

MAINTENANCE AND OPERATION  
INSTRUCTION MANUAL

# DB8000

Silence Monitor  
&  
Backup Audio Player



# Contents

<b>Introduction</b> .....	<b>4</b>
<b>Typographic conventions</b> .....	<b>5</b>
<i>Product Description</i> .....	6
<i>Product Features</i> .....	7
<i>Technical Specifications</i> .....	8
<b>Before you start</b> .....	<b>10</b>
<i>Safety Precautions</i> .....	10
<i>Operating Environment Recommendations</i> .....	11
<b>Panel Indicators and Connectors</b> .....	<b>12</b>
<i>Front Panel</i> .....	12
<i>Rear Panel</i> .....	12
<b>Installation and Interconnections</b> .....	<b>13</b>
<i>AC Input Voltage Selection</i> .....	13
<i>Voltage Selector Switch &amp; Fuse Holder's location</i> .....	14
<b>Menu Structure and Navigation</b> .....	<b>15</b>
<i>Main Menu</i> .....	15
<b>Operation</b> .....	<b>16</b>
<i>Audio Levels Adjustment of Backup Audio Sources</i> .....	16
<i>Backup Source Priority Setting</i> .....	16
<i>DTMF Settings</i> .....	17
<i>MP3 Player Settings</i> .....	18
<i>MP3 Player Mode Settings</i> .....	18
<i>MP3 Player Equalizer Settings</i> .....	19
<i>Silence Detector Settings</i> .....	20
<i>Network Settings</i> .....	22
<i>IP router and Port Translation</i> .....	23
<i>Required ports for Server and Client services and applications</i> .....	23
<i>FTP Server Settings</i> .....	24
<i>E-Mail Notifications</i> .....	26
<i>SNMP Settings</i> .....	27
<i>Memory Card</i> .....	28
<i>Reset to Factory Defaults</i> .....	28
<i>Device Info</i> .....	29
<i>Exit</i> .....	29
<b>Firmware Upgrade</b> .....	<b>30</b>
<b>WARRANTY TERMS AND CONDITIONS</b> .....	<b>31</b>
<b>Product Registration Card</b> .....	<b>32</b>
<b>Appendix A</b> .....	<b>33</b>
<i>List of DB8000 Factory Default Settings</i> .....	33
<b>Appendix B</b> .....	<b>34</b>
<i>List of DB8000 Jumper Settings</i> .....	34
<i>DB8000 jumpers location</i> .....	35
<i>DB8000 configuration with impedance 10 k<math>\Omega</math> and gain 0 dB of the main and aux inputs</i> .....	36
<i>DB8000 configuration with impedance 600 <math>\Omega</math> and gain -6 dB of the main and aux inputs</i> .....	37

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

## Typographic conventions

This manual uses the following typographic conventions:

Style	Used for
<b>NOTE</b>	Important notes and recommendations
Example	Used when example text is cited
<a href="#">“Menu” on page XX.</a>	References
[OK]	Interface Interactive buttons.
<i>Settings</i>	Menu paths are represented as follows: <i>Settings</i> > <i>General</i> > <i>Backup</i>

## PRODUCT DESCRIPTION

---

DB8000 Silence Monitor & Backup Audio Player is the best device to fight the dreaded dead air problem. It is designed and built to be simple, flexible, reliable and easy for integration with the existing setups of any single station to a large radio network. The basic principle of DB8000 is that this unit can detect the silence and start playback of a preliminary created play list on the built-in MP3 player.

The MP3 backup audio files and play lists can be uploaded in the DB8000 from your PC using any FTP client. The audio storage capacity of DB8000 is 2 Giga Bytes.

The DB8000 provides additional security in case of loss of audio at the inputs. The audio backup is presented as an integrated auxiliary audio input for external program backup audio source and built-in MP3 audio player. Internal bass and treble controls module allow advanced audio adjustment of the MP3 backup audio.

The unit has DTMF remote control features. Preliminary assigned up to 3 digits DTMF tone combination can change the audio source input or just to start playing from the play list of the built-in MP3 Audio Player. Through this feature DB8000 can be used for local content, regional advertisement or sports insertion in the event of main input failure.

## PRODUCT FEATURES

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- Automatic changeover to backup program line on main audio loss
- Automatic activation of continuous backup built-in MP3 Audio Player if the secondary source is not available
- Response time adjustable from 1 second to 255 seconds
- Passive through audio switching
- Compatible with all analog program sources
- Selectable Backup Audio Source Priority
- Continuous backup from built-in MP3 Audio Player with 2GB Internal Memory
- Advance Bass and Treble controls for the MP3 Audio Player
- Built-in DTMF remote control system for source selection
- Capable of over 24 hours of non-repeating audio playback
- SNMP Control and Notification
- E-mail Client
- Easy Device Remote Manager
- Professional Balanced Stereo analog inputs and outputs on XLR connectors
- Digital Volume Control of the Backup Sources
- Headphones Jack on the front panel for local monitoring of the Audio Signal
- Professional 19 inches, 1U aluminum rack mount chassis
- Wide Range Internal Power Supply 100-240VAC 50-60Hz
- Easy Installation and Operation
- Firmware Upgrade Enabled

## TECHNICAL SPECIFICATIONS

<b>Main Audio Inputs</b>	
Connectors	Balanced XLR-3
Input Impedance	600 $\Omega$ , Balanced with RF Filter
Normal Input circuit	passively connected to the output
<b>Auxiliary Audio Input</b>	
Connectors	Balanced XLR-3
Input Impedance	600 $\Omega$
Level	2 ranges: 0 dBu or +6 dBu Jumper selectable, with software adjustments
<b>Backup Audio MP3 Player Source</b>	
Storage Capacity	2GB Internal Memory SD Card
File types supported	MPEG1 layer III MPEG2 layer III MPEG2.5
MP3 bit rates supported	8-320 kbps and VBR
Sample rates supported	48, 44.1, 32, 24, 22.05, 16, 12, 11.025, 8 kHz
<b>Audio Output</b>	
Connectors	Balanced XLR-3
<b>Output Impedance</b>	
Normal output circuit	Passively connected to main analog inputs
Backup output circuit	Active, Balanced 600 $\Omega$
<b>Silence Detector Thresholds and Switching timers</b>	
Silence Sensitivity Range	Adj. from -40 dBu to 0 dBu
Backup Start Time	Adj. from 0 sec to 255 sec
Main Signal Recovery Time	Adj. from 0 sec to 255 sec
<b>Audio Performances</b>	
Frequency Response	$\pm 0.5$ dB, 5 Hz-20 kHz
Audio Separation	>90 dB (typically 100 dB)
Noise	Better than -90 dB
Distortion	<0.5%THD
Main Signal Recovery Time	Adj. from 0 sec to 255 sec
<b>Storage</b>	
Capacity	2GB Built in Memory Card
Data formats	*.MP3; *.M3U for Playlists
<b>User interface</b>	
Indicators	4 LEDs and Navigation Buttons (on front panel)
Headphone output	1/4" (6.35mm) phone jack (on front panel)
Display	Superb 2x40 characters, LCD

