

WEB Interface

DB7000 can be controlled through the built-in web server. A standard web browser can be used to monitor the status of the device or to make some adjustments

There are two options for access to the WEB Interface of DB7000. The first one is through manual identification of the IP address of the device, and the second one is through the Network discovery option (For Windows 7 users only).

MANUAL IP ADDRESS IDENTIFICATION

Connect the device to a local network or to the Internet by the applied LAN cable. Through the Front panel navigational menu, pressing the “OK” button you will be enabled to enter the device main menu.

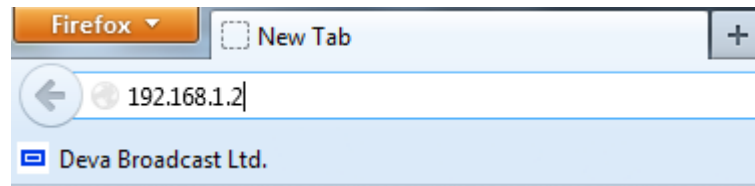
Using the “Right” navigational button find the “Status” section, located at the end of the Menu.



Press the “OK” Button to enter the “Status” section. Via the Front panel navigational menu press the “DOWN” button.

This operation will visualize the screen containing information about the IP Address of the device.

Open a new WEB Browser and enter the device IP address in the address field then press “Enter”.



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: 192.168.020.095 must be written as 192.168.20.95

A window that requires username and password will appear.

NETWORK DISCOVERY

This is a network setting that defines whether your computer can see (find) other computers and devices on the network and whether other computers on the network can see your computer. By default, Windows Firewall blocks network discovery but you can enable it.

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 pane click “Change advanced sharing settings”;
2. Select your current network profile;
3. Click Turn on network discovery, and then click save changes.

NOTE: If you’re prompted for an administrator password or confirmation, type the password, provide confirmation or contact your system administrator.

If you have already enabled this function on your computer, DB7000 will be automatically added to the Device list section. The device will be ready for usage and no additional adjustments will be required except for user name and password.

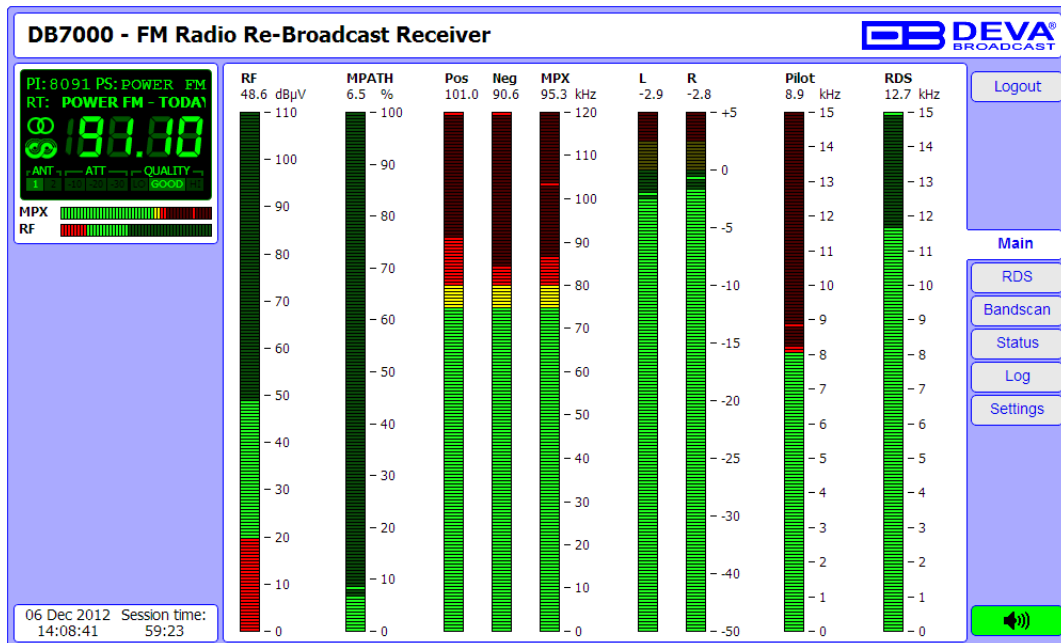
ACCESS

The DB7000 provides you with a protected access to the device settings. You can choose between two types of log in:

1. **As an Administrator** – which will give you full control over the settings (username: admin, password: pass);
2. **As a User** – this type of log-in will allow you to monitor the device and to choose different stations without applying settings (username: user, password: pass).

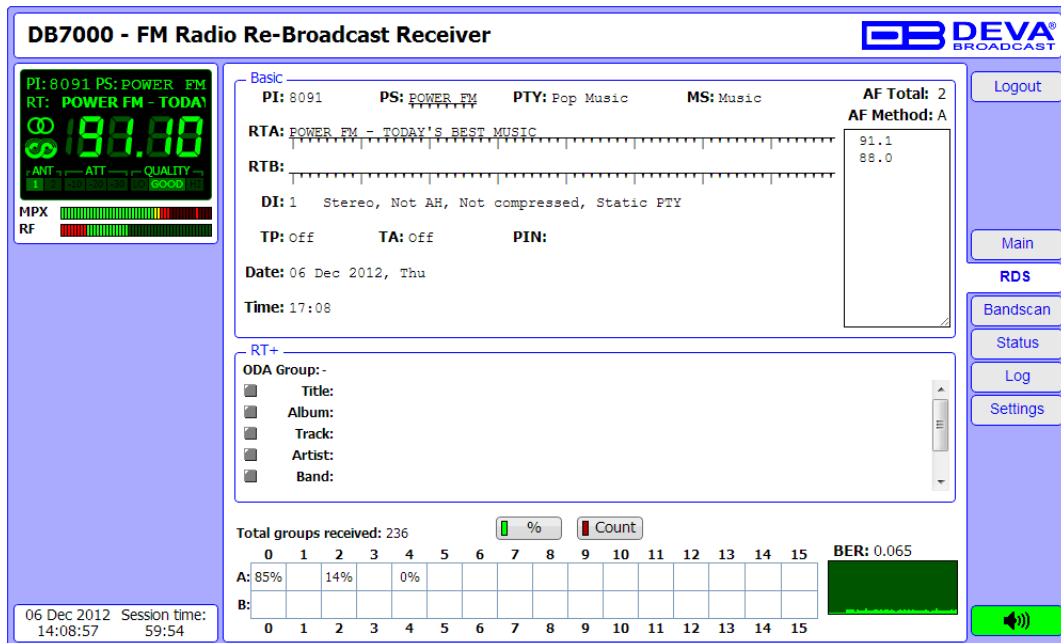
In order to make the necessary adjustments to the device, please log in as Administrator.

MAIN SCREEN



The Main Screen of the WEB Interface shows all the mandatory parameters represented as LED readings - RF level, measured multipath level, baseband modulation (positive and negative peaks), audio levels, PILOT and RDS/RBDS levels.

RDS/RBDS SCREEN



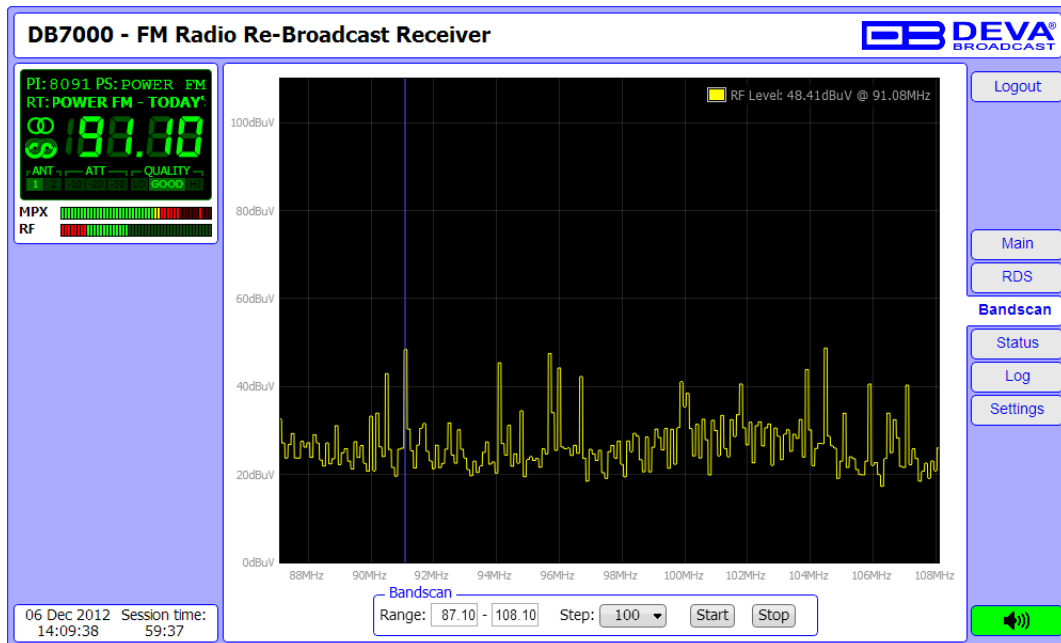
All basic elements of the RDS/RBDS are displayed on the screen – PI, PS, RT, TA/TP, etc. The Alternative frequencies are also available, represented in a list. DB7000 supports one of the most used ODA Applications - Radio Text Plus. If your Radio station has RT+, DB7000 will display the information.

Total groups Indicator – all received groups are systematized into a table, representing the percentage/quantity of the groups in the received RDS/RBDS signal. The user selects how the “Total groups received” data should be represented: as Percents (%) or as Count, by selecting the corresponding button.

A BER Indicator with graphics is placed at the right bottom part of the screen, showing 60 sec. history of the BER quantities.

NOTE: The bit error rate or bit error ratio (BER) is the number of bit errors, divided by the total number of transferred bits during the observed time interval. Result closer or equal to 0 indicates that no bit errors are detected and vice versa - result closer or equal to 1 indicates that the received transferred bits are only errors.

