DXI-800

DVB-S/S2/T to IP streamer

User Manual

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1. Purpose of use

DXI-800 is HD compatible IP streamer designed for a processing satellite and terrestrial signals to data broadcast (IP) connected to Ethernet.

Following options are available:

- DXI-810FTA 2*satellite and 2* terrestrial tuners, max. 40Mbit/s out
- DXI-820FTA 4*satellite and 4 *terrestrial tuners, max. 80Mbit/s out
- DXI-810CI 4*satellite tuners with CI, max. 40Mbit/s out
- DXI-820CI 8*satellite tuners with CI, max. 80Mbit/s out

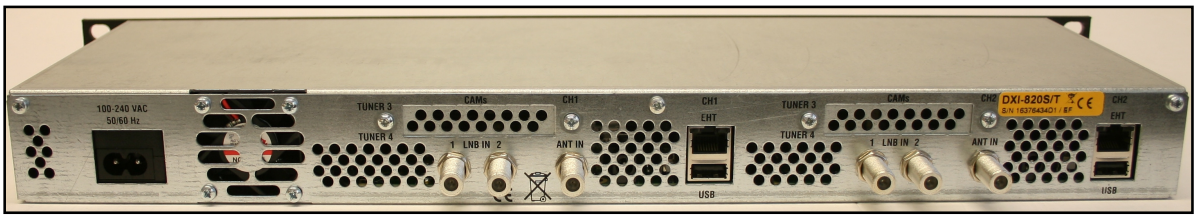
DXI-800 can be used either multicast or unicast.

2. Installation

The connections and indications are shown in below figures.

ST led indicates the status of unit:
- **Orange** indicates that power is connected but unit is still in the process of being started.
- **Green** indicates that the unit is ready for use.

Tuner leds indicates the traffic status of tuners:
- **Steady green** indicates a locked frequency.
- **Blinking green** indicates that the tuner is transmitting data.



There are following connectors:

- power cord
- 2 (DXI-810) or 4 (DXI-820) LNB inputs. There are 2 tuners (1* DVB-S and 3*DVB-S/S2) for all LNB input connectors
- 1 (DXI-810) or 2 (DXI-820) terrestrial inputs (ANT IN). There are 2 DVB-T tuners for both input connectors.
- RJ-45 output connector to Ethernet
- 1 (DXI-810) or 2 (DXI-820) USB connectors to SW update
- 1 (DXI-810) or 2 (DXI-820) CAM slots as option. CAM slot; right slot (connector side) is for tuner 4 and left side slot is for tuner 3.

3. Setting up the system

This manual is only for main functions of DXI-800 unit. The other functions are purposed only for advanced users.

The system is programmed with PC via Web browser. There are two options.

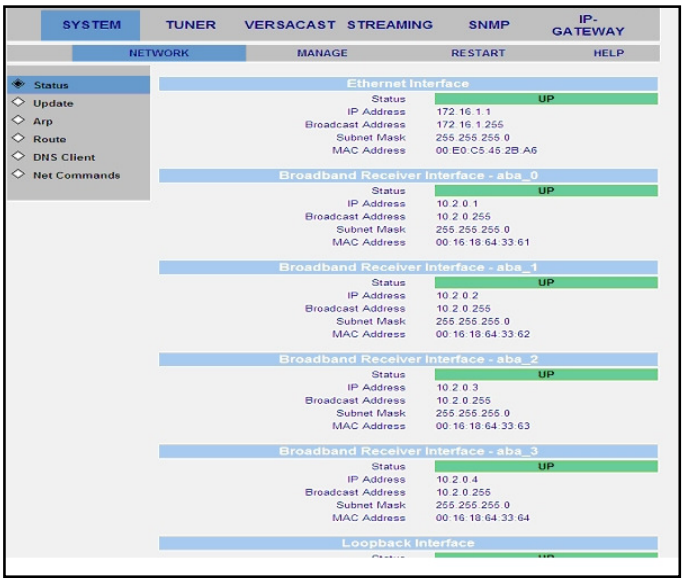
Option 1. Setting IP address with DHCP and accessing by using UpnP protocol

1. Connect Ethernet cable from DXI-800 to the existing LAN with a router
2. DXI-800 is recognised automatically by router. In some routers power must be switched OFF and again ON
3. Go to Network Task and double click “Show icons for networked UpnP devices”. Then you see that DXI is connected network.

