



**NOTE:** This user's guide is adapted to software version 1.8.21 of HPR 100 dated 07/07/2010.

For future software updates, you can download the user's guide from the following website:  
<http://www.ankaro.com/>

## Chapter 1. Installation.

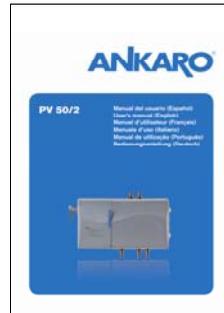
### 1.1. Safety measures

- 1.- Never place the equipment next to hot sources.
- 2.- Never undergo the equipment to temperatures that exceed the level of operation of the device.
- 3.- Do not expose the equipment to dripping or splashing.
- 4.- Do not place objects filled with liquids, such as vases, on the equipment.
- 5.- Respect ventilation slots of this equipment. Avoid covering them with any object.
- 6.- Keep clean and without obstacles a minimum radius of 40 cm around this equipment.
- 7.- Avoid locations with possibilities of spilling liquids on the inside of the device, and with important changes of temperature.
- 8.- Never open the equipment yourself due to electric risk. In case of problems, go always to qualified technicians..
- 9.- Never, under no circumstances, open the equipment connected to the electrical net.
- 10.- During the handling it is better to disconnect the equipment of the electrical net.
- 11.- Respect the electricity security rules during the assembling. Use materials that obey the current law.
- 12.- The connecting plug must be accessible in a fast and simple way to have a fast disconnection.
- 13.- Never touch the plug with wet hands. Also, disconnect always the device before handling the connections..
- 14.- Never put any heavy object over the device, as it could get damaged.
- 15.- If the equipment is going to remain some time without use, it is recommendable to disconnect it from the electrical net.
- 16.- The repairmen and the maintenance of the equipment must be done by TV and radio specialist technicians.

### 1.2. Box Content



PV 50/2



User's Guide

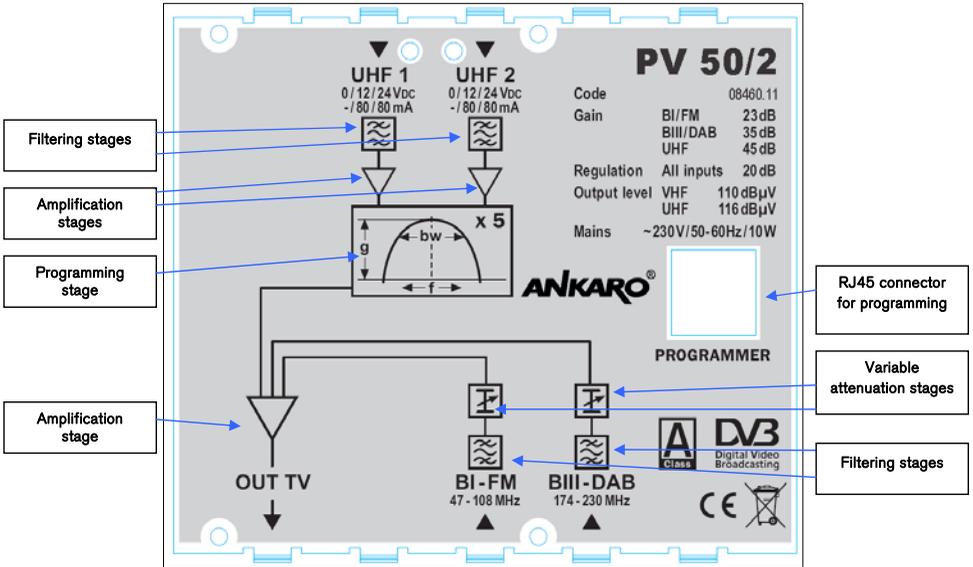
### 1.3. Description and Connections

The amplifier PV 50/2 is provided by 2 UHF inputs that allow controlling up to 5 programmable filters. Besides, it also has a BI-FM and a BI-DAB input.

These amplifiers have aluminium housing with a removable cover that allows the installer to configure the amplifier according to the needs of the installation.



Inside the equipment there is a simplified sketch of the different stages of the amplifier and also it is given the access to configure the different options that the amplifier offers.