BANDSCAN SCREEN

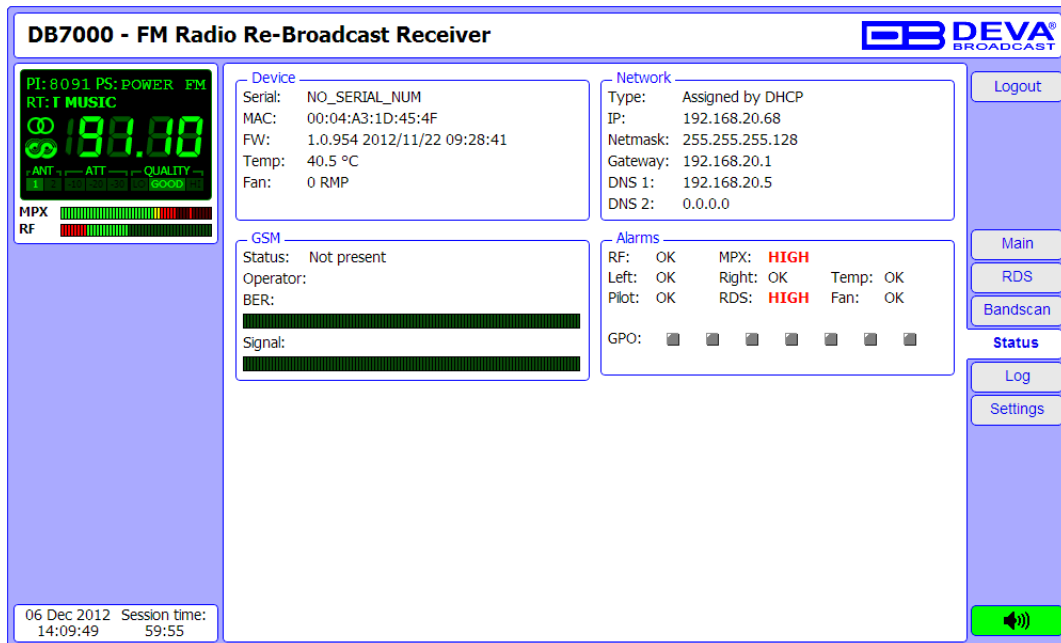


This Screen evaluates FM broadcast band congestion by sweeping the tuner across the FM band, logging every carrier and generating a spectrum display of carrier level vs. frequency.

The Bandscan application utilizes four different types of Bandscan, depending on the preferred signal frequency step. The bandscanning mode could be customized by setting low and high frequency limits of the scan. Once you have set the frequency step and low/high frequencies, the start button should be pressed in order for the Bandscan process to be initiated. The current scan could be stopped at any time by pressing the Stop button.

To evaluate the RF level of the specified frequency, move the vertical marker along the horizontal scale. The Values at the cross-point will be shown at the top right corner of the graph.

STATUS SCREEN



DB7000 - FM Radio Re-Broadcast Receiver

DEVA BROADCAST

Logout

Main

RDS

Bandscan

Status

Log

Settings

06 Dec 2012 Session time: 14:09:49 59:55

Device

Serial: NO_SERIAL_NUM
 MAC: 00:04:A3:1D:45:4F
 FW: 1.0.954 2012/11/22 09:28:41
 Temp: 40.5 °C
 Fan: 0 RMP

Network

Type: Assigned by DHCP
 IP: 192.168.20.68
 Netmask: 255.255.255.128
 Gateway: 192.168.20.1
 DNS 1: 192.168.20.5
 DNS 2: 0.0.0.0

GSM

Status: Not present
 Operator:
 BER:
 Signal:

Alarms

RF: OK MPX: **HIGH**
 Left: OK Right: OK Temp: OK
 Pilot: OK RDS: **HIGH** Fan: OK
 GPO:


PI: 8091 PS: POWER FM
 RT: T MUSIC
 93.70
 ANT ATT QUALITY
 MPX RF

The status tab shows the alarm status of each parameter, along with the basic device and network status (IP address, MAC, etc.).

The Alarm parameters (RF, MPX, Pilot etc.) have several conditions:

- In range - green OK;
- Out of range - red LOW or HIGH;
- Signal monitoring is not enabled - n/a.

LOG SCREEN

DB7000 - FM Radio Re-Broadcast Receiver


PI: 8091 PS: POWER FM
 RT: POWER
98.70
 ANT ATT QUALITY
 9999
 MPX RF

2012-12-06 13:31:26	Control	PANEL Activity
2012-12-06 13:34:49	Control	PANEL Timeout
2012-12-06 13:35:17	Control	PANEL Activity
2012-12-06 13:36:00	Control	PANEL Timeout
2012-12-06 13:36:01	Control	PANEL Activity
2012-12-06 13:37:43	Control	PANEL Timeout
2012-12-06 13:37:48	Control	WEB Login, 192.168.20.78, Admin
2012-12-06 13:38:09	Control	WEB Logout, 192.168.20.78
2012-12-06 13:42:43	System	Device is powered up
2012-12-06 13:42:44	System	Storage init OK
2012-12-06 13:42:46	System	Device is powered up
2012-12-06 13:42:47	System	Storage init OK
2012-12-06 13:42:48	Control	PANEL Activity
2012-12-06 13:43:03	Control	PANEL Timeout
2012-12-06 13:44:00	System	Device is powered up
2012-12-06 13:44:01	System	Storage init OK
2012-12-06 13:44:02	Control	PANEL Activity
2012-12-06 13:44:16	Control	PANEL Timeout
2012-12-06 13:45:11	Control	PANEL Activity
2012-12-06 13:45:22	Control	PANEL Timeout
2012-12-06 13:47:47	Control	PANEL Activity
2012-12-06 13:47:58	Control	PANEL Timeout
2012-12-06 13:48:52	Control	PANEL Activity
2012-12-06 13:50:15	Control	PANEL Timeout
2012-12-06 13:50:51	Alarm	91.10MHz, RDS > 6.5kHz (12.4kHz)
2012-12-06 14:00:14	Alarm	91.10MHz, MPX Total > 75.0kHz (88.6kHz)
2012-12-06 14:08:04	Control	WEB Login, 192.168.20.39, Admin

Logout

Main

RDS

Bandscan

Status

Log

Settings

Clear

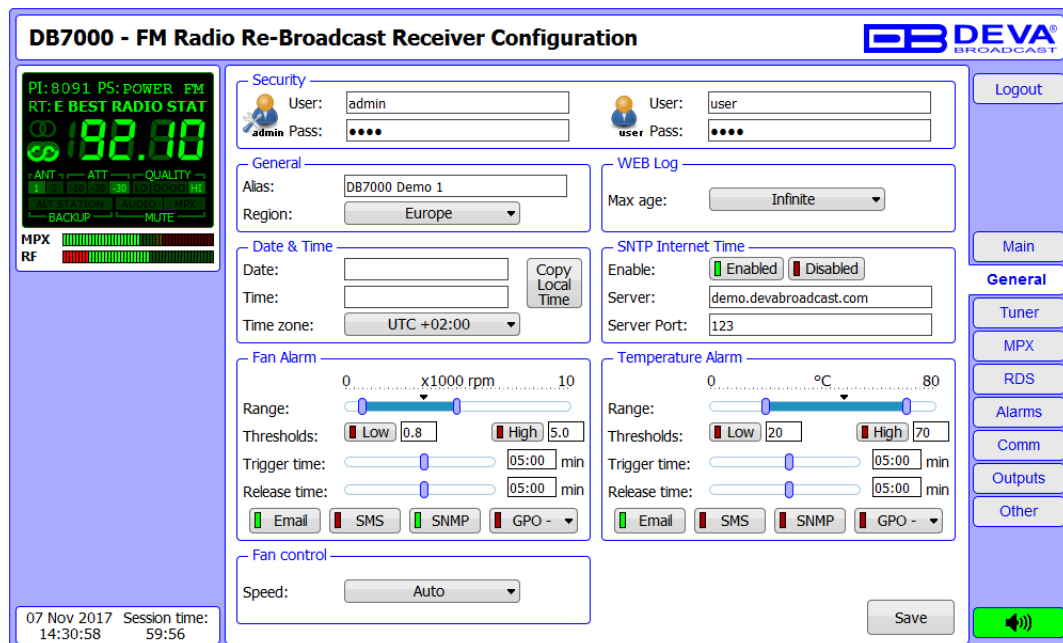
Speaker icon

06 Dec 2012 Session time: 14:10:16 59:29

Here are listed all the Device System Events. The local measurements and logs are saved in the internal device memory. All log files can be downloaded via the built-in FTP server.

For information on how the connection between the DB7000 and an FTP Client should be configured, please [refer to "Download files via FTP" on page 87](#).

GENERAL SETTINGS SCREEN



DB7000 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 and to choose different stations, while the Settings bar remains locked.

In order for the security of DB7000 to be enhanced, a new username and password could be set from the “Security” section.

Alias – allow the name of the device to be changed. Later on, it will be used as a title name on all WEB pages. Customizing the name will make the device more recognizable.

Region – DB7000’s tuning range is user selectable, 87.1-108 MHz (CCIR), 65-74 MHz (OIRT), 76-95 MHz (Japan). Changing/selecting the Region setting, will modify all tuner frequencies so that they could be within the FM band limits of the region chosen. This includes all Presets and Logger Channel frequencies.

Fan control – set the preferred speed of the built-in Fan.

Date & Time – used to manually set the current Date and Time. “Copy Local Time” button will set the Date and Time to correspond to that of your computer.

SNTP Internet Time – Synchronizes automatically the DB7000 clock 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).

