AQUA BROADCAST

A-5000 AMPLIFIER WITH 2 C-10 DRIVERS SYSTEM

QUICK START GUIDE

V.18062026.1

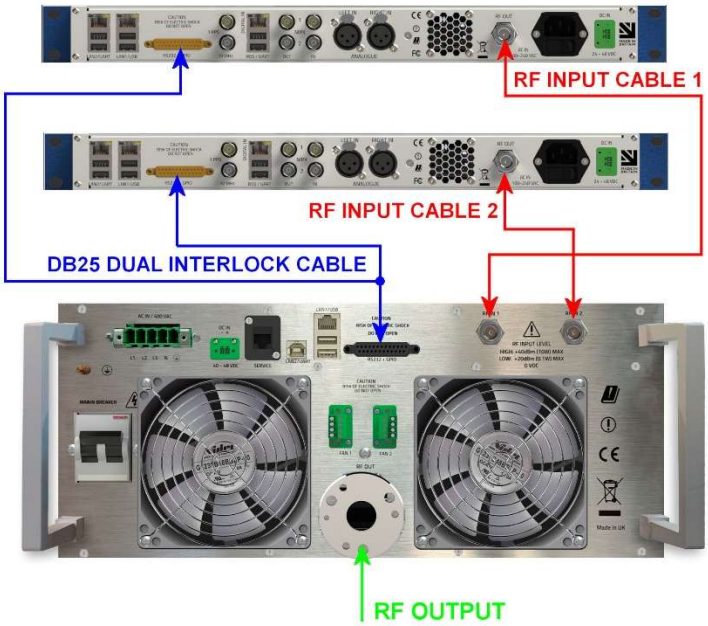
In this document we want to easily explain how to setup and use a transmitting system realized with a A-5000 (also works for a different power amplifier) and 2 C-10 exciters as drivers for it.

01

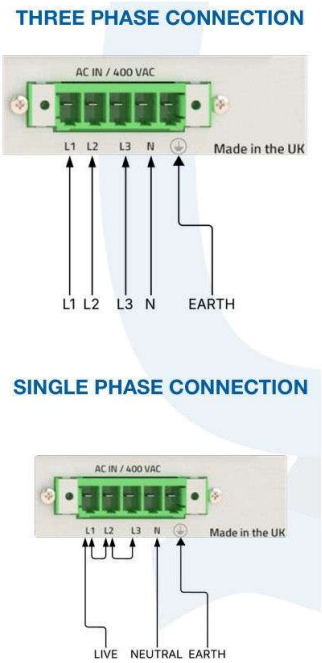
CONNECTIONS SUMMARY

First of all, you have to connect the cables at the back of the devices:

- The INTERLOCK data cable to the GPIO DB25 connectors of the exciters and the amplifier (pay attention to the label on the connectors case) as in picture 1.
- 2 coaxial RF cables from the exciters output to the amplifier's inputs 1 and 2 (RG58 cable is enough for these connections)
- All the mains supply cables (for the amplifier refer to **picture 2**)
- The LAN cables
- The Audio signals cables (check the Cobalt C-10 user manual)
- The RF output connection cable