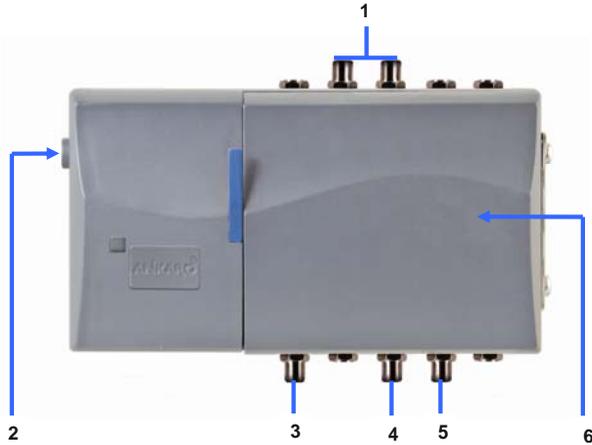
The equipment is provided with a wall support with wedges and screws included.

The steps to make a correct installation are the followings:

- Bring down the fastening device. The equipment will be now loosed and it will be possible to separate the support from the equipment.
- Fix the support to the wall with the wedged and screws provided.
- Introduce the equipment again in the wall support once it is installed.
- Bring up the fastening device to adjust the equipment to the support.



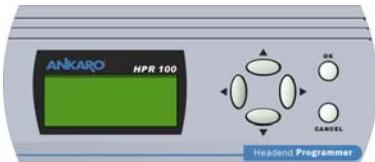
## PV 50/2



- 1 **UHF1 / UHF2:** Input for Terrestrial UHF Antennas.
- 2 **AC IN:** Power cord ( 230V AC, 50Hz )
- 3 **OUT TV:** TV Output
- 4 **BI - FM:** Input for BI/FM antenna
- 5 **BIII-DAB:** Input for BIII/DAB antenna
- 6 **PROGRAMMER:** Connector for HPR 100 programmer

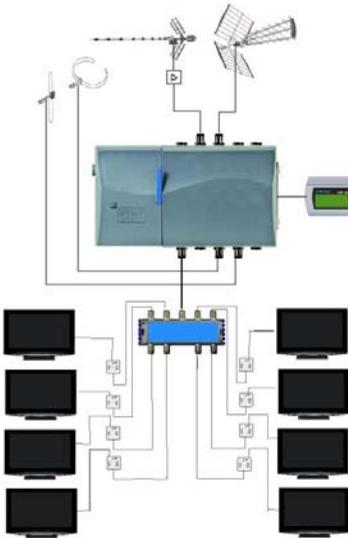
#### 1.4. Accessories and example of installation

##### Accessories



Programmer  
Mod. HPR 100  
Code 20018.11

**Example of installation**



In this example, 4 different types of antennas can be connected to the Wide Band amplifier. Also pre-amplifiers can be connected.

All the different elements for the reception of different bands will be connected through the Wide Band Central **PV 50/2** (BI-FM, BI-DAB and UHS), which will be treated by the equipment through the **HPR 100** programmer, connected to the central.

Once the Wide Band Central is programmed, it will be connected through the output OUT TV.

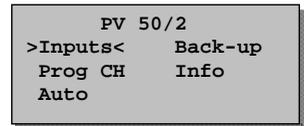
**Chapter 2. Menu and programming the amplifier**

The programming of the amplifier is through the HPR 100 external programmer. Below the steps and the menu options are explained:

2.1. Main menu

The main menu contains the following options:

- Inputs: to programme the channels in each input.
- Prog CH: to programme the filters.
- Back-up: Options for the data management, backup and restore
- Auto: To enable AGC and Autolevel.
- Info: Information about Software and Hardware versions are shown.



*We will move through options with keys "Up" and "Down" of the keyboard.*  
OK to confirm and CANCEL to go back.

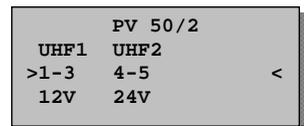
**To enter in the menus Inputs and Prog CH, you should have the AGC option in OFF at the AUTO Menu.**

2.2. 1st STEP: Menu Inputs

In this menu the UHF inputs will be programmed.

On the display, 3 columns appear for configuring the channels in each input. In the first row the name of the inputs are shown (UHF1, UHF2), in the second row the filters that we're going to assign and in the third row the voltage to feed previous amplifiers that we select.

The selection of the input configurations is sequentially, following the table shown below, it is, with the keys <> you will see the possible configurations. The same way, the pre-amplifiers feeding is selected at 12 VDC or 24 VDC for the two inputs independently. The system is protected against shortcuts, in case of detecting a shortcut, the central cuts the current at this input.

