















































































































## HOW TO CONNECT TO THE RDS CONSOLE

The RDS console is used to edit the RDS settings in real time. It can be used with an automation software or a terminal program.

To use the console, follow the steps listed below:

1. Connect to the TCP port of the RDS console with a terminal program or an automation software;
2. A welcome message HELLO will be received if proper connection is established;
3. If password is needed, the following message will appear PASS?;
4. Proceed with entering the commands.

### RDS Console syntax

```
HELLO
pass↵
PASSOK
PI=1234↵
OK
PI?↵
1234
OK
TP=3↵
NO
```

Depicted above is a sample RDS console conversation when a password is not set. The red text represents the user input and the black text - the console's responses. The ↵ symbol represent the Enter key on the keyboard.

- First row – is the welcome message from the RDS console. Next the user types in the password (in this case 'pass'), followed by Enter.
- Third row is the response meaning that the password is accepted and the user may proceed with commands.
- Fourth row is a 'set' command. These types of commands are used to set new value to RDS parameters. In the example above 'PI' is the Program Identification command, '=' (equal sign) means set new value and '1234' is the new value. The Enter key represents command's end and signals the RDS console to execute the command.
- Fifth row is a positive response from the RDS console. It means the command is accepted and executed successfully.
- Sixth row is a 'get' command. These types of commands are used to return the current value of RDS parameters. In the example above 'PI' is the Program Identification command, '?' (question mark) means return PI's value. The RDS console responds with the current value (in this case '1234') and positive response on the next row.
- Ninth row is again a 'set' command. In this case: Set Traffic Program to 3. The response is negative because the parameter TP can only have value 0 or 1.

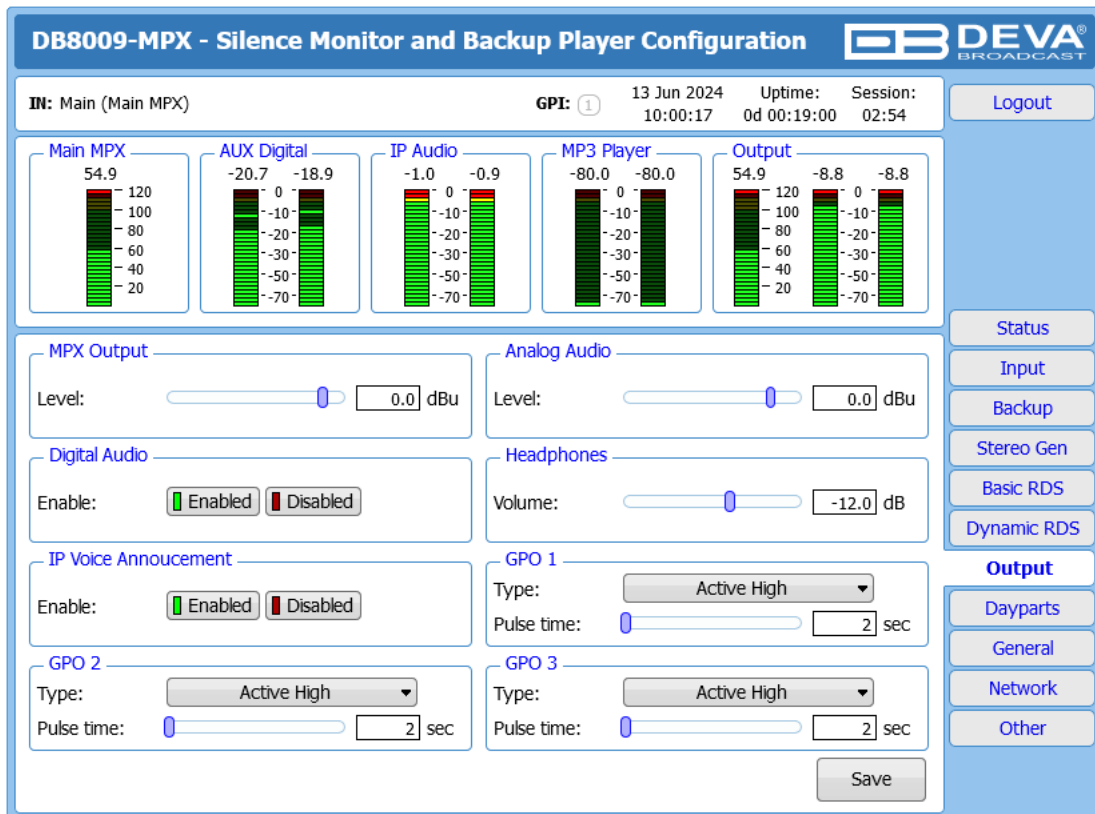
### List of available RDS console commands and their responses