<b>Operating conditions</b>	
Equipment operational between	10°C to 60°C
EMC immunity	6V/m
<b>Front Panel's Headphones Output</b>	
Connector	Stereo, 1/4" (6.35mm) phone jack
Volume	Adjustable
<b>TCP/IP Communication</b>	
Type	RJ45 Ethernet 10M Base-T Port
Connector	RJ45, rear panel
<b>Power Requirement</b>	
Power supply	110/220 V (internal switch)
Connector	IEC320, rear panel
<b>Size and Weight</b>	
Dimensions (W x H x D)	1U, 19" x 1.7" x 6.9"
Weight	8 lbs

## Before you start

### **SAFETY PRECAUTIONS**

---

After removing any housing parts and electronic assemblies it is possible to get access to live parts. It is essential to ensure that the subsequent safety rules are strictly observed:

- Servicing of electronic equipment must be performed by qualified personnel only.
- Before removing covers the equipment has to be switched off and the mains cable unplugged.
- When the equipment is open the power supply capacitors have to be discharged by the help of a suitable resistor.
- During servicing unprotected and operating equipment:
  - never touch bare wires or circuitry;
  - use insulated tools only;
  - never touch metal semiconductor cases because they may carry high voltages;
- For removing and installing electronic components, please follow the recommendations concerning the handling of MOS components.

## OPERATING ENVIRONMENT RECOMMENDATIONS

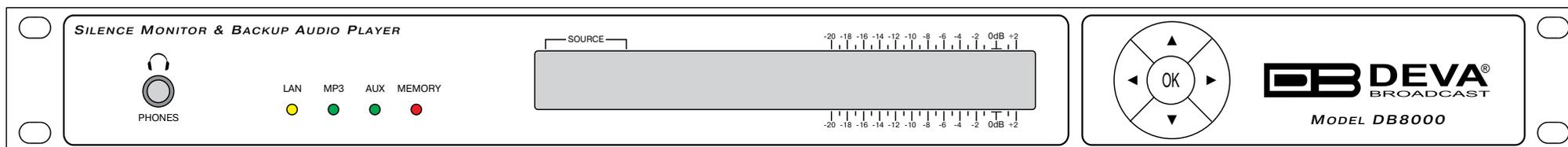
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For the normal and reliable operation of the DB8000 device we recommend to follow the next list of instructions:

- Please, install the unit only in places with good air conditioning. The unit has been designed for operation within an ambient temperature range extending from 10 to 60°C. But because adjacent, less efficient equipment may radiate substantial second-hand heat, be sure that the equipment rack is adequately ventilated to keep its internal temperature below the specified maximum ambient temperature.
- We do not recommend installation in rooms with high humidity, dusty places or other aggressive conditions.
- Although it is expected that DB8000 will be installed close to exciters (or transmitters of even higher-power!), please practice reasonable care and common sense in locating the unit away from abnormally high RF fields.
- Please, use only already checked power supply cables and sources. The shielded cables usage is strongly recommended.
- We strongly recommend connecting the device only to reliable power supply sources.
- In case of unstable power supply, please use UPS (Uninterruptible Power Supply).
- Please, use the device only with placed top cover to avoid any electromagnetic anomalies which may cause problems of the normal functionality of the unit.
- Please, connect DB8000 only to good quality Internet connection. This is very important for the normal remote operation of the unit.
- Please, check if your network settings pass through all the data traffic required for the normal operation of DB8000 unit.

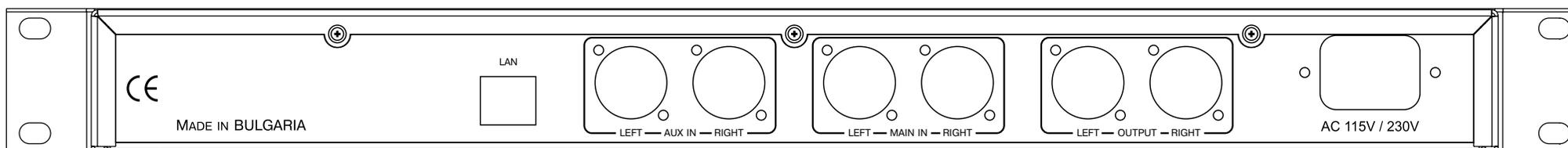
## Panel Indicators and Connectors

### FRONT PANEL



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

### REAR PANEL



- LAN – RJ-45 connector for TCP/IP connection;
- AUX IN (LEFT and RIGHT) – Auxiliary Source Input connectors, XLR type;
- MAIN IN (LEFT and RIGHT) – Main Source Input connectors, XLR type;
- OUTPUT (LEFT and RIGHT) – Output Connectors, XLR type;
- AC 115V/230V – Mains connector, IEC320 type;

## Installation and Interconnections

Before connecting the AC Power, make certain that the internal Power Switch and the fuse rating are in accordance with the mains supply at your location.