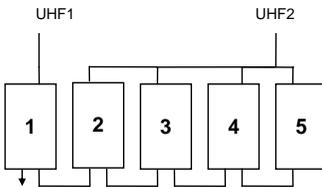


If we are in UHF1, we will move using the keys "right" and "left", depending on the combination of channels we want to programme. Possible combinations:

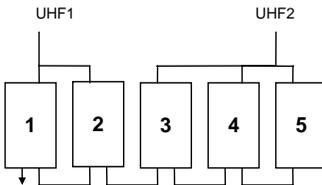
- Possible combinations for PV 50/2

INPUTS >	FILTERS	
	UHF1	UHF2
COMBINATIONS V		
1	0-0	1-5
2(*)	1-1	2-5
3(**)	1-2	3-5

(\*) Detail of the configuration:



(\*\*) Detail of the configuration:



The feeding for previous amplifiers is 12 Vdc or 24 Vdc at the 2 inputs independently. To vary the value of the voltage, press "right" or "left" keys.

Press CANCEL to go back to previous menu.

PV 50/2		
UHF1	UHF2	<
>1-3	4-5	
12V	24V	

2.3. 2nd STEP: Menu Prog CH

To be able to access to this menu, the AGC function must be OFF.

In this screen you can configure with more detail the filters UHF.

The following options will appear on the screen:

- In: Indicate the selected input (non editable field).
- Mod: Indicate the filter (from 1 to 5).
- Level: Level of gain that we want to give.
- Type: Indicates the type of channels (analogue, digital or both)
- CH.B: Indicates the starting channel of the filter.
- CH.E: Indicates the ending channel of the filter.
- Fine: To fine adjustment of the frequency.

PV 50/2	
Inputs	Back-up
>Prog CH<	Info
Auto	

PV 50/2	In: UHF1
>Mod: 01<	CH.B: 21
Level:10	CH.E: 22
Type: DIG	Fine: +1

We will move through options with keys "Up" and "Down" of the keyboard.

Push CANCEL to go back to previous menu.

**Programming:**

We will move with "right" and "left" keys.

- Mod: 01 >> 02 >> 03 >>...>> 05 >> BI-FM >> B3-DAB.
- Level: 01 >> 02 >>...>> 20. Gain level of the selected filter.

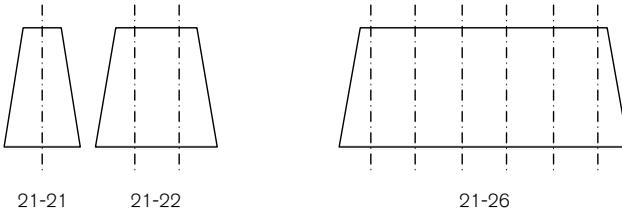


**NOTE:** It is highly recommended that never configure the extreme values when AGC is being used. The margin of available values is between 1 and 20, but you should leave them between 4-17 to allow a margin variation to the AGC.

```
PV 50/2   In:UHF1
Mod: 01   CH.B: 21
Level:10  >CH.E: 22<
Type:DIG   Fine: +1
```

- Type: The programmable filters UHF can differentiate between Analogue channels (ANA) and Digital channels (DIG). If the filter combines both types of channels, you should select A/D.
- CH.B: (Channel Begin) Starting channel of the group of channels of the filter.
- CH.E: (Channel End) Ending channel of the group of channels of the filter. If you only need one channel in the filter, you should select the same one than the CH.B.

The maximum allowed distance is six channels: 21-21 >> 21-22 >>...>> 21-26.



The second number never can be lower than the first one, and the overlapping between filters connected to the same input is not allowed.

- Fine: -9 >> -8 >>...>> 0 >> 1 >>...>> 9

For inputs BI-FM and B3-DAM, only is possible to regulate the level.

Press CANCEL to go back to previous menu.

```
PV 50/2   IN:BI-FM
>Mod:BI-FM<
Level:12
```

**BI-FM**

```
PV 50/2   IN:B3DAB
>Mod:B3DAB<
Level:12
```

**BIII-DAB**

2.4. 3st STEP: Menu Auto

In this menu the "auto-level" function is executed, and the AGC ("Automatic Control Gain") can be activated.

There are three options in this menu:

-Output Level: The first time you accede to this menu, the option is disabled and you cannot accede to it.

Once the "Autoleveling" option is selected and confirmed with the Ok button for the first time, the "Output Level" option will show the level it will try to reach in the auto level process.

The value to be shown depends on the model and the number of programmed channels in the equipment.

```
PV 50/2
Inputs      Back-up
Prog CH     Info
>Auto<
```

```
PV 50/2
Output Level: 108
>Autoleveling<
AGC:          OFF
```

- Autoleveling: Pressing OK for the first time onto this option, the equipment calculates which the maximum value at output is recommended depending on the model and the number of channels. This is the value shown in the "Output Level" option.