4. Double click DXI-800 to get the web access.
5. When prompted for the login and password, then write “webadmin” for both. Then you see the main menu (see below).

Option 2. Setting DXI-800 via default IP address

1. Connect Ethernet cable from RJ 45 connector to computer.
2. The factory set IP address of each DXI-800 is 172.16.1.1 and subnet mask is 255.255.255.0.
3. Set the IP of PC to e.g 172.16.1.2 and sub net mask to 255.255.255.0.
4. Open the web browser like IE, Firefox, Opera etc…
5. Write to address field 172.16.1.1 and then enter.
6. Set log in and password “webadmin” for both. Then following screen displays.

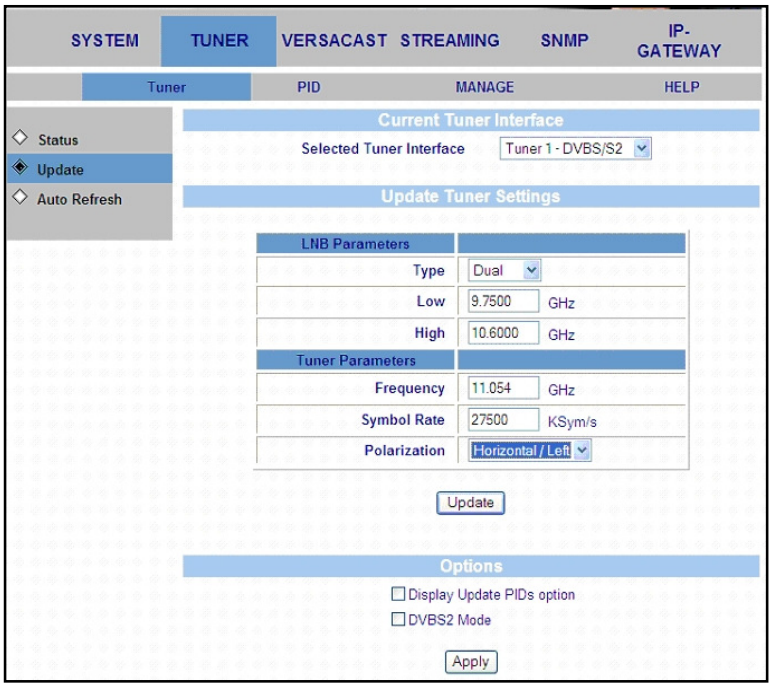


This screen is the default entry to the HTML interface.
The menu structure is in three levels e.g SYSTEM→ NETWORK → Status. The selected option is highlighted.

4. DVB configuration

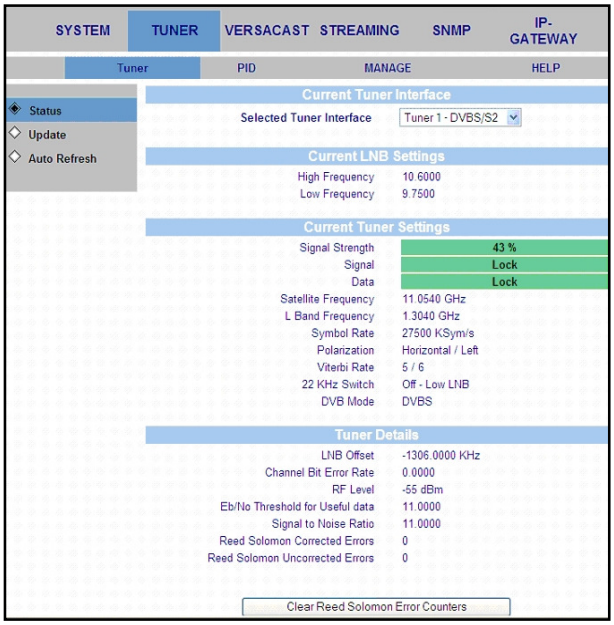
4.1 Satellite tuner

To set satellite tuner parameters go to TUNER → Update



Select Tuner 1 (DVB-S/S2) and set correct parameters. Then press "Update", The "Status" screen displays.

NOTE! 1. Note a dot (.) when frequency is entered in GHz.
2. When DVB-S2 (HD) programs are received, tick firstly "DVBS2" Mode" and then "Apply".



Check that signal and data are locked and signal strenght is acceptaple . The acceptable range (green beam) is 22…88% (-70… -25 dBm). Yellow beam means that signal range is out of acceptaple range.

