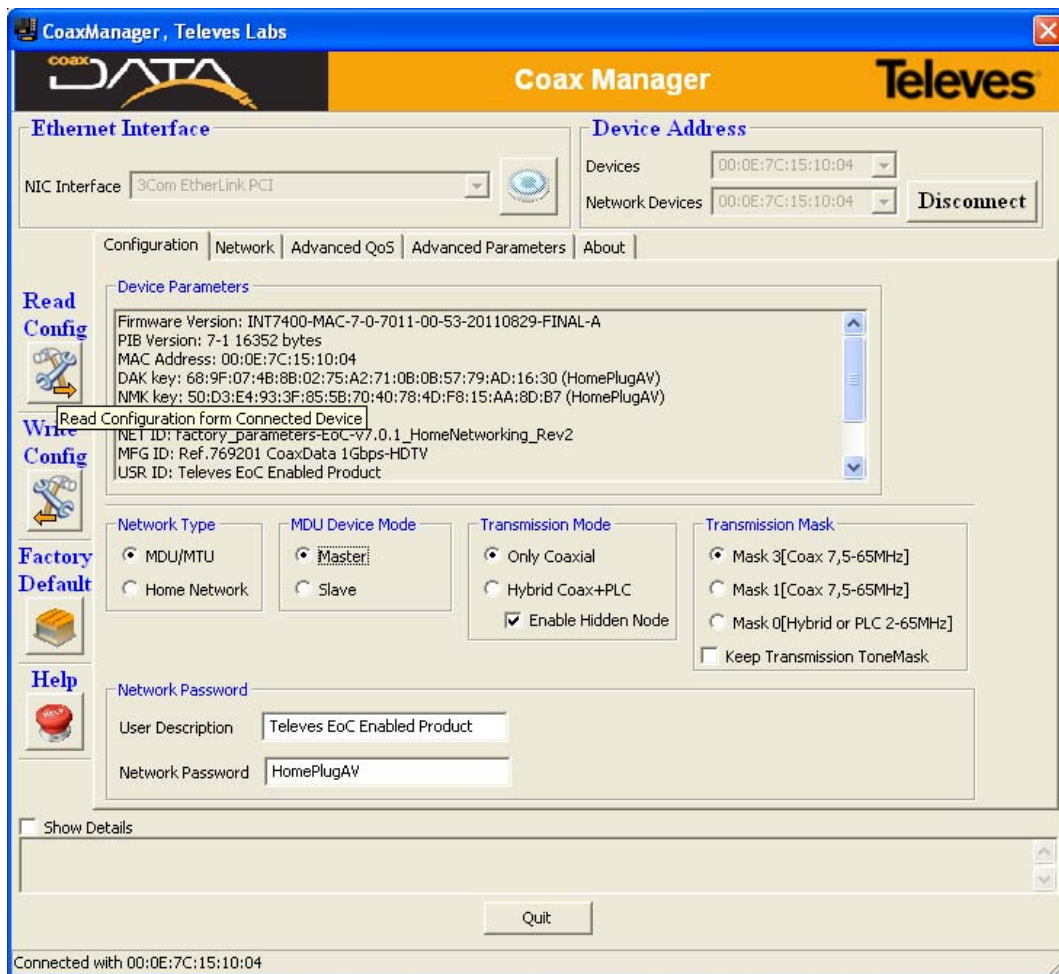
Connection of the Master device

The following products are recommended as Master devices

- Ref.769201 CoaxData™ 1Gbps-HDTV
- Ref.769202 CoaxData™ 1Gbps-HDTV with SFP

The Mater device on the headend bulds two connections:

- **Conection to the Router/Gateway connected to the Internet**: To get acces to the Internet the Master hast to be connected to the Router/gateway connected to the Internet by means of an Ethernet cable.

- **Connection to the coaxial network:** To connect the master to the coaxial network it is recommended the use of a diplex filter to supress the ingress of noise in the return path (2-67,5MHz). The loss of this filter in the TV distribution band is <1dB. This filter can be installed using coaxial cable leads with F connectors.

Instalation of Ref. 769301 in the TV outlets.

The following instructions show the recommended steps to connect the Data Over Coax Gateway-HDTV from the TV socket to your computer or wired device. Please note that there is no need for additional hardware or software drivers.

