MAINTENANCE AND OPERATION
INSTRUCTION MANUAL

# DB8008

## Digital Silence Monitor
## with MP3 and IP Audio Backup Players

DEVA® BROADCAST

Publish Date: 29-Jun-2023

# Contents


**Introduction** ..... **5**
**Typographic conventions** ..... **6**
**General Information** ..... **7**
**Product Features** ..... **8**
*Technical Specifications* ..... *9*
*Block Diagram* ..... *11*
**Safety Warning** ..... **12**
**AC Mains Power** ..... **13**
*Fuse holder* ..... *13*
*Mains Voltage Selector* ..... *13*
*Power cord* ..... *13*
*Ground Loops* ..... *13*
*Mains Voltage Selector Location* ..... *14*
**Operating Recommendations** ..... **15**
**Unpacking and inspection** ..... **16**
**Mounting** ..... **16**
*Rack Requirements 1U* ..... *16*
*Rack Requirements Compact Units* ..... *16*
*Stand-Alone Devices* ..... *16*
**Panel Indicators and Connectors** ..... **17**
*Front Panel* ..... *17*
*Rear Panel* ..... *18*
*GPIO Connector Pinouts* ..... *19*
*Electrical Characteristics of Optocouplers* ..... *19*
**Navigation Through LCD Menu** ..... **20**
*The Basics* ..... *20*
*Menu Structure* ..... *21*
*Restore Factory Defaults* ..... *29*
**Connecting DB8008** ..... **30**
*Analog Audio Inputs* ..... *30*
*Digital Audio Input* ..... *30*
*LAN Port* ..... *30*
**Operation** ..... **31**
*Manual IP Identification* ..... *31*
*Network Discovery* ..... *33*
**DB8008 WEB interface menu pages** ..... **35**
*Status* ..... *35*
*Input* ..... *36*
*Main and AUX Input* ..... *36*
*IP Audio Client* ..... *37*
*Backup* ..... *38*
*Audio Loss and Audio Recovery* ..... *38*
*Audio Monitor Mode* ..... *38*
*MP3 Audio Player* ..... *38*
*MP3 Files Upload via FTP* ..... *39*

*Jingle Player* ..... 39
*Jingle Files Upload via FTP* ..... 39
*How can a playlist file be made?* ..... 39
*Output* ..... 40
*Analog Audio* ..... 40
*Digital Audio* ..... 40
*IP Voice Announcement* ..... 40
*Dayparts* ..... 41
*General* ..... 42
*Network* ..... 43
*Network* ..... 43
*E-mail* ..... 43
*HTTP Server* ..... 44
*FTP Server* ..... 44
*SNMP Agent* ..... 44
*Other* ..... 45
*Firmware Update* ..... 45
*Storage* ..... 45
*Factory Defaults* ..... 45
*Reboot* ..... 45
*System Log* ..... 46
**UPnP discovery in Local Networks** ..... **47**
**UPnP Activation** ..... **48**
**APPENDIX A** ..... **49**
*List of DB8008 Jumper Settings for Analog Signals* ..... 49
*DB8008 Jumpers Location* ..... 50
*DB8008 Configuration with Impedance 10kΩ and 0dBu analog Input and Output Range* 51
*DB8008 Configuration with Impedance 600Ω and +18dBu analog Input and Output Range* 52
**APPENDIX B** ..... **53**
*How should I configure the connection between my DEVA Device and an FTP Client?* 53
**WARRANTY TERMS AND CONDITIONS** ..... **55**
**Product Registration Card** ..... **56**

THIS PAGE
IS INTENTIONALLY
LEFT BLANK

65 Aleksandar Stamboliyski Str., 8000 Bourgas, Bulgaria
Tel: +359 56 820027, Fax: +359 56 836700
E-mail: office@devabroadcast.com ,Web: www.devabroadcast.com

# Introduction

DEVA Broadcast Ltd. is an international communications and high-technology manufacturing organization, its corporate headquarters and facility located in Burgas, Bulgaria. The company serves the broadcast and corporate markets worldwide – from consumers and small businesses to the largest global organizations. It is dedicated to the research, design, development and provision of advanced products, systems and services. DEVA Broadcast launched its own brand back in 1997 and has nowadays evolved to become known as a market leader and internationally reputed manufacturer of user-friendly, cost-effective and innovative broadcast products.

Creativity and innovation are deeply woven into DEVA Broadcast corporate culture. Through successful engineering, marketing and management our team of dedicated professionals creates future-oriented solutions to improve customers' performance. You may rely that all issues communicated to our crew would be addressed accordingly. We pride ourselves on our pre and post-sales support and purchase services, which along with the outstanding quality of our radio gear have won us due respect and the market authority position.

DEVA Broadcast best-of-breed solutions have become the best sellers for our partners. The strategic partnerships which have been formed with industry leaders during all these years that we have been operating on the broadcasting market, have proved us a reliable business partner and a valuable asset, as our dealers worldwide would confirm. In constant pursuit of precision and long-term satisfaction, DEVA Broadcast enhances the reputation of our partners and clients alike. Furthermore, we have already a proven merit as a credible partner provider.

Our portfolio offers complete line of high quality and competitive products for FM and Digital Radio, Radio Networks, Telecommunication Operators and regulation authorities. For almost two decades of intensive software and hardware development, we have achieved a unique price-performance and endurance of our product lines. Our company's multitude of equipment and services is in line with the latest technologies and key trends. The most recognizable characteristics attributed to DEVA Broadcast products are their clear-cut, streamlined design, easiness of use and cost-effectiveness: simplicity of forms but multiplicity of functions.

For us there is no stage when we deem that we have reached the most satisfactory level in our work. Our engineers are in constant pursuit of new ideas and technologies to be captured in DEVA Broadcast solutions. Simultaneously, a strict control is being exercised at each step of any new development. Experience and hard work are our fundament but the continuous improving process is what we never leave aside. DEVA Broadcast participates on a regular basis in all landmark broadcasting events, not only to promote its products, but to exchange valuable know-how and experience. We are also engaged in international large-scale projects involving radio and audio solutions which makes us even more competitive on the global market.

All DEVA Broadcast products are developed and produced in accordance with the latest ISO 9001 quality control standards.

65 Aleksandar Stamboliyski Str., 8000 Bourgas, Bulgaria
Tel: +359 56 820027, Fax: +359 56 836700
E-mail: office@devabroadcast.com ,Web: www.devabroadcast.com

# Typographic conventions

The following table describes important conventions used in the manual.

| Convention and Style | Description | Examples |
|---|---|---|
| ***Menu > Sub Menu > Menu Command*** | A menu item(s) and menu command that you need to click in sequence | Click ***Settings > General*** |
| [Button] | Interface Interactive buttons | Press [OK] to save the changes |
| **NOTE** | Important notes and recommendations | **NOTE:** The notification will appear only once |
| "Reference Name" on Page XXX | References and links | refer to "New Connection" (see "Monitoring" on page 56) |
| `Example` | Used when example text is cited | Example for E-mail Notification: `Date: 04 Nov 2013, 07:31:11` |

65 Aleksandar Stamboliyski Str., 8000 Bourgas, Bulgaria
Tel: +359 56 820027, Fax: +359 56 836700
E-mail: office@devabroadcast.com ,Web: www.devabroadcast.com

# General Information

DEVA's DB8008 is a flexible and reliable tool, designed by our engineers specifically with the aim of solving one of the most significant problems in the radio industry – the one of radio silence. DEVA's smart and highly practical solution detects signal loss and immediately switches the output to one of two alternative built-in backup players – MP3 or IP Audio. As an additional advantage, it also allows for easy integration into the existing setups of a single station and large radio networks alike.

The MP3 backup audio files and playlists can be uploaded to the device using any FTP client, making this model not only efficient but also easy to use. The audio storage capacity of the unit is an impressive 2GB for over 24 hours of audio playback without repetition. Moreover, the backup sources priority is selected by users themselves.

The DB8008 features a fully DSP-based core, professional AES/EBU digital audio inputs and outputs, and additionally allows for TCP/IP remote monitoring and control via SNMP and the WEB Interface, which means that the device can also be used for local content or regional advertisement spots. Another option provided by the model is the alert notifications via email, SNMP or analog opto-coupled outputs in case of signal loss.

Developed to provide users with a tool for an infallible and constant audio feed, the DB8008 is trademark DEVA device offering a simple and subtle solution to the problem of radio silence.

# Product Features

- Fully DSP based core
- Intelligent Silence Detector and Backup Audio Switcher
- Scheduler for disabling the Silence Detector and Forcing the Source for predefined period of time
- User selectable backup audio sources priority
- Configuration and Monitoring via SNMP, WEB, Front Panel LCD and Keyboard
- Alert Notifications via E-mail, SNMP, Analog opto-coupled Outputs
- Lots of Storage for over 24 hours of non-repeating audio playback
- Always Fresh Backup Audio Tracks with Embedded FTP server
- Professional Balanced Stereo analog inputs and outputs on XLR connectors
- Professional AES/EBU Digital audio inputs and output on XLR connectors
- Consumer S/PDIF Digital audio inputs and output on Optical and Coaxial connectors
- Headphones Jack on the front panel for local monitoring of the Audio Signal
- TCP/IP Remote monitoring and control via SNMP and WEB Interface
- Variety of Audio Sources
- Multiformat IP Audio Stream (three separate sources)
- Multiformat Real-Time Transport Protocol (RTP) Stream Receiver
- Multiformat Icecast compatible Stream Receiver
- Built-in SD Card MP3 Player
- External or internal Digital clock sync
- Digital Volume Control of all Audio Sources
- Protected access to the device settings
- UPnP for easy discovery in Local Networks
- Professional 19 inches, 1U aluminum rack mount chassis
- Wide Range Internal Power Supply 100-240VAC 50-60Hz
- Easy installation and operation
- Remote Firmware Upgrade for future-proof operation

65 Aleksandar Stamboliyski Str., 8000 Bourgas, Bulgaria
Tel: +359 56 820027, Fax: +359 56 836700
E-mail: office@devabroadcast.com ,Web: www.devabroadcast.com

# TECHNICAL SPECIFICATIONS

| | |
|---|---|
| **MAIN ANALOG AUDIO INPUTS** | |
| Connectors | Balanced XLR |
| Impedance | 600Ω or high impedance |
| Level | 0dBu or +18dBu Jumper selectable, with digital gain adjustments |
| Dynamic range | >80dB |
| Digital Gain Adjust | -10dB to +10dB |
| **MAIN DIGITAL AUDIO INPUTS** | |
| Connectors | Balanced XLR, Coaxial, Optical |
| Sample Rates | 32, 44.1, 48 and 96kHz |
| Digital Gain Adjust | -10db to +10dB |
| **AUX ANALOG AUDIO INPUTS** | |
| Connectors | Balanced XLR |
| Impedance | 600Ω or high impedance |
| Level | 0dBu or +18dBu Jumper selectable, with digital gain adjustments |
| Dynamic range | >80dB |
| Digital Gain Adjust | -10dB to +10dB |
| **AUX DIGITAL AUDIO INPUTS** | |
| Connectors | Balanced XLR, Coaxial, Optical |
| Sample Rates | 32, 44.1, 48 and 96kHz |
| Digital Gain Adjust | -10dB to +10dB |
| **RTP RECEIVER** | |
| Stream Formats | MP3, AAC |
| Bit Rates | All standard bit rates, including VBR |
| **ICECAST PLAYER** | |
| Stream Formats | PCM (32, 44.1, 48kHz), MPEG1 Layer 3 (MP3), HE-AAC (v.1 and v.2) |
| Bit Rates | All standard bit rates, including VBR |
| **IP AUDIO SOURCE** | |
| Number of Streams | one main and two alternative streams with auto-switch on failure |
| Stream Clients | shoutcast, icecast |
| Stream Formats | PCM, MPEG1 Layer 3 (MP3), HE-AAC (v.1 and v.2); all at 32, 44.1, 48kHz only |
| Bit Rates | All standard bit rates, including VBR |
| Number of Channels | Mono, Stereo |
| Buffer Size Adjust | 5Kb to 64Kb |
| Digital Gain Adjust | -10dB to +10dB |
| **BUILT-IN MP3 PLAYER** | |
| Storage Capacity | 2Gb on SD Card |
| Supported encoders | HE-AAC (v.1 and v.2), MPEG-1 Layer 3 |
| MP3 bit rates | 32-320 kbps and VBR |
| Sample rates | All sampling frequencies specified by MPEG1 L1/L2/L3 (32, 44.1 and 48kHz) |
| Supported file types | *.MP3, *.AAC, *.M4A, *.M3U |

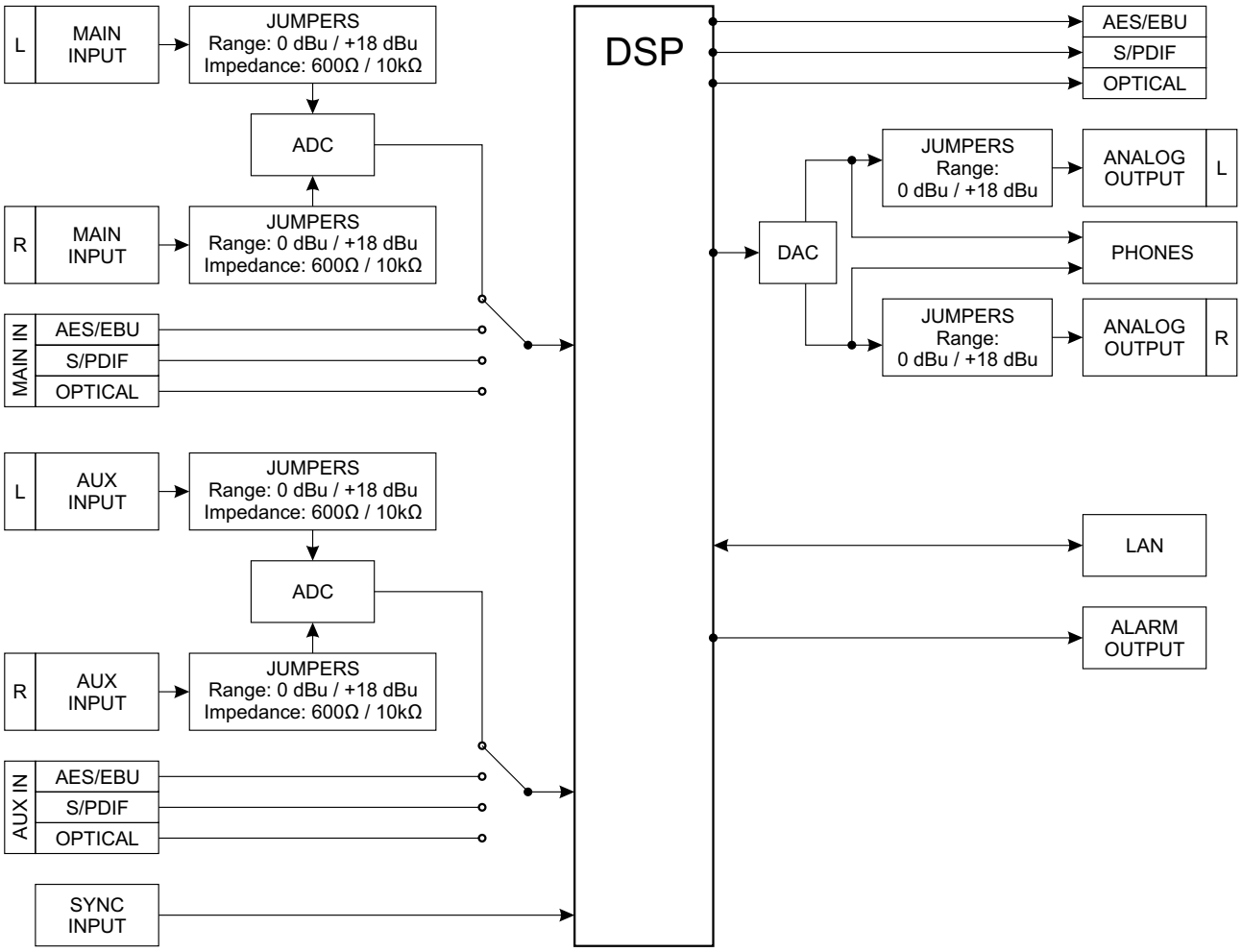
65 Aleksandar Stamboliyski Str., 8000 Bourgas, Bulgaria
Tel: +359 56 820027, Fax: +359 56 836700
E-mail: office@devabroadcast.com ,Web: www.devabroadcast.com

| | |
|---|---|
| Playback modes | Alphabetical ascending and descending, Shuffle, Playlist and Shuffled playlist |
| Remote file management | Build-in FTP server |
| Digital Gain Adjust | -10dB to +10dB |
| **ANALOG AUDIO OUTPUT** | |
| Connector | Balanced XLR |
| Frequency response | ±0.5dB, 5Hz-20kHz |
| Distortion | <0.01% THD+N |
| Level | 0dBu or +18dBu Jumper selectable, with digital gain adjustments |
| Dynamic range | >80dB |
| Digital Gain Adjust | -10dB to +10dB |
| **DIGITAL AUDIO OUTPUTS** | |
| Connectors | Balanced XLR, Coaxial, Optical |
| Sample rates | 32, 44.1, 48kHz |
| Digital Gain Adjust | -10dB to +10dB |
| **PHONES AUDIO OUTPUT** | |
| Connector | 1/4” (6.3mm) jack, stereo |
| Type | Headphones |
| **SILENCE DETECTOR** | |
| Threshold | Adjustable from -40dBfs to -5dBfs |
| Trigger time | 10-250 sec |
| Scheduler | for disabling Silence Detector and Forcing Audio Source to predefined Source or Silence |
| **USER INTERFACE** | |
| Indicators | 5 LEDs on front panel, 2 LEDs on rear panel |
| Web interface | control, configuration and status information |
| SNMP interface | control, configuration and status information |
| Front Panel | LCD with Keyboard |
| Pin Input | Pin Input (DB9 Connector on Rear Panel) to externally force the audio source to predefined source |
| **ALARM NOTIFICATIONS** | |
| Notify via | SNMP, E-mail or Output Pins on DB9 Connector (Rear Panel) |
| **NETWORK** | |
| Connector | RJ-45 |
| Type | Ethernet |
| Device Discovery | UPnP support |
| **OPERATING CONDITIONS** | |
| Temperature | 10°C - 45°C |
| Humidity | < 75%, non-condensing |
| **POWER REQUIREMENTS** | |
| Power supply | 115/230V AC (internal switch), 18VA |
| Connector | IEC320, rear panel |
| **SIZE AND WEIGHT** | |
| Dimension (W x H x D) | 1U, 19” x 1.7” x 6.9”, 483 x 45 x 160 mm |
| Weight | 8 lbs, 3kg |

65 Aleksandar Stamboliyski Str., 8000 Bourgas, Bulgaria
Tel: +359 56 820027, Fax: +359 56 836700
E-mail: office@devabroadcast.com ,Web: www.devabroadcast.com

# BLOCK DIAGRAM

A simplified block diagram of DB8008 is shown below




Because of the all-digital, minimalist-discrete-component nature of device circuitry, we have not provided schematic diagrams of the DB8008 in this Manual. Please, note that:

**NO USER-SERVICEABLE COMPONENTS INSIDE.**
**REFER ALL SERVICING TO**
**QUALIFIED TECHNICAL PERSONNEL.**

# Safety Warning

**ALWAYS OBSERVE THE SAFETY PRECAUTIONS.**

Careful observance of the safety precautions will help prevent physical injury, damage of the equipment, and extend the equipment life.