Note! The beam "meter" is only directive. Go to STREAMING/PROGRAMS/Update and check if channels are in the list.

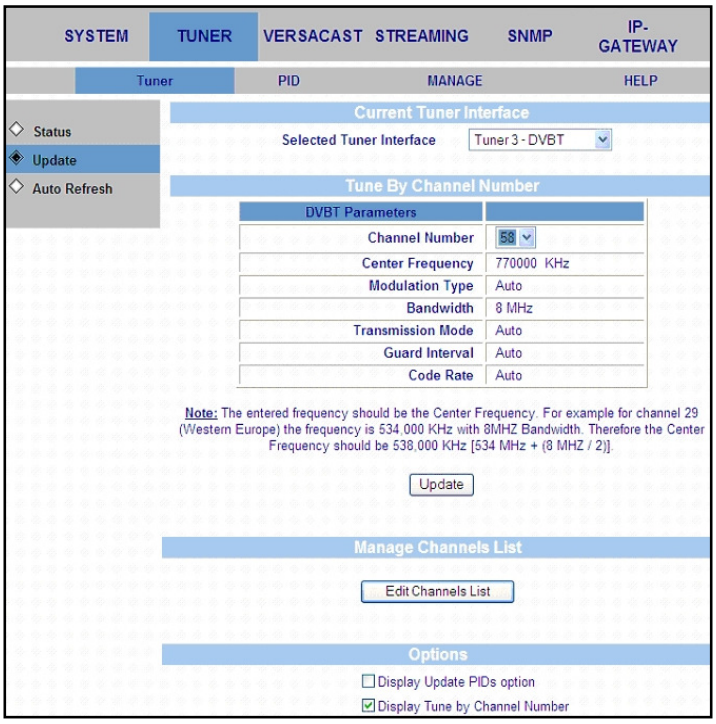
When settings are ready, go to TUNER→ MANAGE and select Save Session.

IMPORTANT! Save Session must be selected for each tuner separately.

The settings of tuner 2 (DVB-S/S2) and tuners 3 and 4 (DVB-S only) are made similar way.

4.2 DVB-T tuner

Select Tuner 3 to set parameters of terrestrial or cable signal.



Set the correct parameters and press "Update". The "Status" screen displays.

Note! The frequency is entered in kHz.

Check that signal and data are locked and signal strenght is acceptaple . The acceptable range (green beam) is 22…88% (40 – 55 dBuV) . Yellow beam means that signal range is out of acceptaple range.

Note! The beam "meter" is only directive. Go to STREAMING/PROGRAMS/Update and check is channels are in the list.

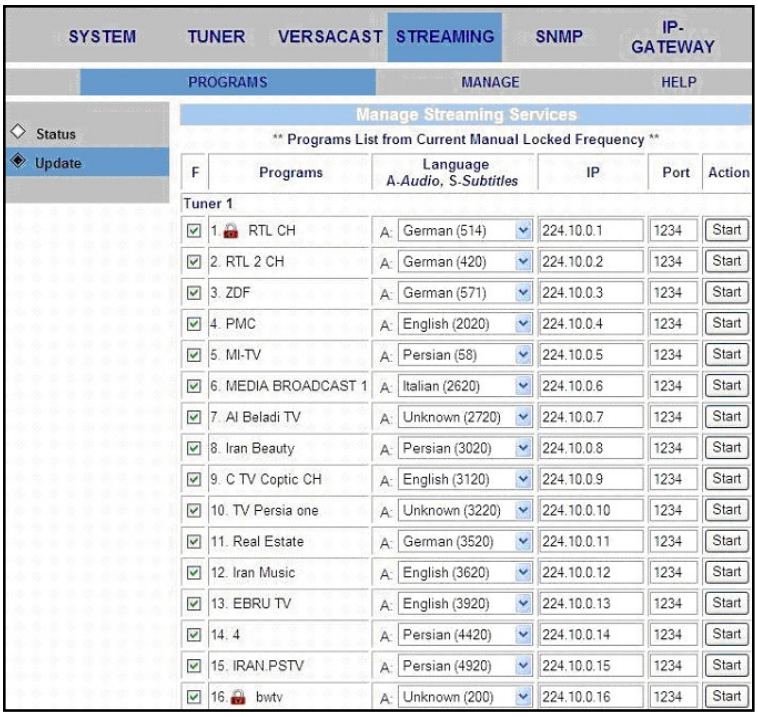
When settings are ready, go to TUNER→ MANAGE and select Save Session.