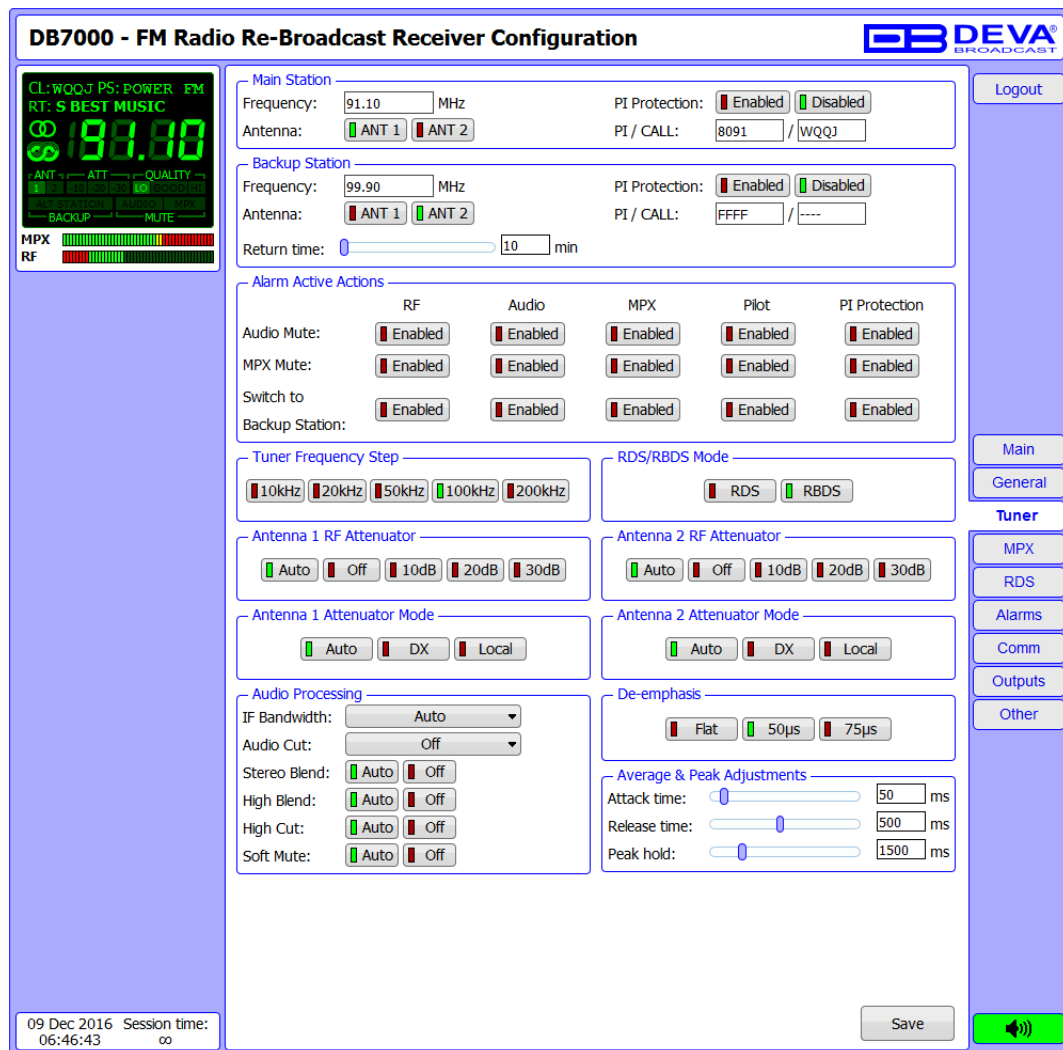
Temperature Alarm – Detects abnormal temperature of the equipment. Define the parameters under which a temperature alarm to be generated.

Fan Alarm - Detects abnormal operation of the built-in fan. Define the parameters under which a fan alarm to be generated.

WEB Log – the maximum storage time of the System Log file is chosen from here. If the file is older than the specified maximum will be deleted.

NOTE: In order for the applied settings to be used press the “Save” button, placed on the bottom right part of the screen.

TUNER SETTINGS SCREEN



DB7000 - FM Radio Re-Broadcast Receiver Configuration

Main Station
 Frequency: 91.10 MHz
 Antenna: ANT 1 ANT 2
 PI Protection: Enabled Disabled
 PI / CALL: 8091 / WQQJ

Backup Station
 Frequency: 99.90 MHz
 Antenna: ANT 1 ANT 2
 Return time: 0 to 10 min
 PI Protection: Enabled Disabled
 PI / CALL: FFFF / ----

Alarm Active Actions

	RF	Audio	MPX	Pilot	PI Protection
Audio Mute:	<input checked="" type="checkbox"/> Enabled	<input checked="" type="checkbox"/> Enabled	<input checked="" type="checkbox"/> Enabled	<input checked="" type="checkbox"/> Enabled	<input checked="" type="checkbox"/> Enabled
MPX Mute:	<input checked="" type="checkbox"/> Enabled	<input checked="" type="checkbox"/> Enabled	<input checked="" type="checkbox"/> Enabled	<input checked="" type="checkbox"/> Enabled	<input checked="" type="checkbox"/> Enabled
Switch to Backup Station:	<input checked="" type="checkbox"/> Enabled	<input checked="" type="checkbox"/> Enabled	<input checked="" type="checkbox"/> Enabled	<input checked="" type="checkbox"/> Enabled	<input checked="" type="checkbox"/> Enabled

Tuner Frequency Step
 10kHz 20kHz 50kHz 100kHz 200kHz

RDS/RBDS Mode
 RDS RBDS

Antenna 1 RF Attenuator
 Auto Off 10dB 20dB 30dB

Antenna 2 RF Attenuator
 Auto Off 10dB 20dB 30dB

Antenna 1 Attenuator Mode
 Auto DX Local

Antenna 2 Attenuator Mode
 Auto DX Local

Audio Processing
 IF Bandwidth: Auto
 Audio Cut: Off
 Stereo Blend: Auto Off
 High Blend: Auto Off
 High Cut: Auto Off
 Soft Mute: Auto Off

De-emphasis
 Flat 50µs 75µs

Average & Peak Adjustments
 Attack time: 50 ms
 Release time: 500 ms
 Peak hold: 1500 ms

09 Dec 2016 Session time: 06:46:43

Save

The Tuner Section gives full control over the two RF Antenna Inputs, Tuner and Audio Processing settings. These settings provide all the needed adjustments to the algorithm which DB7000 demodulates and manipulates the signal.

‘Backup Station’ section – This functionality will help prevent audio loss in case a problem with the main station occurs.

Switch to backup station will be performed once an alarm event is registered. In order for this to happen, the switch option for the relevant alarm event should be selected. DB7000 will stay on the predefined backup frequency for the user-defined time and will return back to the main station upon it expires. The backup hold time is from 10 to 60 minutes. If the alarm conditions are still present, the alarm will be re-triggered and the unit will switch to the backup station again. The procedure will be repeated until the main station’s signal is recovered. The switching time is bounded with and depends from the alarm trigger time that is set. For further information on the alarm trigger time and how to set it up, please refer to the “Alarms” subsection.

‘Alarm Active Action’ section - In this section are defined the actions to be undertaken in case of an RF, Audio, MPX, Pilot or PI Protection alarm is generated. The following options for reaction are available - Audio Mute, MPX Mute, Switch to Backup Station. The applied settings are applicable for both – the main and backup stations, the option “Switch to backup station” excluded as it is applicable only for the main station.

NOTE: For further information on how to set the Alarms [refer to “Alarms Settings Screen” on page 65.](#)

Antenna 1/Antenna 2 RF Attenuator Mode - Allows attenuator mode depending on the location of the device to be selected. The following options are available:

- Auto – device will automatically choose the proper set-up;
- DX – recommended mode when the device is away from the transmitter site;
- Local – recommended mode when the device is at or near a transmitter site.

RDS/RBDS Mode

Depending on the client's preferences, the deviation could be measured in % [RBDS] or in kHz [RDS].

Tuner Frequency Step and De-emphasis

User defined frequency step and De-emphasis could also be set, where the default values are 50kHz Frequency Step and 50 μ s De-emphasis.

Average & Peak Adjustments Section is used for setting of the indicators response times.

- **Attack time** and **Release time** set the rate in which the indicators' level will change in response to the signal. For most of the applications (including this one), the recommended attack time is shorter than the release time.

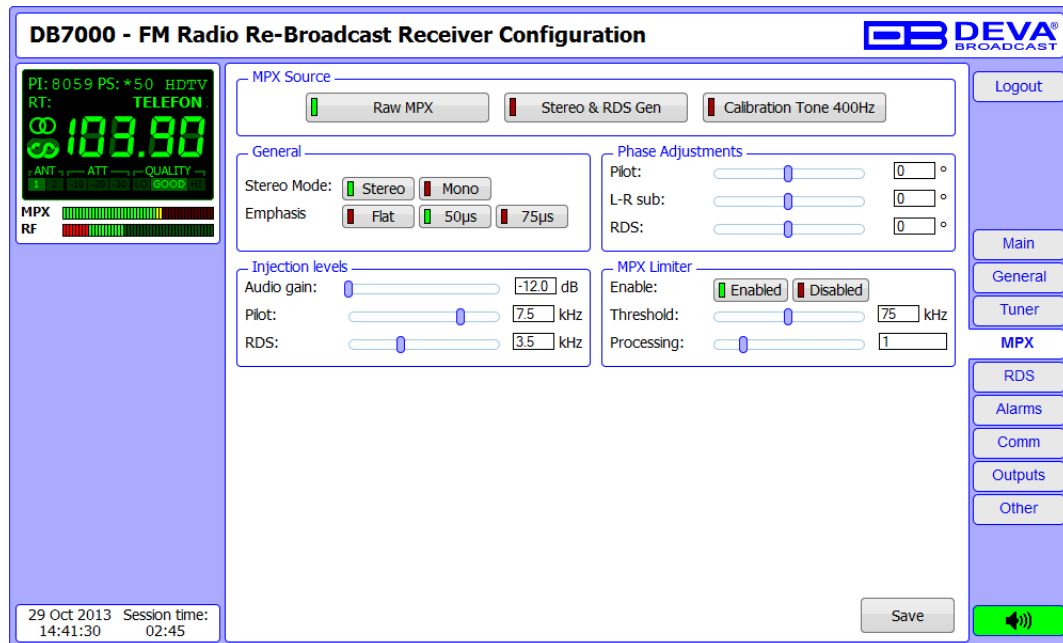
- **Peak-hold time** – Permits retaining and displaying the peak value reached by the signal for a period of time predefined by the user, in milliseconds.