PARAMETER	COMMAND	DATA ENTRY
INIT	INIT	Applies the default settings.
Program Identification	PI	4 digit HEX number (station “digital address”)
Program Service	PS	8 (max) ASCII characters (station “street name”)
Dynamic PS	DPS	64 (max) ASCII characters (for messaging in PS field)
Dynamic PS Speed	DPSS	0 to 9 (0 = Off, 1 = slow, 9 = fastest)
Dynamic PS Method	PARSE	0 through 9 (0 = parsed, centered; 1-8 = Safe Scrolling; 9 = parsed, left)
PTYN	PTYN	Sets Program Type Name
Program Type	PTY	1 or 2 digit number (describes station format)
Traffic Program	TP	0 or 1 (0 = no, 1 = yes)
Traffic Alert	TA	0 or 1 (0 = flag off, 1 = flag on)
Alternative frequencies	AF	0 to 204 (0 = blank; 1 to 204 = “channel” in 100 kHz increments, 87.6 MHz to 107.9 MHz)
Decoder Information	DI	1 digit HEX number
Music/Speech	MS	0 or 1 (0 = speech-only, 1 = music)
Radio Text	TEXT	64 (max) ASCII characters
Radio Text Speed	DRTS	0 to 9 (0 = RadioText off; 1 to 9 = update rate, slow to fast)
Command Echo	ECHO	0 or 1 (0 = echo off, 1 = echo on)
CT group 4A control	CTON	0 (disables) or 1 (enables) type 4A Group Transmission
PTYN group 10A control	PTYNON	0 (disables) or 1 (enables) type 10A Group Transmission
AF count	AFCOUNT	Sets the numbers of AFs transmitted.

SPECIAL COMMAND	MEANING
=	Set parameter value. Following a parameter command sets new value to that parameter; e.g.: PI=1234
?	Get parameter value. Following a parameter command returns status of encoder memory for that parameter; e.g.: AF3?
??	Returns all data in encoder memory.
INIT	Initializes the encoder to all factory defaults.

RESPONSE	MEANING
HELLO	Welcome message when connection to the console is established. If security is enabled proceed with entering the password. Otherwise proceed with commands.
PASS?	Password request. Will appear if such os set.
PASSOK	Password accepted, may proceed with commands.
PASSFAIL	Wrong password. Connection is dropped immediately
OK	Command received by encoder properly formatted and understood.
NO	Command properly formatted but data not understood.
BYE	Console has been inactive for more than 30 minutes and the connection will be dropped. User needs to connect again to enter more commands.
(NO RESPONSE)	Data sent is ignored by DB8009-MPX.

## OUTPUT



### MPX Output

- select output level of the MPX signal.

### Analog Audio

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

### Digital Audio

- enable or disable the Digital Audio output.

### Headphones

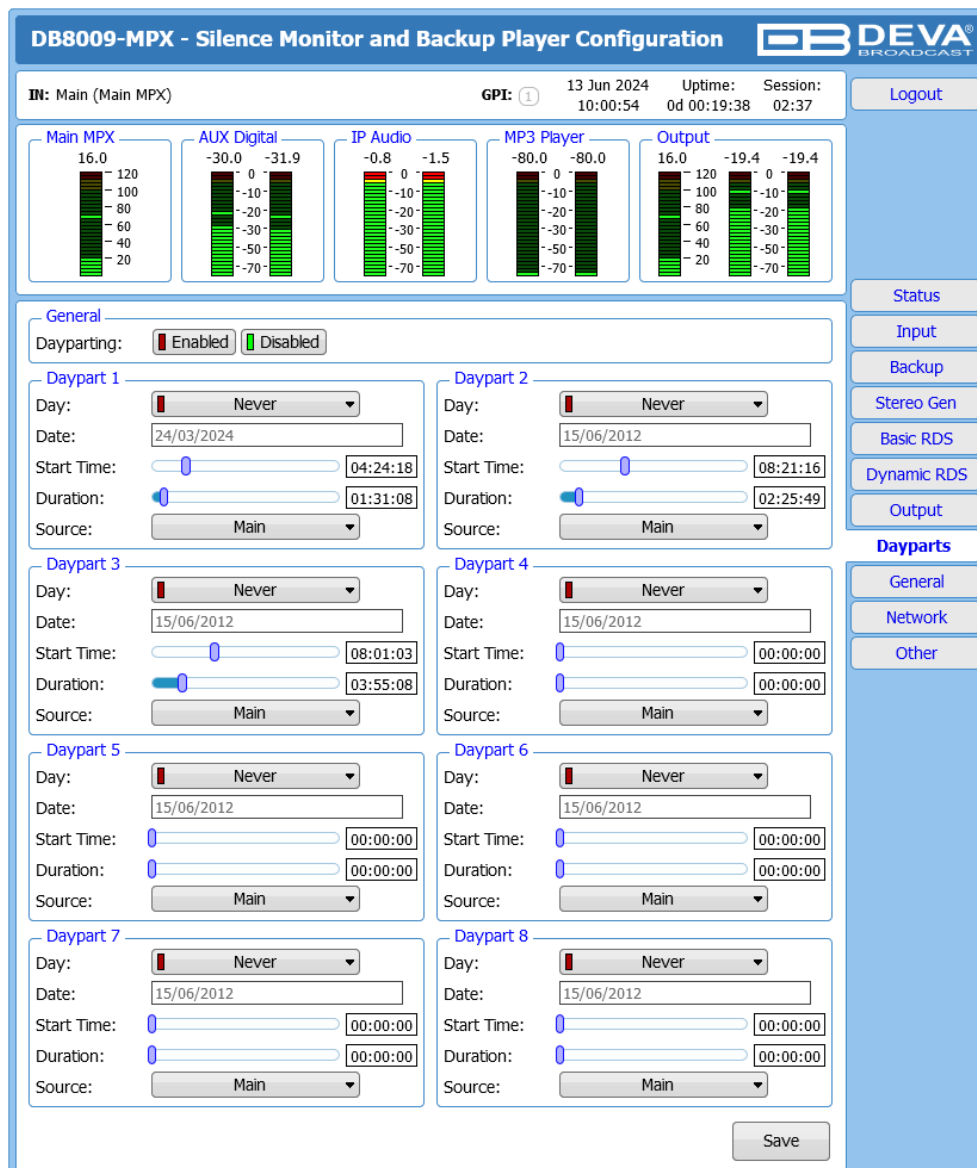
- set the level of the Headphones. Only the selected Silence detection audio will be heard through the headphones.

