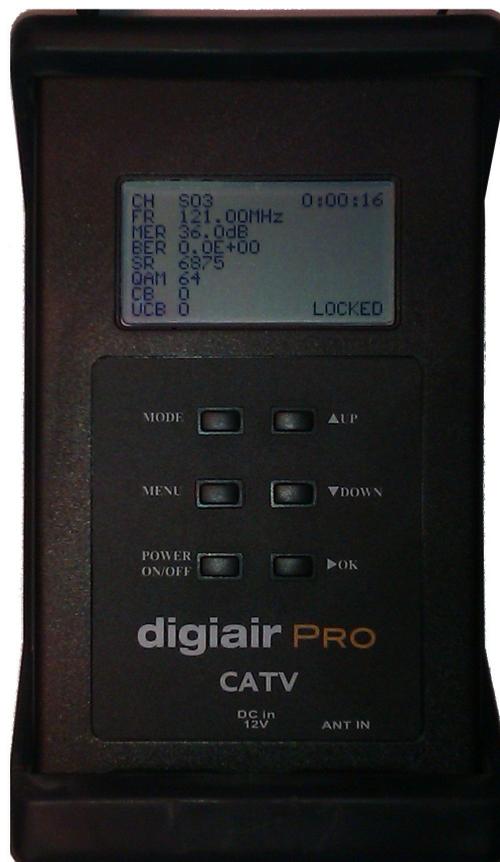


# DIGIAIR PRO CATV

## USER MANUAL



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## DIGIAIR PRO CATV – DESCRIPTION

Emitor's DIGIAIR Pro CATV is developed in Sweden for cable-tv measurement's. This is made for both analog and digital cable tv.

DIGIAIR Pro CATV is microprocessor controlled, making it very reliable and accurate. Signalstrength is presented on the LCD-display. In analog mode it shows a single channel or six channels at the same time. You can also choose to view the signal in spectrum mode.

In digital mode it displays the BER (bit error rate) and MER (modulation error ratio). Readout of UCB (uncorrected bits) and CB (corrected blocks) is also easy to do.

DIGIAIR Pro CATV is very sensitive and can detect even the weakest signals.

DIGIAIR Pro CATV is charged via an external DC power-source of 10 -15 volt. The DIGIAIR PRO CATV operates with 8xAA rechargeable batteries. The unit will works for at least 2 hours with fully charged batteries.

# 1 Getting Started

## 1.1 Power ON/OFF

To turn the unit ON, simply push the **Power ON/OFF** button (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 **ON/OFF** button.

## 1.2 Power supply and battery

DIGIAIR PRO CATV can be fed by an external power-supply through the VDC port, by an external power-source (12v dc, max 1A). This is useful in case that the battery goes empty during an installation. Connect the power-source and hold down the ON button for a couple of seconds (until the unit turns On).

To turn the unit OFF when the unit is fed by an external power-supply, simply disconnect the power-source.

A discharged battery takes about 14 hours to recharge. The recharging is controlled by the units microprocessor and is indicated on the display. Please notice that to obtain full capacity of new batteries it is necessary to recharge and run down the battery-pack a couple of times.

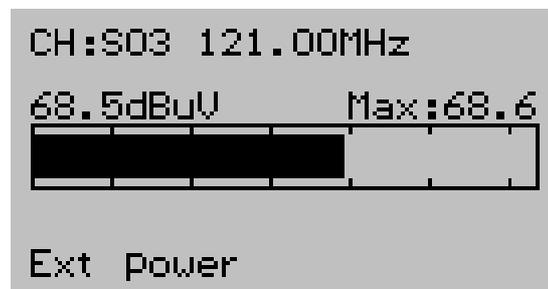
The meter has 8 x AA rechargeable NiMh batteries in the battery-compartment. Apart from recharging the battery the unit does not need any particular maintenance. The unit should be recharged when the battery is empty (indicated with a battery-indicator symbol on the display in **Single channel mode**). It 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 two hours (depending on the external antenna load).

## 1.3 How to use the meter

Start by connecting the antenna and then turn the meter On.

The userinterface works as a "revolver" where the meter starts in **Single channel- mode** (and the latest channel selected), readout of the signallevel in dBuV, dBm or dBmV.