Audio Processing

If set to Auto, these settings depend on the quality of the received signal (RF Level, Multipath, and etc.). If any changes in the signal are detected, the unit will automatically adjust to the correct values.

- Stereo Blend – reduces the stereo separation if the received signal is bad;
- High Blend – applies low pass filter to the L-R audio levels;
- High Cut – applies low pass filter to the L+R audio levels;
- Soft Mute – reduces the level of the audio if the RF level is too low.

MPX SETTINGS SCREEN



MPX Source – Set the preferred MPX Source. The following options are available:

- RAW MPX – demodulated MPX received from the currently selected station;
- Stereo & RDS Gen – MPX generated from the built-in Stereo and RDS Generator;
- Calibration Tone 400Hz – single tone of 400Hz, used for calibrating of the inputs of the devices connected to the MPX output.

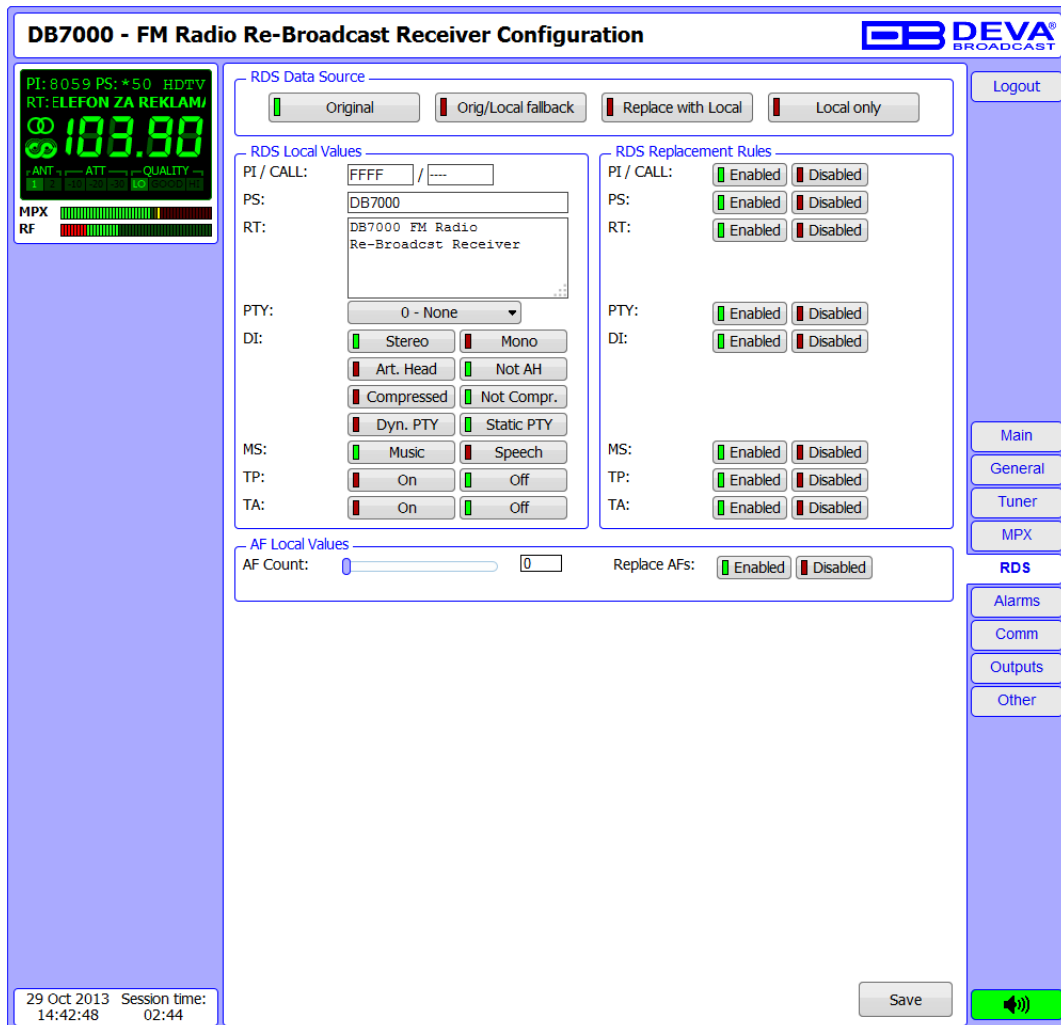
General Settings – The settings of the Stereo Generator are applied through this section. Stereo or Mode processing and user-defined Emphasis could be set.

Injection levels – Set the levels of the components included in the obtained final Stereo Multiplex Signal.

Phase Adjustments – The phase of the Pilot, L-R sub and RDS are set through this section.

MPX Limiter – Enable/Disable the MPX Limiter and set the desired Threshold and Processing mode.

RDS/RBDS SETTINGS SCREEN



DB7000 - FM Radio Re-Broadcast Receiver Configuration

PI: 8059 PS: *50 HD/TV
 RT: ELEFON ZA REKLAM
 103.90
 ANT ATT QUALITY
 MPX RF

RDS Data Source

Original Orig/Local fallback Replace with Local Local only

RDS Local Values

PI / CALL: FFFF / ----
 PS: DB7000
 RT: DB7000 FM Radio Re-Broadcast Receiver
 PTY: 0 - None
 DI: Stereo Mono
 Art. Head Not AH
 Compressed Not Compr.
 Dyn. PTY Static PTY
 MS: Music Speech
 TP: On Off
 TA: On Off

RDS Replacement Rules

PI / CALL: Enabled Disabled
 PS: Enabled Disabled
 RT: Enabled Disabled
 PTY: Enabled Disabled
 DI: Enabled Disabled
 MS: Enabled Disabled
 TP: Enabled Disabled
 TA: Enabled Disabled

AF Local Values

AF Count: 0 Replace AFs: Enabled Disabled

Logout

Main
 General
 Tuner
 MPX
RDS
 Alarms
 Comm
 Outputs
 Other

29 Oct 2013 Session time: 14:42:48 02:44

Save

RDS Data Source:

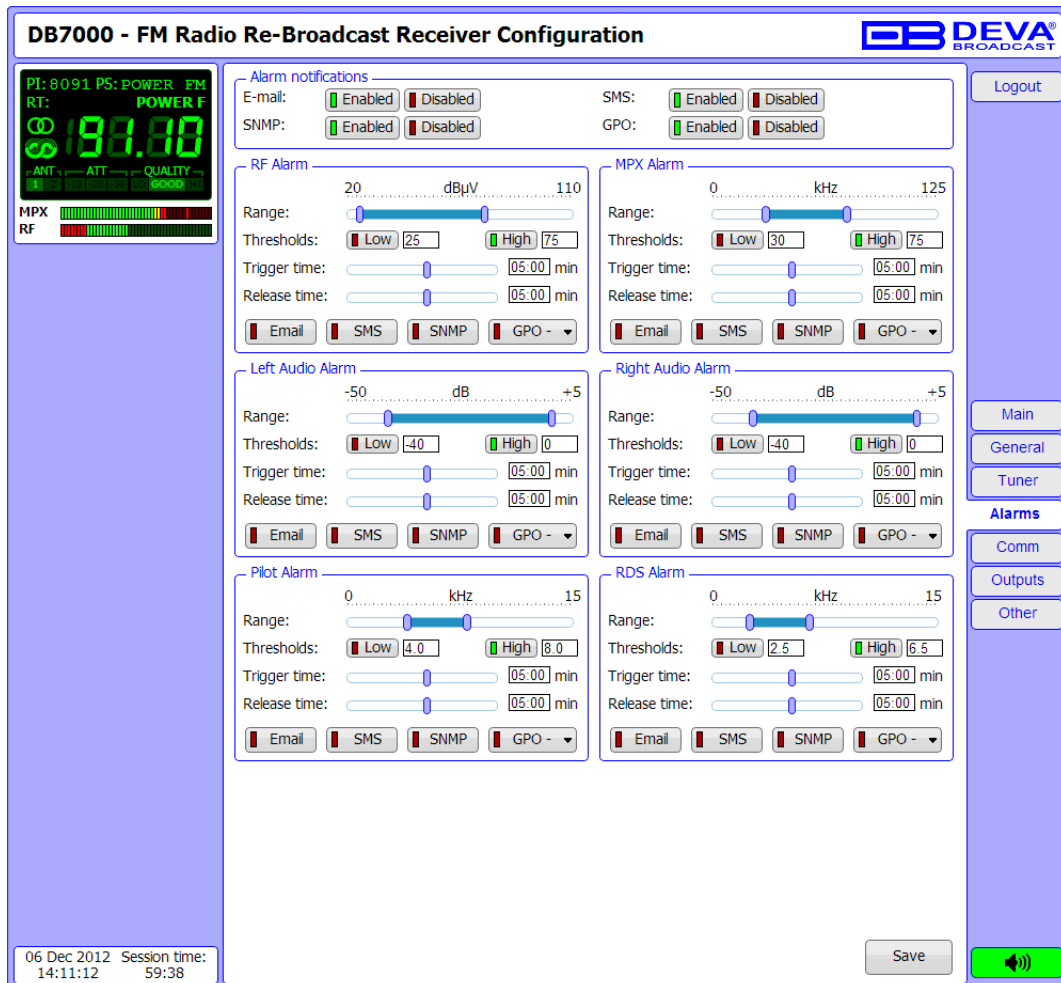
- Original – Original RDS/RBDS data received from the station;
- Original/Local fallback – Upon loss of the original RDS/RBDS the local data will be used;
- Replace with local – User-defined combination of the original and local RDS/RBDS data;
- Local only – User-defined local RDS/RBDS data only.