**ATTENTION:** DB8000 Power Supply Factory Settings are:

- 220 VAC
- 1-Amp fuse

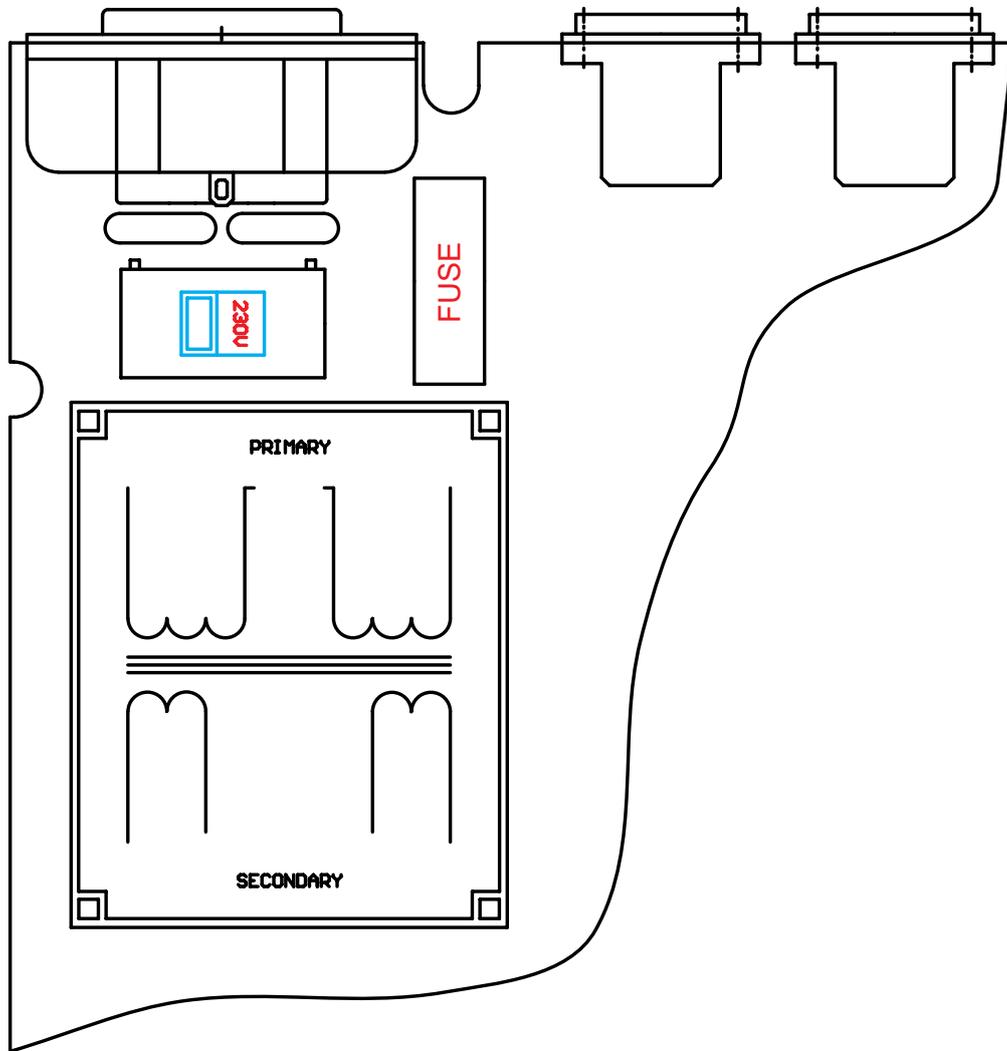
**CAUTION:** permanent damage will result if improper AC supply voltage is applied to the DB8000 device. Your warranty does not cover damage caused by applying improper supply voltage, or use of an improper fuse.

Changing AC Input Voltage Selection requires only a screwdriver and is not difficult (see below), but you should make sure the power supply is set up correctly before connecting power.

### AC INPUT VOLTAGE SELECTION

- Disconnect the AC power cable from the AC outlet.
- Disconnect all cables from the DB8000's rear panel.
- Remove the two screws from each side of the DB8000, and the three screws from the top edge of the rear panel. Slide the top cover towards the rear, mindful not to damage the XLR connectors on the rear panel and then remove the cover.
- Locate the Voltage Selector Switch. It is a clearly marked slide switch next to the IEC-320 power cable connector. Move it to the "115" position for operation from 100 – 120 VAC, or to the "230" position for operation from 200 – 240 VAC.
- Locate the fuseholder (next to the Power Switch) and replace the fuse (**if needed**). Always use fuses with the following ratings:
  - 1-Amp for 220 VAC mains voltage;
  - 2-Amp for 110 VAC mains voltage;
- Replace the top cover and its seven screws.

## VOLTAGE SELECTOR SWITCH & FUSE HOLDER'S LOCATION





## Operation

### AUDIO LEVELS ADJUSTMENT OF BACKUP AUDIO SOURCES

Levels of the Backup Audio Signal Sources can be digitally adjusted. The range is -63dB to 0dB for the AUX Input and -70dB to 0dB for the MP3 Player respectively. Additionally the output level can be decreased by - 6dB using jumpers JP13 and JP14 ([see “List of DB8000 Jumper Settings” on page 34](#)).

To perform Level Adjustment of both the Alternative Audio Signal Sources using the front panel Keyboard, next steps are to be followed:

1. While in the Main Menu press the **OK** button;
2. The following Sub-menu will open:

```
1. Audio Levels Adjust:  AUX Input:  0dB
                       MP3 Input:  0dB
```

3. Press again the **OK** button;
4. By **UP** or **DOWN** keys move the cursor and select the Backup Source to be adjusted;
5. Press the **OK** button. Value to be edited will start blinking;
6. Using **UP** or **DOWN** keys enter a new value;
7. Press the **OK** button to confirm;
8. Press the **LEFT** key to exit to the Sub-menu or keep it pressed for more than 2 seconds to exit to the Main Menu;

### BACKUP SOURCE PRIORITY SETTING

One of the Backup Sources (Aux Input or MP3 Player) will be automatically fed to the DB8000 Output Circuit upon Main Signal interruption or when its level drops down below a specified Threshold level. To select the priority of any of the two Backup Sources, next steps are to be followed:

1. While in the Main Menu press the **OK** button;
2. Press the **DOWN** key and select Sub-menu **2. Backup Source Priority**. The Sub-menu that will be displayed looks as the one shown below:

```
2. Backup Source Priority:  AUX Input
                          MP3 Input
```

3. Press again the **OK** button;
4. By **UP** or **DOWN** keys select the **MP3 INPUT** or **AUX INPUT**; Selected Backup Audio Source will move up on the top;
5. Press the **LEFT** key to exit to the Sub-menu or keep it pressed for more than 2 seconds to exit to the Main Menu;

## DTMF SETTINGS

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There is a standard DTMF decoder built into DB8000 and connected to the MAIN Input. Symbols that can be used are the standard ones for any DTMF decoder: – 0-9 figures, ‘A’ through ‘D’ letters and the special symbols \* and #. By applying DTMF codes, the Backup Signal Sources can be controlled. Codes that are used are “Start” and “Stop” and the following operations can be performed:

- Aux Stat Code – the Aux Input Source will be activated and connected to the Output Circuit of DB8000;
- Aux Stop Code – the Aux Input Source will be deactivated and the Main Input Signal Source will be connected to the Output Circuit of DB8000;
- MP3 Start Code – the MP3 Player will be activated and connected to the Output Circuit of DB8000;
- MP3 Stop Code – the MP3 Player will be deactivated and the Main Input Signal Source will be connected to the Output Circuit of DB8000;

*Please note there must be no coincidence between the codes for any of the above operations.*

It must be noted that the Silence Detector ([see “Silence Detector Settings” on page 20](#)) will be switched off anytime there is a DTMF Start Code sent to any of the Backup Signal Sources. The Silence Detector will be activated back again at the time a DTMF Stop Code is received.