### 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 DB8009-MPX.

## 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:

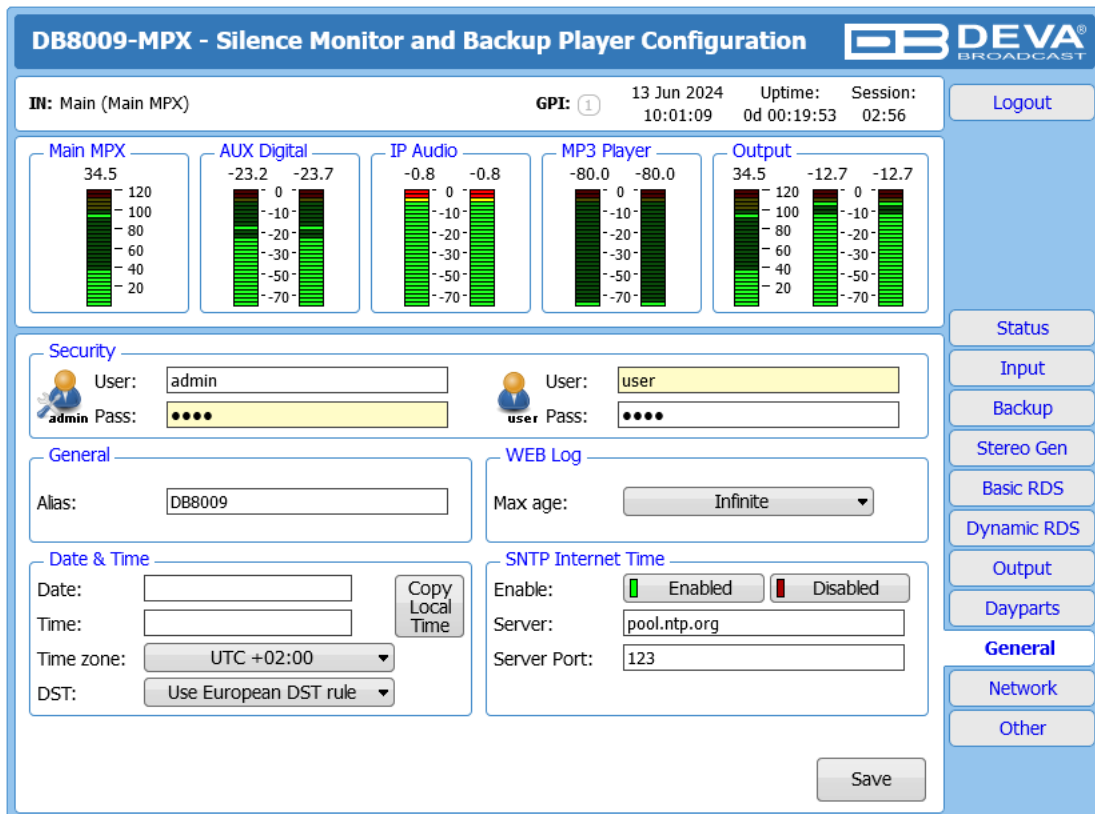
1. Select Daypart trigger day form the drop-down menu. Depending on your needs, several options are available. If exact date is selected, do not forget to specify the date in the respective filed. The date must be written in the following format DD/MM/YYYY;
2. Set the Start Time and Duration;
3. To finalize 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 DB8009-MPX.