When Replace with local RDS Data Source is chosen, the RDS/RBDS parameters could be replaced with the specified in RDS Local Values section. Whether a parameter would be changed to its local value on the fly, is specified in section RDS Replacement Rules.

RDS Local Values – RDS/RBDS Local Values are defined through this section.

AF Local Values – Set the total needed number of alternative frequencies and their value.

ALARMS SETTINGS SCREEN



Alarm notifications

- E-mail – global enable/disable E-mail notification;
- SMS – global enable/disable SMS notification;
- SNMP – global enable/disable SNMP notification;
- GPO – global enable/disable GPO actions.

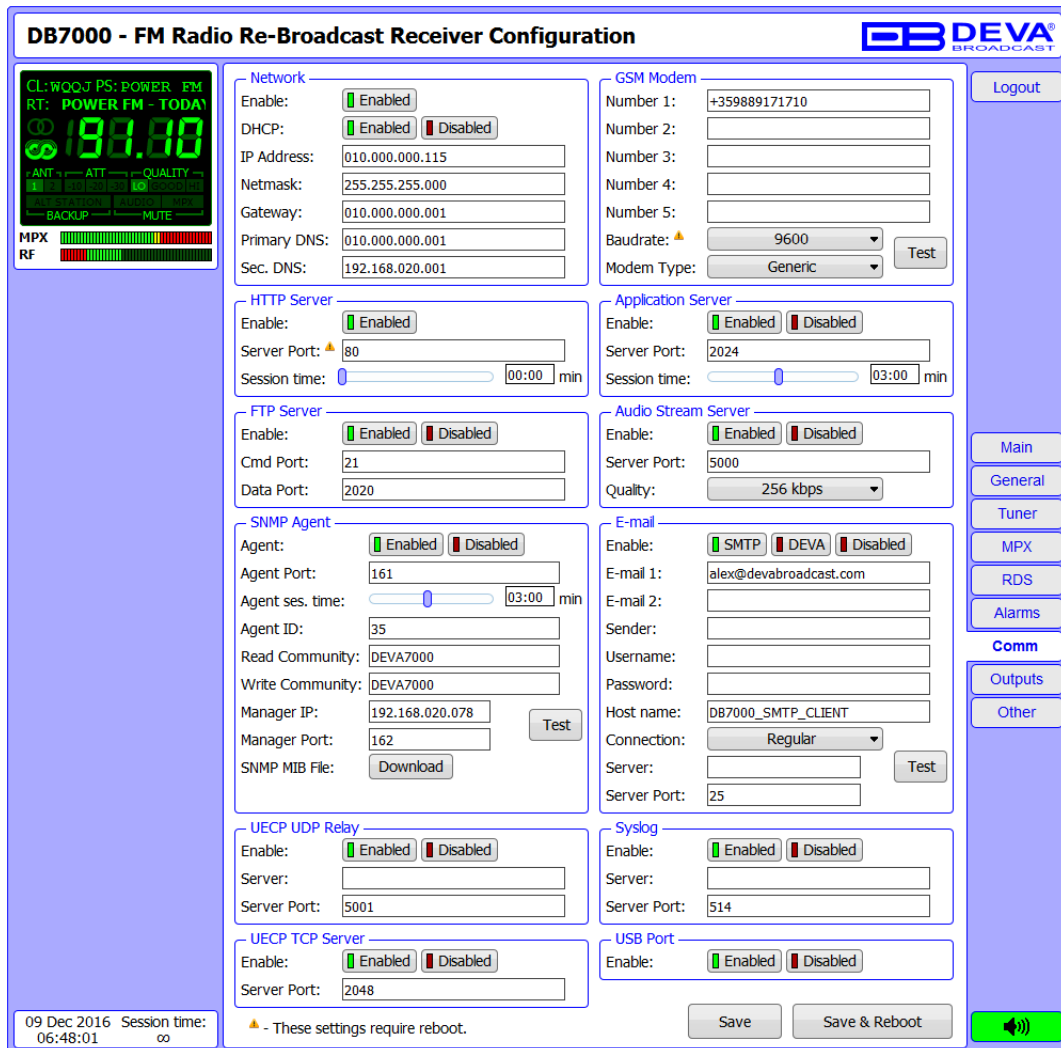
NOTE: If the monitoring option is disabled, notifications will not be sent, nevertheless whether they are enabled or disabled.

Alarm

- Range – interactive slider used to adjust the Low & High thresholds at which an alarm will be generated;
- Trigger Time – waiting time before Active Alarm is generated;
- Release Time – waiting time before Idle Alarm is generated;
- RDS/RBDS Group Alarm – alarm only for selected groups will be generated.

NOTE: For detailed information on Alarm trigger and notifications [refer to “APPENDIX 1: Alarm Triggers” on page 71.](#)

COMMUNICATION SETTINGS SCREEN



DB7000 - FM Radio Re-Broadcast Receiver Configuration

Network
 Enable: Enabled Disabled
 DHCP: Enabled Disabled
 IP Address: 010.000.000.115
 Netmask: 255.255.255.000
 Gateway: 010.000.000.001
 Primary DNS: 010.000.000.001
 Sec. DNS: 192.168.020.001

GSM Modem
 Number 1: +359889171710
 Number 2:
 Number 3:
 Number 4:
 Number 5:
 Baudrate: 9600
 Modem Type: Generic

HTTP Server
 Enable: Enabled Disabled
 Server Port: 80
 Session time: 00:00 min

Application Server
 Enable: Enabled Disabled
 Server Port: 2024
 Session time: 03:00 min

FTP Server
 Enable: Enabled Disabled
 Cmd Port: 21
 Data Port: 2020

Audio Stream Server
 Enable: Enabled Disabled
 Server Port: 5000
 Quality: 256 kbps

SNMP Agent
 Agent: Enabled Disabled
 Agent Port: 161
 Agent ses. time: 03:00 min
 Agent ID: 35
 Read Community: DEVA7000
 Write Community: DEVA7000
 Manager IP: 192.168.020.078
 Manager Port: 162
 SNMP MIB File: Download

E-mail
 Enable: SMTP DEVA Disabled
 E-mail 1: alex@devabroadcast.com
 E-mail 2:
 Sender:
 Username:
 Password:
 Host name: DB7000_SMTP_CLIENT
 Connection: Regular
 Server:
 Server Port: 25

UECP UDP Relay
 Enable: Enabled Disabled
 Server:
 Server Port: 5001

Syslog
 Enable: Enabled Disabled
 Server:
 Server Port: 514

UECP TCP Server
 Enable: Enabled Disabled
 Server Port: 2048

USB Port
 Enable: Enabled Disabled

09 Dec 2016 Session time: 06:48:01
 ▲ - These settings require reboot.

Save Save & Reboot

Network

The network addresses could be set manually (static IP) or automatically via a DHCP server. To set static IP, MASK, 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, DB7000 will use AutoIP and will generate an IP Address.

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.

SNMP Agent

Specify Agent ID, Agent Port, Read/Write Communities, Manager IP, Manager Port and session timeout.

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 DB7000 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.

Syslog

Enable or disable the Syslog feature. Specify Server address and port to be used.

GSM Modem

Up to five numbers for SMS control and alarm notifications could be set. Baud Rate is mandatory for the proper operation of the GSM Modem.

We recommend that a test SMS to be generated (via pressing the 'Test' button), once all needed settings are applied. Upon success, the SMS will be delivered to all the specified GSM numbers.

Example of Test SMS Message:

DB7000 Test Message.

NOTE: The current condition of the GSM Modem could be checked in the "Status Screen".

Application Server

Enable/Disable the DEVA Device Manger Application Server. Specify the Server Port and session timeout.

Audio Stream Server

Specify Port for audio Streaming, and Quality (64, 96, 128, 192 or 256 kbps). The Audio Stream could be heard using suitable audio player (Media Player, Winamp, etc.) or through the WEB interface by pressing the "Listen" button.

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, SNMP port, Host name and connection type. It is mandatory the type of connection with the server to be specified from Connection - Regular, Encrypted. The Server port will be changed accordingly. Please note that the most commonly used port will be entered in the field. If the port that is to be used is different, change it manually to the correct value.

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. Event 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:

DB7000 Test Message.

Please do not reply to this e-mail.

UECP Relay

The unit can relay the received RDS as a UECP stream. There are two possible options:

Option 1 – via UDP, where the device sends the received RDS as UECP encoded UDP packets unconditionally to the specified IP Address and Port. The receiver could be an RDS/RBDS Encoder SmartGen, other RDS Encoder, or Monitoring Software.

Option 2 – via TCP. The unit has built in server and a Monitoring Software to receive the UECP encoded RDS data could be connected to the unit.