- The servicing of electronic equipment should be performed only by qualified personnel;
- Before removing the covers the unit must be switched off and the mains cable unplugged;
- When the equipment is open, the power supply capacitors should be discharged using a suitable resistor;
- Never touch the wires or the electrical circuits;
- Use insulated tools only;
- Never touch the metal semiconductor. They might carry high voltages;
- For removing and installing electronic components, follow the recommendations for handling MOS components.
- Do not remove the factory sticker from the equipment. It contains information as regards the name, serial number and MAC address of the device.
- To join the equipment to the mains supply, use the power cord purchased with the equipment.

65 Aleksandar Stamboliyski Str., 8000 Bourgas, Bulgaria
Tel: +359 56 820027, Fax: +359 56 836700
E-mail: office@devabroadcast.com ,Web: www.devabroadcast.com

# AC Mains Power

## FUSE HOLDER

The fuse holder is placed inside the unit, next to the voltage selector. Apply downward pressure and pull the cap outward to access the 5mm mains fuse. The reverse process will release the cap.

## MAINS VOLTAGE SELECTOR

Before connecting the AC Power, make sure that the internal Power Switch is in accordance with the mains supply at your location. The Power Supply Factory Settings are:

- 100 - 240 VAC
- 1 Amp Fuse

**CAUTION:** Permanent damage will result if improper AC supply voltage is applied to the device. The warranty DOES NOT cover damages caused by applying improper supply voltage or usage of improper fuse.

## POWER CORD

The detachable IEC-type power cord is supplied with the unit. The individual cord conductors may be color-coded in either of two ways:

1) In accordance with US standards:
BLACK = AC “HOT”
WHITE = AC NEUTRAL
GREEN = EARTH GROUND

2) To European CEE standards:
BROWN = AC “HOT”
BLUE = AC NEUTRAL
GREEN/YELLOW = EARTH GROUND

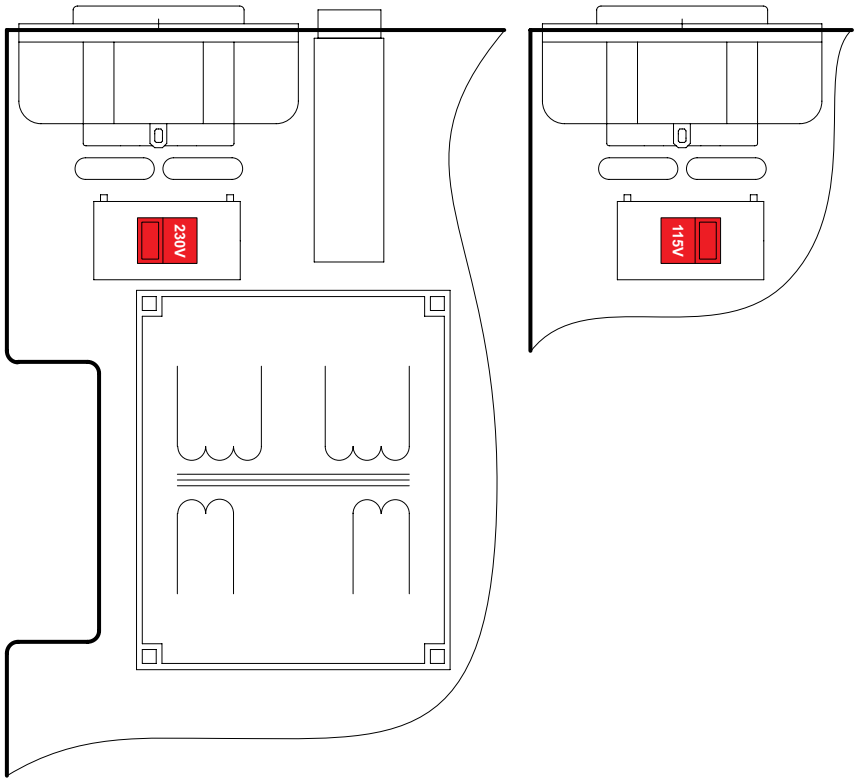
## GROUND LOOPS

Because the unbalanced INPUTS/OUTPUTS of the device are chassis-ground-referenced, a mains frequency or INPUT/OUTPUT ground loop could be formed between the input or output cable shield grounds and the AC power cord ground. A ‘ground-lifting’ AC adapter may help in this situation, although the chassis must be properly grounded for safety purposes. In general, the equipment being installed in a rack will satisfy the safety requirement.

65 Aleksandar Stamboliyski Str., 8000 Bourgas, Bulgaria
Tel: +359 56 820027, Fax: +359 56 836700
E-mail: office@devabroadcast.com ,Web: www.devabroadcast.com

# MAINS VOLTAGE SELECTOR LOCATION

Unless specifically requested at time of order, the DB8008 is set at the factory for operation from 230V, 50/60Hz AC mains. To change the mains voltage for 115V operation, first remove the top cover of the unit. A clearly marked slide switch is next to the AC mains connector on the device circuit board. *With power disconnected*, use a small screwdriver to change the setting from 230V to 115V.



# Operating Recommendations

To ensure normal operation of the DEVA unit, we recommend following the instructions listed below.

- Install the unit in places with good air conditioning. The unit is designed to operate within the ambient temperature range of 10 to 50°C. The equipment rack should be ventilated in order for the device to keep its internal temperature below the maximum ambient temperatures;
- We do not recommend installation in rooms with high humidity, dusty places or other aggressive conditions;
- Although the device is intended to be installed closed to exciters or transmitters, we do recommend the device to be located away from abnormally high RF fields.
- Use only checked power supply cables. We strongly recommend the usage of shielded cables;
- Connect the DEVA unit to reliable power supply sources only. In case of unstable power supply, please use Uninterruptible Power Supply (UPS);
- Use the device only with its top cover on to avoid electromagnetic anomalies. Otherwise, this may cause problems with the normal functionality of the unit;
- To ensure normal remote operation of the unit, make sure to connect the device to a good quality Internet connection;
- For the normal operation of your DEVA device, check if the network settings past through all the required data traffic.

# Unpacking and inspection

Upon receipt, the equipment should be inspected for possible shipping damages. If such are found or suspected, notify the carrier at once and contact DEVA Broadcast Ltd. The original shipping carton box and packing materials should be kept for possible reuse, in case of return for Warranty repair, for example. Shipping damages as a result of improper packing for return may invalidate the Warranty!

**The packing material (plastic bags, polystyrene, nails, etc.) must never be left within reach of children, as these items are potential sources of danger.**

**IT IS VERY IMPORTANT** that the "Product Registration Card" included in the Manual be completed accurately and returned. This will assure coverage of the terms of the Warranty and it will provide a means of trace in case of lost or stolen equipment. In addition, the user will automatically receive SERVICE OR MODIFICATION INSTRUCTIONS from DEVA Broadcast Ltd.

# Mounting

## RACK REQUIREMENTS 1U

The unit mounts in a standard 19-inch equipment rack and requires only 1¾ inches (1U) of vertical rack space. In order the painted finish around the mounting holes to be protected, the use of plastic washers is recommended.

## RACK REQUIREMENTS COMPACT UNITS

Our customized 1U 19-inch rack accessory provides a professional mounting option for up to three compact size DEVA units. It is made of milled aluminum and finished in black powder coat. Two extra blanking panels and set of mounting screws are provided with each rack bracket kit.

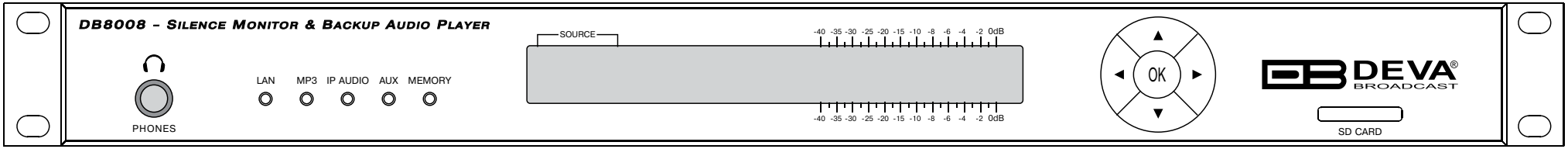
## STAND-ALONE DEVICES

DEVA's stand-alone units (Radio Explorer series, BandScanner series, DVB Explorer) do not require additional tools or installation brackets.

65 Aleksandar Stamboliyski Str., 8000 Bourgas, Bulgaria
Tel: +359 56 820027, Fax: +359 56 836700
E-mail: office@devabroadcast.com ,Web: www.devabroadcast.com

# Panel Indicators and Connectors

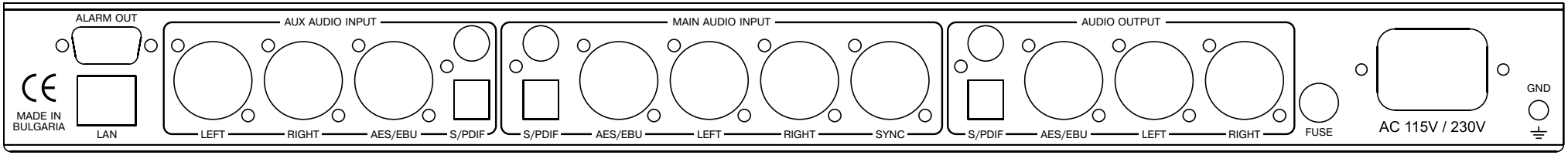
## FRONT PANEL




PHONES – Stereo 1/4” (6.3 mm) jack output for headphones;
LAN – indicates LAN presence;
MP3 – indicates MP3 Player active;
IP AUDIO - indicates IP Audio Stream active;
AUX – indicates Auxiliary Source Input active;
MEMORY – blinks when the SD Card is in use, or when the Card is full (memory overflow);
SD CARD - 2Gb SD Card for MP3 Audio Backup

65 Aleksandar Stamboliyski Str., 8000 Bourgas, Bulgaria
Tel: +359 56 820027, Fax: +359 56 836700
E-mail: office@devabroadcast.com ,Web: www.devabroadcast.com

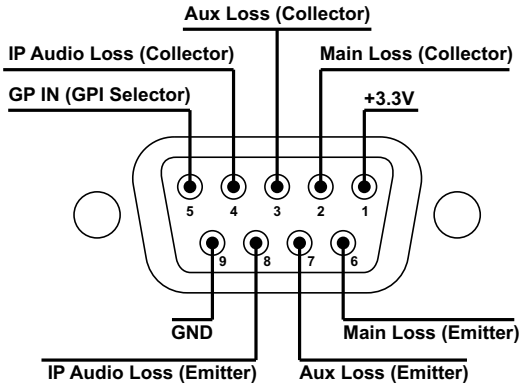
## REAR PANEL

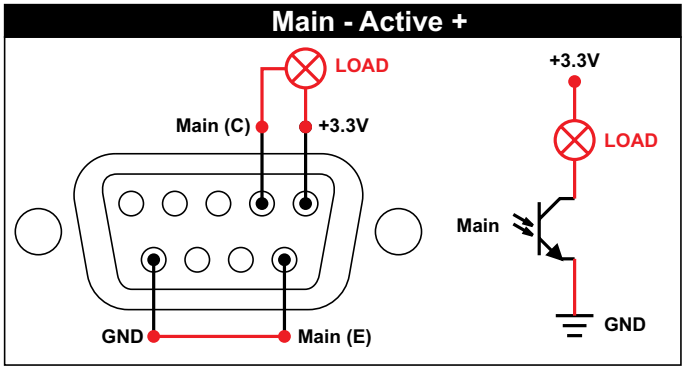


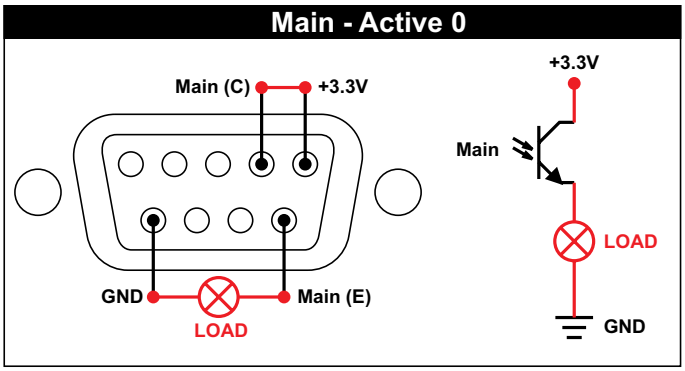

ALARM OUT - DB9 connector;
LAN – RJ-45 connector for TCP/IP connection;
AUX AUDIO INPUTS: Analog Inputs (Left and Right) - XLR Type; Digital Inputs - AES/EBU, S/PDIF and Optical;
MAIN AUDIO INPUTS: Analog Inputs (Left and Right) - XLR Type; Sync Input - XLR Type; Digital Inputs - AES/EBU, S/PDIF and Optical;
AUDIO OUTPUT: Analog Outputs (Left and Right) - XLR Type; Digital Outputs - AES/EBU, S/PDIF and Optical;
AC 115V/230V – Mains connector, IEC320 type;
FUSE - 1A (equipped at factory)

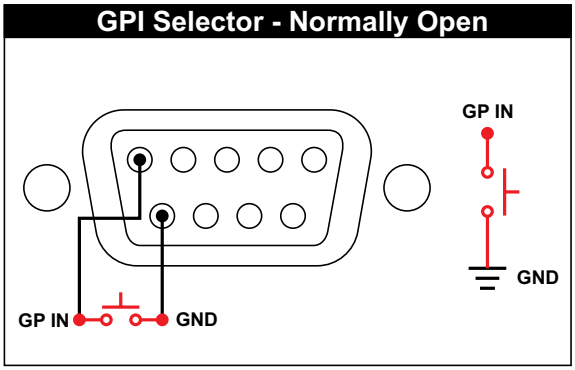
65 Aleksandar Stamboliyski Str., 8000 Bourgas, Bulgaria
Tel: +359 56 820027, Fax: +359 56 836700
E-mail: office@devabroadcast.com ,Web: www.devabroadcast.com

# GPIO CONNECTOR PINOUTS




**Electrical Characteristics of Optocouplers**

| | |
|---|---|
| Vec < 6V | Ic < 50mA |
| Vce < 70V | Pd < 150mW |

65 Aleksandar Stamboliyski Str., 8000 Bourgas, Bulgaria
Tel: +359 56 820027, Fax: +359 56 836700
E-mail: office@devabroadcast.com ,Web: www.devabroadcast.com

# Navigation Through LCD Menu

## THE BASICS

Upon power-up, the LCD Screen shows the Company Logo and the model of the device.

After the Initial screen disappears (in a few seconds), it will be replaced by the Main Menu readings.

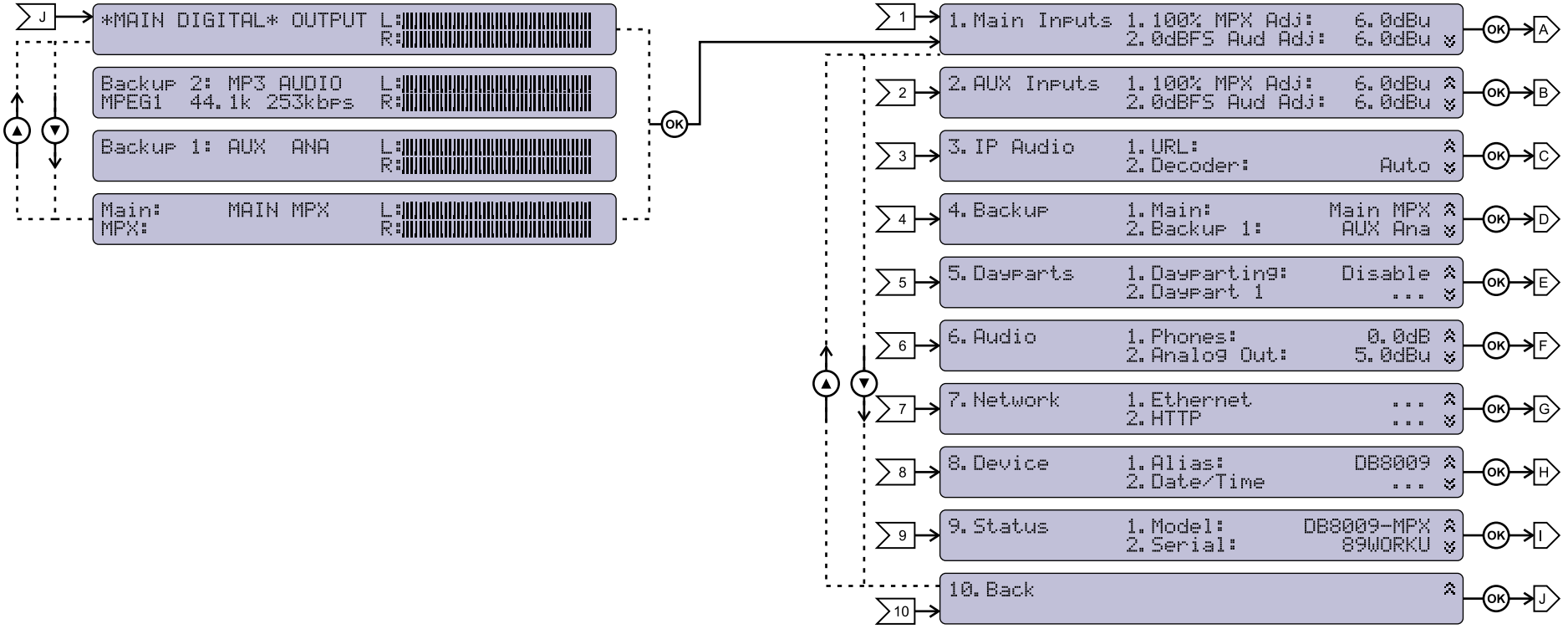
This is the starting point of the navigation process.

