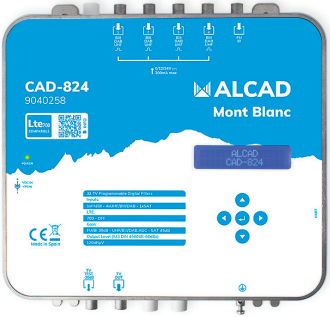
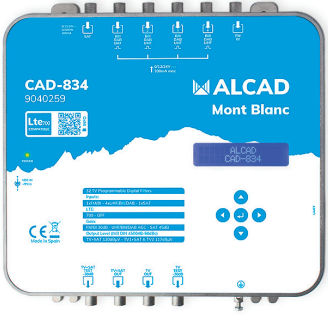
ALCAD

904 **Mont Blanc**

AMPLIFICADOR DIGITAL PROGRAMABLE 4xUHF/BIII-BI/FM
AMPLIFICATEUR NUMERIQUE PROGRAMMABLE 4xUHF/BIII-BI/FM
PROGRAMMABLE DIGITAL AMPLIFIER 4xUHF/BIII-BI/FM
AMPLIFICATORE DIGITALE PROGRAMMABILE 4xUHF/BIII-BI/FM



CAD-824



CAD-834

INDEX

TECHNICAL SPECIFICATIONS

		9040258	9040259
		CAD-824	CAD-834
TERRESTRIAL			
Number of inputs		4xUHF/BIII/DAB 1xFM/BI	4xUHF/BIII/DAB 1xFM/BI
Frequency range	MHz	UHF(470.. 694/862) BIII/DAB (170.. 240) FM/BI(40.. 108)	UHF(470.. 694/862) BIII/DAB (170.. 240) FM/BI(40.. 108)
Programmable filters		32	32
Number of channels per filter		1	1
Input level	dBµV	UHF/BIII/DAB 45 ... 95 (with remote power) UHF/BIII/DAB 35.. 95 (without remote power) FM/BI 40.. 100	UHF/BIII/DAB 45 ... 95 (with remote power) UHF/BIII/DAB 35.. 95 (without remote power) FM/BI 40.. 100
Remote power	Vdc	12/24	12/24
	mA	200 (max. 4 input)	200 (max. 4 input)
Selectivity	dB	40 @ 1MHz	40 @ 1MHz
Maximum gain	dB	UHF/BIII/DAB 80 FM/BI 30	UHF/BIII/DAB 80 FM/BI 30
Output level	dBµV	1x 120 (IM3 DIN45004b -60dBc) 95.. 115 ajustable	1x 120 /2x 117 (IM3 DIN45004b -60dBc) 95.. 115 ajustable
Gain adjustment	dB	UHF CAG (50) FM ajustable (30)	UHF CAG (50) FM ajustable (30)
Equalization margin	dB	UHF 0.. 10	UHF 0.. 10
Noise figure	dB	<6	<6
SATELITE			
Number of inputs		-	1
Frequency range	MHz	-	950.. 2150
Input level	dBµV	-	47.. 83
Maximum gain	dB	-	45
Output level	dBµV	-	118 (IMD3 a -35dB)
Gain adjustment	dB	-	ajustable (20)
Noise figure	dB	-	<7
LNB power supply	Vdc	-	0/13/18/Bypass
	mA	-	350
	KHz	-	0/22
GENERAL			
Mains voltage	Vac	100.. 240	100.. 240
	W	11	13
External voltage	Vdc	9	9
	A	1	1,2+LNB
Operating temperature	°C	-10.. 60	-10.. 60
Dimensions	mm	215 x 218,4 x 45	215 x 218,4 x 45
Protection index		IP31	IP31

SAFETY INSTRUCTIONS

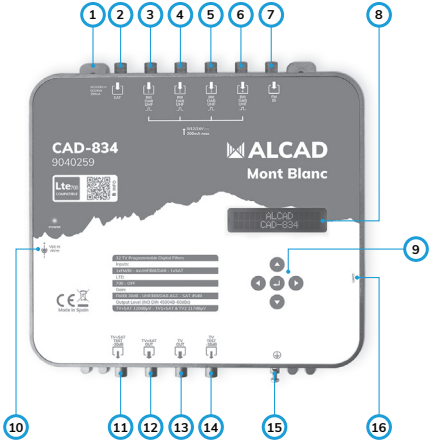
- Do not expose the amplifier to extreme temperatures.
- Place the amplifier in a dry and well-aired location.
- Install the unit on a vertical wall, or in a waterproof cabinet to a minimum IP55 rating, and fix it safely using the special through holes supports.