To perform DTMF Codes configuration next steps are to be followed:

1. While in the Main Menu press the **OK** button;
2. Press the **DOWN** key and select Sub-menu **3. DTMF Settings**.
3. Press again the **OK** button. Now the **DOWN** key can be used to see the whole Sub-menu. The DTMF Sub-menu looks as shown below:

```
3. DTMF Settings      AUX Start code: ____  
                      AUX Stop code:  ____
```

```
3. DTMF Settings      MP3 Start code: ____  
                      MP3 Stop code:  ____
```

4. Using **UP** or **DOWN** keys move the cursor to select the parameter to be edited.
5. Press the **OK** button once again and the editing field will start blinking. Values that are needed can be selected by **UP** or **DOWN** keys. To move between the parameter’s fields use **LEFT** or **RIGHT** keys.
6. Press again the **OK** button to confirm selected code.
7. Press the **LEFT** key to exit to the Sub-menu or keep it pressed for more than 2 seconds to exit to the Main Menu;

**NOTE:** DTMF Codes to control the Backup Signal Sources can be 2 or even 1 symbol instead of 3 symbols .

## MP3 PLAYER SETTINGS

---

An important requirement for the MP3 Player configuration is that all MP3 files must be stored in a folder named MP3. On the other hand the MP3 folder must be located in the Main directory of the MicroSD Card.

The other compulsory requirement is to have a play list file whose name must be “playlist.m3u” located in the MP3 folder. Except for playing the stored MP3 files in a sequence defined by the User himself, this file is required for the normal operation of the MP3 Player.

It must be noted also, that the file names must be no longer than 8 symbols followed by 3 symbols extension. If there is a file whose name is longer than 8 symbols the MP3 Player will return with **Error Message** and the file will not be accepted. If there is a pre-recorded file on the MicroSD Card with a file name longer than 8 symbols, this file will be skipped for playing.

### MP3 Player Mode Settings

There are two modes of MP3 playback:

- List – all the files will be played in the way they are stored in the “playlist.m3u”;
- Shuffle – MP3 files will be played in random order from the “playlist.m3u”.

To perform MP3 Player Mode configuration, next steps are to be followed:

1. While in the Main Menu press the **OK** button;
2. Press the **DOWN** key and select Sub-menu **4. MP3 Player Settings**. The Sub-menu that will appear looks as shown below:



```
4. MP3 Player Settings      MODE: List
                             Equalizer
```

3. Press the **OK** button;
4. Using **UP** or **DOWN** keys move the cursor and select **Mode**;
5. Press the **OK** key. Selected mode will start blinking;
6. Using **UP** or **DOWN** key select **List** or **Shuffle**;
7. Confirm selection by pressing the **OK** button;
8. Press the **LEFT** key to exit to the Sub-menu or keep it pressed for more than 2 seconds to exit to the Main Menu;

## MP3 Player Equalizer Settings

In order to improve the Output Audio Signal's quality of the MP3 Player there are built-in digital Bass and Treble Equalizers. Frequencies to be enhanced for the Bass Equalizer are ranging from 20Hz to 150Hz and amplified between 0dB and 15dB. For the Treble Equalizer frequencies to be enhanced are within the range of 1kHz to 15kHz and the levels are between -8dB to 7dB.

To configure the Bass and Treble Enhancers, next steps are to be followed:

1. While in the Main Menu press the **OK** button;
2. Press the **DOWN** key and select Sub-menu **4. MP3 Player Settings**. The Sub-menu that will appear looks as shown below:

```
4. MP3 Player Settings      MODE: List  
                           Equalizer
```

3. Press the **OK** button;
4. Using **UP** or **DOWN** keys move the cursor down and select **Equalizer**;
5. Press the **OK** button. The **DOWN** key can be used to navigate through this Sub-menu. The Equalizer's Sub-menu looks like below:

```
4. Equalizer                Bass Freq : 90Hz  
  *Bass Settings*          Bass Level:  0dB
```

```
4. Equalizer                Treble Freq : 1kHz  
  *Treble Settings*        Treble Level:  0dB
```

6. Using **UP** or **DOWN** key move the cursor and select the parameter to be edited;
7. Press the **OK** button again and selected parameter will start blinking;
8. Using **UP** or **DOWN** key to enter the needed value;
9. Press the **OK** button to confirm the new value;
10. Press the **LEFT** key to exit to the Sub-menu or keep it pressed for more than 2 seconds to exit to the Main Menu;

## SILENCE DETECTOR SETTINGS

The Silence Detector is to watch the levels of the signals applied at the DB8000's Inputs. The Input Signal will be changed over from the Main Input to some of the Alternative Signal Sources as defined by Priority Settings. Levels of the parameters affecting Silence Detector performance are User definable and these parameters are as follows:

- Threshold Level (in dB)
- Action Delay (in seconds)
- Release Delay (in seconds)

Whenever the Main Input Signal drops below the *Threshold Level* an *Action Delay* Timer will be activated. Signal from the next Backup Source with the highest priority will be fed to the Output Circuit of DB8000. The last operation will be carried out only if NO signal with level above the *Threshold Level* appears at the Main Input for the time of *Action Delay*. Before switching over to the Alternative Source Input, availability of signal there and its level will be verified. On the contrary – the timer will be switched back to idle state if a signal passing over the *Threshold Level* appears at the Main Input before time elapsing (as defined by Action Delay). Signal presence and signal levels of the Inputs with higher priority will be continuously monitored for the time a Backup Signal Source is in use.

On the other hand *Release Delay* will be activated whenever DB8000 starts using any of the Backup Signal Sources. *Release Delay* is the time to elapse before switching from Backup Signal Source to the Main Input (in case a signal passing through *Threshold Level* appears there).