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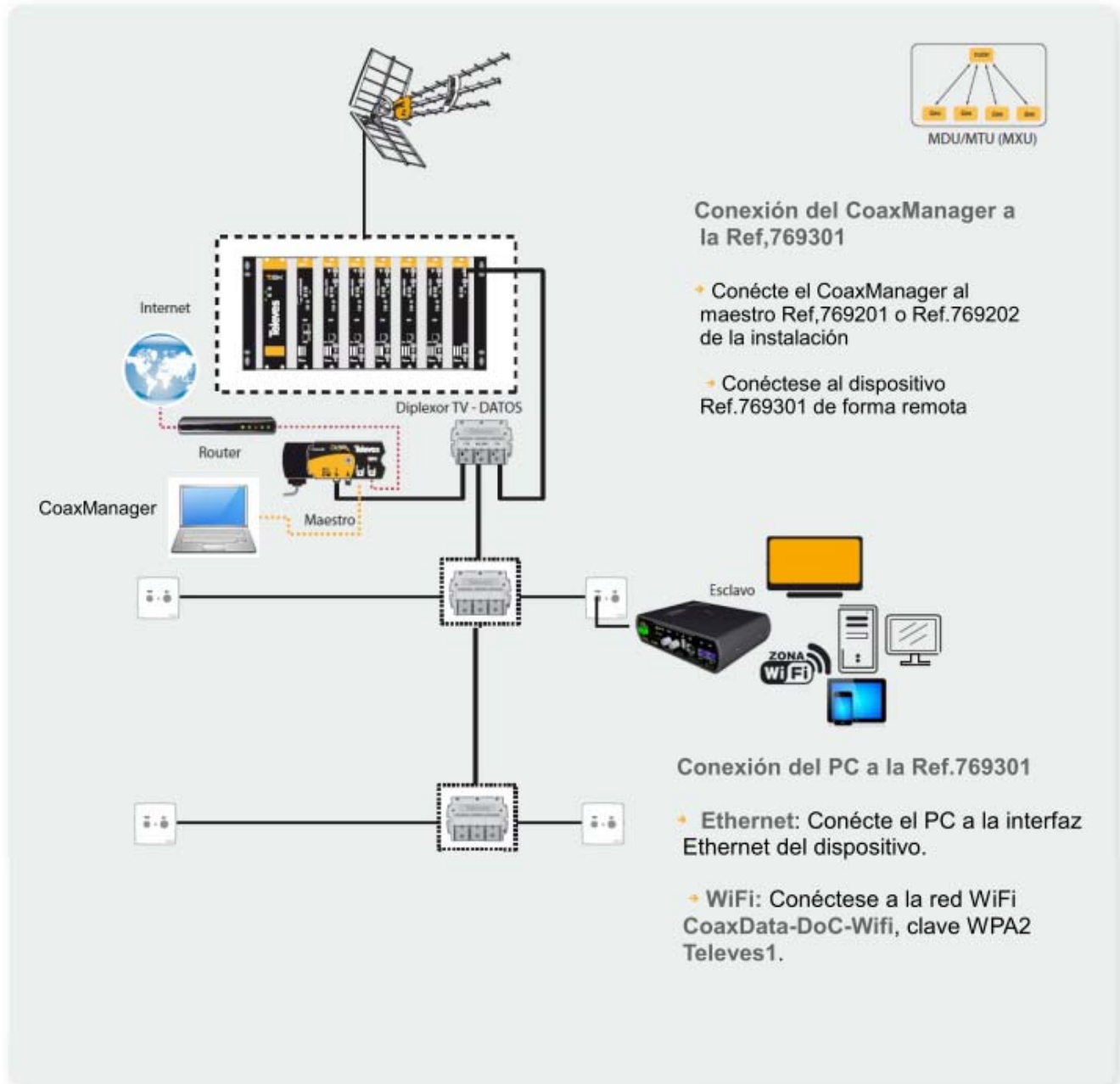
- **Working mode Master/Slave**: Ref. 769301 is configured to MxSlave mode. Therefore it will automatically connect to the system Master device. Please note that all other devices on the network must be set to MxU Slave mode using the CoaxManager Software.

- **Connection to a computer:** The Data Over Coax Gateway includes 3 ethernet ports supporting 100/10 Mbps. It supports speed autonegotation and MDI-X avoiding the use of crossover ethernet cables.

  - Connect the ethernet cable to the port on your device and to the CoaxData. .
  - Verify that the configuration of the LAN card on your device is set to Auto (DHCP).
  - Write on the web browser the adress: http:172.16.0.1 . User: **Admin**, password: **Televes1**

You can also access the device through the WiFi network. There are two possibilities to connect to the wireless network:

- Search on the device for WiFi Network with the following name:: **CoaxData-DoC-Wifi**. Default password (WPA2-PSK) is: **Televes1**

- **Connection though WPS** : Should your wireless device support this function, push the WPS button on the front pannel of the Data Over Coax Gateway and then activate the WPS mode on your device. Connection should be stablished automatically.

■ **Connection to the coaxial network**:

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- Connect using a coaxial cable the TV+Data port on the device to the wall socket. Please note that this wall socket must be return path capable.