Do not place the equipment where water can drip or splash onto it. Do not place objects containing liquid, such as glasses, on the equipment. Do not place sources of naked flame, such as burning candles, on the equipment. Do not block the ventilation slots of the equipment with objects such as newspapers, curtains, etc. When installing the equipment, leave some free space around it to provide adequate ventilation. Install the equipment in such a way that the mains supply plug or the connector of the equipment can be easily reached.

¡IMPORTANT!

Use only the power pack supplied together with the amplifier. The use of other power packs can cause malfunctioning and irreversible damages which will invalidate any warranties.

CONNECTIONS SCHEMATIC



1. Through hole supports
2. SAT Input
3. UHF/DAB/BIII Input 1
4. UHF/DAB/BIII Input 2
5. UHF/DAB/BIII Input 3
6. UHF/DAB/BIII Input 4
   (3-6 inputs, remote power)
7. FM/BI Input
8. 32 digits LCD display
9. Programming keys
10. External power supply
11. TV + SAT Test Output
12. TV + SAT Output
13. TV Output
14. TV Test Output
15. Earthing terminal
16. UART connection

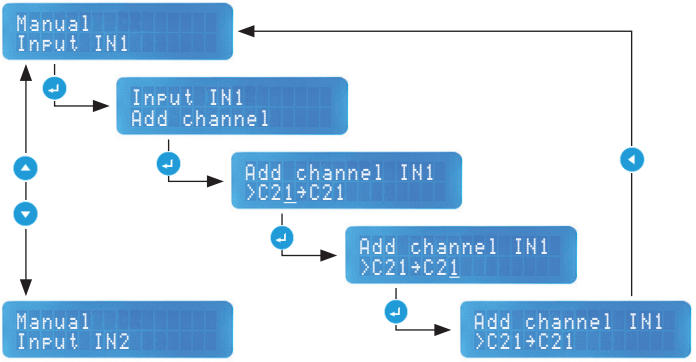
INTRODUCTION AND MANIPULATION

This document explains how to configure the CAD-804 and CAD-814 programmable amplifiers with HW 1.0 version and FW 1.1 version.

It will try to explain, in the most complete way possible, how to make the first configurations, the auto configuration and the manual configuration. To configure the amplifier, we will use the LCD display and the 5 buttons: up, down, left, right and enter.

- The buttons and will allow us to switch between the different settings of the amplifier.
- The button will serve to confirm.
- The buttons and will serve to adjust different parameters, once these had been selected and shows the function selector >.
- The button will also serve to go back in the menu.

USAGE EXAMPLE



FIRST CONFIGURATIONS

In the first start-up or after a factory reset, the amplifier will ask to make the general configuration. These settings are also available in the general section of the manual configuration menu, in case we need to change some of these settings later.

After the start-up (or factory restore) it will show the main screen, indicating the model of the programmable amplifier.

We press ↵ or ▼ to start.

The Language setting will allow us to choose the language between English, Spanish, French, Czech and Italian.

Press ↵ to confirm and select the language with ◄ or ►.

Press ↵ again to accept.

The Channels setting will give us 2 possibilities: the European channel table, EUR, and the American channel table, AME. This way we will adapt the filters to the European regulation (BGCCIR) or the American regulation (M).

The European regulation will be selected by default.

Press ↵ to confirm and select the table with ◄ or ►.

Press ↵ again to accept.

The LTE setting will activate the LTE700 filter, allowing the amplifier configuration up to channel 48, or turn it off to allow the whole bandwidth, up to channel 69.

It will be activated by default.

Press ↵ to confirm and activate or turn off the filter using ◄ or ►.

Press ↵ again to accept.

With the setting Number of outputs (CAD-814 only), we can select the number of outputs: 1 output (TV+SAT) or 2 outputs (TV+SAT y TV). If we choose the 2 outputs setting, the output level will decrease by 3db compared to 1 output setting.

The output will be TV+SAT by default.

Press ↵ to confirm and choose between 1 or 2 outputs with ◄ or ►.