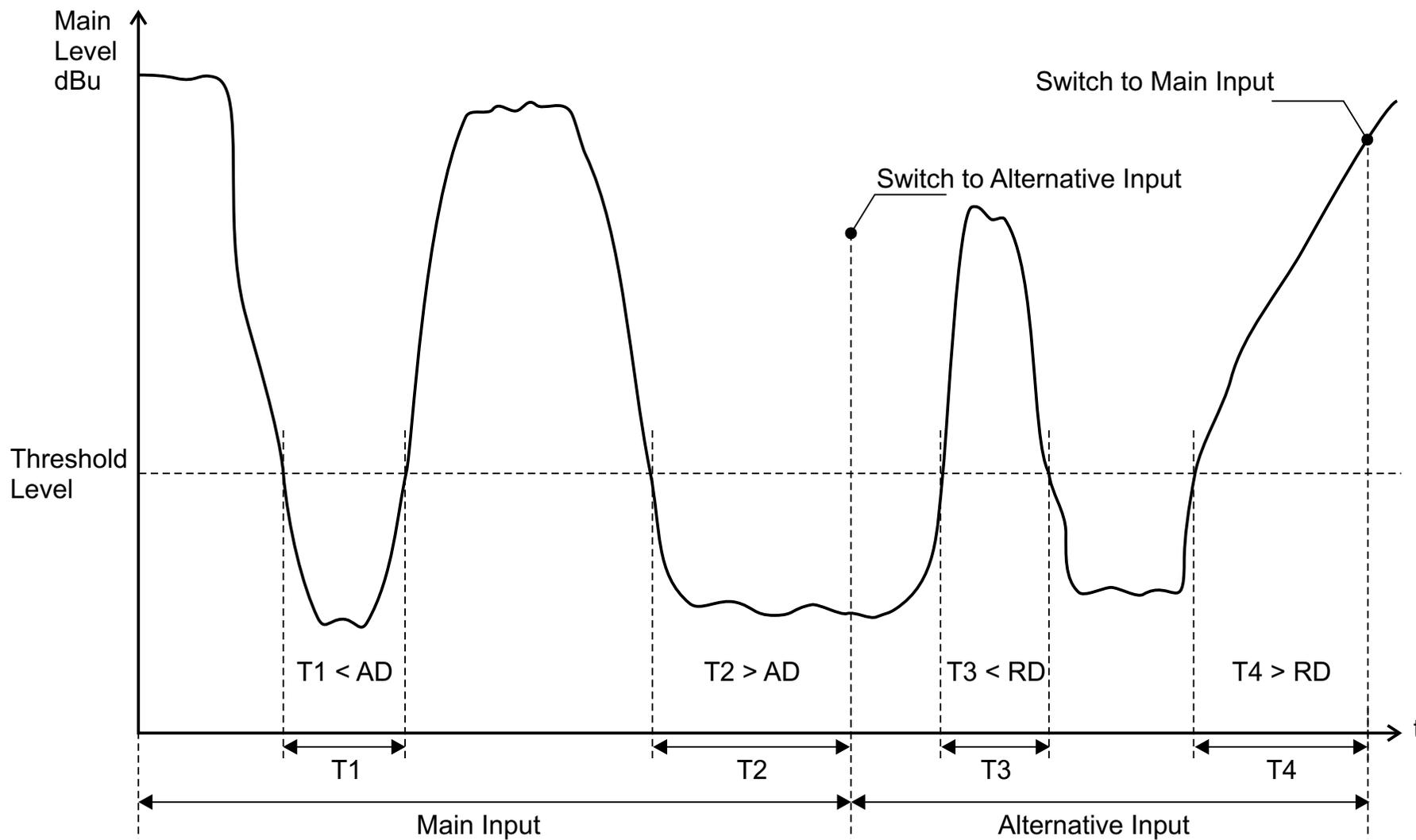
To perform the setting of the above three parameters please follow the next steps:

1. While in the Main Menu press the **OK** button;
2. Press the **DOWN** key and select Sub-menu **5. Silence Detector**.
3. Press the **OK** button. The **DOWN** key can be used to navigate through this Sub-menu which looks like below:

```
5. Silence Detector  Threshold Lvl: -25dB
**Settings**        Action Delay: 5s
```

```
5. Silence Detector  Action Delay: 5s
**Settings**        Release Delay: 5s
```

4. Using **UP** or **DOWN** keys move the cursor and select the parameter to be edited;
  5. Press the **OK** button again and the editing field will start blinking. Values that are needed can be selected by **UP** or **DOWN** keys;
  6. Press again **OK** button to confirm selection;
  7. Press the **LEFT** key to exit to the Sub-menu or keep it pressed for more than 2 seconds to exit to the Main Menu;
- A graphical view of Silence Detector performance is shown below:



AD - Action Delay, RD - Release Delay

## NETWORK SETTINGS

---

To join DB8000 to any Local Area Network (LAN) or Wide Area Network (WAN) and use the built-in FTP Server, settings as IP address, Gateway and Subnet Mask must be defined. This can be accomplished by following the next steps:

1. While in the Main Menu press the **OK** button;
2. Press **DOWN** key and select Sub-menu **6. Network Settings**.
3. Press the **OK** button. The **DOWN** key can be used to navigate through this Sub-menu which looks like below:

```
6. Network      IP address:192.168.001.002
Settings       Gateway:192.168.001.001
```

```
6. Network      Gateway:192.168.001.001
Settings       Mask:255.255.255.000
```

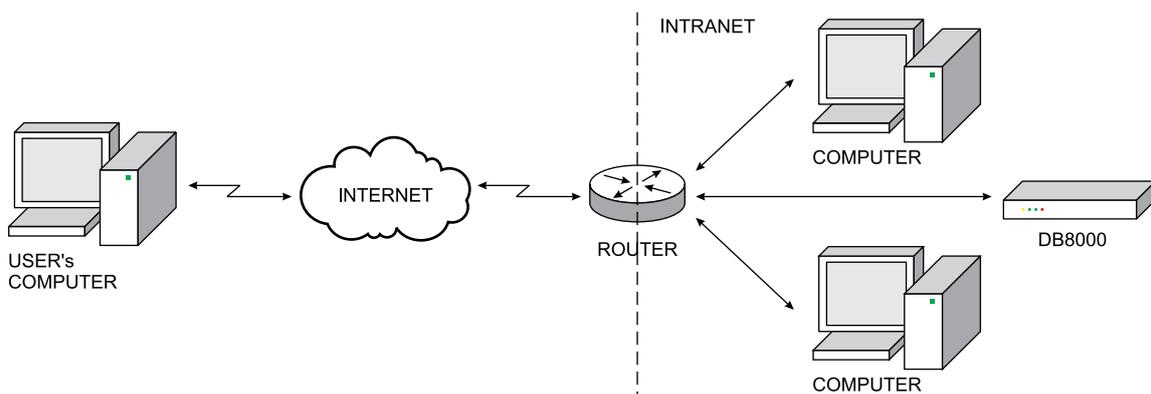
4. Using **UP** or **DOWN** keys move the cursor and select the parameter to be edited;
5. Press the **OK** button again and the editing field will start blinking;
6. Enter needed values by **UP** or **DOWN** keys. To move between the parameter's fields use the **LEFT** or **RIGHT** keys;
7. Press again the **OK** button to confirm the selection made;
8. Press the **LEFT** key to exit to the Sub-menu or keep it pressed for more than 2 seconds to exit to the Main Menu;

## IP ROUTER AND PORT TRANSLATION

Now that broadband Internet connections are so common and NAT routers are more widespread than ever, your connection to the Internet might be going through a NAT *router* or a *firewall*. If you have a home network or DSL service, you're likely to have one of these. These devices can improve the security of your computer, and can allow a single Internet address to be shared by more than one computer on your network.