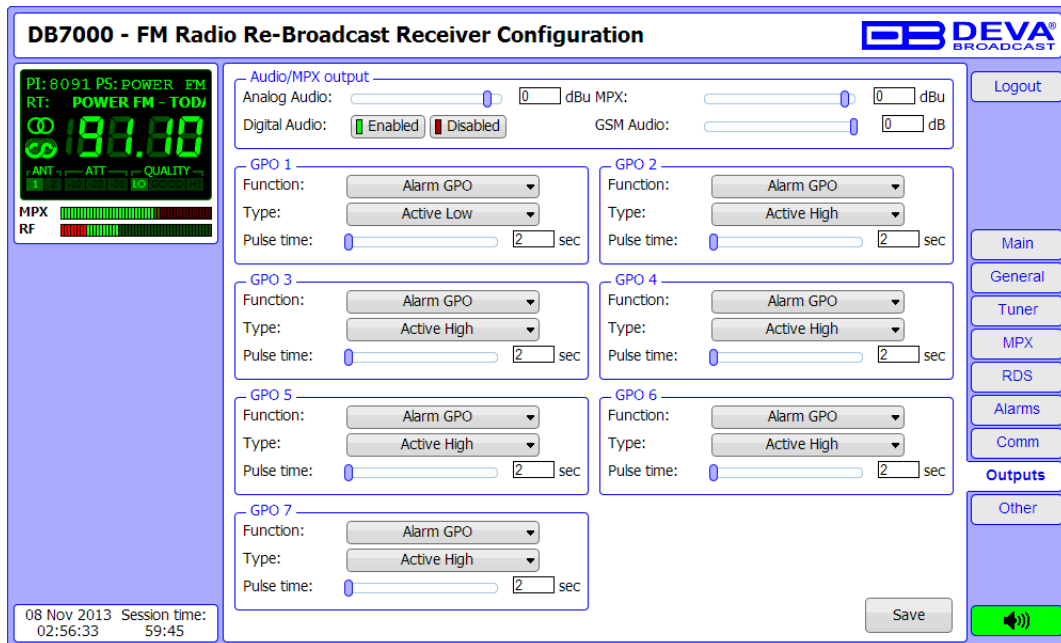
USB Port

Enable/Disable the USB port.

WARNING: The applied changes will take effect upon pressing the SAVE button. All settings marked with require Reboot, therefore the Save & Reboot button should be used.

NOTE: The edited field will become red if the new value is invalid or out of range.

OUTPUTS SETTINGS SCREEN

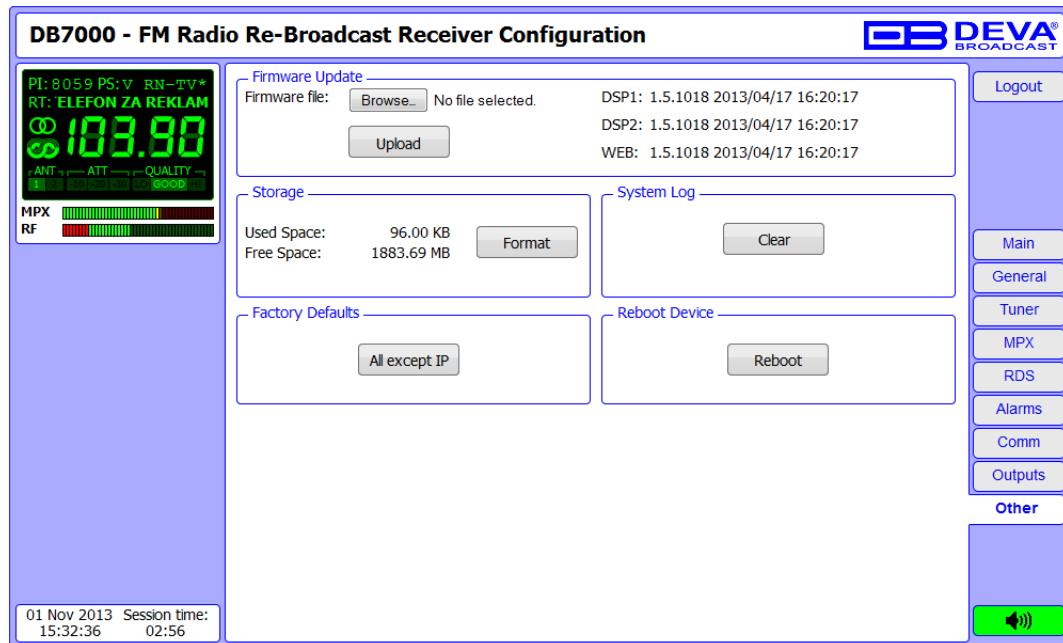


The general purpose outputs settings are applied through this page. The Audio/MPX output section allows the setting of the Audio and MPX Outputs, according to your needs.

Function, type and pulse time for each of the GPOs could be set individually. You can choose between the following functions: Alarm GPO, RDS Lock, TA Flag and TP Flag. ‘Type’ is used for specifying of the active level. When an alarm is generated the output can change the level to Active High/Low or to generate High/Low Pulse.

Please note that if the GPO’s function is not assigned as “Alarm GPO” and the selfsame is chosen as a preferred alarm, notifications will not be indicated, nevertheless one is being generated.

OTHER SETTINGS SCREEN



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. Information on DSP1, DSP2 and WEB is also found in this section.

Storage

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

System Log

By pressing the 'Clear' button, all recorded in the system log information will be deleted.

Factory Defaults

All except IP – all settings except for the Network settings (IP Address) will be deleted;

To restore DB7000 to its Factory Defaults you should first select the desired option and then press the relevant 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.

Reboot

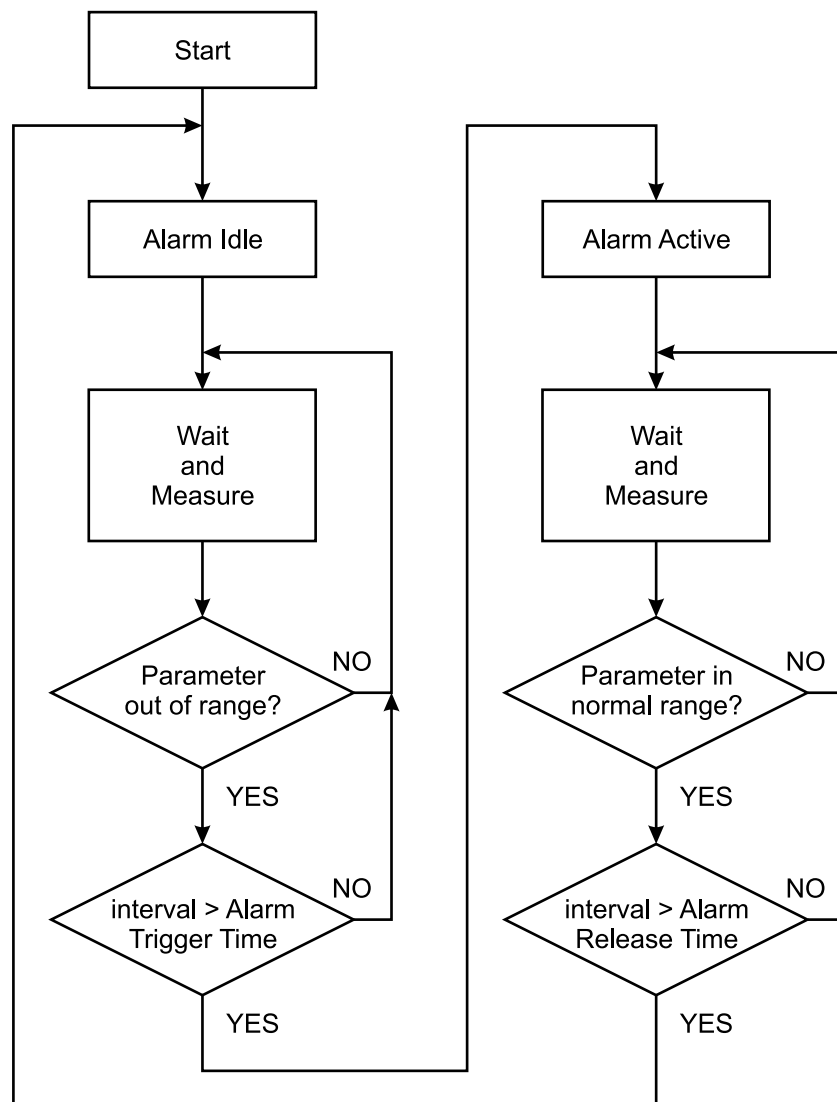
To start Rebooting of DB7000, press the Reboot button. A dialog warning window will appear. Confirm that you want to reboot the device and wait for the process to be completed.

APPENDIX 1: Alarm Triggers

ALARM TRIGGERS

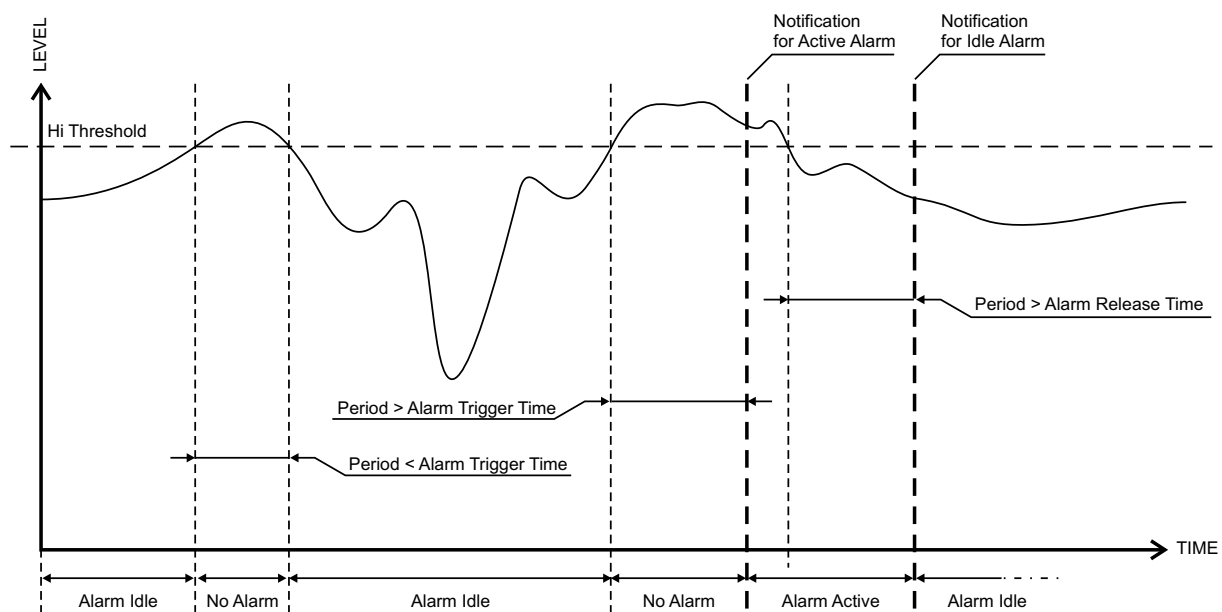
After collecting all the data, the DSP-based core compares the values measured with the predefined by the user threshold levels, for all the alarms monitored. In case that a parameter is beyond limits, the device will initiate the sending of an alarm notification via the selected communication path. All the alarm events are stored in the device's log. It is essential that, if there is a very short fault of the signal, with duration shorter than the 'alarm trigger time', the device would not trigger an alarm.