## GENERAL



The screenshot displays the 'DB8009-MPX - Silence Monitor and Backup Player Configuration' interface. At the top, it shows the device name 'DB8009-MPX', the user 'admin', and the date '13 Jun 2024'. Below this are several status meters: 'Main MPX' (34.5), 'AUX Digital' (-23.2, -23.7), 'IP Audio' (-0.8, -0.8), 'MP3 Player' (-80.0, -80.0), and 'Output' (34.5, -12.7, -12.7). The interface is divided into sections: 'Security' with login fields for 'admin' and 'user'; 'General' with an 'Alias' field set to 'DB8009'; 'Date & Time' with fields for date, time, and time zone; and 'WEB Log' with a 'Max age' dropdown set to 'Infinite'. There is also a 'SNTP Internet Time' section with an 'Enable' checkbox checked and a 'Server' field set to 'pool.ntp.org'. A 'Save' button is located at the bottom right.

DB8009-MPX 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 DB8009-MPX 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.

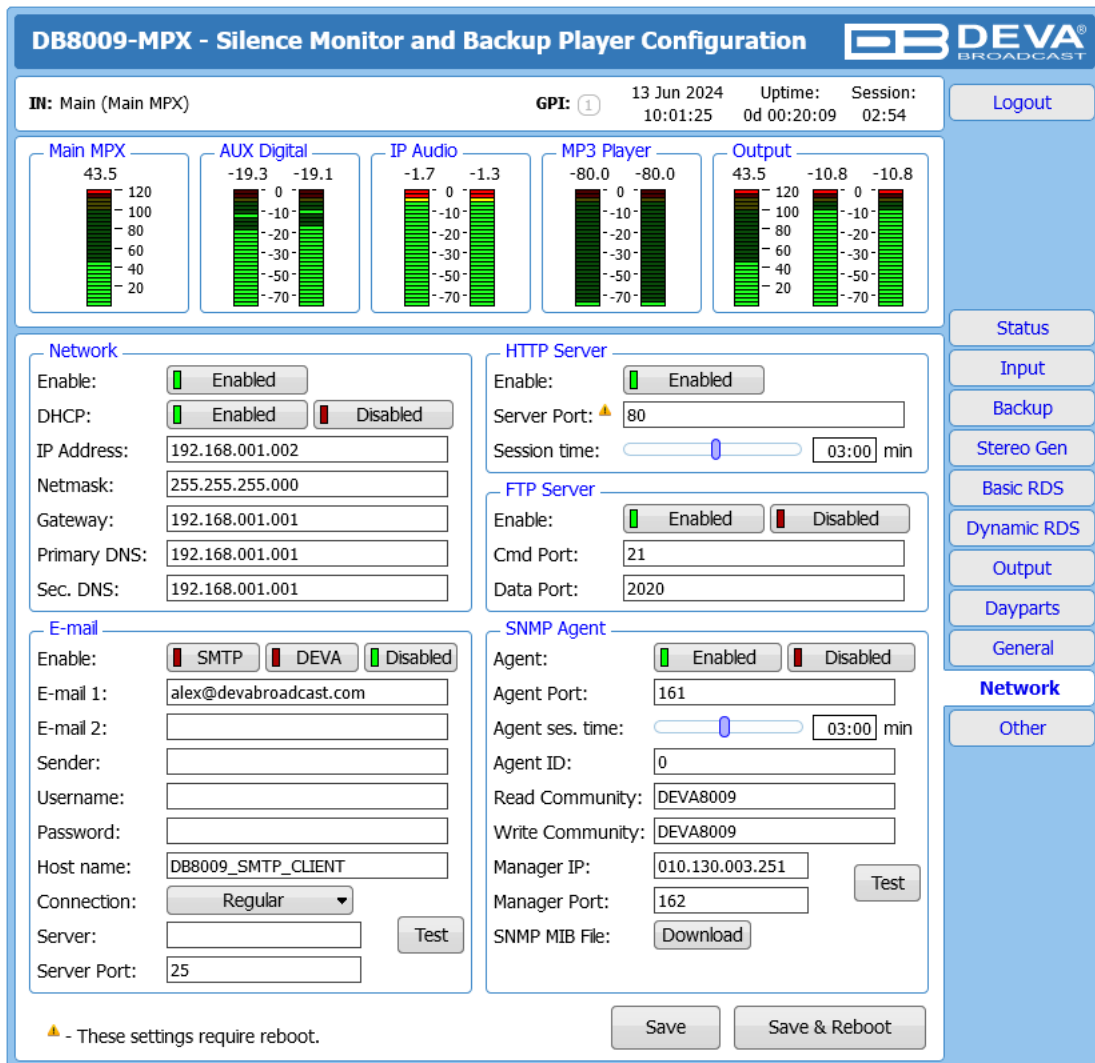
**WEB Log** – the maximum storage time of the log files is chosen from here. Log files older than the specified will be permanently deleted.

**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 DB8009-MPX'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 DB8009-MPX.