Tuner 4 settings are made similar way.

5. Streaming to network

DXI-800 devices are capable of streaming DVB-T/S/S2 video and audio broadcasts into your system for unicast or multicast redistribution. Streaming is enabled after the device is tuned to an DVB-T/S/S2 transponder. Follow the instructions in the next sub-sections to configure the device for streaming as per your needs.

Select the STREAMING/PROGRAMS/*Update* window. A list of all stations broadcasting through the transponder displays on screen.

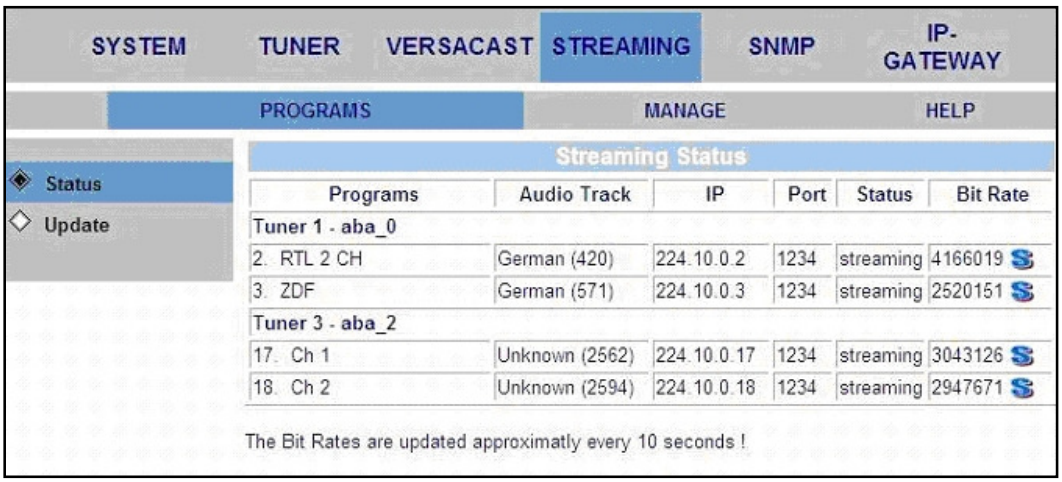


- In “Audio” column, select the type of audio stream.
- The “IP” column shows the destination IP address where the stream is to be sent inside your network. Input the correct address of the receiving station.
- The “Port” column shows the conduit through which the stream is transmitted into the network. Usually, all streams are set to go through the same port. However, you can configure a different port for each station broadcasted to the same IP address, so as to transmit different stations to that same address.

Note: To allow viewing different brodcasted stations simultaneously, ensure that unique pairs of IP addresses and port numbers are input. You may pair one single IP address with different port numbers, or different IP adresses with one single port number. If you set the system to stream broadcasts only when at least one listener is present (that is, if the IGMP function is enabled), different multicast IP addresses must be set in the configuration

- In the “Action' column” press the START button corresponding to the desired station. The *Update* window refreshes, the selected station's name turns blue, the 'Audio Track', 'IP' and 'Port' fields become dimmed, and the 'Action' button becomes blue and reads STOP.

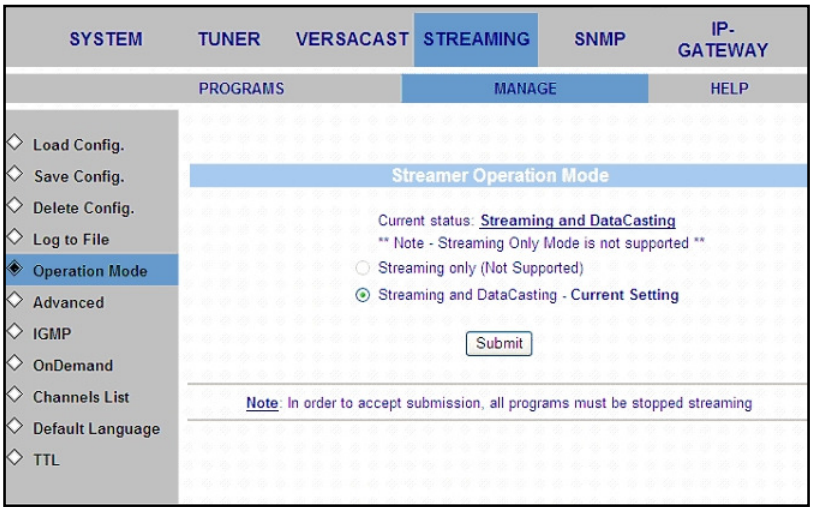
- Select the *Status* option to review the streaming status. A screen displaying the selected parameters and the current streaming status displays. (When IGMP is enabled, the 'Status' column shows '*Waiting*' for streams that have been started at the STREAMING/PROGRAMS/*Update* window but are not being listened to).