There are several Alarm Triggers for the following parameters: RF, MPX, MPX Power, Left/Right Audio, RDS Group loss, Pilot and RDS levels. An option for defining different limits for each of the parameters is present. All these values, the 'trigger time' and the 'release time' have to be assigned separately for each of the alarms.



Block Diagram of Alarm Automata

When an observation event takes place, the Alarm Trigger's State will refresh, if necessary. Should we consider an instance when the Alarm Trigger is in Idle state, having in mind that an alarm is not triggered immediately when a parameter level passes beyond threshold: If the parameter level becomes stable, within Thresholds, and the Alarm Trigger Time is not elapsed, then the Alarm Trigger remains in Idle state. If the Alarm Trigger Time expires and the parameter level is still beyond limits, the Alarm Trigger would change its state to High/Low. This would result in predefined actions - Alarm Notifications (E-mail, SMS, SNMP trap) and Save a Log Record. The state will not be immediately switched into Idle when the parameter stabilizes, within Threshold levels, not up until the 'Alarm Release Time' is elapsed. Meanwhile, if the parameter crosses again any Threshold, the Alarm Trigger will remain in Active state. If the parameter remain within the Threshold levels and the Alarm Release Time expires, then the Alarm Trigger would switch into Idle state and again predefined actions would be initiated.



If the RDS Group has not been received within the Alarm Trigger Time, the state would be changed into Active. If the Active state and the Release Time have elapsed and the RDS Group is received, the state is changed to Idle. Should the RDS Group is received before the Release Time is elapsed, the state would remain Active.

ALARM NOTIFICATION

The E-mail, SMS, SNMP trap Alarm Notifications contain the following information - device's Alias, date and time of Alarm triggered, frequency and information about the Alarm activation/deactivation. The basic signal parameters are also included.

Example for E-mal Notification:

Date: 04 Nov 2012, 07:31:11

DB7000 reports ACTIVE alarm on 99.90MHz

Alarm: RDS > 6.5kHz

Signal parameters:

RF: 51.5dBuV

MPX Total: 89.9kHz

MPX Power: -128.0dBr

Pilot: 7.5kHz

RDS: 11.4kHz

Left: -7.2dB

Right: -8.2dB

Example for SMS Notification:

ACTIVE ALARM

27.09.2013 09:08:34

FREQ:95.7MHz

RF:35.0dBuV *L*

MPX:60.3kHz

Left:-2.8dB

Right:-3.1dB

Pilot:7.92kHz

RDS:4.12kHz

NOTE: *L* for LOW (below threshold), *H* for HIGH (above threshold)

ATTENTION: Because of the SMS length limitations, only the most important parameters are included.

APPENDIX 2: List of DB7000 settings

Parameter Name	Type	Range	Default value [, Unit]	Description
Tuner				
Frequency	INT	User selectable, 87.1-108 MHz (CCIR), 65-74 MHz (OIRT), 76-95 MHz (Japan)	98.1, MHz	Tuner related submenu
RF Input	ENUM	Antenna 1, Antenna 2	Antenna 1	Active RF antenna input
Attenuator Ant 1	ENUM	Auto, OFF, -10dB, -20dB, -30dB	Auto	Attenuator setting for antenna input 1
Attenuator Ant 2	ENUM	Auto, OFF, -10dB, -20dB, -30dB	Auto	Attenuator setting for antenna input 2
Frequency Step	ENUM	10, 20, 50, 100, 200	50, kHz	Step for frequency tuning
IF Bandwidth	ENUM	27, 36, 45, 53, 62, 71, 79, 88, 97, 105, 114, 123, 131, 140, 149, 157, Auto	Auto, kHz	IF filter bandwidth
Stereo Blend	ENUM	Auto, Off	Auto	Stereo blend level
High Cut	ENUM	Auto, Off	Auto	High cut level
High Blend	ENUM	Auto, Off	Auto	High blend level
Soft Mute	ENUM	Auto, Off	Auto	Soft mute level
Audio Cut	ENUM	5, 10, 15, Off	Off, kHz	Audio cut level
Deemphasis	ENUM	FLAT, 50, 75	50, μ s	De-emphasis settings
RDS Mode	ENUM	RDS, RBDS	RDS	RDS decoder mode
PI Protection	ENUM	Enable, Disable	Disable	PI Protection Enable
PI	PI			PI Protection code
RF Loss Threshold	INT	0 ... 110, step 1	40, dB μ V	RF threshold level
RF Loss Timeout	TIMER	1 ... 60, step 1	1, s	RF timeout
Average and Peak				
Attack Time	INT	0 ... 500, step 10	50, ms	Signal averaging related submenu
Release Time	INT	50 ... 1000, step 10	500, ms	Attack time for signal measuring
Peak Hold	INT	500 ... 5000, step 500	1500, ms	Release time for signal measuring
				Peak hold time

Parameter Name	Type	Range	Default value [, Unit]	Description
MPX Generator				
MPX Source	ENUM	RAW MPX, Stereo Gen, Test Tone 400Hz	RAW MPX	MPX Generator Settings
Stereo Mode	ENUM	Mono, Stereo	Stereo	MPX Source
Pre Emphasis	ENUM	FLAT, 50, 75	50, μ s	Stereo mode
Audio Gain	INT	-12 ... 3, step 0.5	0, dB	Pre Emphasis
Pilot Injection	INT	0 ... 10, step 0.5	7.5, kHz	Audio gain for MPX
RDS Injection	INT	0 ... 10, step 0.5	5, kHz	Pilot injection level
Pilot Phase	INT	-90 ... 90, step 1	0, kHz	RDS injection level
L-R Phase	INT	-90 ... 90, step 1	0, kHz	Pilot phase adjustment
RDS Phase	INT	-90 ... 90, step 1	0, kHz	L-R subcarrier phase adjustment
MPX Limiter	ENUM	Enable, Disable	Enable	RDS subcarrier phase adjustment
MPX Threshold	INT	40 ... 110, step 1	75, kHz	MPX Limiter
MPX Processing	INT	0 ... 5, step 1	0	MPX Limiter threshold
RDS Generator				
Source	ENUM	Original, Local Fallback, Local, Replace	Original	RDS Encoder settings
PI	PI	all valid RDS/RBDS PI values	FFFF	RDS Data Source
PS	STR		DB7000	Local PI
Radio Text	STR		DB7000 FM Radio Re-Broadcast Receiver	Local PS
PTY	ENUM	see " APPENDIX C.1 " & " APPENDIX C.2 "	None	Local Radio Text
MS	ENUM	Speech, Music	Music	Local PTY
TP	ENUM	Off, On	Off	Local MS flag
TA	ENUM	Off, On	Off	Local TP flag
				Local TA flag

Parameter Name	Type	Range	Default value [, Unit]	Description
DI Flags				
Stereo	ENUM	Off, On	Off	DI Flag Stereo
Artificial Head	ENUM	Off, On	Off	DI Flag Artificial Head
Compressed	ENUM	Off, On	Off	DI Flag Compressed
Dynamic PTY	ENUM	Off, On	Off	DI Flag Dynamic PTY
AF List				
Local Alternative frequencies list				
AFs Count	INT	0 ... 25, step 1	0	Local AF List length
AF 1	INT	87.6 ... 107.9, step 0.1	87.6, MHz	Local AF 1
...
AF 25	INT	87.6 ... 107.9, step 0.1	87.6, MHz	Local AF 25
PI Replace	ENUM	Enable, Disable	Enable	Replace PI with local
PS Replace	ENUM	Enable, Disable	Enable	Replace PS with local
RT Replace	ENUM	Enable, Disable	Enable	Replace Radio text with local
PTY Replace	ENUM	Enable, Disable	Enable	Replace PTY with local
MS Replace	ENUM	Enable, Disable	Enable	Replace MS with local
TP Replace	ENUM	Enable, Disable	Enable	Replace TP with local
TA Replace	ENUM	Enable, Disable	Enable	Replace TA with local
DI Replace	ENUM	Enable, Disable	Enable	Replace DI with local
AF Replace	ENUM	Enable, Disable	Enable	Replace AF with local

Parameter Name	Type	Range	Default value [, Unit]	Description
Communication				
General Setup				
Ethernet	ENUM	Enable, Disable	Enable	Communication related submenu
SNMP	ENUM	Enable, Disable	Enable	General communication settings
Application	ENUM	Enable, Disable	Enable	Ethernet port (general)
HTTP	ENUM	Enable, Disable	Enable	SNMP protocol
FTP	ENUM	Enable, Disable	Enable	Application proprietary protocol
Email	ENUM	Enable, Disable	Enable	HTTP protocol (WEB server)
SNTP	ENUM	Enable, Disable	Enable	FTP protocol
Audio Stream	ENUM	Enable, Disable	Enable	SMTP protocol (email)
Syslog	ENUM	Enable, Disable	Enable	SNTP protocol (Internet time)
USB	ENUM	Enable, Disable	Enable	Audio streaming
UPnP	ENUM	Enable, Disable	Enable	SYSLOG protocol
Ethernet				
DHCP	ENUM	Enable, Disable	Enable	Ethernet related submenu
IP	IP		192.168.1.2	DHCP Client
Network Mask	NETMASK		255.255.255.0	IP address (static)
Gateway	IP		192.168.1.1	Network mask (static)
Primary DNS	IP		192.168.1.1	Gateway address (static)
Secondary DNS	IP		192.168.1.1	Primary DNS IP address (static)
SNMP				
Manager IP	IP		192.168.1.1	Secondary DNS IP address (static)
Manager Port	PORT	1 ... 65535, step 1	162	SNMP related submenu
Agent Port	PORT	1 ... 65535, step 1	161	Manager IP address
Agent ID	INT	0 ... 255, step 1	0	Manager port
Read Community	STR		DEVA7000	Agent port
Write Community	STR		DEVA7000	Agent ID for the device
				Read community password
				Write community password

