

# DIGIAIR dB

## English Manual





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# 1 Getting Started

## 1.1 Power ON/OFF

To turn the unit ON, simply push the red **ON/MENU** button during about a second (the unit is battery operated). The unit starts in **Single channel mode**, showing the signal on the meter. To turn the unit OFF, push and hold down the yellow **OFF/DOWN** button.

## 1.2 Power supply and battery

DIGIAIR dB can be operated by an external power supply (not enclosed with the instrument) through the 15 VDC port, by using 9 volt (minimum 7,5 volt and maximum 10 volt). This is useful in case that the battery goes empty during an installation.

To turn the unit OFF when it is fed by an external power-supply, you must first disconnect the power cable and then push and hold down the yellow **OFF/DOWN** button.

The unit starts automatically when it is connected to an external power supply. If the power is more than 13.5 volt the unit will start recharging the battery. A discharged battery takes at the most 14 hours to recharge. The recharging is controlled by the units microprocessor and is indicated on the display (see picture below). When the battery is fully charged it reads BATTERY CHARGED.



```
Charger: 15.0V
Battery: 9.6V
CHARGING BATTERY
2.1 Europe
```

A rechargeable NiMe battery is integrated in the DIGIAIR dB instrument. Apart from recharging the battery the unit does not need any particular maintenance. The unit should be recharged when the battery is empty (this is indicated with a battery symbol on the display in **Single channel mode**). The recharging is preferably done with one of the enclosed chargers (the power supply or the car-charger).

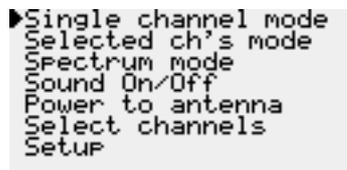
A fully charged battery is operational for more than an hour (depending on the external antenna load).

## 1.3 How to connect

Start by connecting the antenna.

### 1.3.1 Operation and menu system

The following menu is shown on the display when pressing down the red **ON/MENU** button:

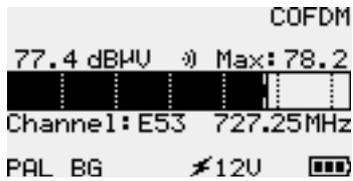


```
►Single channel mode
Selected ch's mode
Spectrum mode
Sound On/Off
Power to antenna
Select channels
Setup
```

This is the main menu. Use the yellow buttons to move up and down in the menu system. Use the red (on/menu) button to enable the selected function.

## 2 Different functions

### 2.1 Single channel mode



In this mode the meter shows the signal strength in dB $\mu$ V for the selected channel. The higher value, the better signal. The maximum signal received is also indicated (Max: X). To change the channel, use the **UP** and **OFF/DOWN** buttons. If you have not touched the **UP** or **OFF/DOWN** buttons for about 5 seconds the channel is automatically saved as default, and will be shown next time the unit is started.

In the top right corner the type of signal that the instrument is set to measure on is indicated. COFDM for digital terrestrial or CW for analog signal (see 2.7.5 **Signal type**). This setting can be changed in the **Signal type** menu.

Note that the instrument does not distinguish between a digital (COFDM) or analog (CW) type of signal, i.e. it does not sense if the measured signal is in fact digital or analog. When you want to measure digital terrestrial signals the signal type shall be set to COFDM.

The **CCIR System** that is set is shown on the bottom row, in this case PAL BG (see picture above). The CCIR system can be changed by selecting **Setup** in the menu and then **CCIR System**. If the unit is feeding power to an antenna it is indicated with the 5V or 12V symbol. This function can be selected in the **Power to antenna** menu. The battery indicator is not shown when the unit is operated by an external power supply.

The dotted lines that are visible on the meter will foremost help you to estimate the signal level in dB $\mu$ V in the **Selected ch's mode (2.2)** and **Spectrum mode (2.3)**. The distance between the lines is 10 dB $\mu$ V and the starting point (to the left on the display) is 30 dB $\mu$ V.

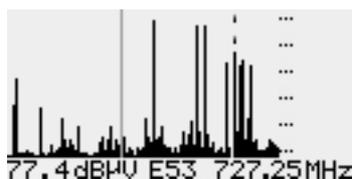
### 2.2 Selected ch's mode



In this mode the meter measures the signal strength in dB $\mu$ V on six individually selected channels. Three pages with six channels each can be memorized in DIGIAIR dB (3 $\times$ 6 channels). The page number is indicated in the top-right corner (in this case page 2, see picture above). To scroll through the pages use the **UP** button. The bottom row with the channel numbers covers the area 30-37 dB $\mu$ V of the meters. To show/hide the channel numbers use the **OFF/DOWN** button. All max values are reset when changing page.