## NETWORK



The screenshot displays the configuration page for DB8009-MPX, titled "Silence Monitor and Backup Player Configuration". The interface includes several sections:

- Network:** Contains fields for IP Address (192.168.001.002), Netmask (255.255.255.000), Gateway (192.168.001.001), Primary DNS (192.168.001.001), and Sec. DNS (192.168.001.001). It also has checkboxes for "Enable" and "DHCP" (currently disabled).
- HTTP Server:** Includes "Enable" (checked), "Server Port" (80), and "Session time" (03:00 min).
- FTP Server:** Includes "Enable" (checked), "Cmd Port" (21), and "Data Port" (2020).
- E-mail:** Features "Enable" options for SMTP and DEVA (checked), "E-mail 1" (alex@devabroadcast.com), "E-mail 2", "Sender", "Username", "Password", "Host name" (DB8009\_SMTP\_CLIENT), "Connection" (Regular), "Server", and "Server Port" (25). A "Test" button is present.
- SNMP Agent:** Includes "Enable" (checked), "Agent Port" (161), "Agent ses. time" (03:00 min), "Agent ID" (0), "Read Community" (DEVA8009), "Write Community" (DEVA8009), "Manager IP" (010.130.003.251), "Manager Port" (162), and an "SNMP MIB File" download button. A "Test" button is also available.

At the bottom, there is a warning icon and text: "These settings require reboot." and two buttons: "Save" and "Save & Reboot".

### 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, DB8009-MPX 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/Upload files via FTP” on page 56](#).

### **SNMP Agent**

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

*Agent* – enables/disables SNMP Agent.

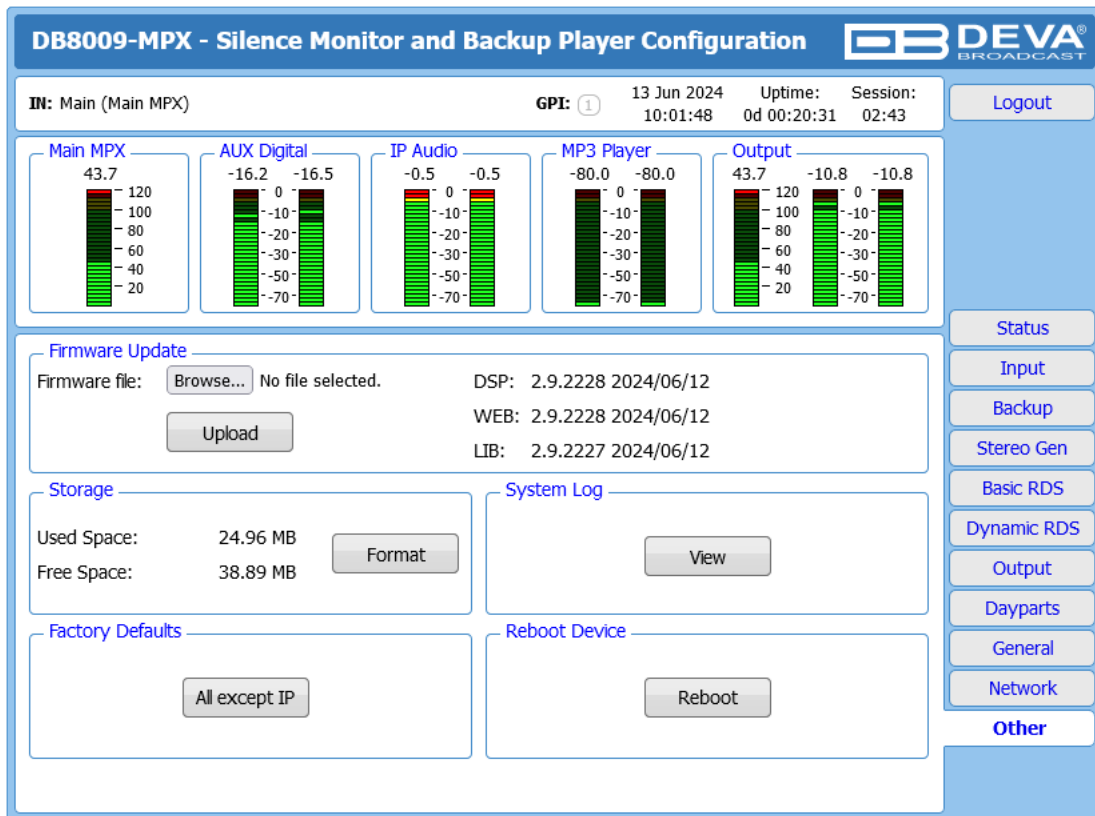
*Agent ID* – is used for identification of the device among others, when an SNMP notification is being sent. Once all needed settings are applied, use the Test button to generate a test notification, which upon success will be received by the SNMP Manager. Press the [Download] button to download the latest available DB8009-MPX 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 DB8009-MPX.