NAT stands for *network address translation* and allows multiple computers or devices to access the internet through a single internet connection and single IP address. The computers or devices on the inside of the network, known as an intranet, are given IP addresses that are non-routable (meaning non-internet addresses). The router translates the outgoing requests from your computer or device into requests from the single IP address on the WAN (or Internet side of the router). On the other hand the router will NOT forward requests originating from the outside of the network and pass them on to the local network unless very specifically configured to do so.

On the picture below is presented an example of DB8000 to router connection:



In this way, the hardware router, designed not to permit any unsolicited packets from an external host to be delivered to an internal host acts as a router firewall and can be a problem for client programs to reach your distant Deva Broadcast's device.

The solution to this problem is to configure the *port forwarding* feature of the router to allow certain packets to reach the Deva Broadcast's device. As each make and model of router has a different procedure for setting up port forwarding, please refer to the specific router's manual for guidance and further details. Usually the port forwarding can be done in the NAT section from the router's menu.

### Required ports for Server and Client services and applications

The following list shows the ports that must be open on your router or firewall to allow specific types of data flows through the router:

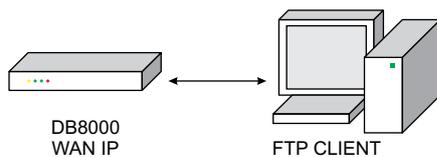
Port Description	DB8000 Defaults
FTP Command Port	21
FTP Data Port	20

**NOTE:** If you customize the DB8000 FTP ports, please consider the same port values must be used to configure router's forwarding.

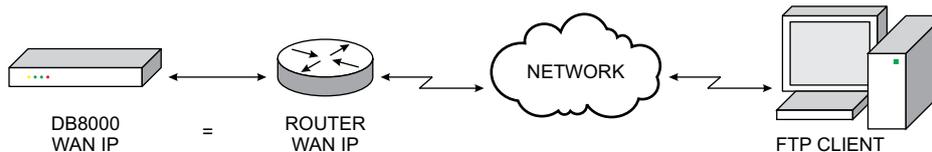
## FTP SERVER SETTINGS

Access to the built-in FTP server is controlled by applying Username and Password with maximum length of 6 symbols each of them. It must be noted that the FTP Server works in Passive mode and it is necessary a Wide Area Network (WAN) address to be specified.

If DB8000 is connected directly to the computer where the FTP Client is installed then the WAN IP Address must be equal to that of IP Address in Sub-menu 6. Network Settings (WAN IP address = IP address). Direct DB8000 connection is illustrated below:



If a networking device (router for example) is used, then the DB8000 WAN IP Address must be equal to that of the router as illustrated below:



Command and Data Ports are the other two parameters that must be specified in order to establish FTP connection.

**NOTE:** As the DB8000's FTP server can manage only one connection at a certain time, please configure your FTP client to use only one simultaneous connection.

Configuration of the FTP Server can be accomplished following the next steps:

1. While in the Main Menu press the **OK** button;
2. Press the **DOWN** key and select Sub-menu 7. FTP Server Settings.
3. Press the **OK** button. The **DOWN** key can be used to navigate through this Sub-menu which looks like below:

```
7. FTP Server      Username: admin
Settings          Password: deva
```

```
7. FTP Server      WAN IP: 192.168.001.002
Settings          COMMAND PORT: 00021
```

```
7. FTP Server      COMMAND PORT: 00021
Settings          DATA PORT: 00020
```

4. Using **UP** or **DOWN** keys move the cursor and select the parameter to be edited;
5. Press the **OK** button once again and the editing field will start blinking. Values that are needed can be selected by **UP** or **DOWN** keys. To move between the parameter's fields use **LEFT** or **RIGHT** keys;
6. Press the **OK** button to confirm selection;
7. Press the **LEFT** key to exit to the Sub-menu or keep it pressed for more than 2 seconds to exit to the Main Menu;

**NOTE:** Please note that the maximum length of Password and Username is 6 symbols.

## E-MAIL NOTIFICATIONS

DB8000 has built-in E-mail Client to perform an e-mail notifications in case of Input Signal source change. E-mails are sent to predefined recipient and consist of short text describing source change - Main, Aux or Backup. E-mail Client could be enabled or disabled at any time. Before using E-mail Client, one must be configured properly, according to used E-mail Server. E-mail Client could establish SSL connection if required.

Configuration of the E-mail Client can be accomplished following the next steps:

1. While in the Main Menu press the **OK** button;
2. Press the **DOWN** key and select Sub-menu **8. E-mail Client Settings**.
3. Press the **OK** button. The **DOWN** key can be used to navigate through this Sub-menu which looks like below:

```
8. E-mail Client      Alarm Alert:Disabled
  Settings           Account Settings
```

```
8. E-mail Client      Alert E-mail Send To
  Settings           Device ID
```

4. Using **UP** or **DOWN** keys move the cursor and select the parameter to be edited;
5. Press the **OK** button once again to enter the sub menu or the editing field will start blinking. Values that are needed can be selected by **UP** or **DOWN** keys. To move between the parameter's fields use **LEFT** or **RIGHT** keys;
6. Press the **OK** button to confirm selection;
7. Press the **LEFT** key to exit to the Sub-menu or keep it pressed for more than 2 seconds to exit to the Main Menu;

Sub-menu for E-mail Client Account Settings looks like below:

```
8.1 Login:db8000@devabroadcast.com
    Password:db8000
```

```
8.1 SMTP Server:mail.host.bg
    SMTP Port:00025      SSL:Disabled
```

Sub-menu for E-mail Recipient Address looks like below:

```
8.2 E-mail Recipient Address
    To:db8000@devabroadcast.com
```

Sub-menu for Device ID looks like below:

```
8.3 DEVICE ID:DB8000
```

Device ID is included into notification text and has meaning only to distinguish messages from one device to another.

## SNMP SETTINGS

---

DB8000 supports Simple Network Management Protocol (SNMP) v2c. Using SNMP gives flexibility and more integration possibilities.

Configuration of the SNMP can be accomplished following the next steps:

1. While in the Main Menu press the **OK** button;
2. Press the **DOWN** key and select Sub-menu **9. SNMP Settings**.
3. Press the **OK** button. The **DOWN** key can be used to navigate through this Sub-menu which looks like below:

```
9. SNMP          Agent:Disabled
Settings        Traps:Disabled
```

```
9. SNMP          Agent Community:DEVA8000
Settings        Traps Community:DEVA8000
```

```
9. SNMP          Agent Port:00161
Settings        Traps Port:00162
```

```
9. SNMP          Traps IP:192.168.001.001
Settings
```

4. Using **UP** or **DOWN** keys move the cursor and select the parameter to be edited;
5. Press the **OK** button once again and the editing field will start blinking. Values that are needed can be selected by **UP** or **DOWN** keys. To move between the parameter's fields use **LEFT** or **RIGHT** keys;
6. Press the **OK** button to confirm selection;
7. Press the **LEFT** key to exit to the Sub-menu or keep it pressed for more than 2 seconds to exit to the Main Menu;

**NOTE:** Device will send TRAP Alerts only when they are enabled.

## MEMORY CARD

---

Formatting of the Memory Card can be accomplished by selecting Sub-menu **8. Memory Card**. Also free memory space could be checked selecting this Sub-menu.