Prior to proceeding further in the menu structure, it is important to note the basic functionality - the keyboard (placed on the right of the LCD Screen) consists of [Up], [Down], [Left], [Right] and [OK] buttons. The Main Menu structure has an up-and-down basis, expanded with left-to-right branches.

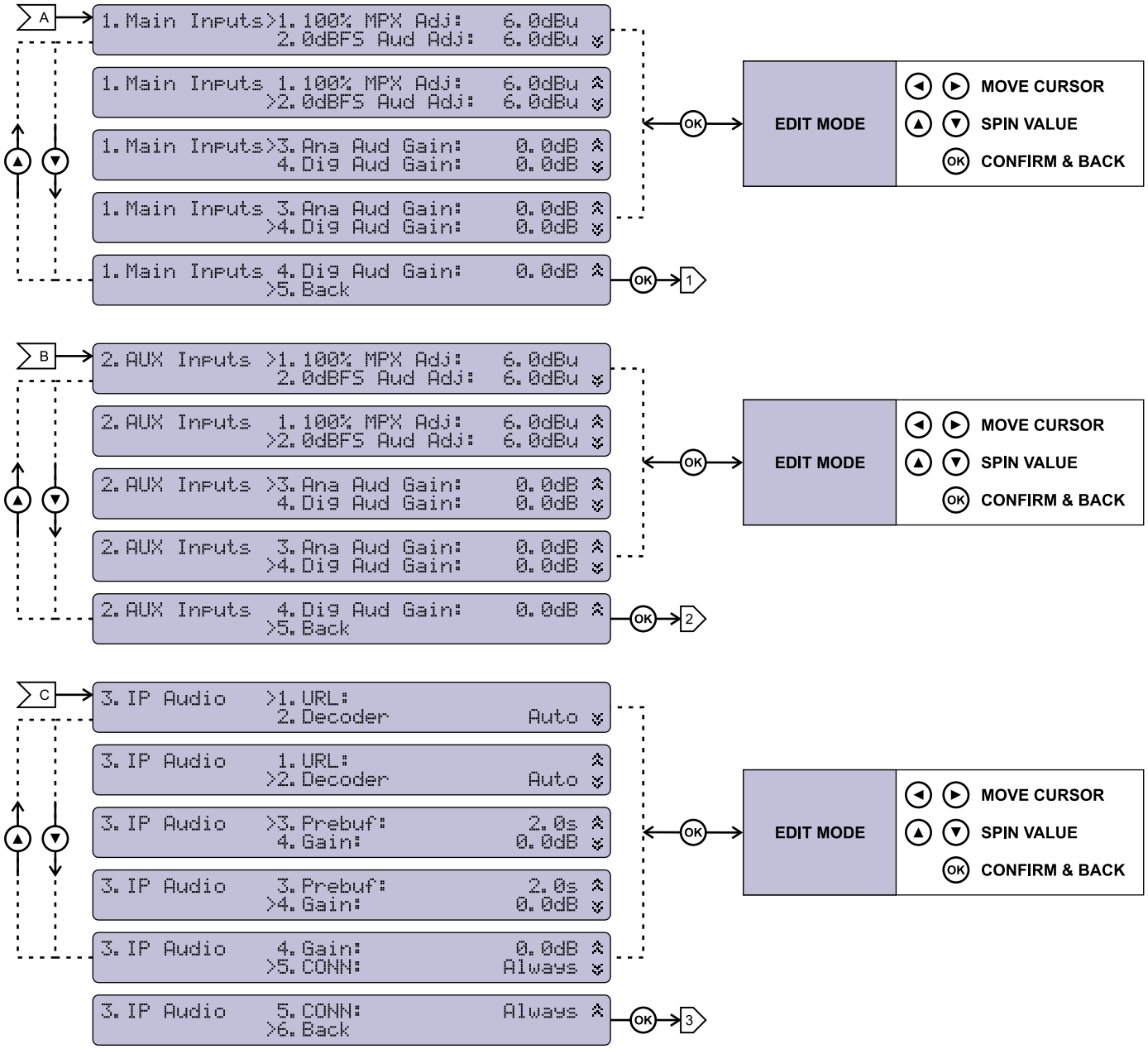
65 Aleksandar Stamboliyski Str., 8000 Bourgas, Bulgaria
Tel: +359 56 820027, Fax: +359 56 836700
E-mail: office@devabroadcast.com ,Web: www.devabroadcast.com

# MENU STRUCTURE

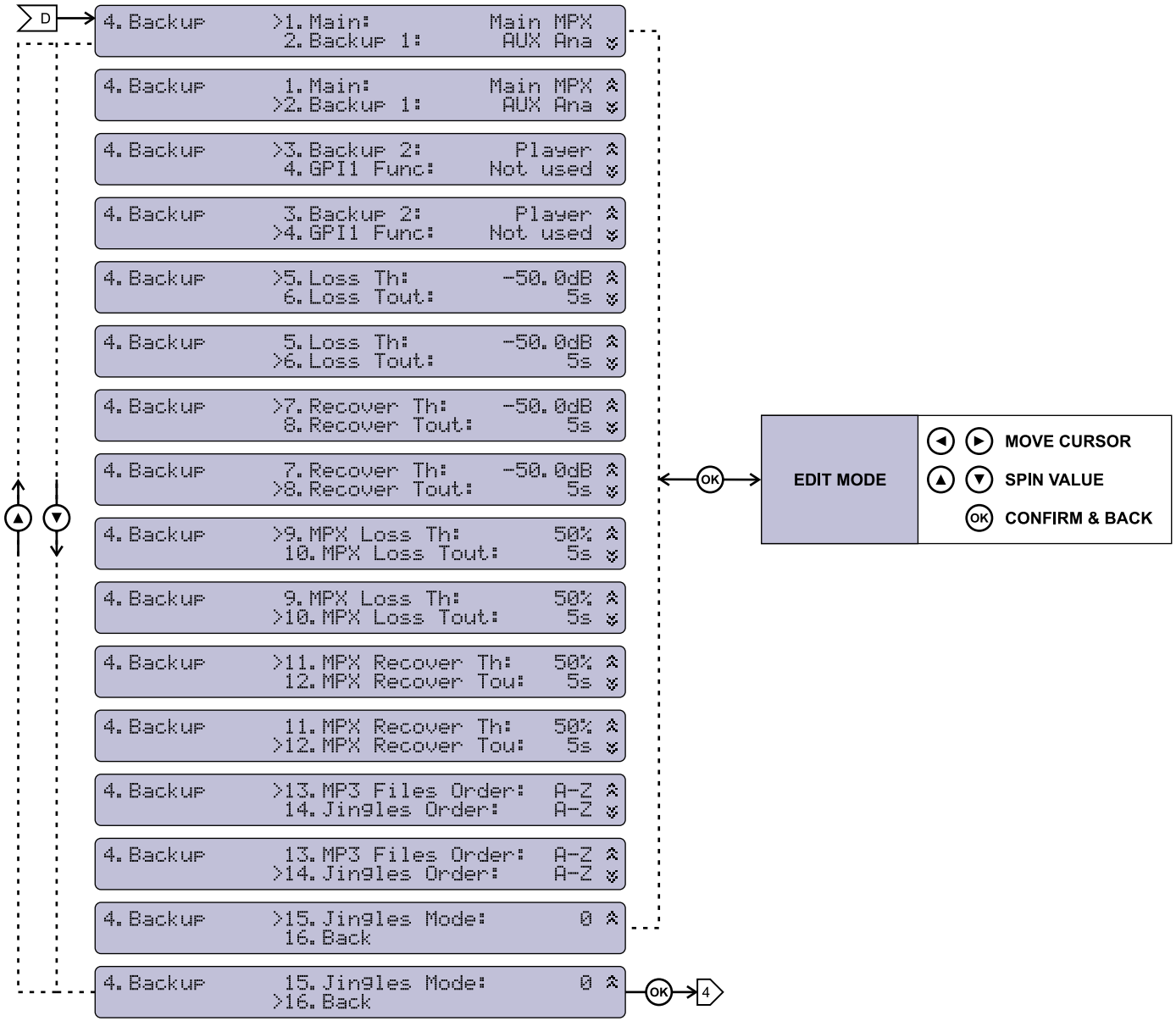
The following block diagram shows expanded view of the menu structure. To switch between the different pages use the denoted Buttons.



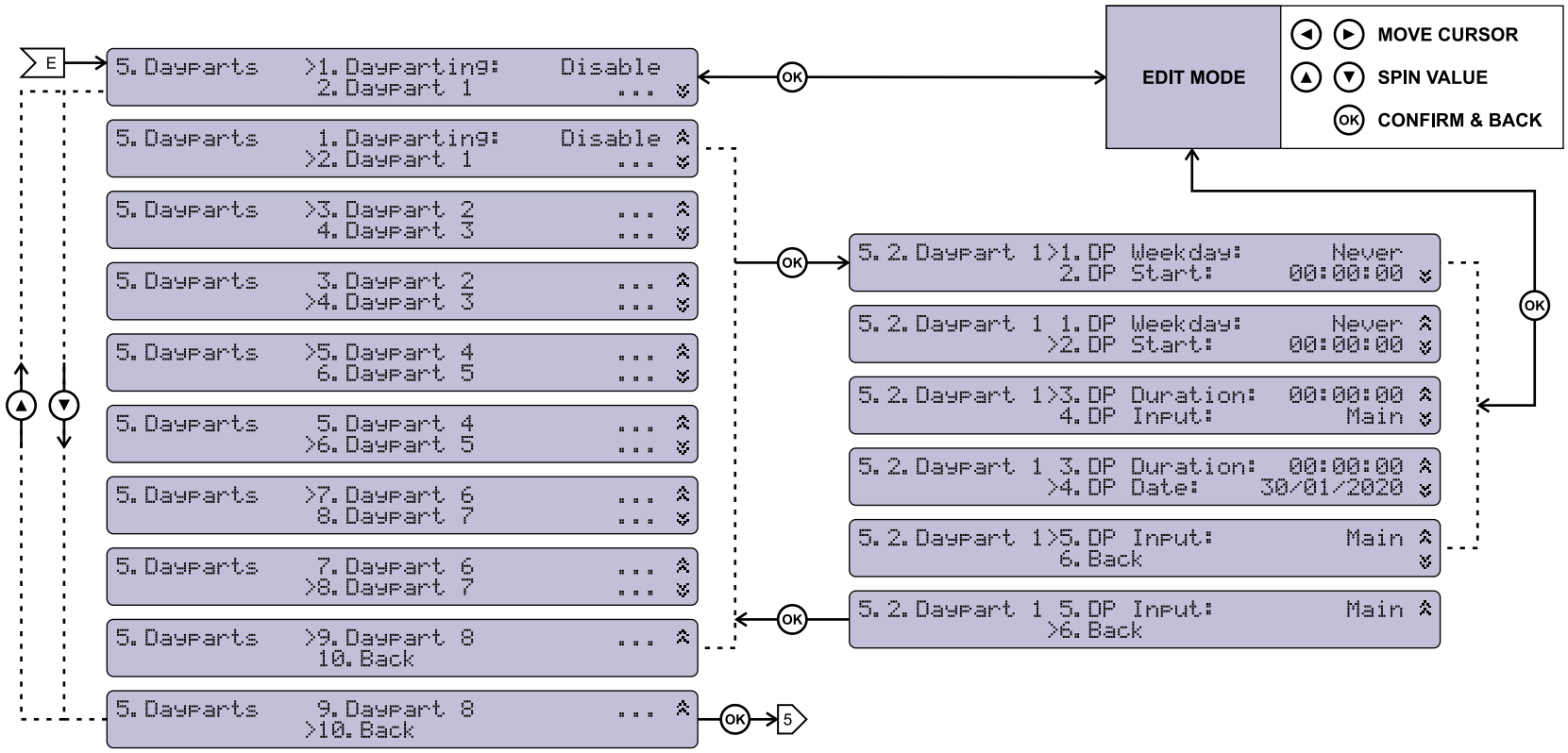
65 Aleksandar Stamboliyski Str., 8000 Bourgas, Bulgaria
Tel: +359 56 820027, Fax: +359 56 836700
E-mail: office@devabroadcast.com ,Web: www.devabroadcast.com



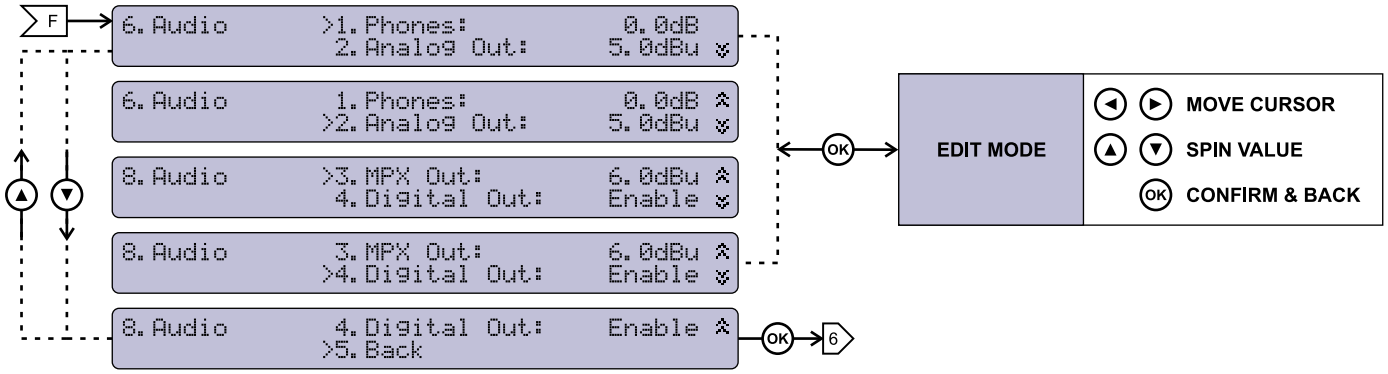
65 Aleksandar Stamboliyski Str., 8000 Bourgas, Bulgaria
Tel: +359 56 820027, Fax: +359 56 836700
E-mail: office@devabroadcast.com ,Web: www.devabroadcast.com



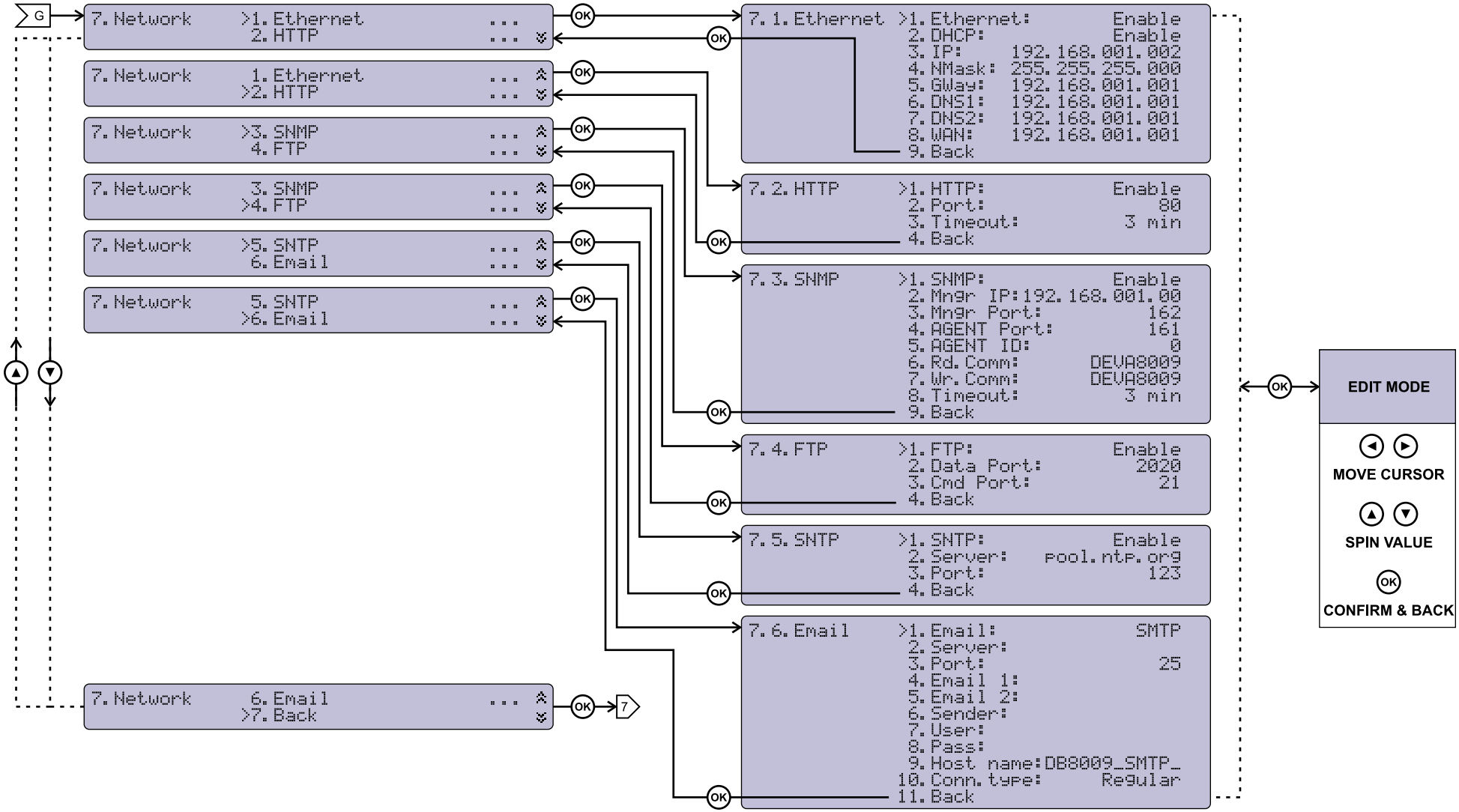
65 Aleksandar Stamboliyski Str., 8000 Bourgas, Bulgaria
Tel: +359 56 820027, Fax: +359 56 836700
E-mail: office@devabroadcast.com ,Web: www.devabroadcast.com