## OTHER



The screenshot displays the 'DB8009-MPX - Silence Monitor and Backup Player Configuration' web interface. At the top, it shows the device name 'DB8009-MPX', the DEVA BROADCAST logo, and the current status: 'IN: Main (Main MPX)', 'GPI: 1', '13 Jun 2024 10:01:48', 'Uptime: 0d 00:20:31', and 'Session: 02:43'. A 'Logout' button is visible in the top right corner.

The main content area is divided into several sections:

- Audio Levels:** Five vertical bar graphs showing levels for 'Main MPX' (43.7), 'AUX Digital' (-16.2, -16.5), 'IP Audio' (-0.5, -0.5), 'MP3 Player' (-80.0, -80.0), and 'Output' (43.7, -10.8, -10.8). Each graph has a scale from 20 to 120.
- Firmware Update:** A section with a 'Firmware file:' field containing a 'Browse...' button and the text 'No file selected.'. Below it is an 'Upload' button. To the right, it lists version information: 'DSP: 2.9.2228 2024/06/12', 'WEB: 2.9.2228 2024/06/12', and 'LIB: 2.9.2227 2024/06/12'.
- Storage:** Shows 'Used Space: 24.96 MB' and 'Free Space: 38.89 MB' with a 'Format' button.
- System Log:** A section with a 'View' button.
- Factory Defaults:** A section with an 'All except IP' button.
- Reboot Device:** A section with a 'Reboot' button.

On the right side of the interface, there is a vertical sidebar with buttons for 'Status', 'Input', 'Backup', 'Stereo Gen', 'Basic RDS', 'Dynamic RDS', 'Output', 'Dayparts', 'General', 'Network', and '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 DB8009-MPX 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.

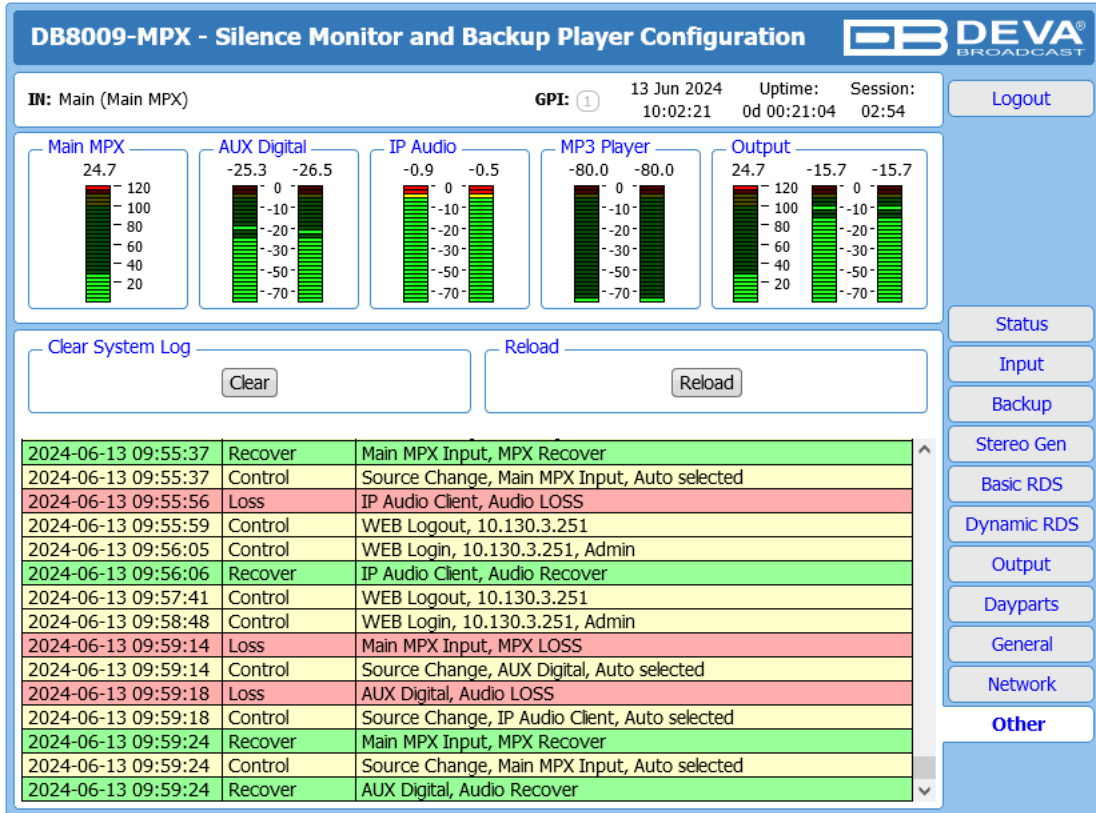
**NOTE:** When the device is returned to its factory defaults, the DB8009-MPX will automatically use MP3 as current audio source. The device will return to its main audio source once it is restored.

### Reboot

To start Rebooting of DB8009-MPX, 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.