Please note that **FORMAT** is the only parameter that could be edited within this Sub-menu and **SPACE** is for informative purposes only.

To perform any of the above operations next steps are to be followed:

1. While in the Main Menu press the **OK** button;
2. Press the **DOWN** key and select Sub-menu **10. Memory Card**. The following Sub-menu will be shown on the display:



```
10. Memory Card          Space: 1887MB
                          Format: NO
```

3. Pressing the **OK** button will select **Format**;
4. Press the **OK** button one more time to make the parameter blinking;
5. Using **UP** or **DOWN** keys select **YES** or **NO**;
6. Press the **OK** button to confirm;
7. Press the **LEFT** key to exit to the Sub-menu or keep it pressed for more than 2 seconds to exit to the Main Menu;

## RESET TO FACTORY DEFAULTS

---

To reset DB8000 to its Factory Defaults next steps are to be followed:

1. While in the Main Menu press the **OK** button;
2. Press the **DOWN** key and select Sub-menu **11. Factory Defaults**. The following Sub-menu will be shown on the display:



```
11. Factory Defaults      Confirm: NO
```

3. Pressing the **OK** button will select **Confirm: NO**;
4. Press the **OK** button one more time and the parameter will start blinking;
5. Using **UP** or **DOWN** keys select **YES** or **NO**;
6. Press the **OK** button to confirm;
7. Press the **LEFT** button to exit to the Sub-menu or keep it pressed for more than 2 seconds to exit to the Main Menu;

## DEVICE INFO

---

This is just an informative Sub-menu where is nothing to be edited. To select it next steps are to be followed:

1. While in the Main Menu press the **OK** button;
2. Press the **DOWN** key and select Sub-menu **12. Device Info.**
3. The following Sub-menu will be shown on the display:



```
12. Device info    HW Rev:XX    FW Rev:XX
S/N:XXXXXXXXXX    MAC:00-04-A3-XX-XX-XX
```

4. To exit to the Main Menu press the **LEFT** key and keep it pressed for more than 2 seconds.

As seen the following information can be obtained from this Sub-menu:

- Serial Number;
- Hardware Version;
- Software Version;
- Firmware Version;
- MAC Address of the built-in NIC (Network Interface Card);

## EXIT

---



```
13. EXIT
```

By this menu the User will be turned back to the Main Menu. To perform it just press the **OK** button.

## Firmware Upgrade

The DB8000 firmware can be upgraded if desired. By updating the firmware, new function(s) can be added and the improvement of performance parameters can be obtained.

The latest firmware, the firm utility (software) and a document explaining the process of firmware upgrade can be downloaded from the DEVA Broadcast Ltd. home page via the Internet. You can check and download for the latest firmware versions at the download area of the DEVA Broadcast's web site: <http://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 Authorization (RA) number issued by DEVA Broadcast Ltd. prior to its return. An RA 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.

## 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.**

## Appendix A

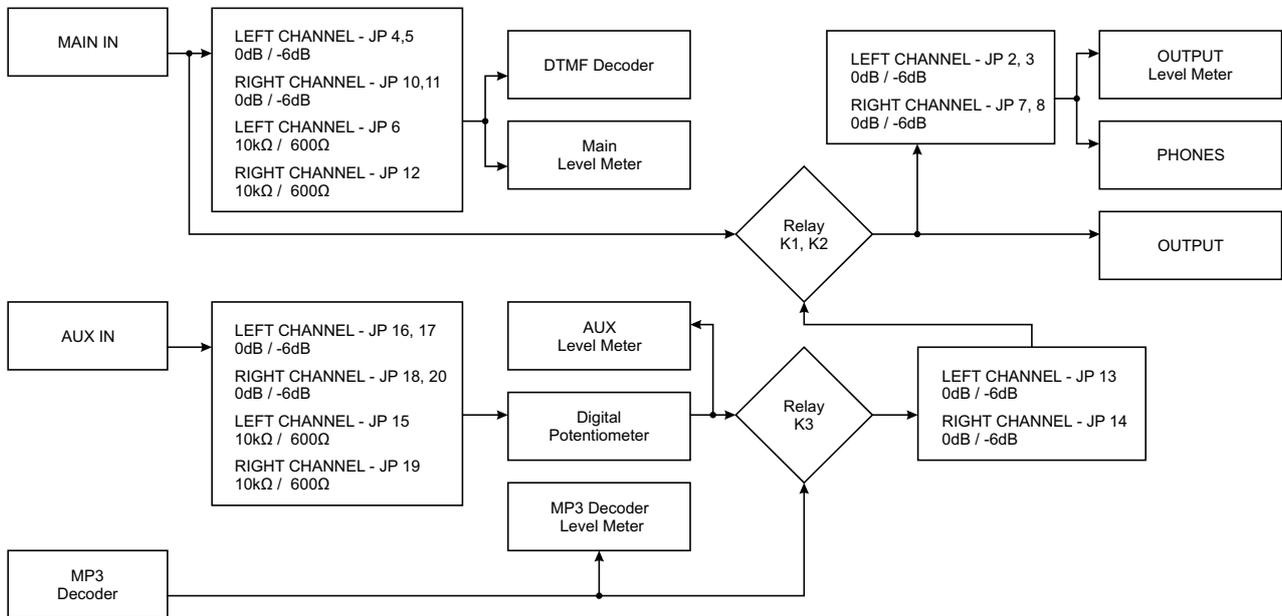
### LIST OF DB8000 FACTORY DEFAULT SETTINGS

---

FTP Data Port	2020
FTP Command Port	2021
FTP User Name	admin
FTP Password	deva
IP Address	192.168.1.2
Gateway	192.168.1.1
Subnet Mask	255.255.255.0
WAN Address	192.168.1.2
AUX Level	0 dB
MP3 Level	0 dB
Source Priority	MP3
Player Mode	List
Bass Frequency	130 Hz
Bass Level	0 dB
Treble Frequency	5 kHz
AUX Start Code	not assigned
AUX Stop Code	not assigned
MP3 Start Code	not assigned
MP3 Stop Code	not assigned
Threshold Level	-25 dB
Action Delay	5 sec
Release Delay	5 sec
E-mail Alarm Alert	enabled
E-mail Login	db8000@devabroadcast.com
E-mail Password	db8000
SMTP Server	mail.host.bg
SMTP Port	25
SSL	disabled
E-mail Recipient	db8000@devabroadcast.com
Device ID	DB8000
SNMP Agent	disabled
SNMP Traps	disabled
Agent Community	DEVA8000
Traps Community	DEVA8000
Agent Port	161
Traps Port	162
Traps IP	192.168.1.1