Parameter Name	Type	Range	Default value [, Unit]	Description
Session Timeout	TIMER	10 ... 3600, step 10	180, s	Inactivity timeout - for SNMP write only
Application				
Port	PORT	1 ... 65535, step 1	1024	Application related submenu
Session Timeout	TIMER	10 ... 3600, step 10	180, s	Application inactivity timeout
HTTP				
Port	PORT	1 ... 65535, step 1	80	WEB server port
Session Timeout	TIMER	10 ... 3600, step 10	180, s	WEB session timeout
FTP				
Data Port	PORT	1 ... 65535, step 1	2020	FTP related submenu
Command Port	PORT	1 ... 65535, step 1	21	FTP data port
SNTP				
Time Server	HOST		pool.ntp.org	SNTP related submenu
Server Port	PORT	1 ... 65535, step 1	123	Time server host name
Email				
Mail Server	HOST		(blank)	Email related submenu
Server Port	PORT	1 ... 65535, step 1	25	Outgoing server host name
Email Address 1	EMAIL		(blank)	Outgoing server port
Email Address 2	EMAIL		(blank)	First recipient email address
Sender Name	STR		(blank)	Second recipient email address
User Name	STR		(blank)	Sender name
User Password	STR		(blank)	Outgoing server user name
Host name	HOST		DB7000_SMTTP_CLIENT	Outgoing server password
Connection Type	ENUM	Regular, Encrypted	Regular	Client Hostname
Streamer				
Server Port	PORT	1 ... 65535, step 1	5000	Connection Type
Bitrate	INT	64 ... 256, step 32	128, kbps	Audio streamer related submenu
				Audio streamer server port
				Audio bitrate

Parameter Name	Type	Range	Default value [, Unit]	Description
Syslog				
Server	HOST		(blank)	SYSLOG related submenu
Port	PORT	1 ... 65535, step 1	514	Server host name Server port
GSM Modem				
Modem Type	ENUM	Generic	Generic	GSM modem related submenu
Baudrate	ENUM	4800, 9600, 19200, 38400, 57600	9600, bps	Denotes used GSM modem type
Number 1	TEL		(blank)	GSM modem communication speed
Number 2	TEL		(blank)	First allowed phone number
Number 3	TEL		(blank)	Second allowed phone number
Number 4	TEL		(blank)	Third allowed phone number
Number 5	TEL		(blank)	Fourth allowed phone number
			(blank)	Fifth allowed phone number
Security				
Security related submenu				
Panel				
Panel security settings				
Access Control	ENUM	Enable, Disable	Disable	Security related submenu
Access Code	PORT	0 ... 9999, step 1	1234	Panel security settings
Access Timeout	TIMER	60 ... 3600, step 1	300, s	Front panel access control
Remote Access				
Remote control security settings				
Admin Name	STR		admin	Front panel access code
Admin Password	STR		pass	Access is granted timeout
User Name	STR		user	Remote control security settings
User Password	STR		pass	Admin access level name
				Admin access level password
				User access level name
				User access level password

Parameter Name	Type	Range	Default value [, Unit]	Description
Alarms				
Alarm Events				
Email	ENUM	Enable, Disable	Enable	Alarm through email
SMS	ENUM	Enable, Disable	Enable	Alarm through SMS
SNMP Trap	ENUM	Enable, Disable	Enable	Alarm through SNMP trap
GPO	ENUM	Enable, Disable	Enable	Alarm through GPO pin
Alarms GPO				
GPO1 Type	ENUM	Level High, Level Low, Pulse High, Pulse Low	Level High	GPO pin 1 active level
GPO1 Pulse Time	TIMER	1 ... 120, step 1	2, s	GPO pin 1 pulse duration
GPO2 Type	ENUM	Level High, Level Low, Pulse High, Pulse Low	Level High	GPO pin 2 active level
GPO2 Pulse Time	TIMER	1 ... 120, step 1	2, s	GPO pin 2 pulse duration
GPO3 Type	ENUM	Level High, Level Low, Pulse High, Pulse Low	Level High	GPO pin 3 active level
GPO3 Pulse Time	TIMER	1 ... 120, step 1	2, s	GPO pin 3 pulse duration
GPO4 Type	ENUM	Level High, Level Low, Pulse High, Pulse Low	Level High	GPO pin 4 active level
GPO4 Pulse Time	TIMER	1 ... 120, step 1	2, s	GPO pin 4 pulse duration
GPO5 Type	ENUM	Level High, Level Low, Pulse High, Pulse Low	Level High	GPO pin 5 active level
GPO5 Pulse Time	TIMER	1 ... 120, step 1	2, s	GPO pin 5 pulse duration
GPO6 Type	ENUM	Level High, Level Low, Pulse High, Pulse Low	Level High	GPO pin 6 active level
GPO6 Pulse Time	TIMER	1 ... 120, step 1	2, s	GPO pin 6 pulse duration
GPO7 Type	ENUM	Level High, Level Low, Pulse High, Pulse Low	Level High	GPO pin 7 active level
GPO7 Pulse Time	TIMER	1 ... 120, step 1	2, s	GPO pin 7 pulse duration
RF Alarm	ALARM	see "Note 1"		RF level alarm settings
MPX Alarm	ALARM	see "Note 1"		MPX total deviation alarm settings
Pilot Alarm	ALARM	see "Note 1"		Pilot level alarm settings
RDS Alarm	ALARM	see "Note 1"		RDS subcarrier level alarm settings
RDS Group Alarm	ALARM	see "Note 1"		RDS group presence alarm settings
Left Alarm	ALARM	see "Note 1"		Left audio level alarm settings

APPENDIX C.2

PTY Code Description Used in RDS Mode – Europe, Asia

PTY	Short Name	Description
1	News	Short accounts of facts, events and publicly expressed views, reportage and actuality.
2	Current affairs	Topical program expanding or enlarging upon the news, generally in different presentation style or concept, including debate, or analysis.
3	Information	Program the purpose of which is to impart advice in the widest sense.
4	Sport	Program concerned with any aspect of sport.
5	Education	Program intended primarily to educate, of which the formal element is fundamental.
6	Drama	All radio plays and serials.
7	Culture	Programs concerned with any aspect of national or regional culture.
8	Science	Programs about the natural sciences and technology.
9	Varied	Used for mainly speech-based programs usually of light-entertainment nature, not covered by other categories. Examples include: quizzes, games, personality interviews.
10	Pop	Commercial music, which would generally be considered to be of current popular appeal, often featuring in current or recent record sales charts.
11	Rock	Contemporary modern music, usually written and performed by young musicians.
12	Easy Listening	Current contemporary music considered to be “easy-listening”, as opposed to Pop, Rock or Classical, or one of the specialized music styles, Jazz, Folk or Country. Music in this category is often but not always, vocal, and usually of short duration.
13	Light classics	Classical Musical for general, rather than specialist appreciation. Examples of music in this category are instrumental music, and vocal or choral works.
14	Serious classics	Performances of major orchestral works, symphonies, chamber music etc., and including Grand Opera.
15	Other music	Musical styles not fitting into any of the other categories. Particularly used for specialist music of which Rhythm & Blues and Reggae are examples.
16	Weather	Weather reports and forecasts and Meteorological information.
17	Finance	Stock Market reports, commerce, trading etc.
18	Children’s programs	For programs targeted at a young audience, primarily for entertainment and interest, rather than where the objective is to educate.
19	Social Affairs	Programs about people and things that influence them individually or in groups. Includes: sociology, history, geography, psychology and society.
20	Religion	Any aspect of beliefs and faiths, involving a God or Gods, the nature of existence and ethics.
21	Phone In	Involving members of the public expressing their views either by phone or at a public forum.
22	Travel	Features and programs concerned with travel to near and far destinations, package tours and travel ideas and opportunities. Not for use for Announcements about problems, delays, or roadworks affecting immediate travel where TP/TA should be used.
23	Leisure	Programs concerned with recreational activities in which the listener might participate. Examples include, Gardening, Fishing, Antique collecting, Cooking, Food & Wine etc.
24	Jazz Music	Polyphonic, syncopated music characterized by improvisation.
25	Country Music	Songs which originate from, or continue the musical tradition of the American Southern States. Characterized by a straightforward melody and narrative story line.
26	National Music	Current Popular Music of the Nation or Region in that country’s language, as opposed to International ‘Pop’ which is usually US or UK inspired and in English.
27	Oldies Music	Music from the so-called “golden age” of popular music.
28	Folk Music	Music which has its roots in the musical culture of a particular nation, usually played on acoustic instruments. The narrative or story may be based on historical events or people.
29	Documentary	Program concerned with factual matters, presented in an investigative style.
30	Alarm Test	Broadcast when testing emergency broadcast equipment or receivers. Not intended for searching or dynamic switching for consumer receivers.. Receivers may, if desired, display “TEST” or “Alarm Test”.
31	Alarm	Emergency announcement made under exceptional circumstances to give warning of events causing danger of a general nature. Not to be used for searching - only used in a receiver for dynamic switching.