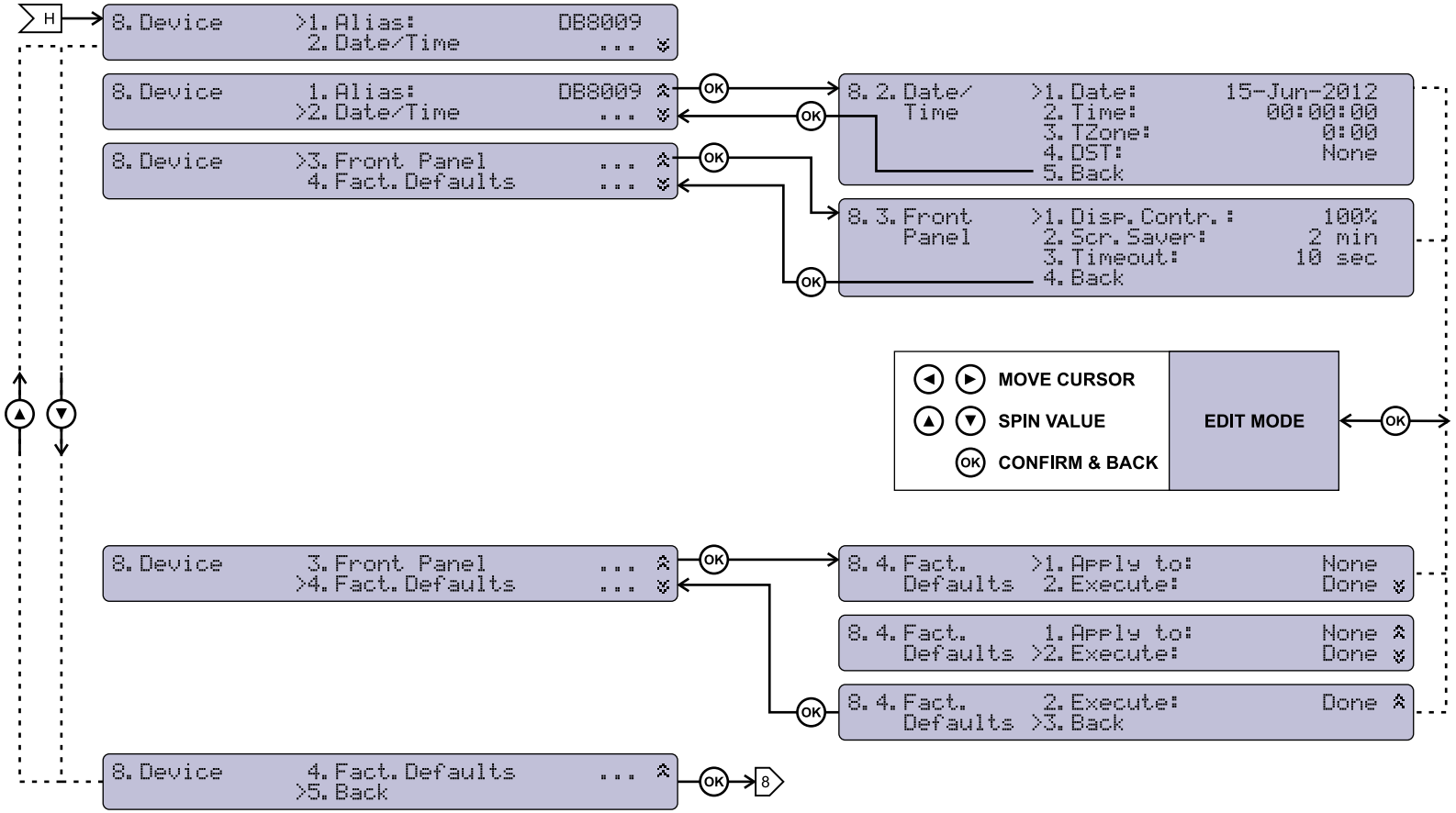
65 Aleksandar Stamboliyski Str., 8000 Bourgas, Bulgaria
Tel: +359 56 820027, Fax: +359 56 836700
E-mail: office@devabroadcast.com ,Web: www.devabroadcast.com



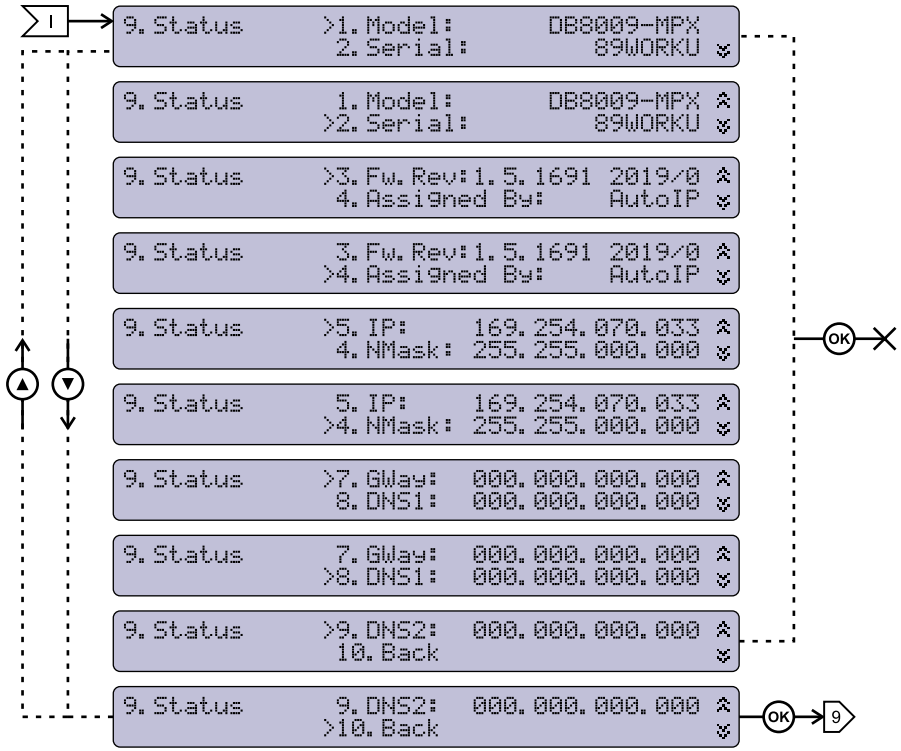
65 Aleksandar Stamboliyski Str., 8000 Bourgas, Bulgaria
Tel: +359 56 820027, Fax: +359 56 836700
E-mail: office@devabroadcast.com ,Web: www.devabroadcast.com



65 Aleksandar Stamboliyski Str., 8000 Bourgas, Bulgaria
Tel: +359 56 820027, Fax: +359 56 836700
E-mail: office@devabroadcast.com ,Web: www.devabroadcast.com



65 Aleksandar Stamboliyski Str., 8000 Bourgas, Bulgaria
Tel: +359 56 820027, Fax: +359 56 836700
E-mail: office@devabroadcast.com ,Web: www.devabroadcast.com



# RESTORE FACTORY DEFAULTS

If an emergency recover is necessary, the DB8008 can Restore Factory Defaults from its non-volatile memory. The step-by-step process can be found below:

1. Disconnect/Remove all external cables, except the Mains Power.
2. Using the keyboard, navigate to `8. Device > 8.4. Factory Defaults`.
3. Press the [OK] Button and select one of the following options - `All`, `Keep COM Chans`. Press [OK];
4. Press the [Down] button and then [OK] to select the `Execute` menu. Then using the [Down] button select `Yes` and press [OK].
5. The device will be returned to its factory defaults.

**WARNING:** When the device is returned to its Factory defaults, remote users would not be notified, and may not be able to communicate with device.

# Connecting DB8008

## ANALOG AUDIO INPUTS

Using a cable ending with two standard XLR connectors connect the analog signal source to the analog audio inputs of DB8008.

**WARNING:** Do not exceed the maximum input level. This may permanently damage DB8008.

## DIGITAL AUDIO INPUT

Using a cable ending with a standard XLR connectors connect the AES/EBU signal source to the digital audio input of DB8008.

**NOTE:** As only one input can be managed by the encoder at a time, please select the preferred signal source input – either analog or digital one. Selecting the preferred input can be performed under SETTINGS menu (see “Input” on page 36).

## LAN PORT

In order for the normal operation of the device to be guaranteed, it is necessary the encoder to be connected to a local network or the Internet by a cable with RJ-45 connector.

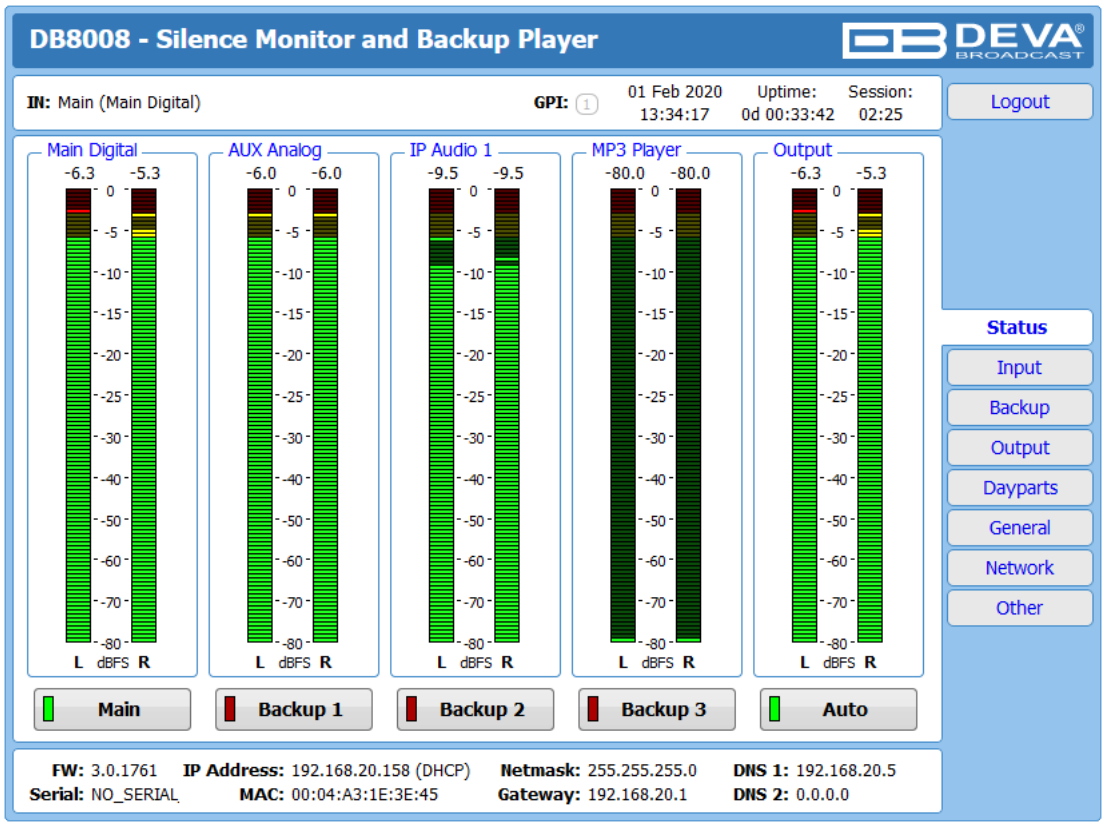
# Operation

DB8008 is controlled trough a build in WEB Server and a standard Web browser can be used to monitor its status or to make some adjustments. To operate the device you need to know its IP Address. In case you are not aware of it, you can use the Network discovery feature at Local networks or the front panel navigational menu (Manual IP Identification).

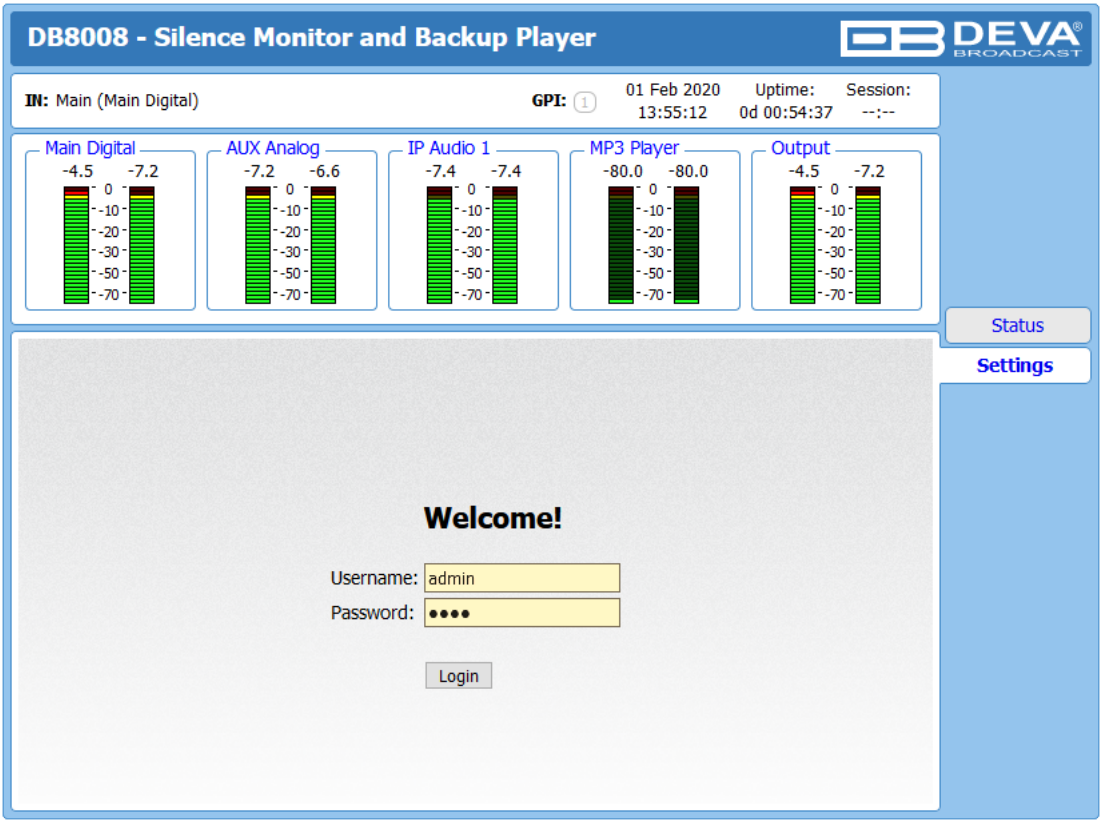
## MANUAL IP IDENTIFICATION

1. Connect the device to the local network or to the Internet by LAN cable;
2. Using the front panel navigation menu press [OK] button to enter the device Menu;
3. Using the navigation buttons find the `7. Network` – press [OK] – navigate to `7. 1. Ethernet` – press [OK] – navigate to `3. IP`;
4. A screen containing information about the `2. DHCP Mode` and the `3. IP Address` of the device will appear.

Open a new WEB Browser and enter the device IP address in the address field then press [Enter]. A new WEB browser with DB8008's Main window will appear.



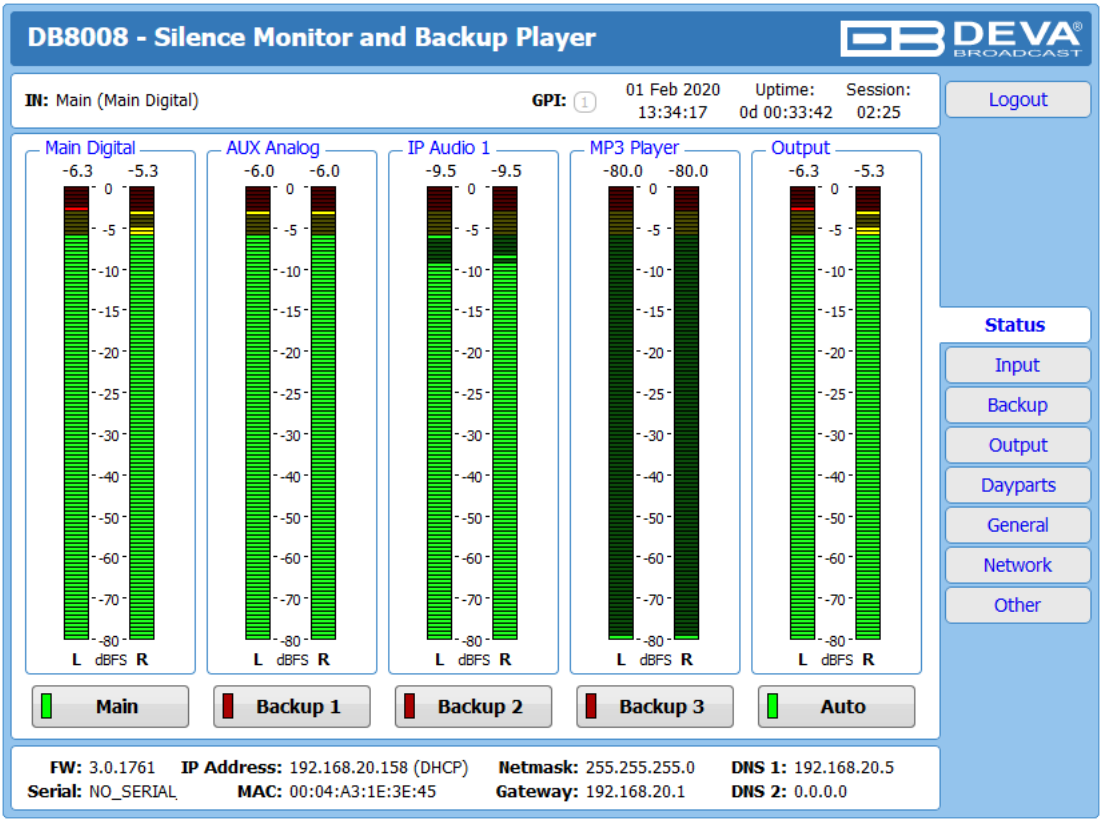

To access the device's settings press [Settings], the default values are username: *admin* and password: *pass*.