Press ↵ again to accept.

This option allows remote power of pre-amplifiers. (Up to 200 mA for all 4 inputs).

⚠ **Warning:** using Remote Power option, minimum input level = 45 dBµV.

Press ↵ to cchoose between 0/12/24 V with ◄ or ►.

Press ↵ again to confirm.

AUTO CONFIGURATION

Once finished the first configurations, we will enter the Configuration menu, where we can choose between manual or automatic configuration. This section will explain how an automatic configuration is made from de Auto menu.

We select Auto and press ↵.

The first setting is Threshold. It allows us to set the minimum input level permitted in the amplifier. The amplifier will reject any channel below that level.

The adjust range is from 40 to 80db, being 55db the default threshold.

To adjust the threshold press ↵ to confirm and adjust the level with ◄ or ►.

Press ↵ to accept once the desired level is set.

The Search setting will make a channel search of the UHF band on inputs 1, 2, 3 and 4.

Press ↵ to begin the channel search.

When the searching is over, press ▼ to continue to the next screen.

The amplifier will adjust the output Level depending on the number of channels found. The level can be changed if needed in a range of 95 to 115dBµV.

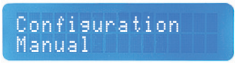
To change the level, press ↵ and adjust the level with ◀ or ▶.

Press ↵ again to accept the new adjusted level.

Once finished, press ◀ to go back to the Configuration menu.

MANUAL CONFIGURATION

If we prefer to make the configuration manually by ourself, this section will explain how to make the manual configuration step by step.



To start, select Manual and press ↵.

Select the IN input that we have connected to the amplifier with ▼.

We can go back to the previous input using ▲.

Press ↵ to enter the configuration of the selected input.

Add channel: press ↵ to add a channel.

The underlined channel will indicate whether we are adjusting the input channel (left) or the output channel (right).

For the input we will have the option to select the channels in the UHF band (up to C48, if we have LTE700, C69 if we do not have LTE700), DAB or BIII.

Select the channel w to filter with or .

Press to confirm.

Select the output channel with or and press to confirm.

We will be able to convert channels in BIII and UHF band up to C69. CATV channels can also be output by activating the corresponding option in the general menu. The CATV channels will go after C69 and are represented by the letter “S”.

To add more channels, press and follow the steps above.

As channels are added, the amplifier will indicate the channels in use with an exclamation mark on the screen.

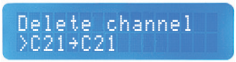
Once finished, press to go back to the Manual menu.

In case we want to delete channels, press .

If we want to delete all the channels, select Delete all and press ↵.

This will delete all the filters that we have set.

Press ◄ if you want to go back to the Manual menu.



However, if we want to delete a specific channel, in the previous screen, select with ▼ or ▲ the channel to delete and press ↵.

In the case of DAB, the whole DAB band will be deleted.

Press ◄ if you want to go back to the Manual menu.

To set the FM/BI input select the setting and press ↵.

For the FM/BI band, only it is necessary to set the Attenuation. The attenuation range is 0 to 30dB.

To adjust press ↵ and select the attenuation dBs using ◄ or ►.

Once we set the desired attenuation, press ↵ to confirm.

To go back press ◄.

In the case of the CAD-814 we also have a SAT Input, where the LNB power supply and/or the attenuation of the signal can be set.

Press ↵ to enter.

In the LNB setting we can set if the LNB is powered from the amplifier, or not, or let the current pass through.

Press ↵ to accept and select between available voltages with ◄ or ►.

If we want to let the current pass through, select Bypass.

Press ◄ if you want to go back to the Manual menu.

In order to adjust the SAT Attenuation press ↵ to select the setting.

Adjust the attenuation using ◄ or ►. The adjust range is from 0 to 20dB.

Once adjusted, press ↵ to confirm.

Press ◄ if you want to go back to the Manual menu.

In this setting we will adjust the amplifier output. We can configure the output level, the UHF slope and the BIII attenuation.

Press ↵ to enter.

To adjust the output level, press ↵ to enter and set the output level using ◄ or ►. The adjust range is from 95 to 115dBµV.

Press ↵ to confirm.

Press ◄ if you want to go back to the Manual menu.