The dotted lines can help you estimate the signal level in dB $\mu$ V. The distance between the lines is 10 dB $\mu$ V and the starting point (at the bottom of the display) is 30 dB $\mu$ V.

### 2.3 Spectrum mode



In this mode the meter shows all the channels of the selected **CCIR System**. One pixel-line represents one channel. Move the cursor (the animated dotted line) with the **UP** and **OFF/DOWN** buttons and place it over a "peak" (channel). You can view the selected channel in **Single channel mode** by pushing the red **ON/MENU** button twice. This is recommended to get the best accuracy in the measurement.

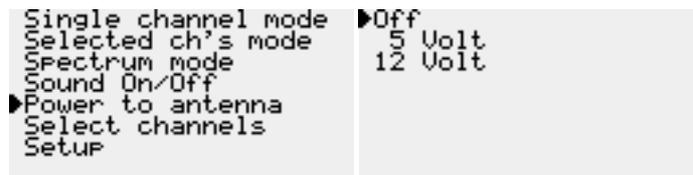
The **Spectrum info bar** covers the area 30-37 dBµV of the channels that are shown. The **Spectrum info bar** can be made **Always visible** or **Hide after 2, 4 or 8 seconds**. It will be visible when pushing the **UP** or **OFF/DOWN** buttons.

The dotted lines to the right can help you estimate the signal level in dBµV. The distance between the lines is 10 dBµV and the starting point is 30 dBµV.

## 2.4 Sound On/Off

Choose **Sound On/Off** in the main menu to turn the beeper (pitch tone) on or off. It is only audible in **Single channel mode**. The idea is to help finding the strongest signal on the selected channel by listening to the highest pitch of the tone.

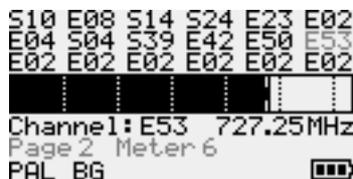
## 2.5 Power to antenna



Choose **Power to antenna** in the main menu to select **5** or **12 Volt** to be fed to the ANTENNA port, or to turn **Off** the power. The power to the antenna port is changed immediately when the red **ON/MENU** button is pushed even if you are in the main menu mode.

**CAUTION!** Do not connect the antenna to the antenna port before the correct voltage is chosen. If the antenna should be fed with 5 Volt and you accidentally choose 12 Volt instead, it may damage the antenna. The chosen voltage output to the antenna port is indicated in **Single channel mode**.

## 2.6 Select channels



In this mode you can select which channels to be stored in the memory. The stored channels are shown in **Selected ch's mode**.

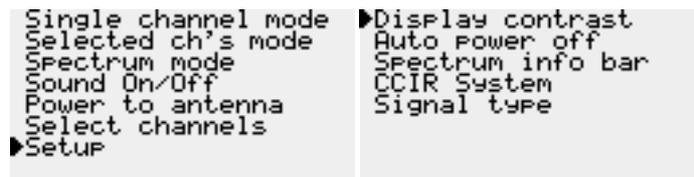
Set up the three pages with the channels of your choice. Do like this:

- 1) When the **Page/Meter** flashes, use the **UP** and **OFF/DOWN** buttons to select which one of the eighteen positions you want to change channel on.
- 2) When pushing the red **ON/MENU** button the channel number is flashing. You can now change the channel number with the **UP** and **OFF/DOWN** buttons. Push the red **ON/MENU** button to store the channel.

Simply repeat this procedure for all the channels you want to store. When you are done, exit **Select channels mode** by selecting **Exit?** and push the red **ON/MENU** button. The choice **Exit?** appears when you move a step to the right of meter number 6 on each row and also when you change **Page**.

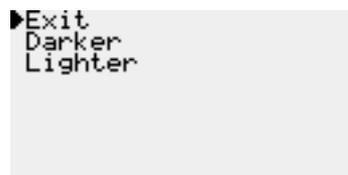
NOTE: If changing the **CCIR System**, the channel numbers will also change since different CCIR Systems use different channel numbering.

## 2.7 Setup



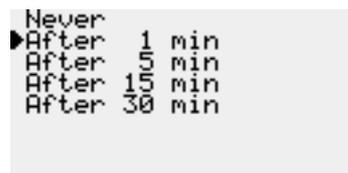
Under the **Setup** menu you can choose between the alternatives that are shown on the picture to the right above. Below follows a description of the settings that can be made.

### 2.7.1 Display contrast



To adjust the contrast of the display, move the cursor to **Darker** or **Lighter** and repeatedly push the red **ON/MENU** button.

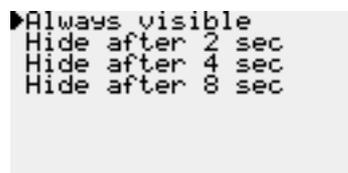
### 2.7.2 Auto power off



DIGIAIR dB can be automatically switched off after **1 min**, **5 min**, **15 min** or **30 min**. The default setting of this function is **1 min**. The unit will only switch off if you have not touched any of the buttons during the selected time. To disable **Auto power off** set it to **Never**.

