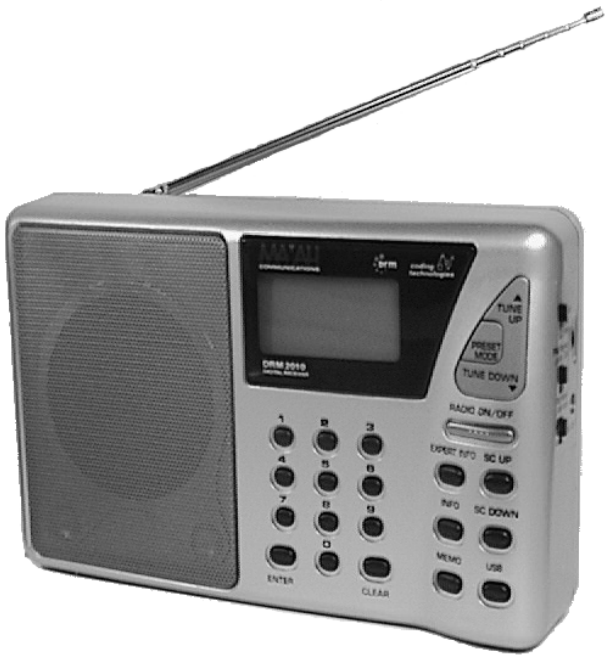
DRM 2010

Receiver for Digital Radio Mondiale

(Digital Radio on Long-, Medium- and Shortwave)



Operating Instructions

Order-No. DRM2010
Revison level: 03/2004

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Device Characteristics

The DRM 2010 receiver enables you to receive digital and analogue long, medium and short wave radio programmes, as well as VHF radio (FM).

The receiver is supplied with energy by the power line adapter enclosed.

Scope of Delivery

– Receiver DRM 2010
– These operating instructions
– Mains power pack

What is DRM?

DRM means "Digital Radio Mondiale" and is digitally broadcast radio via long, medium and short wave. This technique increases sound quality of the transmitted programme considerably compared to analogue method that has been used so far.

The digital method allows parallel broadcasting of several data channels, i.e. stereo programmes e.g., multilingual programmes or digital data services transmitted simultaneously to radio broadcastings (e.g. market prices or similar) are possible via DRM.

For more information about DRM and programmes and frequencies of DRM, visit e.g. website of DRM-organisation at:
www.drm.org

*) Technology licensed from AFG, BBC, Coding Technologies

Switching Device on and off

In order to switch on the device,

- plug adapter into power line socket,
- plug the jack of the adapter into the socket DC IN on the left short side of the device and
- press RADIO ON/ OFF on the front side.

In order to switch off the device,

- press RADIO ON/ OFF again.

If receiver is switched on, the display is shining. Light goes out when receiver is switched off.

If the device is switched off and connected with the mains power adapter, the unlit display shows STAND BY.

When switching off, the device saves the latest tuned frequency in every receiving mode, with DRM also the latest station adjustment (preset). When the device is switched off and then later on again, the same programme, with DRM the same station adjustment appears as before switching off.

Adjusting Volume

Volume of speaker or headset plugged in, can be set by thumb wheel VOLUME on the right short side of the device.

The LINE OUT on the right short side of the device is not influenced by that.

In case headset is plugged into the corresponding socket on the left short side of the device, the built-in-speaker will be deactivated.

Choosing Receiving Mode

With the mode switch on the right short side of the device (DRM/ AM/ FM) you can switch between FM (VHM), AM (analogue long, medium and short wave) and DRM (digital long, medium and short wave).

Frequencies:

– AM/DRM: 150 kHz - 29.999 kHz
– FM: 87,50 - 108,00 MHz

The device cannot receive frequencies outside of these areas.

Setting Frequencies

If the preset mode (see page 5) is switched off, you can set frequencies in three different ways:

1) Entering exact frequency via digit key.
2) Using automatic station search.
3) Shifting frequency.

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1) Entering exact frequency

- Enter the frequency needed via digit key and press ENTER.

  The last digit in each case can be cleared by pressing CLEAR.

In AM/DRM area, frequencies can be set exactly of up to 1 kHz (e.g.: 1-0-0-0-ENTER for 1000 kHz).

In FM area, frequencies can be set exactly of up to 10 kHz (e.g.: 1-0-0-6-0-ENTER for 100.60 MHz), however, it is rounded up to the next 50-kHz-level (in this case 100,50 MHz).

2) Using Automatic Station Search

For automatic station search press TUNE UP or DOWN for more than 2 seconds. As soon as a frequency with a station signal has been reached, the automatic station search will stop and the programme will be played.

Automatic station search is only possible with AM and FM.

3) Shifting Frequency

For shifting frequency press shortly, if needed several times, TUNE UP or TUNE DOWN. Each time you press the button, frequency is changed by 50 kHz (FM) or 1 kHz (AM/DRM) upwards or downwards.

Station Memory (Presets)

The device is able to save up to 29 programmes including station adjustment - so-called "presets“ - for every receiving mode (DRM/AM/FM).