If all devices are correctly connected the Coaxial Link Status LED should bright in the master as well as in all slave devices.

Please take into consideration the default configuration of your Data Over Coax Gateway:

■ Default IP adress http://172.16.0.1 .
■ Default access parameters: user: **Admin**, password: **Televes1**
■ Default SSID of the WiFi network is **CoaxData-DoC-Wifi.** Default password (WPA2-PSK) is: **Televes1**

Do not forget the requirements of your coaxial network that will guarantee maximum performance of the system:

■ All elements on the coaxial network must support the return path band **2-67,5MHz**. This applies for taps, splitters, line amplifiers and TV sockets.
■ Maximum supported attenuation in the return path band **2-67,5MHz**. is **85 dB.**
■ The CoaxManager application includes a tool to evaluate the performance of the coaxial network.

Specifications

WiFi Interface

- **WiFi 802.11bgn** with 2x2 MIMO.
- Maximum througput 144Mbps for a 20MHz Channel and 300Mbps for a 40MHz channel within 802.11n
- **WiFi power selection** by means of a front pannel switch. Three positions, NORMAL, LOW POWER, OFF.
- Maximum transmission power 17dBm in normal mode. 3 dBm in low power mode.
- **WPS Button** (Wireless protected setup) for ease of connection.
- WiFi Security **WEP, WPA/WPA2 & 802.1x**

Coaxial/PLC Interface

- Coaxial/PLC to ethernet adapter.
- Supports HomeNetworking and MDU/MTU modes.
- **Up to 253 devices** per Master in MDU/MTU mode.
- Protocol supports up to 4 Masters sharing the same return path band with up **1012 devices**.
- Frequency range : **2-67,5MHz**
- TV Frequency range: **87-2150MHz**
- Maximum attenuation: **85 dB**
- Output Level: **130 dbμV**
- Spectrum power density: –50dBm/Hz
- Minimum spectral power density: -135dBm/Hz
- Temperature range: -5°C a 45°C

Coverage

- Coaxial Cable: **1.2Km**
- PowerLine: 3**00 m**

Information LED's

- Power LED: Power, active, booting & firmware error.
- Internet LED: Access to the Internet. Bridge mode.No network .
- WiFi LED: Normal Power, Low Power, OFF.
- Medium LED: Coax/Hybrid(Coax-PLC)
- Link LED: Link & activity indicator on Coax-PLC
- 100/10Mbps: Link & activity indicator on Ethernet

Modulation & Channel coding

- Wi-Fi DSSS (IEEE 802.11b) Wi-Fi OFDM (IEEE 802.11 g, n)
- **Dynamic channel adaptation** to transmission conditions both in the coax & PLC medium. Syncrhronization to power as condiciones del canal coaxial y frequency 50/60 Hz.
- OFDM **2880 carriers**, QAM 4096/1024/256/ 64/16/8, QPSK, BPSK & ROBO mode.
- **FEC** (forward error correction) & **TCC** (Turbo Convolutional Codes) error recovery.

Range

- Coax Cable: **1.2Km**
- PowerLine: 3**00 m**

Protocols

- Multicast. QoS. IGMP snooping. MLDv2/IGMPv3/ IGMPv2.
- Four priorization queues.
- VLAN IEEE 802.1p based priorization
- Type of service (ToS) & Cos (Class of Service)
- Classification based on origin / destination MAC.
- Classification based on origin / destination Ip Adress.
- More filters / classification protocols.

Power supply

- 108V-254V~ 50/60Hz
- Power consmuption: 6 Watts Max

Working modes

- **HomeNetworking**: Asincronous mode based on low lattency CSMA/CA.
- **MxU**: Syncronous mode token based (Hidden Node) syncronizing slaves and supporting long range.

Security

- WiFi authentification including WEP, WPA/WPA2 y 802.1x.
- Private network security based on **NPW** (Network Password key).
- AES-128 Encryption (**NEK**, Network Encrytion key).
- Configuration protection by means of **NVAK** (Non- Volatile Access key).

Connectors

- EURO Power jack
- 2 x "F" 75 Ohm connectors. Low pass filter for DATA (2-67,5Mhz) & high pass filter for TV services. (87Mhz-2150Mhz).
- 3 x RJ45 Ethernet 100/10Mbps.Auto MDI/MDIX.

Norms

- **EN 60950-1:2007/AC:2012:** Product safety
- **EN 55022:2008** Electromagnetic interference
- **EN 55024:2011** Inmunity
- **EN 50412-2-1:2006** Inmunity requirements in low power networks for power line communications.
- **EN 300 328 V1.7.1, EN 62311:2008:** Radiation norm in the 2.4 Ghz band.

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