To adjust the UHF Slope, press ↵ to enter and adjust the slope with ◄ or ►. The adjust range is 0 to 10dB.

The slope is applied to the whole UHF band, regardless of whether the LTE700 filter is activated or not.

Press ↵ to confirm.

Press ◄ if you want to go back to the Manual menu.

To adjust the BIII Attenuation, press ↵ to enter and adjust the slope with ◄ or ► . The adjust range is 0 to 10dB.

Press ↵ to confirm.

Press ◄ if you want to go back to the Manual menu.

GENERAL SETTINGS

Within the Manual menu we will find the General settings. Here we can readjust, for example, the first settings previously mentioned, or even adjust the levels per channel, among other options.

Enter to General settings with the button ↵ .

If we want to readjust the Number of outputs (CAD-814 only), press ↵ .

We can select to output the signal from 1 output (TV+SAT) or 2 outputs (TV+SAT y TV). If we choose the 2 outputs setting, the output level will decrease by 3db compared to 1 output setting.

Set the output number with ◄ or ► .

Press ↵ to confirm.

To readjust the LTE700 filter press ↵ and activate or turn off the filter using ◄ or ► .

Press ↵ to confirm.

In this section we can indicate if we want CATV channels. By activating this option, it will allow us to output CATV channels when converting in the filter configuration.

Enter with ↵ and select with ◄ or ► if you want CATV channels or not.

Press ↵ to confirm.

In this section we can adjust the level of each channel. It can be used to regulate the level of the channels in a more personalised way or to give an extra power to the output if the situation requires it.

Press ↵ to enter and choose the channel with ▼ or ▲.

Press ↵ to choose the channel and adjust the level using ◄ or ► .

We can adjust 3dB above or below the general output level. It should be noted that if extra power is given, the signal quality may be compromised.

Press ↵ to confirm.

Press ◄ if you want to go back to the Manual menu.

Within the channels level options, we can find the Reset levels option. This option will allow us to reset the channels previously regulated and will set them with the level assigned in the output setting.

If we want to reset the level of the channels, press ↵ to enter and select with ◄ or ► .

Press ↵ to confirm the selected option.

Press ◄ if you want to go back to the Manual menu.

In case you want to protect the amplifier with a Password, press ↵ to acces.

If the amplifier already has a password and has been lost, please contact ALCAD ELECTRONICS, SL technical support.

By default, it will be set to 0000. This means there is no password set.
The underlined digit will indicate our position. Set the number of each digit with ◄ or ► .

Press ↵ to confirm the number and will automatically move to the next digit. The same for the 4 digits.

Once the password is set, press ↵ again to confirm.

The Language can be changed again in the General menu.

If we want to modify the menu language, press ↵ and select the language with ◄ or ► .

The available languages are: Spanish, English, French, Czech and Italian.

Press ↵ to confirm.

The Channels table can be changed again here. This way we will adapt the filters to the European regulation (BGCCIR) or the American regulation (M).

Press ↵ and select EUR (BGCCIR) or AME (M) with ◄ or ► .

Press ↵ to confirm.

This section will show the hardware (HW) and the firmware (FW) versions of the amplifier. The same information is displayed every time the amplifier is connected to the mains.

The firmware of the amplifier can be updated if a new version is available.

To update the FW, we will need a UART – USB cable and the CAD-8 Updater program installed in a PC.

When an update is available, enter the menu ↵ and select with ◀ or ▶ if we want to update or not.

The update will take a few seconds, after which we will be returned to the main screen.

The restore setting will allow us to factory reset the amplifier.

If we want to restore the configuration, press ↵ to enter and select with ◀ or ▶ .

Press ↵ to confirm the chosen option.

Las imágenes de éste documento son puramente referenciales y pueden no coincidir con el producto.
The illustrations in this document are for reference only and may not correspond to the product in every detail.
Les illustrations utilisées dans ce document sont données à titre indicatifs uniquement et ne sont pas contractuelles.
Le immagini in questo documento sono puramente referenziali e potrebbero non corrispondere al prodotto.

Cod. 9040258 - Rev. 01

ALCAD

www.alcadelectronics.com

ALCAD Electronics, S.L.
Pol. Ind. Arreche-Ugalde, 1
Apdo. 455 | 20305 IRUN - Spain
Tel. (+34) 943 63 96 60
info@alcad.net