To stop streaming, go to the STREAMING/PROGRAMS/Update window and press the relevant STOP button. The information for the corresponding station reverts to its original color and status.

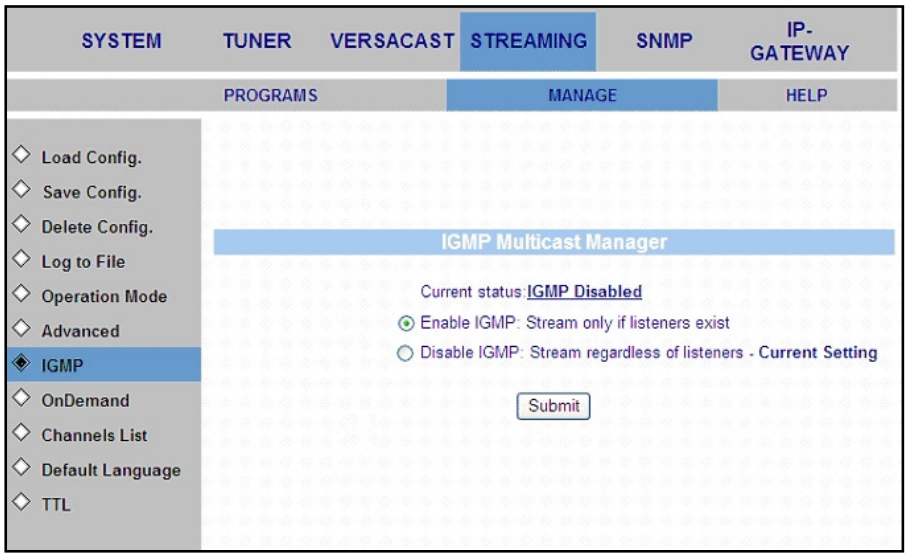
Select the STREAMING/MANAGE/*Operation Mode* window.

DXI-800 streamer can operate in one modes:
Streaming and DataCasting in addition to streaming video and audio broadcasts, the DXI-800 device also supports the reception of DVB-S/T-transmitted data IP PIDs; this is executed through the DVB-S-T/PID/Update window.
Note: The Streaming and DataCasting mode of operation supports only up to 8 PIDs in all. When operating in this mode, the quantity of audio/video broadcasts to be streamed is reduced according to the quantity of data IP PIDs being received. For example, if you set the system to receive 2 IP PIDs, only up to 3 broadcasts with audio and video PIDs become available.



DXI-800 allows you decide whether streams are to be forwarded into the LAN only when at least one listener (that is, an entity actually connected to the stream) is identified, or at all times. Making streaming conditional to the identification of listeners leads to a better use of the existing bandwidth since it ensures that the stream is actually in use. Stream distribution is regulated through IGMP (Internet Group Management Protocol).

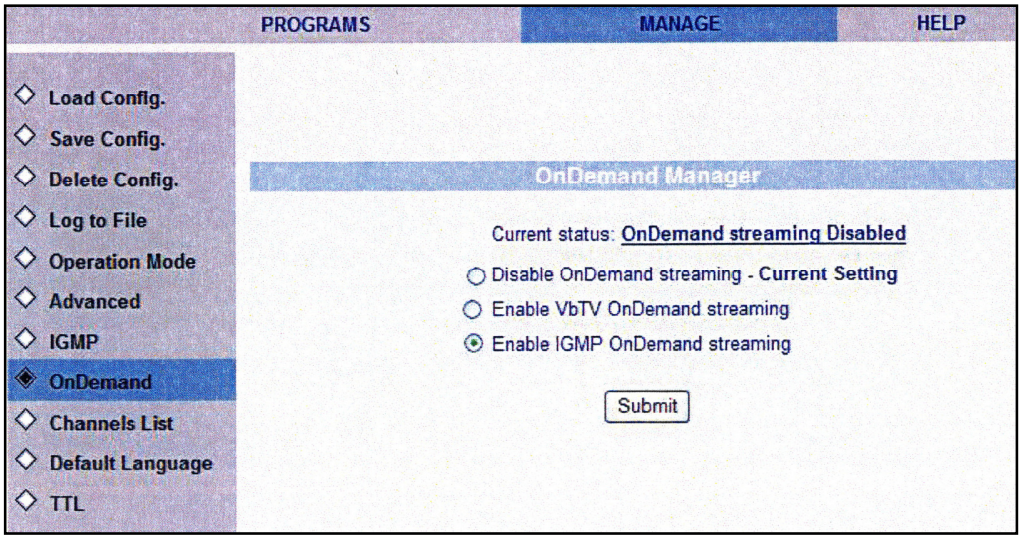
Select the STREAMING/MANAGE/*IGMP* window