## Appendix B

### LIST OF DB8000 JUMPER SETTINGS



Input Gain = 0 dB

MAIN INPUT	LEFT	Channel	Jumper	Position
			JP4	1-2
			JP5	1-2
			JP2	1-2
	RIGHT		JP10	1-2
			JP11	1-2
			JP8	1-2
			JP7	1-2

Input Gain = -6 dB

MAIN INPUT	LEFT	Channel	Jumper	Position
			JP4	2-3
			JP5	2-3
			JP2	2-3
	RIGHT		JP10	2-3
			JP11	2-3
			JP8	2-3
			JP7	2-3

Input Gain = 0 dB

AUX INPUT	LEFT	Channel	Jumper	Position
			JP17	1-2
			JP16	1-2
			JP13	1-2
	RIGHT		JP2	1-2
			JP3	1-2
			JP18	1-2
			JP20	1-2

Input Gain = -6 dB

AUX INPUT	LEFT	Channel	Jumper	Position
			JP17	2-3
			JP16	2-3
			JP13	2-3
	RIGHT		JP2	2-3
			JP3	2-3
			JP18	2-3
			JP20	2-3

Input Impedance = 600Ω

MAIN INPUT	Channel	Jumper	Position
	LEFT	JP6	2-3
	RIGHT	JP12	2-3

Input Impedance = 10kΩ

MAIN INPUT	Channel	Jumper	Position
	LEFT	JP6	1-2
	RIGHT	JP12	1-2

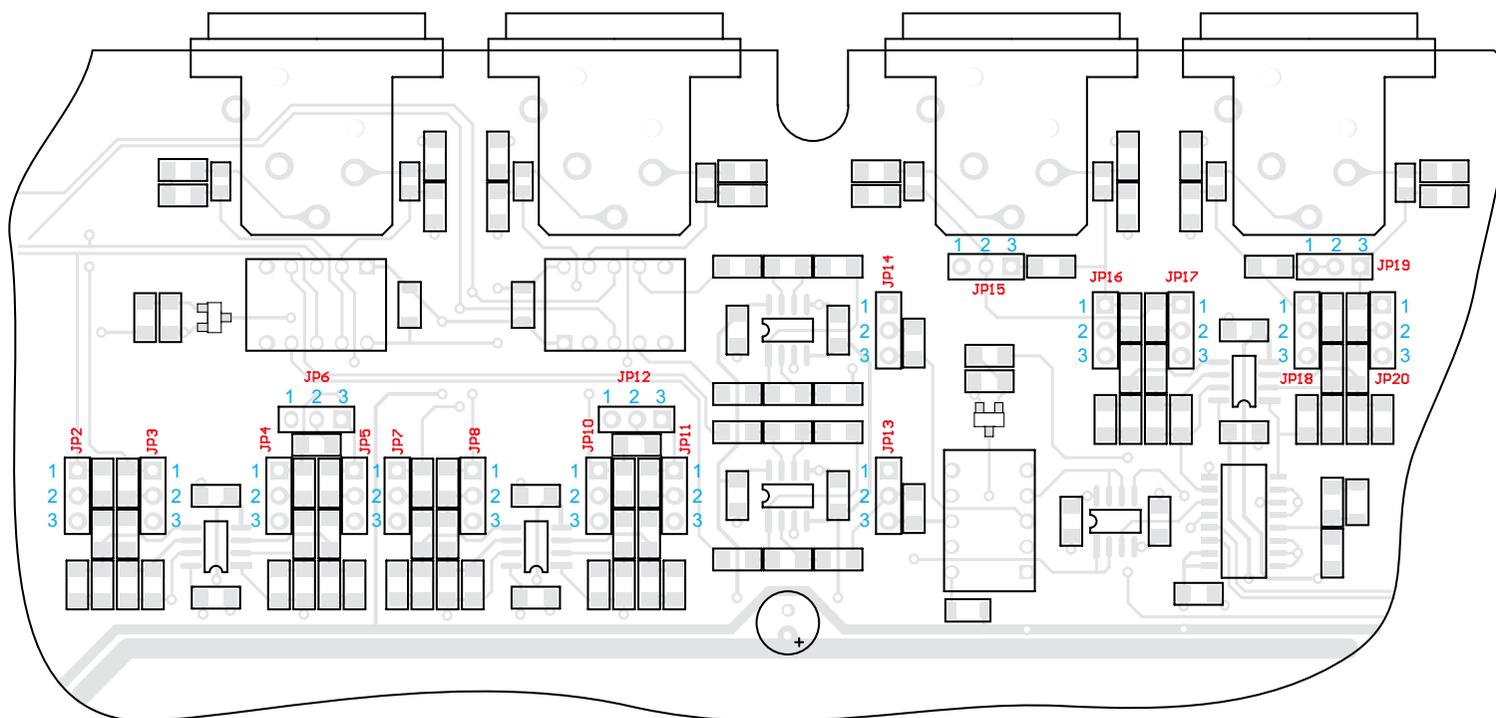
Input Impedance = 600Ω

AUX INPUT	Channel	Jumper	Position
	LEFT	JP15	2-3
	RIGHT	JP19	2-3

Input Impedance = 10kΩ

AUX INPUT	Channel	Jumper	Position
	LEFT	JP15	1-2
	RIGHT	JP19	1-2

## DB8000 JUMPERS LOCATION



JP6, JP12, = 10 kΩ  
JP15, JP19 = 600 Ω

JP2, JP3, JP4, JP5,  
JP7, JP8, JP10, JP11 = 0 dB  
JP13, JP14, JP16, JP17 = -6 dB  
JP18, JP20

## DB8000 CONFIGURATION WITH IMPEDANCE 10 kΩ AND GAIN 0 dB OF THE MAIN AND AUX INPUTS

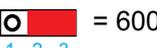


JP6, JP12, = 10 kΩ  
JP15, JP19 = 600 Ω

JP2, JP3, JP4, JP5,  
JP7, JP8, JP10, JP11 = 0 dB  
JP13, JP14, JP16, JP17 = -6 dB  
JP18, JP20

## DB8000 CONFIGURATION WITH IMPEDANCE 600 Ω AND GAIN -6 dB OF THE MAIN AND AUX INPUTS



JP6, JP12,  = 10 kΩ  
JP15, JP19  = 600 Ω

JP2, JP3, JP4, JP5,  
JP7, JP8, JP10, JP11  
JP13, JP14, JP16, JP17  
JP18, JP20  = 0 dB  = -6 dB