The screenshot shows the 'DB8009-MPX - Silence Monitor and Backup Player Configuration' interface. At the top, it displays 'IN: Main (Main MPX)', 'GPI: 1', the date '13 Jun 2024', 'Uptime: 10:02:21', and 'Session: 0d 00:21:04 02:54'. Below this are five level meters: Main MPX (24.7), AUX Digital (-25.3, -26.5), IP Audio (-0.9, -0.5), MP3 Player (-80.0, -80.0), and Output (24.7, -15.7, -15.7). A 'Clear System Log' section contains 'Clear' and 'Reload' buttons. The system log table below shows various events such as 'Recover', 'Control', and 'Loss' with corresponding timestamps and descriptions.

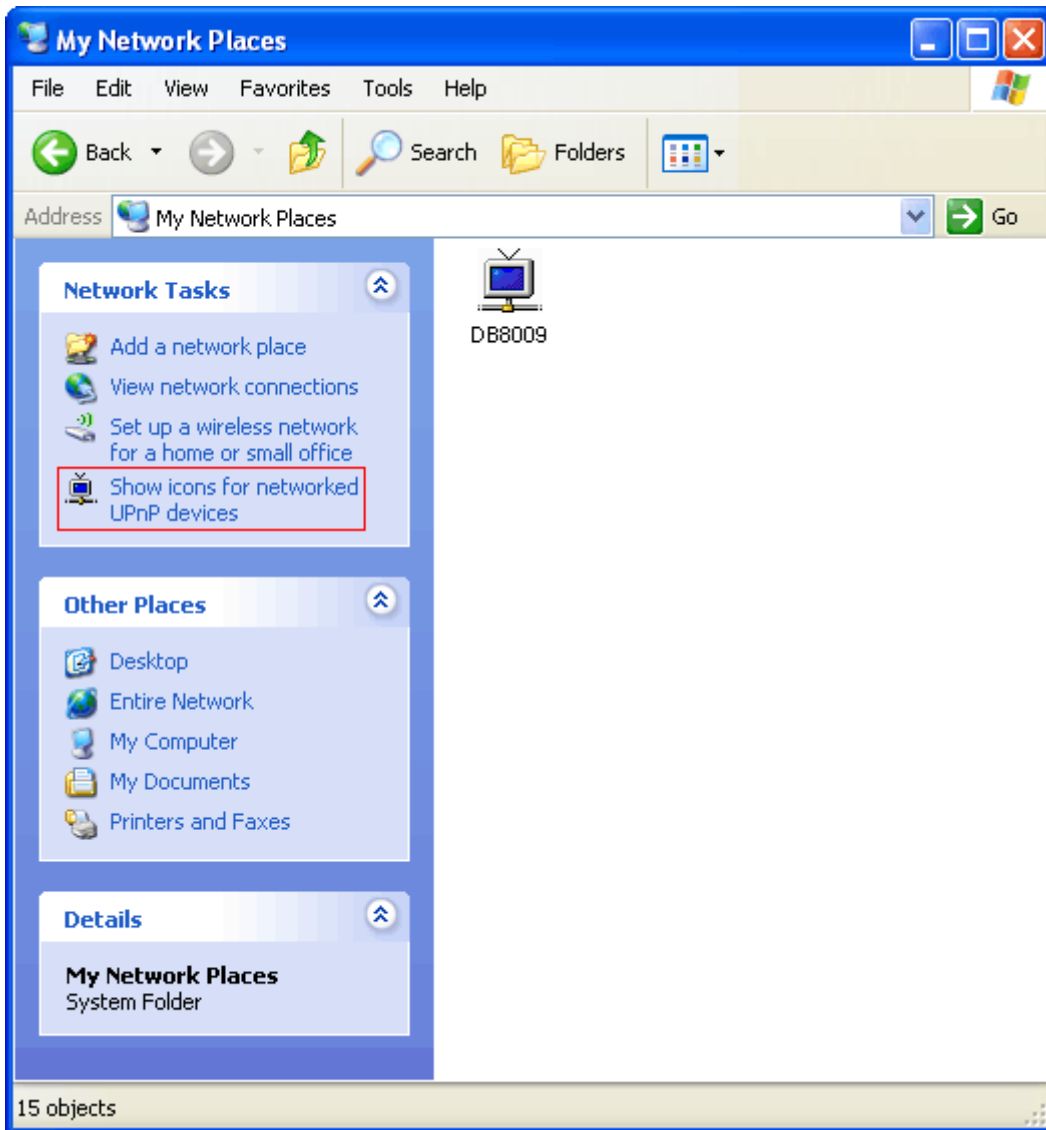
2024-06-13 09:55:37	Recover	Main MPX Input, MPX Recover
2024-06-13 09:55:37	Control	Source Change, Main MPX Input, Auto selected
2024-06-13 09:55:56	Loss	IP Audio Client, Audio LOSS
2024-06-13 09:55:59	Control	WEB Logout, 10.130.3.251
2024-06-13 09:56:05	Control	WEB Login, 10.130.3.251, Admin
2024-06-13 09:56:06	Recover	IP Audio Client, Audio Recover
2024-06-13 09:57:41	Control	WEB Logout, 10.130.3.251
2024-06-13 09:58:48	Control	WEB Login, 10.130.3.251, Admin
2024-06-13 09:59:14	Loss	Main MPX Input, MPX LOSS
2024-06-13 09:59:14	Control	Source Change, AUX Digital, Auto selected
2024-06-13 09:59:18	Loss	AUX Digital, Audio LOSS
2024-06-13 09:59:18	Control	Source Change, IP Audio Client, Auto selected
2024-06-13 09:59:24	Recover	Main MPX Input, MPX Recover
2024-06-13 09:59:24	Control	Source Change, Main MPX Input, Auto selected
2024-06-13 09:59:24	Recover	AUX Digital, Audio Recover