Once the proper "Output Level" value is fixed, pressing OK in the "Output Level" option, the equipment begins a process of auto leveling of all the signals, trying to reach the level indicated in the above part. This process can give as outcome different indications:

1.- No Error Detected: The programmed channels will be able to arrive to the selected value in the "Output Level" option. In case in the "Prog CH" menu some of the filters have been configured as digital ones, the output level of these filters will be 2 dB lower than the fixed value in "Output Level" option.

2.- Errors Detected: The results of the autoleveling appear in the display, showing the filters which can arrive to the indicated value (with an "O"), and the filters that couldn't reach this level (with an "X").

Example:

```
Autoleveling Result
X.-Autoleveling FAILED
1:0 2:0 3:0 4:X 5:X
```

At the example above, the filters 4 and 5 would have problems and they couldn't be adjusted to the level shown in the "Output Level" option. This problem could be caused because of having an excess of level, or not having level enough.

In case of having filters with errors in "Autoleveling" process, go to "Prog CH" menu in order to verify that there are no errors in the programming of the filters with errors, and correct the existing error. In case the filters are well programmed, it would indicate that due to the input level at those channels, it will be not possible to reach the indicated "Output Level" value.

- AGC: This option allows activating or deactivating the Automatic Control Gain. You must take into account that when this function is enabled, accessing to the programming menu of the equipment is not possible. This function monitors constantly the output level of the equipment, varying the level regulation value in order to get the output level constant, although the input level varies.

## 2.5. 4th STEP: Menu Back-Up

In this menu, it is possible to restore configurations as well as making backups.

In case of using usually a fixed channel configuration and inputs, in order to get a master installation, it is possible to store the configuration into the programmer. In this manner, what you need is just dumping the information from the programmer to the equipment.

In the back-up menu, you can find the following options:

- Mode: It defines if you want to read data from HPR 100 "PV50/2>HPR100", or if you want to write the configured data into the HPR 100 "HPR100> PV50/2".

- File: It defines the name of the configuration you want to recover or storage. In case of the recording in the programmer (PV50/2>HPR100), you will lose the configuration stored with that number.

Press CANCEL to go back to previous menu.

```
PV 50/2
Inputs >Back-up<
Prog CH Info
Auto
```

```
PV 50/2
>Mode:PV50/2>HPR100<
File: PV 50/2-8
```

## 2.6. Menu Info

This menu shows the information about the Hardware version (HW ver.) and firmware (SW ver.) which with the equipment is provided.

```

PV 50/2
Inputs      Back-up
Prog CH    >Info<
Auto
    
```

Press CANCEL to go back to previous menu.

```

PV 50/2
HW ver. : PV 50/2
SW ver. : v.0b21
Serial  : 65535655
    
```

## Chapter 3. Technical Features

<b>Model:</b>	<b>PV 50/2</b>	
<b>Code:</b>	08460.11	
<b>Description:</b>	Programmable Central 5 filters UHF	
<b>Inputs:</b>	BI/FM	47 – 108 MHz
	BIII/DAB	174 – 230 MHz
	2 x UHF	Programmable 5 filters with BW of 1 to 6 channels (8-48 MHz) per filter.
<b>Outputs:</b>	1	
<b>Gain:</b>	BI/FM	23 dB
	BIII/DAB	35 dB
	UHF	45 dB
<b>Regulation:</b>	All the inputs 20 dB / inputs UHF 20 dB each filter	
<b>Output Level:</b>	BI/FM	110 dBuV
	BIII/DAB	110 dBuV
	UHF	116 dBuV
<b>Preview Amp. Feeding:</b>	In UHF inputs 12/24 VDC (80mA)	
<b>Max. Input Level:</b>	80 dBuV	
<b>Programming:</b>	Through HPR 100	
<b>Noise Figure (dB):</b>	BI/FM	6
	BIII/DAB	4
	UHF	10
<b>Selectivity (± 20 MHz):</b>	> 20 dB	
<b>Feeding:</b>	230 Vac, 50-60Hz	
<b>Temperature:</b>	-5 /+50°C	
<b>Protection grade</b>	IP 65	
<b>Dimensions</b>	230 x 140 x 60 mm	

## Chapter 4. Conformity Declaration

### CONFORMITY DECLARATION



"WE, ANKARO, DECLARE THAT THE PRODUCT  
PV 50/2  
IS IN CONFORMITY WITH FOLLOWING DIRECTIVES  
Low Voltage Directive 2006/95/EC  
EMC Directive 2004/108/EC"

If you wish a copy of the conformity declaration, please contact to the company