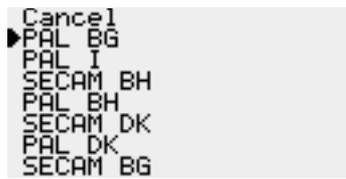
Tip: Set **Auto power off** to **1 min** when you are not using the unit and it is kept in for example in a bag. Otherwise the battery may go empty if the red **ON/MENU** button is accidentally pressed down and the unit turns on.

### 2.7.3 Spectrum info bar



Select if you want the information in **Spectrum mode** to be **Always visible** or **hidden** after **2**, **4** or **8** seconds when you have not touched the **UP** or **OFF/DOWN** buttons.

## 2.7.4 CCIR System



Selecting **Cancel** will leave the **CCIR System** setting unchanged.

Below is a guide that can be used to set the correct **CCIR System**.

NOTE: The name of the model is shown when turning the unit on if you keep holding down the red **ON/MENU** button.

### 2.7.4.1 Guide for CCIR Systems

Set the CCIR System following the table below.

#### **Model name: Europe**

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<b>PAL BG</b>	Sweden, Norway, Finland, Denmark, Iceland, Germany, Switzerland, Austria, the Netherlands, Spain, Portugal, Turkey, Malaysia, Singapore, Israel, Serbia-Montenegro, FYRO Macedonia, Croatia, Slovenia, Bosnia and Herzegovina, United Arab Emirates, Kuwait, Oman, Jordan.
<b>PAL I</b>	United Kingdom, Ireland, Hong Kong.
<b>SECAM BH</b>	Morocco, Syria.
<b>PAL BH</b>	Belgium.
<b>SECAM DK</b>	Bulgaria, Romania, Russia, Slovakia, Czech Republic, Hungary.
<b>PAL DK</b>	China, Poland.
<b>SECAM BG</b>	Greece, Cyprus.
<b>SECAM L</b>	France.
<b>PAL II</b>	South Africa.
<b>PAL BG It</b>	Italy.

#### **Model name: USA**

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<b>NTSC MM</b>	USA, Mexico, Japan, Philippines, Korea.
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#### **Model name: Australia**

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<b>PAL BG Aus</b>	Australia.
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## 2.7.5 Signal type



► Digital (COFDM)  
Analog (CW)

DIGIAIR dB is built for measurement on digital terrestrial (COFDM) signals. All specifications given for the precision of measurement refers to the **Digital (COFDM)** mode when measuring digital terrestrial signals. The instrument will give a higher value in dB $\mu$ V when measuring analog terrestrial signals in the **Digital (COFDM)** mode. When measuring analog terrestrial signals in the **Analog (CW)** mode the instrument will give a lower value in dB $\mu$ V than the actual one. However, when measuring on a non amplitude modulated analog signal in the **Analog (CW)** mode the instrument will give equally accurate values as specified for the COFDM mode measuring on digital terrestrial signals.

### 3 Technical specification

<b>Input frequency:</b>	45-860 MHz.
<b>Input level:</b>	30-90 dB $\mu$ V.
<b>Input impedance:</b>	75 Ohm, F-connector.
<b>Measurement accuracy:</b>	$\pm$ 2.5 dB (20°C $\pm$ 2°C).
<b>Resolution:</b>	0.1 dB.
<b>Battery operating time:</b>	More than 1 hour (depending on the external antenna load).
<b>Antenna power feeding:</b>	Maximum 50 mA to antenna.
<b>Short circuit protection:</b>	Automatic fuse on antenna-input.
<b>Measuring methode:</b>	Signal presentation on LCD display in form of thermometer scales. Spectrum display or three digit number. Pitch-tone indication on loudspeaker.
<b>Signal-level readout:</b>	Thermometer-scales showing maxhold and current signal level in dB $\mu$ V. Three digit numbers showing highest value when measuring on single channel. Highest tone on loudspeaker. Maxhold-function.
<b>Indications:</b>	Antennavoltage 5V, 12V or off.
<b>Mains operation:</b>	External DC-power supply 7,5-10V (centerpin +).
<b>Charging:</b>	13,5-18V.
<b>Display:</b>	128 $\times$ 64 pixels LCD with backlight.
<b>Power consumption:</b>	230mA.
<b>Battery:</b>	600mAh, 8.4V.
<b>Charging time:</b>	< 14 hours
<b>Weight (including battery):</b>	245g
<b>Dimensions:</b>	134 $\times$ 55 $\times$ 35 mm
<b>Accessories:</b>	Carrying case, power supply and car charger.

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