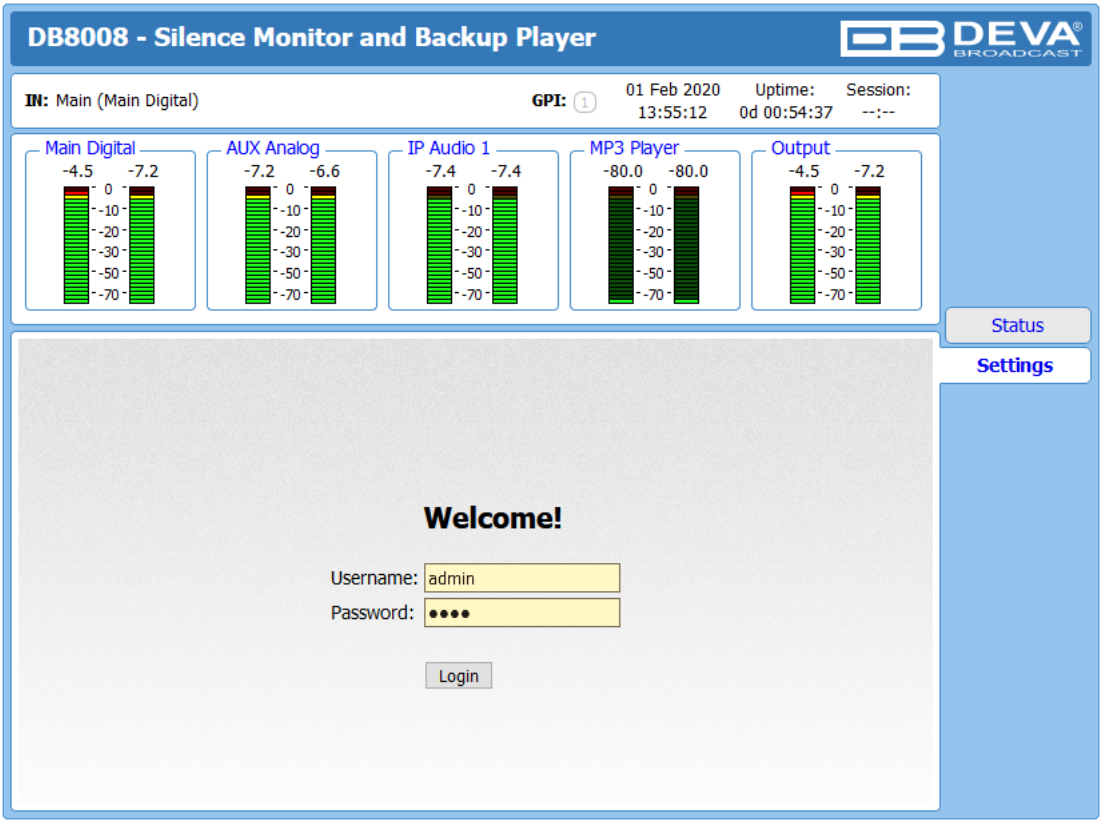

**NOTE:** Due to the inability of some WEB Browsers to read the IP address format displayed on the screen of the device, the numbers included in the IP Address must be written without the leading zeros. For example: `192.168.020.068` must be written as `192.168.20.68`

# NETWORK DISCOVERY

1. Open Advanced sharing settings by clicking the Start button, and then on “Control Panel”. In the search box, type “network”, click “Network and Sharing Center”, and then, in the left panel click “Change advanced sharing settings”.
2. Select your current network profile.
3. Click Turn on network discovery, and then click Save changes. If you’re prompted for an administrator password or confirmation, type the password or provide confirmation.
4. To access the device open a new Explorer bar and click on Network. If you have successfully enabled the network discovery option, the device will be displayed. Double click on DB8008 will open a new WEB browser with the Main window.




To access the device’s settings press [Settings], the default values are username: *admin* and password: *pass*.

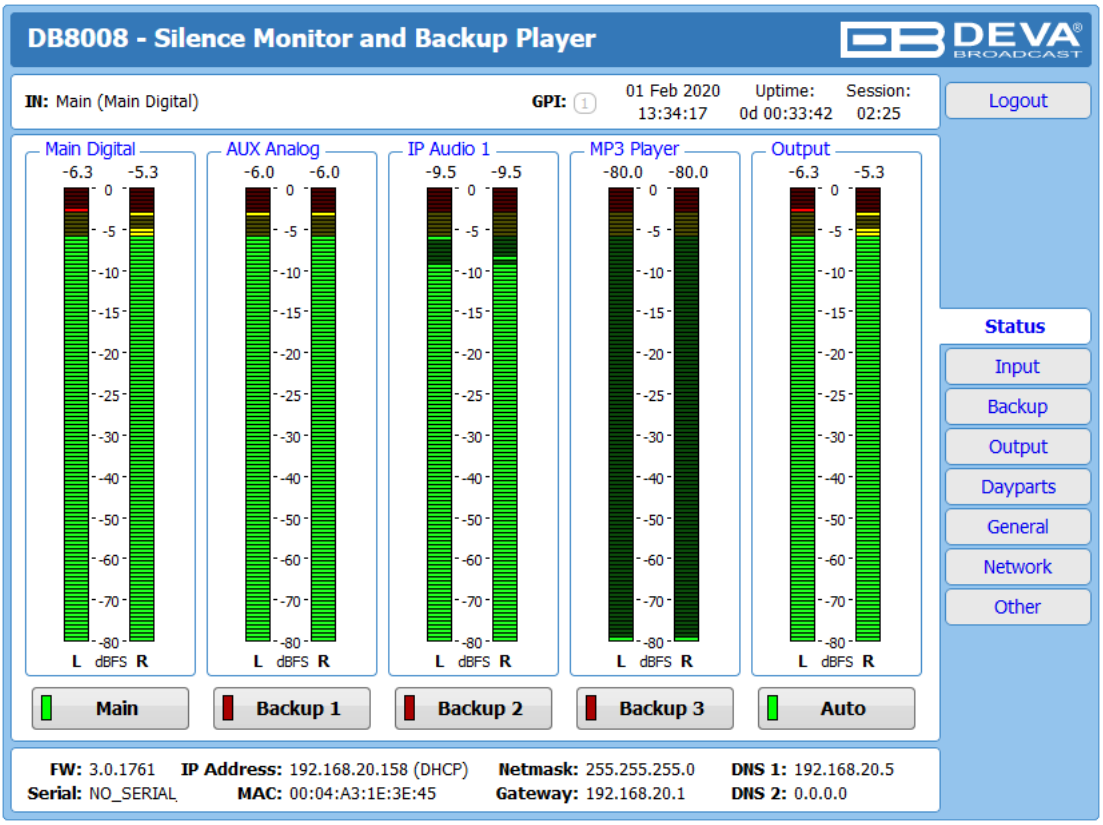



**NOTE:** If you have already enabled this function on your computer just open a new Explorer bar and click on Network. The device must be displayed. If not follow the instructions described above.

65 Aleksandar Stamboliyski Str., 8000 Bourgas, Bulgaria
Tel: +359 56 820027, Fax: +359 56 836700
E-mail: office@devabroadcast.com ,Web: www.devabroadcast.com

# DB8008 WEB interface menu pages

## STATUS




The Status screen contains information about the source levels. You can easily select the preferred audio source by using the source selection buttons.

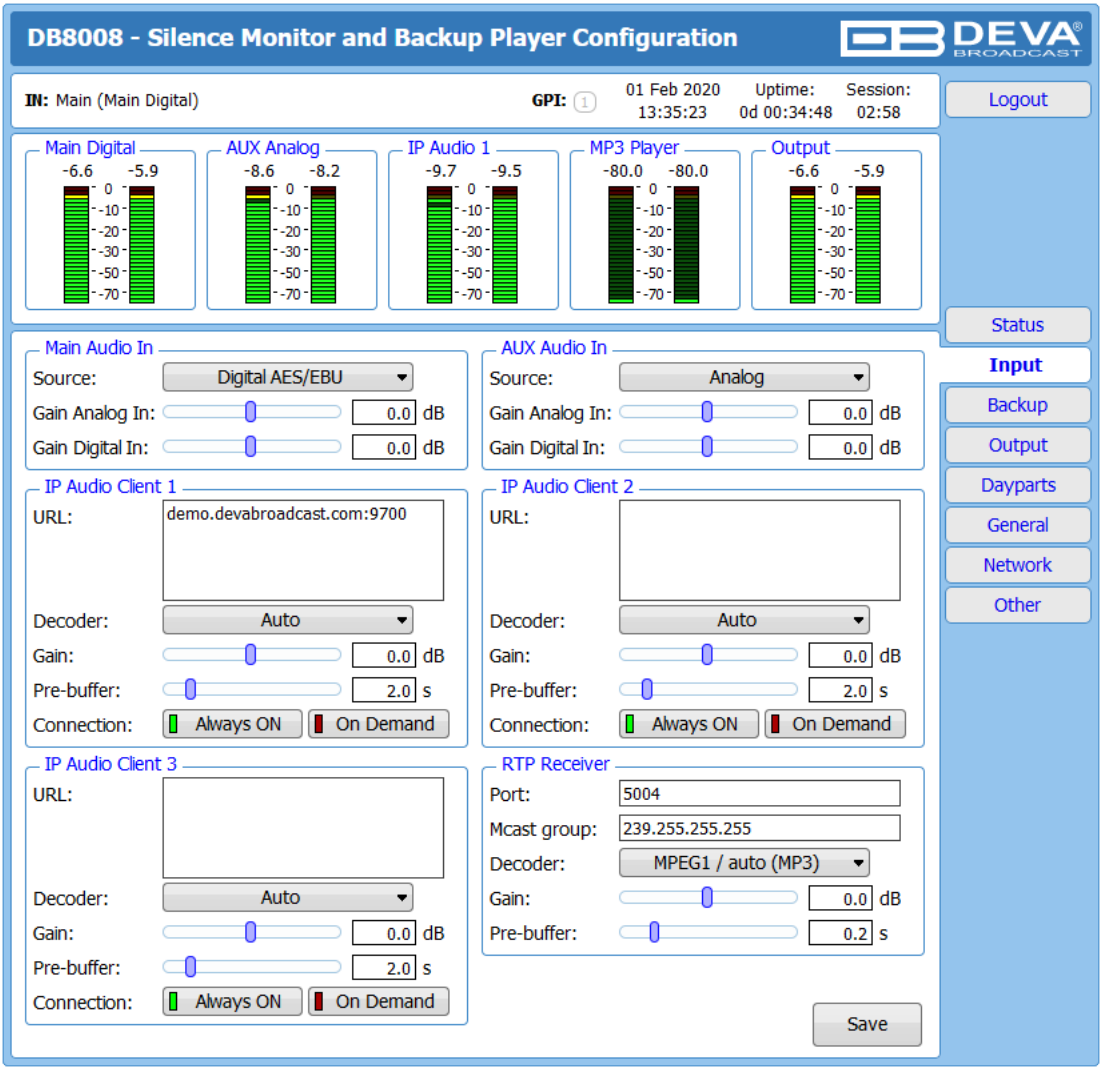
By selecting the interactive [Auto] button, the DB8008 will automatically select audio source in accordance with the applied Audio Backup Settings.

At the bottom of the control window is an information bar, gathering all the important connection parameters – Firmware Version in use, Serial Number, IP Address, and etc.

Upon change of the Web Interface screens, the main status window will resize automatically and become a constant part of each tab. Thus, allowing reading at a glance of all the mandatory parameters.

If a Backup Source is currently active, a warning message will indicate it.

# INPUT




**Main and AUX Input**

- **Source** – Select input type: Analog, Digital AES/EBU, Digital S/DIF or Digital Optical
- **Gain Analog In** – Audio gain adjust from -10 to 10 dB. Default value is 0dB.
- **Gain Digital In** – Audio gain adjust from -10 to 10 dB. Default value is 0dB.

**IP Audio Client**

Set ***Decoder*** from the drop-down menu, and ***URL*** of the stream server.

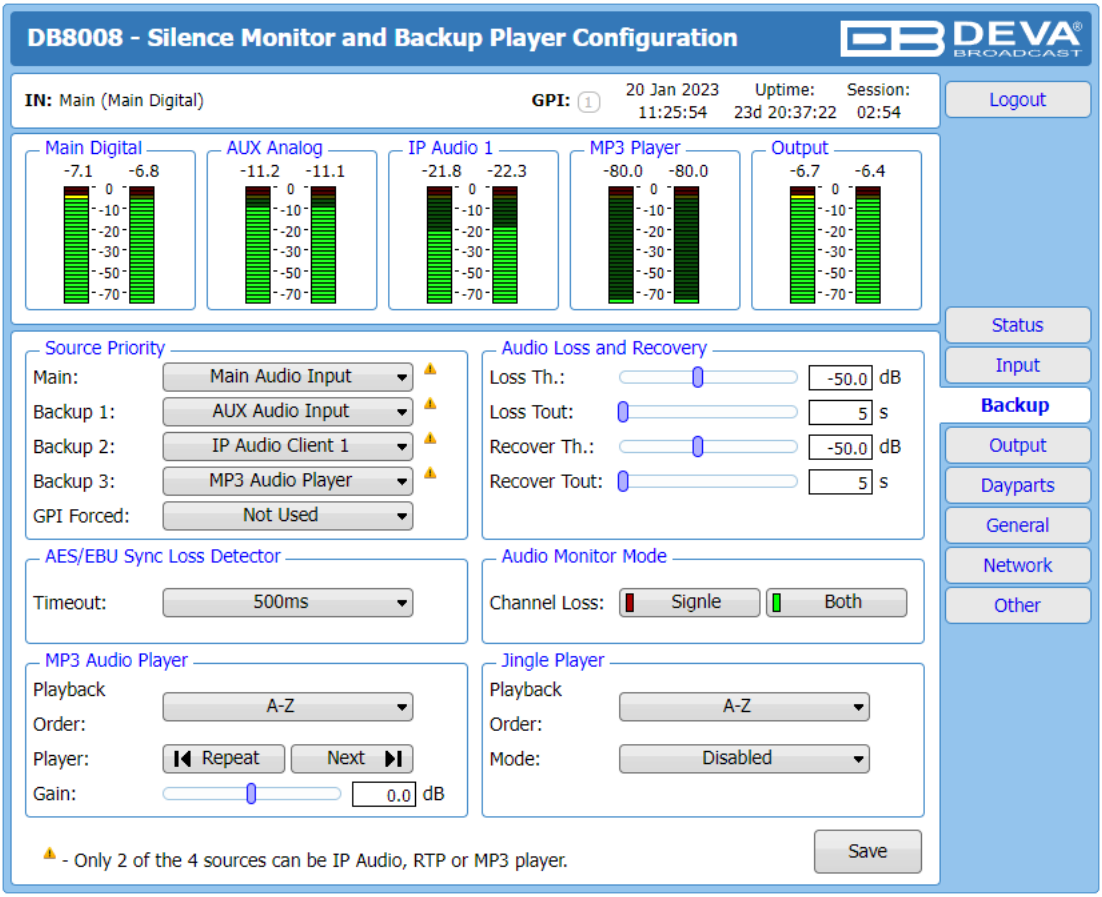
- ***Decoder*** (+ Sample rate) – Select decoder and sample rate. It can be set to **Auto** or set manually to preferred decoder and sample rate. In Auto Mode, the DB8008 will adjust decoder and sample rate, using stream supplied information. For **PCM (uncompressed)** sample rate can be **32**, **44.1** or **48** kHz. For **MPEG1** the sample rate is determined automatically from the stream.
- ***Pre-buffer*** – The minimum amount of time in which the unit will pre-buffer before playing starts in order for problems with the connection to be prevented.
- ***Connection*** - Select connection type. **On Demand** will instruct IP Audio Client to establish a connection only when it is the current audio source, otherwise it will stay disconnected. This mode is useful for metered Internet connections. When set to **Always ON** the IP Audio Client will keep the connection active even when it is not the current source.

**NOTE:** **On Demand** does not apply if IP Audio Client is the Main backup priority. In this case it will work in **Always ON** mode.

**NOTE:** If Silence is detected while in **On Demand** mode, DB8008 will switch to the next backup priority and will disconnect the IP Audio Client connection. It will not return to IP Audio Client again before it switches to Main first.

**WHEN APPLYING NEW SETTINGS** – In order new settings to take effect, it is necessary to press the [Save] button. Please keep in mind that some of the new settings can reset DB8008.

# BACKUP




The backup sources priority is user-defined and can be set through the Source Priority section. If the audio from the main source disappears, the DB8008 will automatically switch to the first backup source; if it also fails, the unit will switch to the second. Once a source with higher priority is restored, the unit will switch back to it. The GPI Forced option will force selected audio input (Main, Backup 1 or Backup 2) via GPI pin.

**Audio Loss and Audio Recovery**

Allow you to select the appropriate levels of loss and recovery of the audio signal. Do not forget to set the corresponding timeouts.

**Audio Monitor Mode**

Defines which channel will be monitored for silence and respectively switch over. The following options are available:

- **Single** – Loss is triggered if one of the channels is below the threshold. Recover is triggered when both channels are above the threshold.
- **Both** – Loss is triggered if both channels are below the threshold. Recover is triggered when one of channels is above the threshold.

**MP3 Audio Player**

The Playback Order can be changed from here. The following options are available: A-Z, Z-A, Shuffle, Playlist, and Shuffled Playlist. Information on the used and available SD card storage respectively, could also be found in this section. [Repeat] and [Next] button to navigate through the playlist if need be, are also available.

**MP3 Files Upload via FTP**

Through the use of a standard FTP client, you have the opportunity to update the backup content at will via any PC. The supported format is .mp3. An important requirement for the MP3 Player configuration is that all MP3 files should be stored in a folder named Audio (no sub-folders are allowed). The folder should be located in the root of the SD Card. The playlist file must be named playlist.m3u.

**Jingle Player**

This option is available only when the audio source is set to MP3 Audio Player. The Jingle player is designed for playing jingles (speech and music) at different intervals specified by the user. The intervals are counted by songs. From the Mode drop down menu the number of songs after which a jingle should be played is chosen. The Playback Order is also user-defined. Generally speaking, the Jingle Player allows you to make a simple radio play out.

**Jingle Files Upload via FTP**

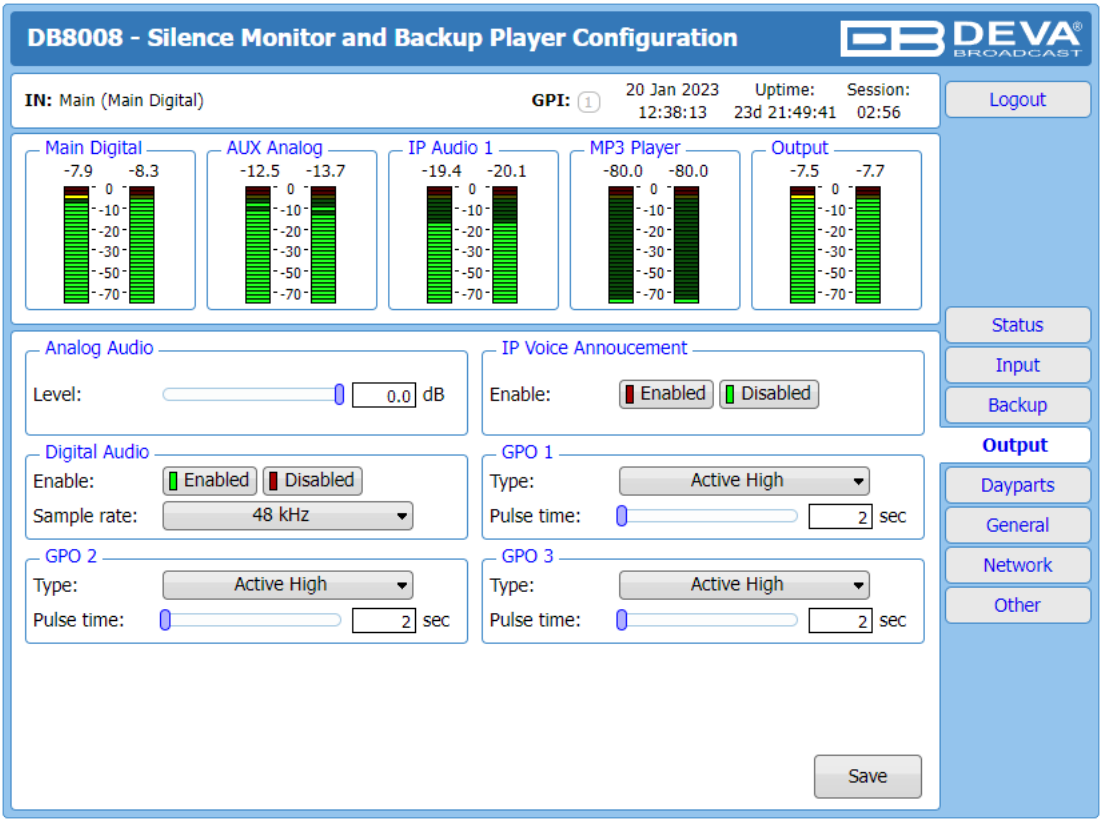
Through the use of a standard FTP client, you have the opportunity to update the backup content at will via any PC. The supported format is .mp3. An important requirement is that all jingles should be stored in a folder named 'Jingles' (no subfolders are allowed). The folder should be located in the root of the SD Card. The playlist file must be named playlist.m3u. For information on how the connection between the DB8008 and an FTP Client should be configured, please refer to "Download files via FTP" on page 53.