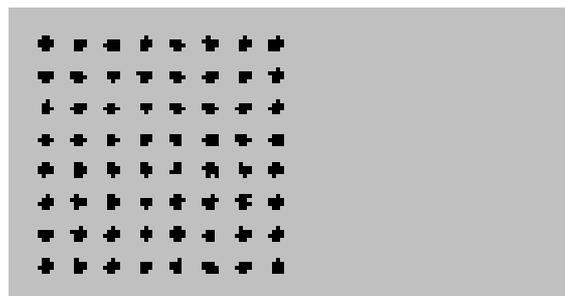


Press down the mode button again when the antenna is pointed in the right direction. This will put the meter in the **Digital-mode**.

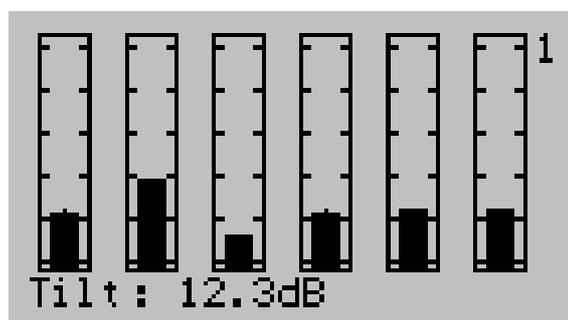
```
CH  S03          0:00:09
FR  121.00MHz
MER 36.0dB
BER 2.4E-06
SR  6900
QAM 256
CB  91
UCB 0          LOCKED
```

The CB value is the number of corrected bytes since lock.  
The UCB value is the number of uncorrected blocks since lock.

Press "OK" button to change view to constellation diagram.



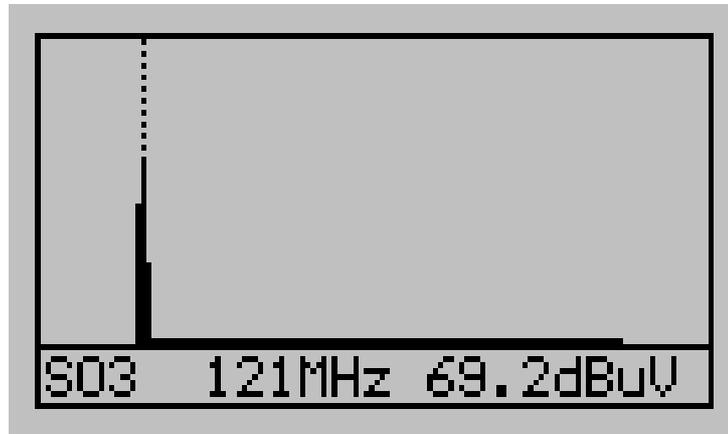
Pressing the Mode button again will take the meter to the **Multichannel-mode** where the analog (dB) signal strength of up to 30 channels can be easily readout.



The display shows six channels on each page and there are five pages. Step through the pages with the "UP" and "DOWN" buttons. Select different view on bottom row with "OK" button.

The **Spectrum-mode** is accessed with another push on the MODE button

The meter shows all channels like a spectrum. A marker can select a certain channel (with the "UP", "DOWN" buttons). Signallevel of that channel will be shown in the display also.



Another push on the mode button will take the meter back to Singlechannel-mode

## 2. Description of functions

### 2.1 Single channel-mode (view one channel)

In this mode the meter measure analog signal strength on the selected channel. The higher dB value, the better signal. The maximum signal received is also indicated. To change the channel, use the **UP/DOWN** buttons.

The battery indicator is not shown when the unit is fed by an external power-supply

### 2.2 Digital-mode (view digital)

BER (Bit Error Rate) and MER (Modulation Error Ratio) is presented in this mode.

The BER should be as low (less errors) as possible. The MER should be as high as possible (the signal coming out of the noise as much as possible).

### 2.3 Multi channel-mode (view six channels)

In this mode the meter measure the signal strength of six individually selected channels. DIGIAIR Pro CATV can be set up with five such pages of six channels (5x6 channels). The page number is indicated in the top-right corner. To scroll through the pages use the **UP/DOWN** buttons. To show/hide the channel numbers use the **OK** button. Also, here the difference (Tilt) between the highest and the lowest channel can be viewed. The max-peak values are reset when changing page.