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

## UPnP discovery in Local Networks

DB8009-MPX 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 60](#)). 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 DB8009-MPX web interface.

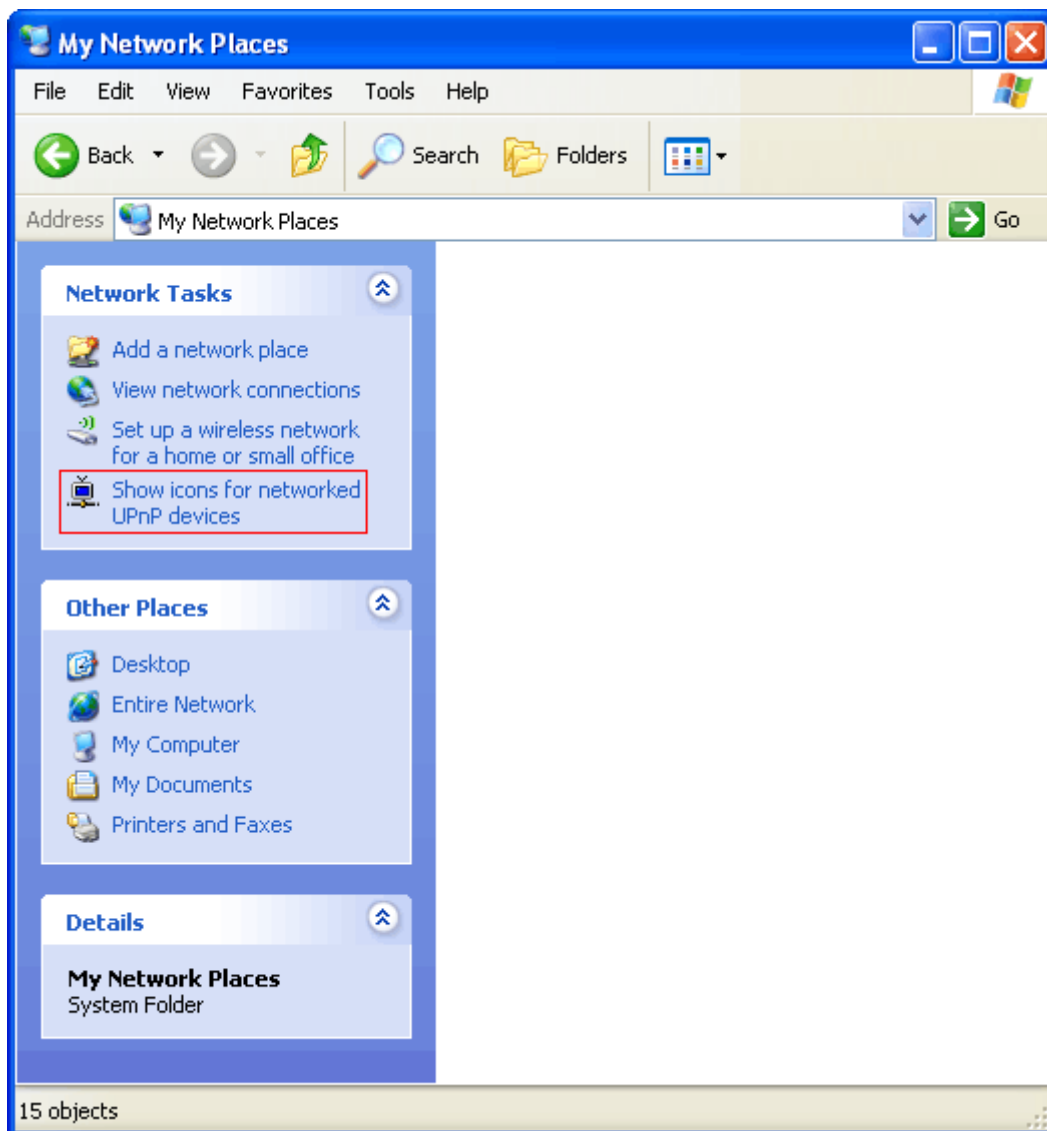


## UPnP Activation

**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.

















## 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).

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