**How can a playlist file be made?**

1. All backup audio files, and the play list must be located in a single folder named Audio.
2. Use a plain text editor to create a file named playlist.m3u.
3. The file should be stored in the same directory where the MP3 files are (folder Audio);
4. The play list should contain only the names of the files, without path. For example: Track1.mp3
5. Each track name should be on a new line.
6. The song titles should be written in the order that should be played.

**WHEN APPLYING NEW SETTINGS** – In order new settings to take effect, it is necessary to press the [Save] button. Please keep in mind that some of the new settings can reset DB8008.

# OUTPUT




**Analog Audio**

– set the level of the Analog Audio output (in dBu).

**Digital Audio**

– enable or disable the Digital Audio output.

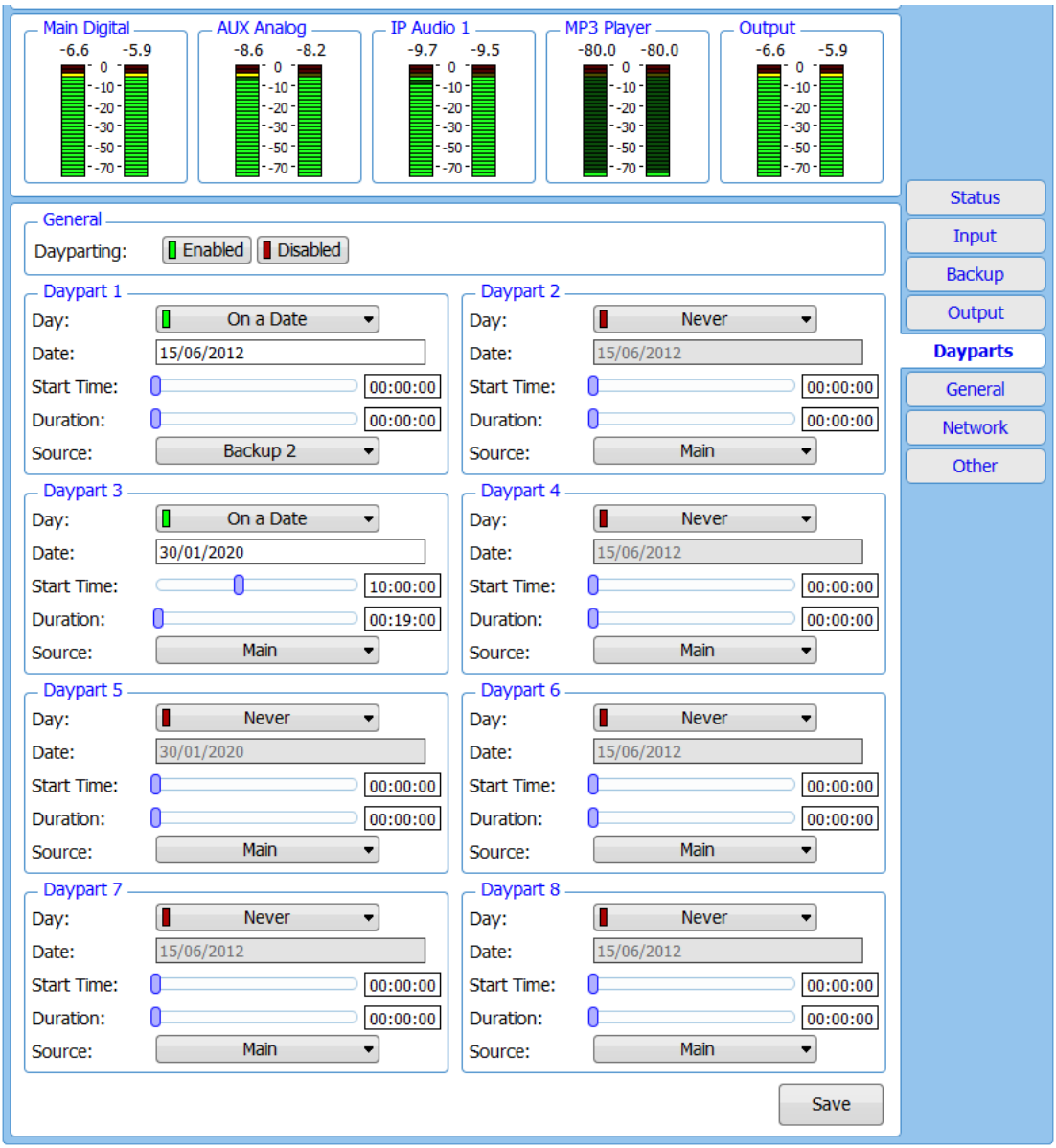
**IP Voice Announcement**

– Enables or disables the IP Voice Announcement option. By default and to ease the set-up process the option is enabled. Once the set-up process is completed, it is recommended the option to be disabled. Otherwise, the IP Voice Announcement will continue to be played.

**WHEN APPLYING NEW SETTINGS** – In order new settings to take effect, it is necessary to press the [Save] button. Please keep in mind that some of the new settings can reset DB8008.

65 Aleksandar Stamboliyski Str., 8000 Bourgas, Bulgaria
Tel: +359 56 820027, Fax: +359 56 836700
E-mail: office@devabroadcast.com ,Web: www.devabroadcast.com

# DAYPARTS




Dayparting is the practice of dividing the day into several parts, during which a different type of audio preset to be used for the audio processing. This function will allow a processing pattern based on the radio's timetable to be made.

Generally enable the Dayparts function in order to use it. Please bear in mind that if the option is generally disabled the function will not be used, nevertheless the applied settings in sections Daypart 1 to Daypart 8.

There are nine positions at your disposal that can be set. The settings to be applied for each of them are identical:

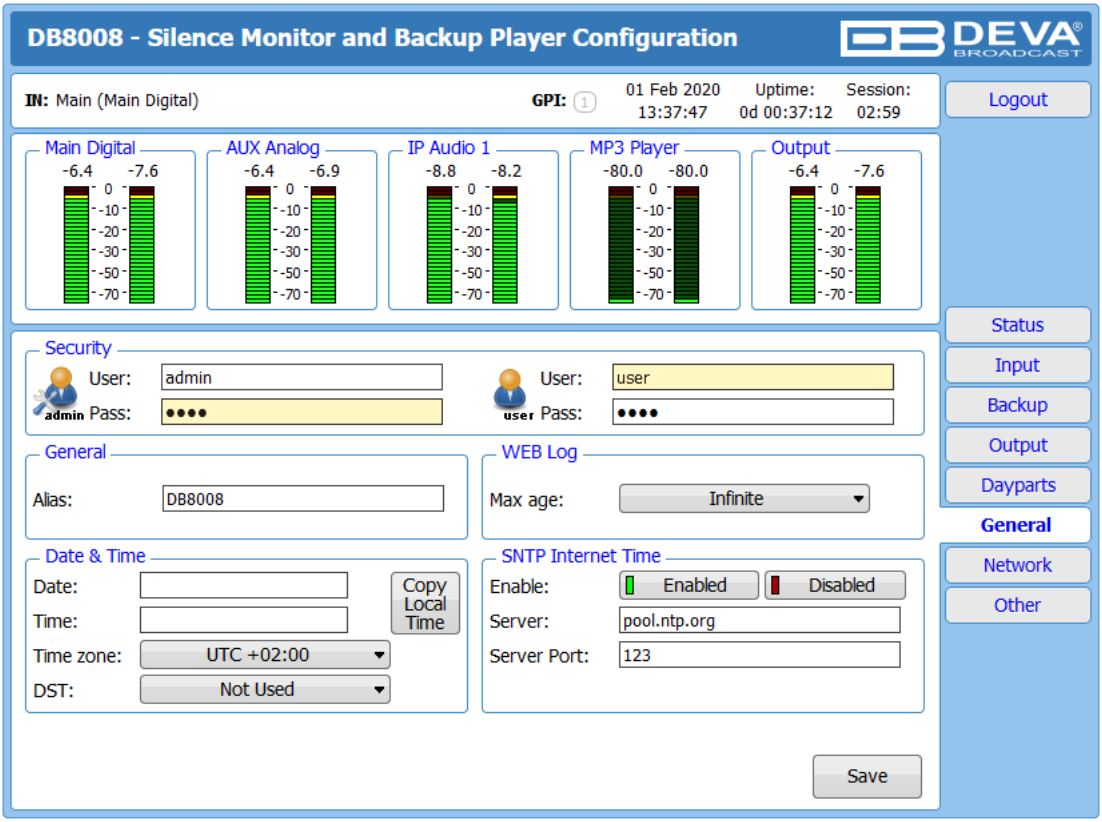
1. Select Daypart trigger day form the drop-down menu. It can be an exact date, a day of the week or every day;
2. Set the Start Time and Duration;
3. To finalize the setup, select the preset that should be used during this time period.

Repeat the same procedure for each of the positions that should be used.

**NOTE:** It is recommended the unused dayparts to be set to Never. Also, please note that if the Weekday is set to Never the relative daypart will not be used.

**WHEN APPLYING NEW SETTINGS** – In order new settings to take effect, it is necessary to press the [Save] button. Please keep in mind that some of the new settings can reset DB8008.

# GENERAL




DB8008 provides you with protected access to the device settings. You can choose between two types of log in.

- As an ADMINISTRATOR – It will give you full control over the device's settings;
- As a USER – that will allow you to just monitor the device, while all the settings remain locked.

In order for the security of DB8008 to be enhanced, new username and password could be set from the Security section.

By choice, you can change the name of the device (General section). Later on, it will be used as a title name on all WEB pages. Customizing the name will make the device more recognizable.

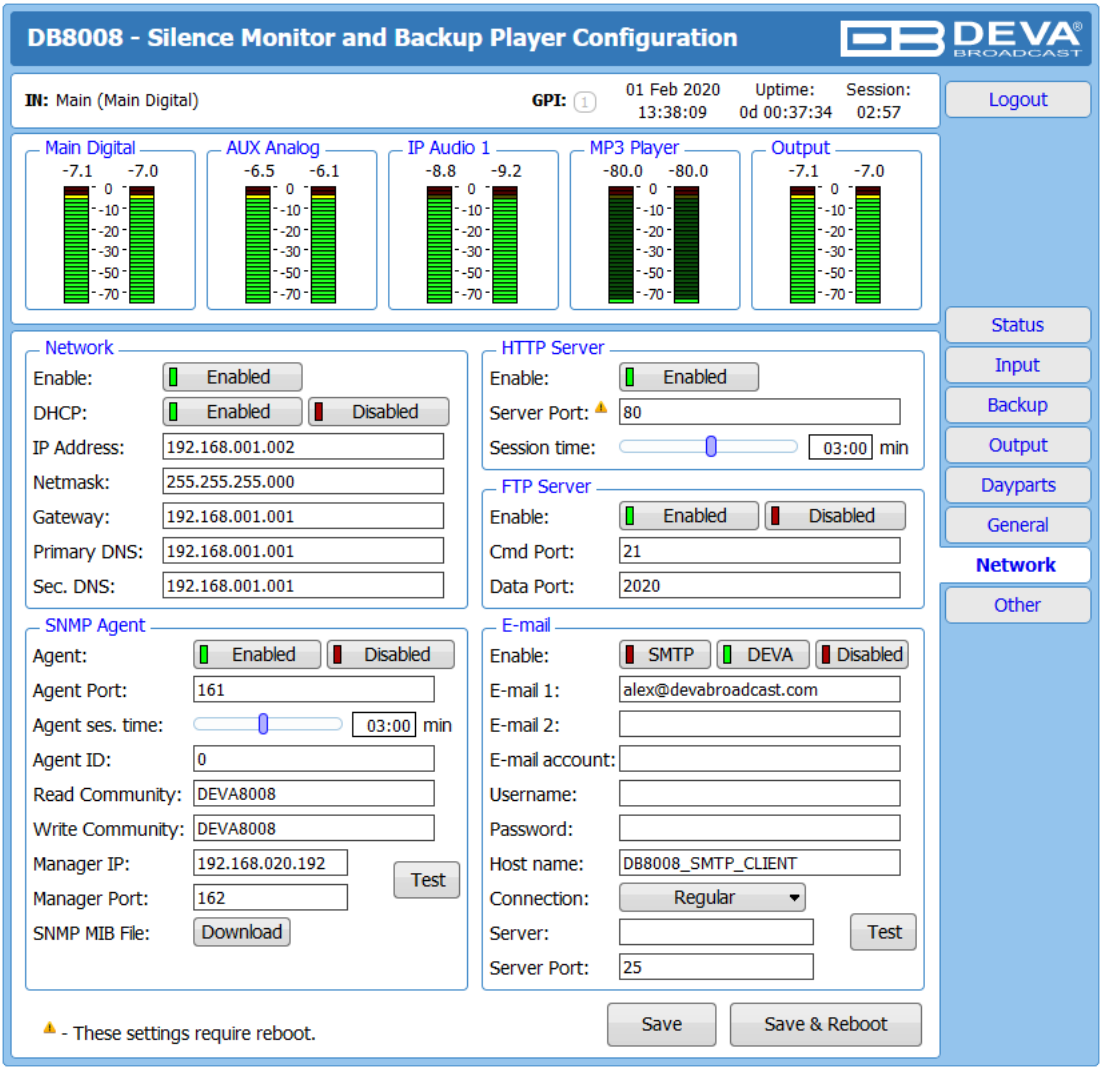
***WEB Log*** – the maximum storage time of the log files is chosen from here. Log files older than the specified will be permanently deleted.

***Date & Time*** – used for manually determining the current date and time. [Copy Local Time] button will set the Date & Time to correspond to that of your computer.

***SNTP Internet Time*** – Synchronizes automatically DB8008's clock time to a millisecond with the Internet time server. Enable this function in order to use it (Specifying the server closest to your location will improve the accuracy).

**WHEN APPLYING NEW SETTINGS** – In order new settings to take effect, it is necessary to press the [Save] button. Please keep in mind that some of the new settings can reset DB8008.

# NETWORK




**Network**

The network addresses could be set manually (static IP) or automatically via a DHCP Server. To set static IP, Netmask, Gateway and DNS addresses, the DHCP should be disabled. In order for the built-in DHCP client to be activated, the function should be enabled. When the DHCP client is activated, all assigned values will be shown in the relevant fields on the “Status Screen”. If due to any reason, the DHCP procedure cannot be completed, DB8008 will use Auto IP and will generate an IP Address.

**E-mail**

Enter the desired alarm recipients in E-mail 1 and/or E-mail 2 fields. Fill in your e-mail account settings: Sender, Username and Password, Server, Server Port and Connection Type. If you experience difficulties in the set-up, or would like to use DEVA account for sending of alarm email notifications, press the [DEVA] button option, and complete the recipient emails (E-mail 1 and E-mail 2) only. The other fields must be left blank, otherwise the email notification option will not be working. Even though using the DEVA account eases the set-up process, we recommend user account to be used for sending of email notifications, and the DEVA account for test purposes. When using DEVA account, please note that the stable 24/7 connection depends on the mail service provider and cannot be guaranteed. We recommend you to use the [Test] button and generate a test e-mail, which upon success will be delivered to the specified E-mail 1 and/or E-mail 2. Example of Test E-mail Message:

```
DB8009 Test Message.
Please do not reply to this e-mail.
```

**HTTP Server**

Enable/Disable the HTTP Server. Specify the Server Port and Session Timeout.

**FTP Server**

Enable/Disable the FTP Server. Specify the Command and Data Ports to be used. For information on how the connection between the DB8009 and an FTP Client should be configured, please refer to "Download files via FTP" on page 53.

**SNMP Agent**

Specify Agent ID, Agent Port, Read/Write Communities, Manager IP, Manager Port and Agent Session Time.

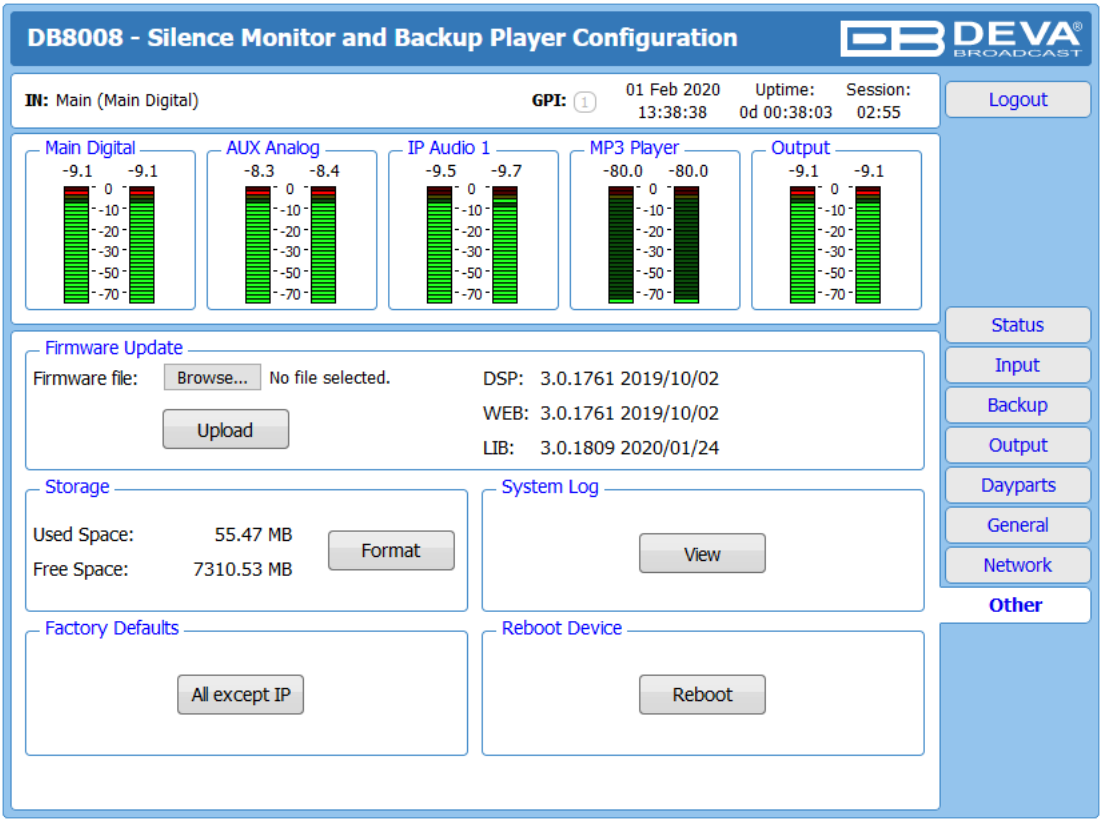
*Agent* – enables/disables SNMP Agent.