AM and FM: preset consists of only the frequency.

DRM: preset also contains the chosen service component and the setting of the USB-output.

These presets are separately saved in a numbered list for every single receiving mode (DRM/AM/FM).

Save Preset

- In order to save a preset, tune the station needed and select the service components in question by pressing SC UP or SC DOWN.
- Press MEMO. PROG is now visible on the display.
- Now enter preset number via digit key and press ENTER.

  For saving presets, it is not important whether preset mode (see page 5) is switched on or off.

  If an already existing preset is saved inadvertently or deliberately under a new number, the previous preset number will be deleted automatically.

  If a preset is to be saved under an already used preset number, a query is raised on the display.

Selecting Presets

In order to choose an existing preset from the corresponding preset list, please go to preset mode (see right column).

- Press PRESET MODE.
- Enter the preset number via digit key (double digits shortly after each other)
  or
  choose it from the existing preset list by pressing TUNE UP or TUNE DOWN.

Clearing Presets

Presets can be deleted at any time, independent whether preset mode (see below) is switched on or off.

- To delete the currently chosen preset, press CLEAR. Display is showing CLEAR now.
- Press ENTER to confirm. Any other key stops deleting.

If preset mode is activated, the device changes to the next saved preset after clearing. If there are no more presets saved, preset mode is switched off automatically.

Preset-Mode

Saved station tunings and adjustments can only be chosen if preset mode is switched on.

- To activate preset mode on or off, press PRESET MODE. If preset mode is turned on, PROG is shown on the display.

When activating preset mode, preset entry with the lowest consecutive number will be selected. When leaving preset mode, device will remain tuned to the current station.

Numerical keys and TUNE UP and TUNE DOWN have a different function in the preset mode. They then refer to the preset list of the tuned receiving mode:

– **Numerical keys** stand for saved presets on the basis of the consecutive numbers in the list. Therefore, it is not possible to enter frequencies directly in the preset mode. Further, manual tuning and automatic station search are not possible.
– **The keys TUNE UP and TUNE DOWN** effect that the device changes from entry to entry in the preset list.

The keys SC UP and SC DOWN (selecting a service component) are also active in the preset mode. If they are used in the preset mode, preset mode is switched off.

Independent whether preset mode is turned on or off, the current preset number is visible on the left lower side of the display.

DRM-Service-Components

The DRM signal is a digital data stream. It consists of 1-4 components, the so-called service components. They can be both, audio and data components. Thus, with DRM it is not only possible - such as with AM - to transmit mono programmes (1 component), but also to transmit stereo programmes, multilingual programmes or e.g. parallely to a market place broadcasting also share prices for computers when using several components. If and which service components are broadcast are decided by the stations.

The number of service components, which are contained in the currently received programme, is shown on the display. The service components in question can be selected by pressing SC UP and SC DOWN.

The flashing component number shows the selected service component.

If the selected service component is not available anymore, the receiver automatically switches to the audio-service component with the lowest number. As soon as the selected service component is received again, the receiver switches again to the selected service component.

*Only an **audio**-service component can be selected.*

Transmitted Text Information

Together with the digital radio programme, different text informations are also transmitted, such as programme names, frequency, language, as well as music interpreters, signal quality, modulation or bit rate. This information is shown on the display of the device. Some information is shown automatically, some only on demand.

- In order to get information about programme names, language or programme type (PTY), press INFO. Information can be navigated through by pressing several times.
- In order to get technical information such as signal quality, modulation or bit rate, press EXPERT INFO. Information can be navigated through by pressing several times.

Texts, which are longer that the display, run from right to left continuously.

Using the Antenna

The device has an installed ferrite antenna for receiving long, medium and short waves. To improve reception of these frequencies, the receiver can be connected to an appropriate outdoor antenna. For this purpose, there are two antenna sockets on the left short side of the device. The upper socket LOOP ANT is reserved for a loop antenna, the lower one WIRE ANT for a long-wire antenna.

For the reception of VHF (FM) a pop-up antenna has been installed.

USB-output

In the case of DRM-reception, you can choose which service component is to be issued on the USB-output.

- Press USB; now the display is showing the current setting.
- With SC UP or SC DOWN, you can change through the received service components.
- To choose the shown service component, press USB again.

If you have chosen OFF, the USB-output will be switched off.

Firmware Version

In order to see the firmware version installed,

- unplug the adapter if needed,
- press and hold SC UP and
- plug the adapter into the corresponding socket of the receiver.

The display is now showing a character string, e.g. A071V01Z. The part after the "V" (here: "01Z") indicates the firmware version.

Technical Data

Size	21 x 7 x 13 cm
Outputs	3,5 mm micro sockets for stereo headset and stereo Line
Inputs	3,5 mm micro sockets for loop antenna and for long-wire antenna
Control	USB-interface for digital data services (output) and SW-updates (input)
Power supply	External switching power adapter, 100-240 VAC, 47-67 Hz, 1000 mA
Weight (without adapter)	ca. 700 g
Weight of adapter	ca. 500 g