To enable the IGMP function and have streams forwarded only if at least one connected suscriber is identified, select the 'Stream Programs Only if Listener Exists (Enable IGMP)' radio button and press the SUBMIT T button. The screen shows the current IGMP status as "Enabled" and offers the possibility of disabling IGMP (‘Stream Programs Regardless of Listeners’ radio button).

To disable the IGMP again, select the ‘Stream Programs Regardless of Listeners’ radio button and press SUBMIT. The screen reverts to its original status.
Once streaming parameters (audio track, destination IP address, port) have been set and there is no intention to change them, it is possible to activate streaming from the IP media player used to view the broadcasts. Follow the instructions below to configure the option to set streaming on demand:

Select the STREAMING/MANAGE/*OnDemand* window



To enable the IGMP On Demand function and have streams continually ready to be started at the IP media player, select the 'Enable IGMP OnDemand Streaming' radio button and press the SUBMIT button. The screen shows the current Enable On-Demand Streaming status as "Enabled" and offers the possibility of disabling this feature ('Disable OnDemand Streaming' radio button). These option allows to user to receive random programs list without to start each program manually.

To enable the VbTV On Demand function, select the 'Enable VbTV OnDemand Streaming' radio button and press the SUBMIT button. The screen shows the current Enable VbTVOn-Demand Streaming status as "Enabled" and offers the possibility of disabling this feature ('Disable OnDemand Streaming' radio button).

To initiate streaming, go to the IP media player and select the desired station from the list, activating it as per the specific media player's features. Please note that when OnDemand is enabled, no changes can be made to the streaming configuration set in the STREAMING/PROGRAMS/Update window.

To disable the OnDemand feature, return to the STREAMING/PROGRAMS/OnDemand window, select the 'Disable OnDemand Streaming' radio button and click the SUBMIT button. The screen returns to its original form.

4. Technical specification

8PSK/QPSK INPUT	
Number of tuners	1* DVB-S+3* DVB-S/S2 (DXI-810CI), 2* DVB-S+ 6* DVB-S/S2 (DXI-810CI)
Input frequency range	950 - 2150 MHz
Input level	-70 … -25 dBm
Waveform	8PSK, QPSK (SCPC, MCPC)
Symbol rate	4-40 MS/s
FEC decoder	Automatic
CI slot	2 (DXI-810CI), 4 (DXI-820CI) (option)
COFDM/QAM INPUT	
Number of tuners	2 (DXI-810FTA), 4 (DXI-820FTA)
Standard	DVB-T, ETS 300 744
Modulation	COFDM
Input level	40-55 dBuV
Bandwidth	6 MHz, 7 MHz or 8 MHz
Constellations	Automatic
Quard Interval	Automatic
DATAHANDLING AND DE-MULTIPLEXING	
Multi-protocol Encapsulation	MPE
Encapsulation	SPTS
Datagram and selection packing	
Unicast/multicast filtering	
Multicast address filters	128
Max output bit rate	40 Mbit/s (DXI-810), 80 Mbit/s (DXI-820)
UDP/TCP/IP protocols	
PSI/TCP private tables	
LLC SNAP/ null encapsulation	
LAN INTERFACE	
Connector	RJ45
Speed	10/100 autosensing
GENERAL	
Power	100-240 VAC, 50-60 Hz
Dimensions	19”, 1RU

This symbol on the product or on its packing means that within the European Union the product must be taken to separate collection at the product-end-of life.

Do not dispose of these products as unsorted municipal waste.

Fore more information about where you can drop off your waste equipment for recycling, please contact your local city office, your house disposal service or the shop where you purchased the product.