*Agent ID* – is used for identification of the device among others, when an SNMP notification is being sent. Once all needed settings are applied, use the Test button to generate a test notification, which upon success will be received by the SNMP Manager. Press the [Download] button to download the latest available DB8008 SNMP MIB file.

**NOTE:** The MIB file may vary from one firmware revision to another. Downloading this file from the device, guarantees that you have the proper MIB file.

**WHEN APPLYING NEW SETTINGS** – In order new settings to take effect, it is necessary to press the [Save] button. Please keep in mind that some of the new settings can reset DB8008.

# OTHER




**Firmware Update**

To update the device firmware, select the new firmware file. After having pressed the [Upload] button, a dialog window will appear. Confirm the firmware update and wait for the process to complete.

**Storage**

Information about the device storage space is found in this section. The internal storage could be deleted by pressing the [Format] button.

**Factory Defaults**

To restore DB8008 to its Factory Defaults press the [All except IP] button. A new window will appear - confirm that you want to restore the factory defaults and wait for the process to be completed. On completion of the process, the settings should have the proper default values, except for the Network settings (IP Address) - they will be preserved.

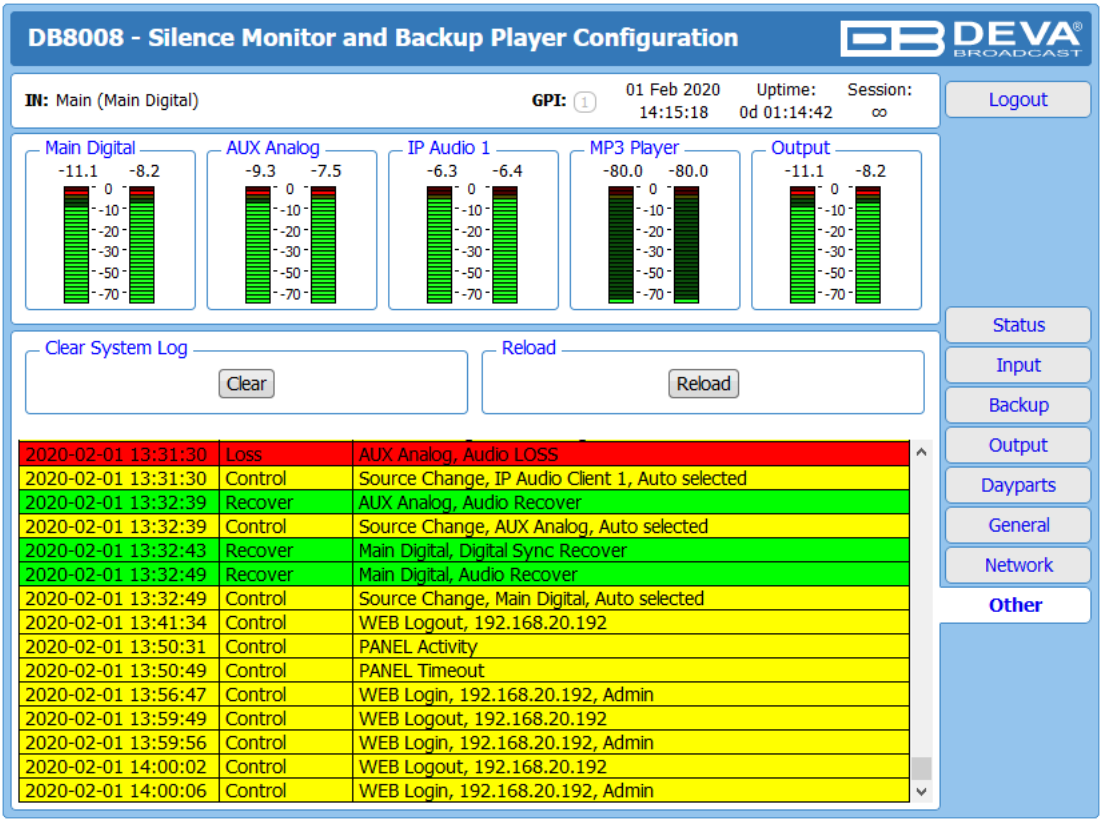
**NOTE:** When the device is returned to its factory defaults, the DB8008 will automatically use MP3 as current audio source. The device will return to its main audio source once it is restored.

**Reboot**

To start Rebooting of DB8008, press the [Reboot] button. A dialog warning window will appear. Confirm that you want to reboot the device and wait for the process to be completed.

**System Log**

By pressing the [View] button, all recorded in the system log information will be depicted on the screen. Pressing the [Clear] button will delete all recorded system log information. [Reload] will reload the data.

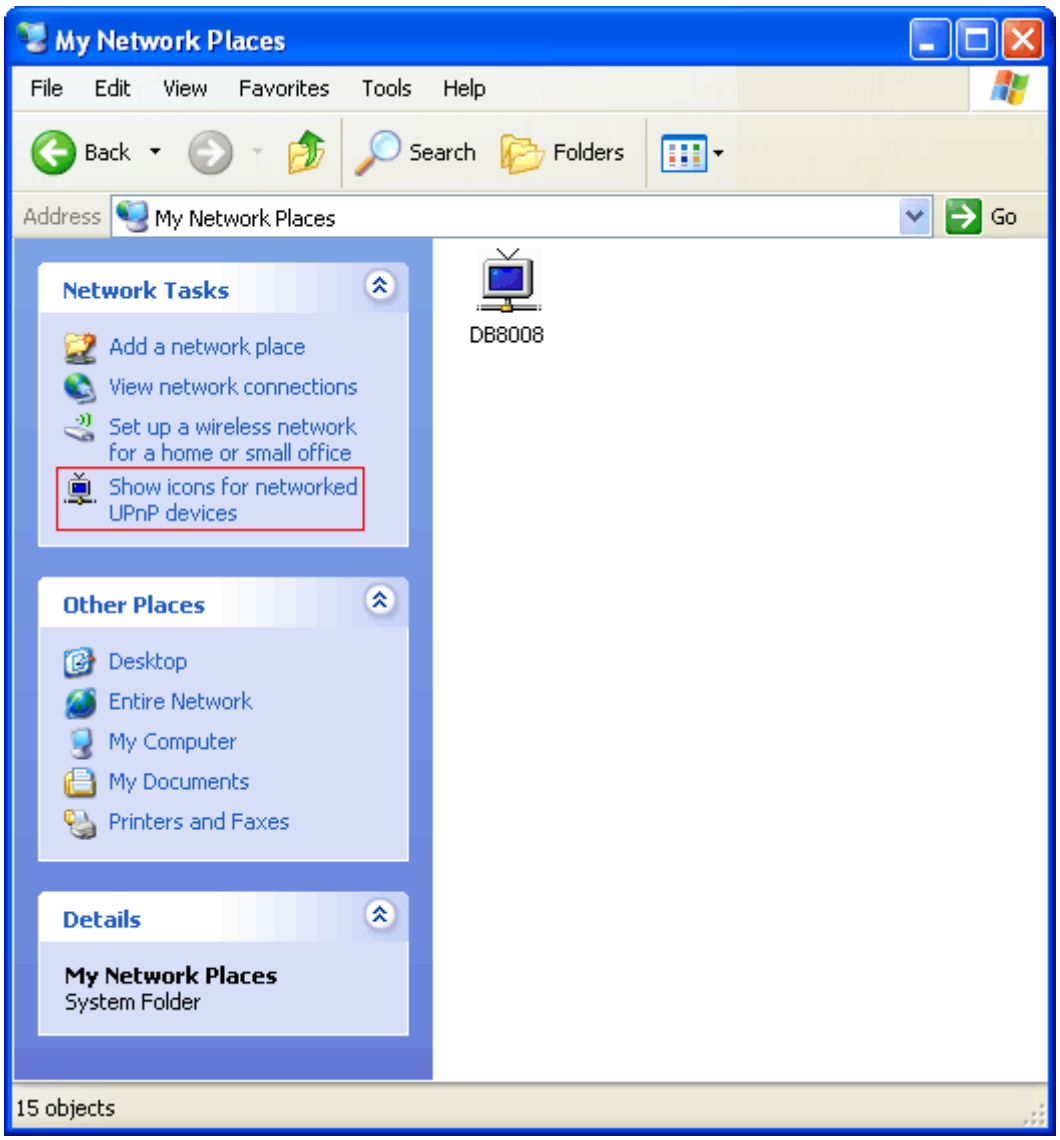



To go back to the Other section, press the back button of your web browser.

# UPnP discovery in Local Networks

DB8008 implements UPnP which lets you easily find it in your local network. For this purpose your system should have UPnP enabled (see “UPnP Activation” on page 48). To discover the device follow the next steps:

- Connect the device to the local network.
- Open “My Network Places” on your computer.
- Find the decoder’s icon.
- Double click it to open the DB8008 web interface.

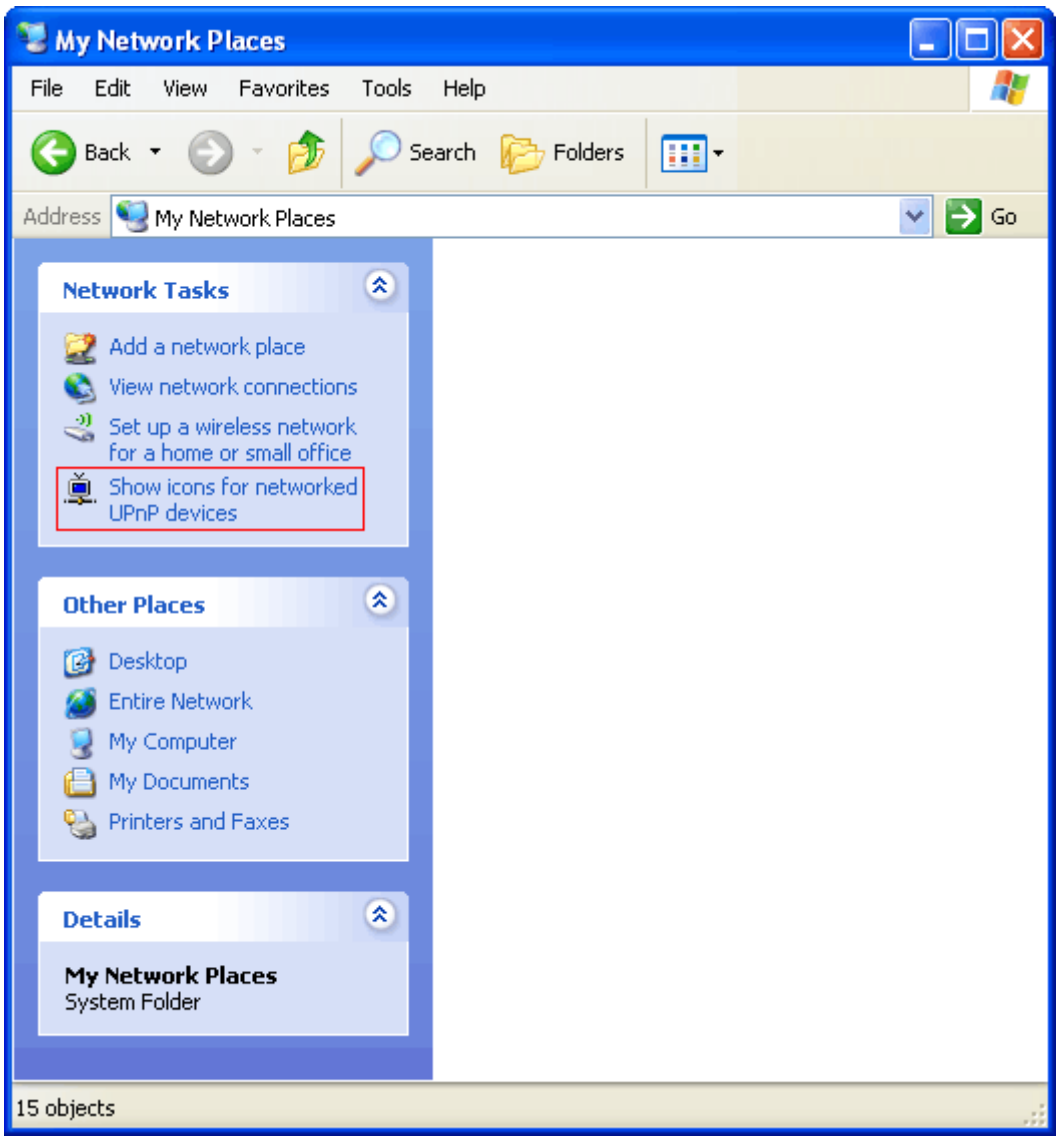


65 Aleksandar Stamboliyski Str., 8000 Bourgas, Bulgaria
Tel: +359 56 820027, Fax: +359 56 836700
E-mail: office@devabroadcast.com ,Web: www.devabroadcast.com

# UPnP Activation

**NOTE:** The following explanations apply to Windows XP SP2 or SP3! If you use another operating system, please contact your system administrator.

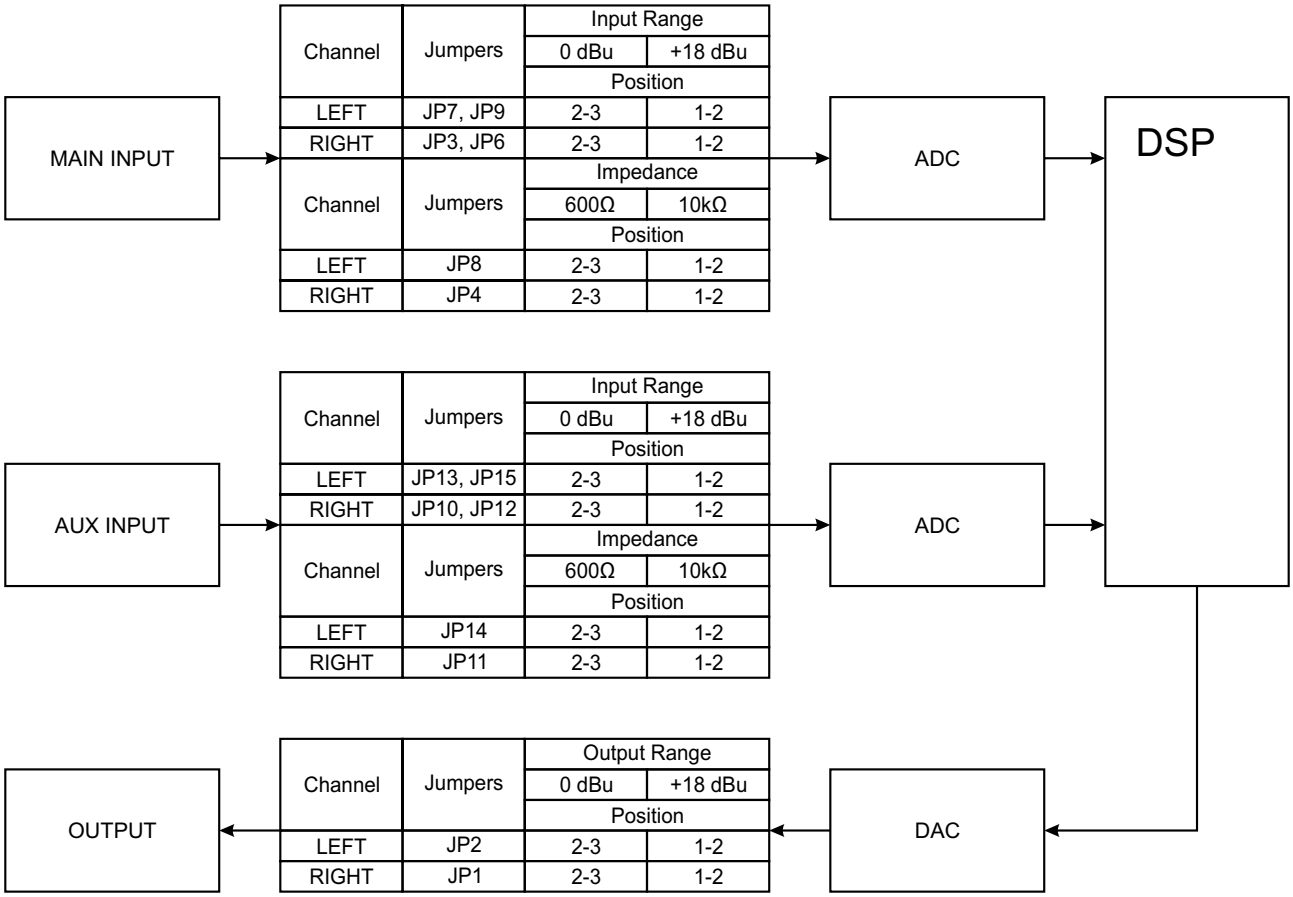
Open “My Network Places”. If you have the caption displayed in the picture below, click on it. Then click “Yes” and wait for the process to complete. Now you should see the device. If you still have troubles finding the device, please see
http://support.microsoft.com/kb/941206 or contact your system administrator.