## 2.4 Spectrum-mode (view spectrum)

In this mode the meter shows all the channels. One pixel-line represents one channel. Move the cursor (the animated dotted line) with the **UP** and **DOWN** buttons and place it on a channel. The signal-strength of the chosen channel is shown.

## 3. Menu

The following menu is shown on the display when pressing down the **MENU** button: This is the main menu. Use the "UP"/"DOWN" buttons to scroll up and down in the menu system. Use the "OK" button to enable the selected function.

```
>SymbolRate
  QAM Mode
  Setup
```

### 3.1 Symbol Rate

Here You can add, delete and select the symbolrate to use. Default is 'Use channel list.' and then the symbol-rate from the channel-list is used. Otherwise you can add and select custom symbolrates.

### 3.2 QAM Mode.

Select the QAMxxx to be used. Default is 'Use channel list'. In this case the modulation is taken from the preprogrammed channel-list.

### 3.3 Setup

```
>Active channel list
  Channel groups
  Auto power off
  dB Units
  Stepping rules
  Lcd
  Beeper volume
```

#### Active channel list.

Chose the channel-list to use. There is a tool, *DigiAirCATV* for designing new channellists.

## Channel groups.

In this mode You can select the channels to be stored in DIGIAIR Pro CATV's memory. The stored channels are shown in **Multi channel mode**. Set up the five pages with the channels of Your choice. Do like this:

- A)** The top value in the first bar (most to the left) is flashing when entering this setup. Step with the "UP"/"DOWN"-buttons to the channel You want to change.  
Press the "MODE"-button to open up the memory position.
- *The channel nr will start to flash faster.*
  - Set the new channel with the "UP"/"DOWN"-buttons.
  - Press the "MODE" button and the new channel is locked at this position (memory saved).
  - *The channel nr will flash in normal pace.*
- B)** - Chose the next channel to change by highlighting it with the "UP"/"DOWN" buttons.  
Press the "MODE"-button to open up the memory position.
- *The channel nr will start to flash faster.*
  - Set the new channel with the "UP"/"DOWN"-buttons.
  - Press the "MODE" button and the new channel is locked at this position (memory saved).
  - *The channel nr will flash in normal pace.*
- C)** - Repeat **step B** until all wanted channels have been memorized.
- Press the "OK" button and the complete setting will be stored.

## Auto power off.

Set the meter for automatic switch Off after 1, 5, 10 or 30 minutes.  
Or chose to have the meter always On (until manual switch Off).

## DB units.

Select between dBuV, dBmV or dBm.

## Stepping rules.

In order to step the channels in a pre-selected way in single channel mode and digital mode simply select the list in this setup which corresponds with Your need.

```
>All channels
List 1
List 2
List 3
List 4
List 5
List 1-5
```

## Lcd.

### - Contrast

Set the contrast of the LCD-display. Lighter or Darker

### - Backlite

Set the backlite of the LCD-display On or Off.

## Beeper volume.

Set the volume of the Beeper with a value from 1 (low) to 5 (high).

## Technical specification:

<b>Input frequency:</b>	45-860 MHz.
<b>Input level:</b>	30-120 dBuV.
<b>Input impedance:</b>	75 Ohm, F-connector.
<b>Demodulation types:</b>	QAM16 , QAM32, QAM64, QAM128 or QAM256
<b>Symbol rates:</b>	2 – 7 Msymb. User programmable in Ksymb steps.
<b>Measuring method: in digital:</b>	Three bars showing: <b>BER</b> (Bit Error Rate before demod. correction). <b>MER</b> (Modulation Error Ratio). <b>Constellation diagram</b>
<b>in analog:</b>	<b>One bar</b> showing level in high resolution or 6 bars showing strength of 6 channels. <b>Spectrum</b> display.
<b>Signal-level readout:</b>	dBuV, dBmV, dBm with maxhold-function.
<b>Power supply/charger:</b>	10 -15V DC (Centerpin+).
<b>Display:</b>	Back-lighted 128x64 Pixels LCD.
<b>Power consumption:</b>	500mA.
<b>Battery:</b>	8x AA rechargeable batteries of 1200mA each.
<b>Weight:</b>	0.3 kg.
<b>Dimensions:</b>	185 x 115 x 50 mm.
<b>Accessories:</b>	Power 12V DC, 1A Rubber-case. Car charger.

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