65 Aleksandar Stamboliyski Str., 8000 Bourgas, Bulgaria
Tel: +359 56 820027, Fax: +359 56 836700
E-mail: office@devabroadcast.com ,Web: www.devabroadcast.com

# APPENDIX A

## LIST OF DB8008 JUMPER SETTINGS FOR ANALOG SIGNALS



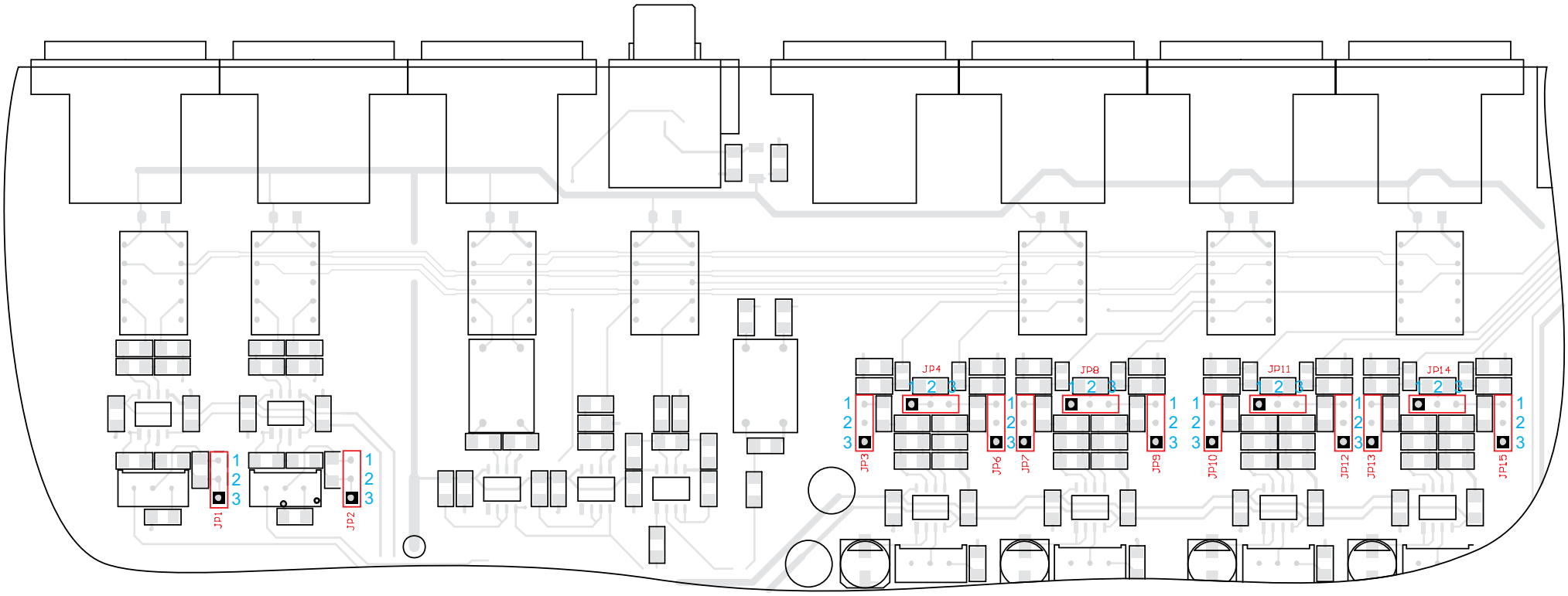

| Channel | Jumpers | Input Range | |
|---|---|---|---|
| | | 0 dBu | +18 dBu |
| | | Position | |
| LEFT | JP7, JP9 | 2-3 | 1-2 |
| RIGHT | JP3, JP6 | 2-3 | 1-2 |
| Channel | Jumpers | Impedance | |
| | | 600Ω | 10kΩ |
| | | Position | |
| LEFT | JP8 | 2-3 | 1-2 |
| RIGHT | JP4 | 2-3 | 1-2 |

| Channel | Jumpers | Input Range | |
|---|---|---|---|
| | | 0 dBu | +18 dBu |
| | | Position | |
| LEFT | JP13, JP15 | 2-3 | 1-2 |
| RIGHT | JP10, JP12 | 2-3 | 1-2 |
| Channel | Jumpers | Impedance | |
| | | 600Ω | 10kΩ |
| | | Position | |
| LEFT | JP14 | 2-3 | 1-2 |
| RIGHT | JP11 | 2-3 | 1-2 |

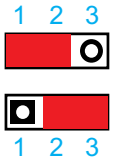
| Channel | Jumpers | Output Range | |
|---|---|---|---|
| | | 0 dBu | +18 dBu |
| | | Position | |
| LEFT | JP2 | 2-3 | 1-2 |
| RIGHT | JP1 | 2-3 | 1-2 |

65 Aleksandar Stamboliyski Str., 8000 Bourgas, Bulgaria
Tel: +359 56 820027, Fax: +359 56 836700
E-mail: office@devabroadcast.com ,Web: www.devabroadcast.com

# DB8008 JUMPERS LOCATION



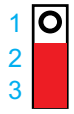

JP4, JP8, JP11, JP14




= 10 kΩ

= 600 Ω

JP1, JP2, JP3, JP6, JP7, JP9, JP10, JP12, JP13, JP15

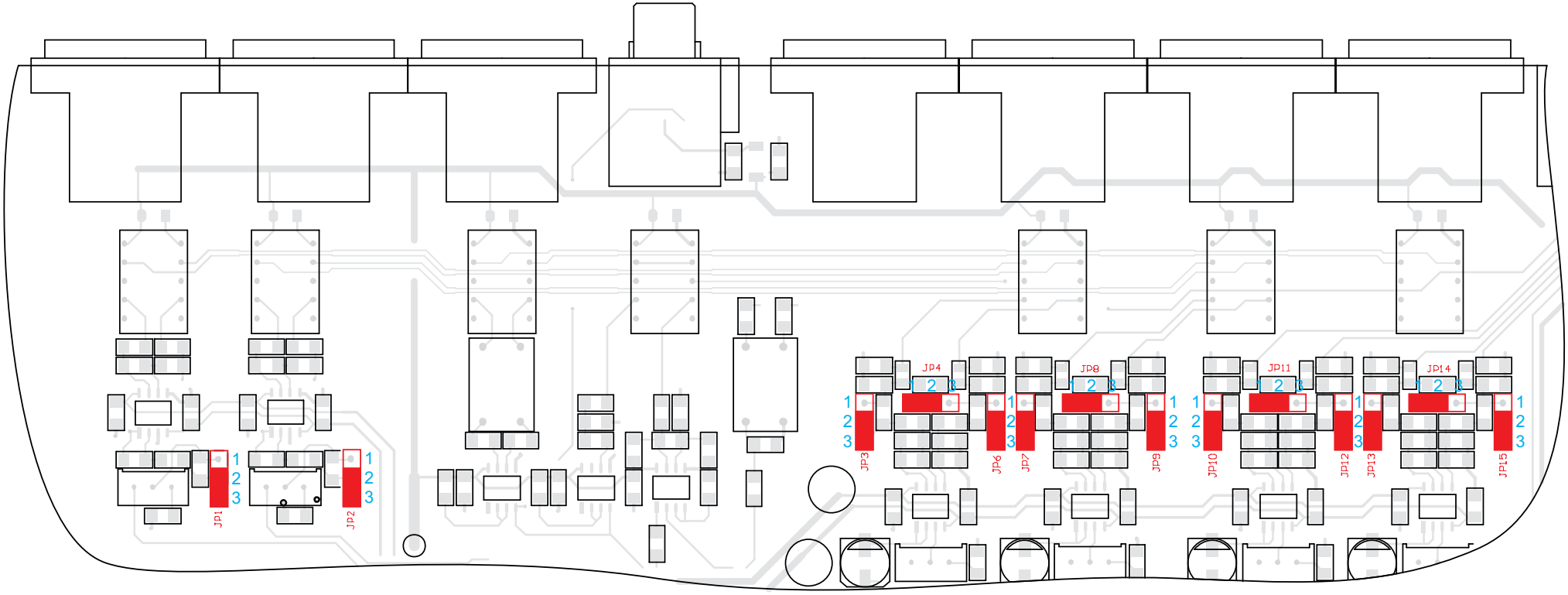



= 0 dBu

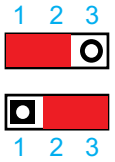
= +18 dBu

65 Aleksandar Stamboliyski Str., 8000 Bourgas, Bulgaria
Tel: +359 56 820027, Fax: +359 56 836700
E-mail: office@devabroadcast.com ,Web: www.devabroadcast.com

# DB8008 CONFIGURATION WITH IMPEDANCE 10kΩ AND 0dBu ANALOG INPUT AND OUTPUT RANGE



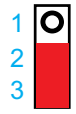

JP4, JP8, JP11, JP14




= 10 kΩ

= 600 Ω

JP1, JP2, JP3, JP6, JP7, JP9, JP10, JP12, JP13, JP15

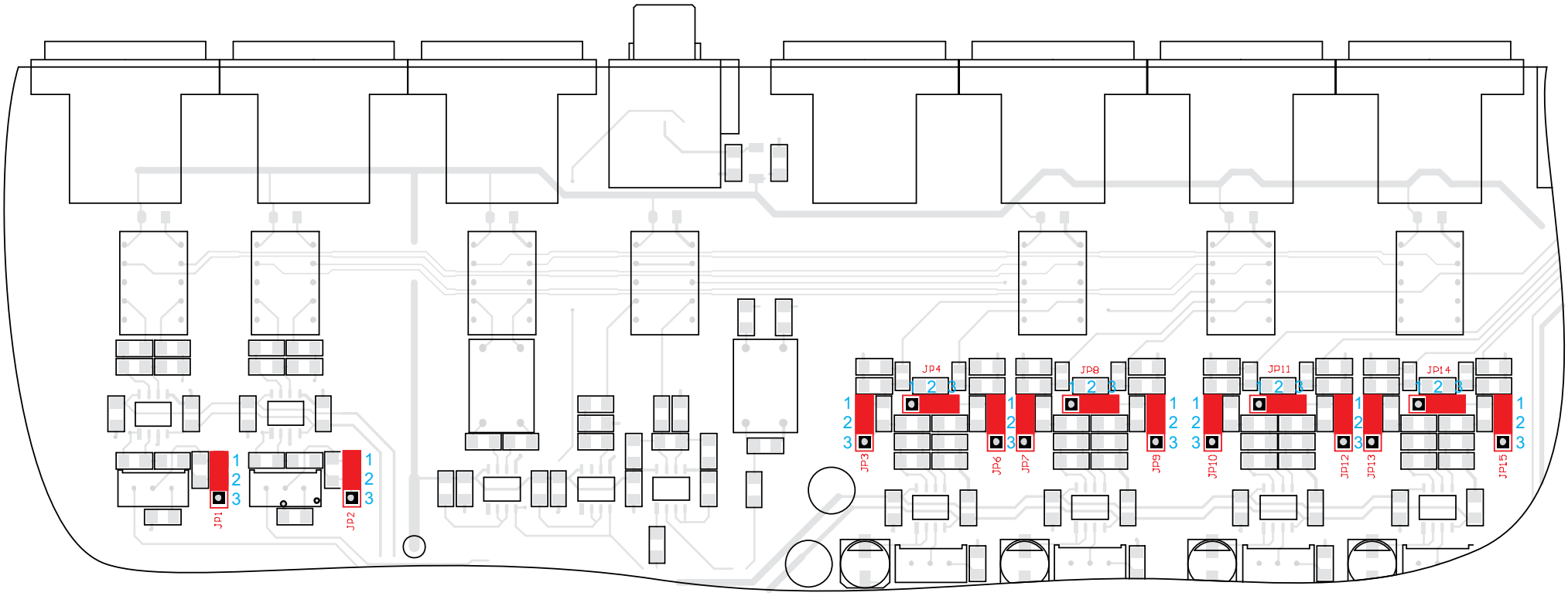



= 0 dBu

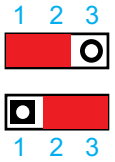
= +18 dBu

65 Aleksandar Stamboliyski Str., 8000 Bourgas, Bulgaria
Tel: +359 56 820027, Fax: +359 56 836700
E-mail: office@devabroadcast.com ,Web: www.devabroadcast.com

# DB8008 CONFIGURATION WITH IMPEDANCE 600Ω AND +18dBu ANALOG INPUT AND OUTPUT RANGE



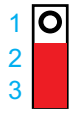

JP4, JP8, JP11, JP14



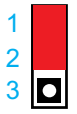

= 10 kΩ

= 600 Ω

JP1, JP2, JP3, JP6, JP7, JP9, JP10, JP12, JP13, JP15




= 0 dBu




= +18 dBu

# APPENDIX B

## HOW SHOULD I CONFIGURE THE CONNECTION BETWEEN MY DEVA DEVICE AND AN FTP CLIENT?

In order for a connection to be established the following setting should be applied:

### 1. FTP Server Settings

The built-in FTP Server has four important parameters that should be configured: Command Port, Data Port, User name and Password. These parameters are to be used in the FTP client's connection configuration. Further information on how to change the FTP Server's settings and their respective default values can be found in the device's User manual.

**WE RECOMMEND** the usage of FileZilla (https://filezilla-project.org). This is a widespread open source software distributed free of charge, hence available for downloading from the Internet.

**NOTE:** The FTP Server can manage only one connection at a time. The FTP Server works in Passive mode. Hence, the FTP Client should also be set in passive mode.

### 2. IP Router and Port Translation Settings

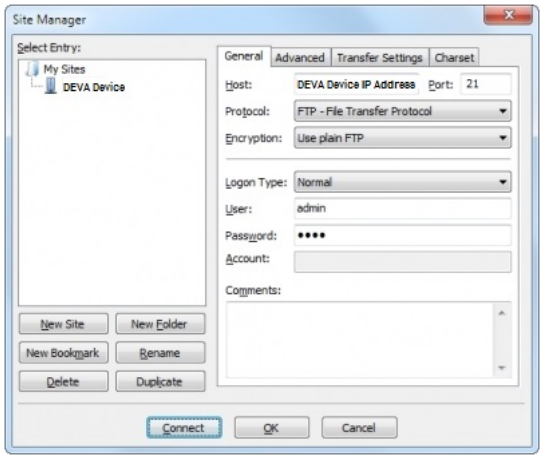
If the connection to the device is made through a Network address translation (NAT) router or firewall, the port forwarding feature of the router should be configured. The port forwarding is usually set in the firewall section of the router's menu. As each router has different port forwarding procedure, we recommend you to refer to its complete manual. To allow proper data flow through the router, the FTP Command and FTP Data ports should be open.

**NOTE:** The FTP port numbers to be used in the port forwarding feature configuration can be found in the device.

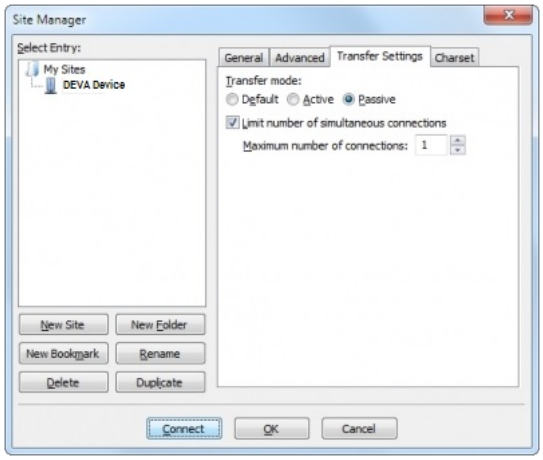
### 3. Example of FTP Client (FileZilla) Settings

In some cases, FileZilla's "Quick connect" feature is not able to connect with the DEVA unit. That is why we recommend the device to be assigned in the program manually.

Enter the FTP Client and go to: ***File > Site manager > New Site***. A dialog box requiring obligatory information about the device will appear. Fill in the needed information and press "OK".




Select "Transfer Settings" sub-menu and apply the settings as shown below:



65 Aleksandar Stamboliyski Str., 8000 Bourgas, Bulgaria
Tel: +359 56 820027, Fax: +359 56 836700
E-mail: office@devabroadcast.com ,Web: www.devabroadcast.com

# WARRANTY TERMS AND CONDITIONS

**I. TERMS OF SALE:** DEVA Broadcast Ltd. products are sold with an understanding of "full satisfaction"; that is, full credit or refund will be issued for products sold as new if returned to the point of purchase within 30 days following their receipt, provided that they are returned complete and in an "as received" condition.

**II. CONDITIONS OF WARRANTY:** The following terms apply unless amended in writing by DEVA Broadcast Ltd.

**A.** The Warranty Registration Card supplied with this product must be completed and returned to DEVA Broadcast Ltd. within 10 days of delivery.

**B.** This Warranty applies only to products sold "as new." It is extended only to the original end-user and may not be transferred or assigned without prior written approval by DEVA Broadcast Ltd.

**C.** This Warranty does not apply to damage caused by improper mains settings and/or power supply.

**D.** This Warranty does not apply to damage caused by misuse, abuse, accident or neglect. This Warranty is voided by unauthorized attempts at repair or modification, or if the serial identification label has been removed or altered.

**III. TERMS OF WARRANTY:** DEVA Broadcast Ltd. products are warranted to be free from defects in materials and workmanship.

**A.** Any discrepancies noted within TWO YEARS of the date of delivery will be repaired free of charge, or the equipment will be replaced with a new or remanufactured product at DEVA Broadcast Ltd. option.

**B.** Parts and labor for factory repair required after the two-year Warranty period will be billed at prevailing prices and rates.

**IV. RETURNING GOODS FOR FACTORY REPAIR:**

**A.** Equipment will not be accepted for Warranty or other repair without a Return Material Authorization (RMA) number issued by DEVA Broadcast Ltd. prior to its return. An RMA number may be obtained by calling the factory. The number should be prominently marked on the outside of the shipping carton.

**B.** Equipment must be shipped prepaid to DEVA Broadcast Ltd. Shipping charges will be reimbursed for valid Warranty claims. Damage sustained as a result of improper packing for return to the factory is not covered under terms of the Warranty and may occasion additional charges.

65 Aleksandar Stamboliyski Str., 8000 Bourgas, Bulgaria
Tel: +359 56 820027, Fax: +359 56 836700
E-mail: office@devabroadcast.com ,Web: www.devabroadcast.com

# PRODUCT REGISTRATION CARD

• All fields are required, or warranty registration is invalid and void

Your Company Name_____

Contact_____

Address Line 1_____

Address Line 2_____

City_____

State/Province_____ ZIP/Postal Code_____

Country_____

E-mail_____ Phone_____ Fax_____

Which DEVA Broadcast Ltd. product did you purchase?_____

_____

_____

Product Serial #_____

Purchase date_____/_____/_____ Installation date_____/_____/_____

_____
Your signature*

*Signing this warranty registration form you are stating that all the information provided to DEVA Broadcast Ltd. are truth and correct. DEVA Broadcast Ltd. declines any responsibility for the provided information that could result in an immediate loss of warranty for the above specified product(s).

**Privacy statement: DEVA Broadcast Ltd. will not share the personal information you provide on this card with any other parties.**