Picture 1

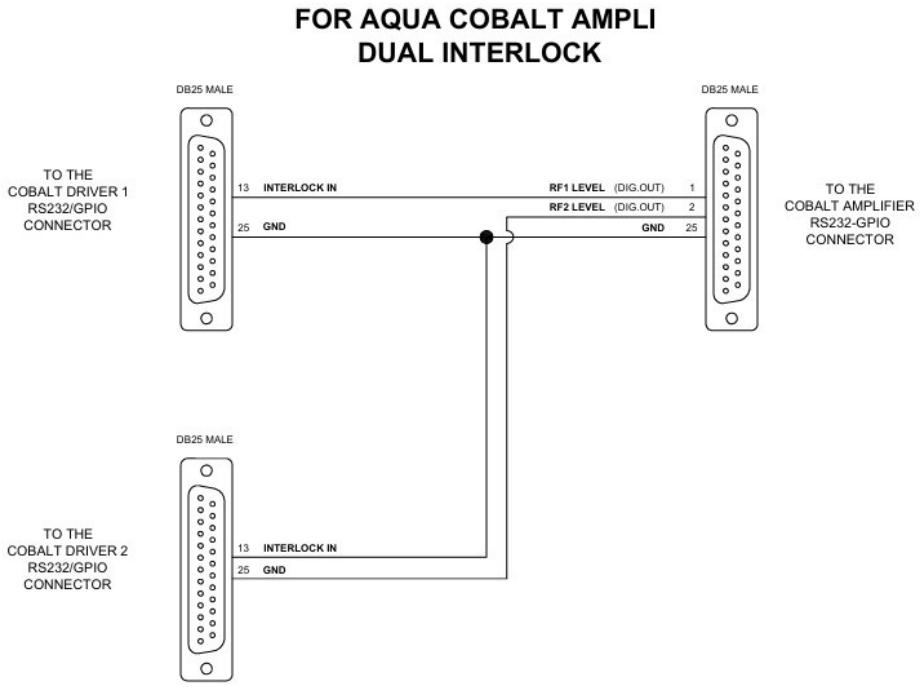


Picture 2

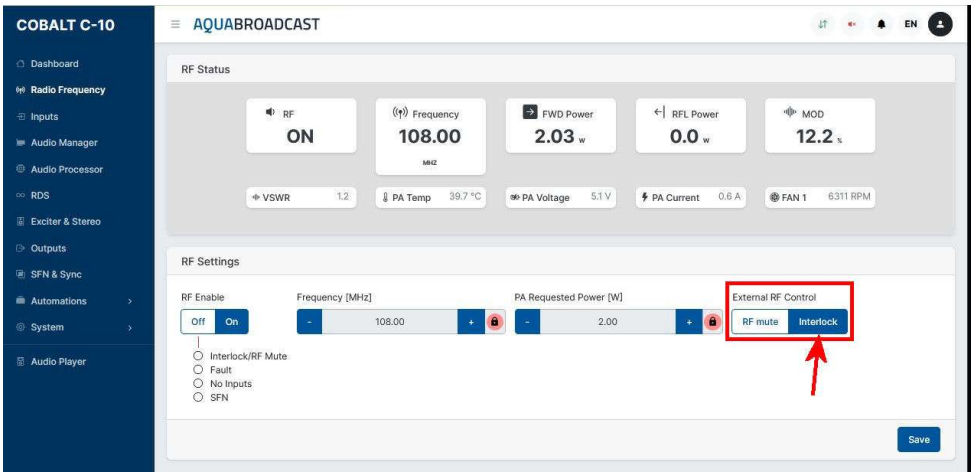
02

SETTING THE DRIVER INTERLOCK

First of all, connect the DB25 data cable (if not provided by AQUA you can easily make it with the following layout) between the GPIO connectors of the 2 drivers and the amplifier.



In the RADIO FREQUENCY menu of both the drivers is important to select the **INTERLOCK** button to enable the overdrive protection function, then click on SAVE.

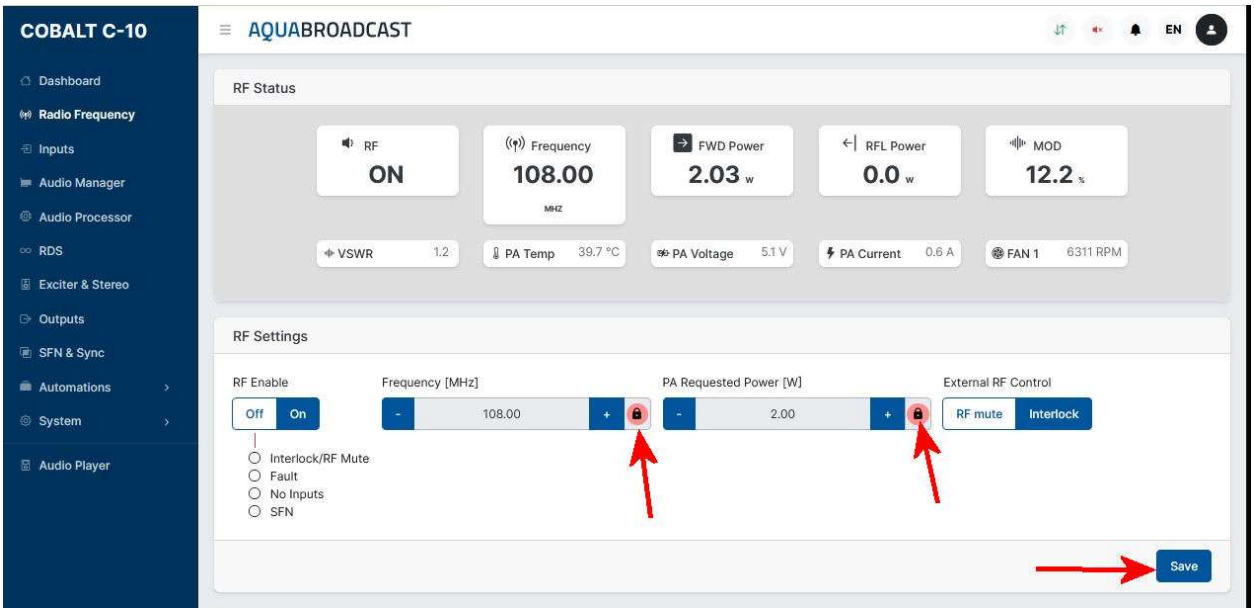


02

SETTING THE DRIVER OUTPUT

To set the output power of the drivers you can follow this procedure*:

- Enter in the RADIO FREQUENCY menu
- Click on the red locks to enable the frequency or the power out level editing
- Write the setting values
- Then click on the SAVE button to confirm.



For all the amplifiers models, to reach the output power level required, a RF signal of 1 to 2W from the drivers is enough.

Over 3W the driver will be stopped by the overdrive protection function.

IMPORTANT: The frequency of the 2 exciters and the amplifier must be the same.

03

FIRST OPERATION

When you first power ON the amplifier you will find some alarms from in the display, this is normal (the USER LED blinking BLUE and YELLOW), just need to wait for the 2 exciters to start rising power.

At this point you **FIRST** switch ON the RF on both exciters and **after a while** you can switch ON the RF of the amplifier.

You immediately see the output power rising to the required level until the RF LED from YELLOW became GREEN.

You can modify the output level setting following the procedure described in the next chapter.

One of the 2 exciter will be put in stand-by even has power indicated in the display (the RF IN GREEN LED shows which one is on-air)

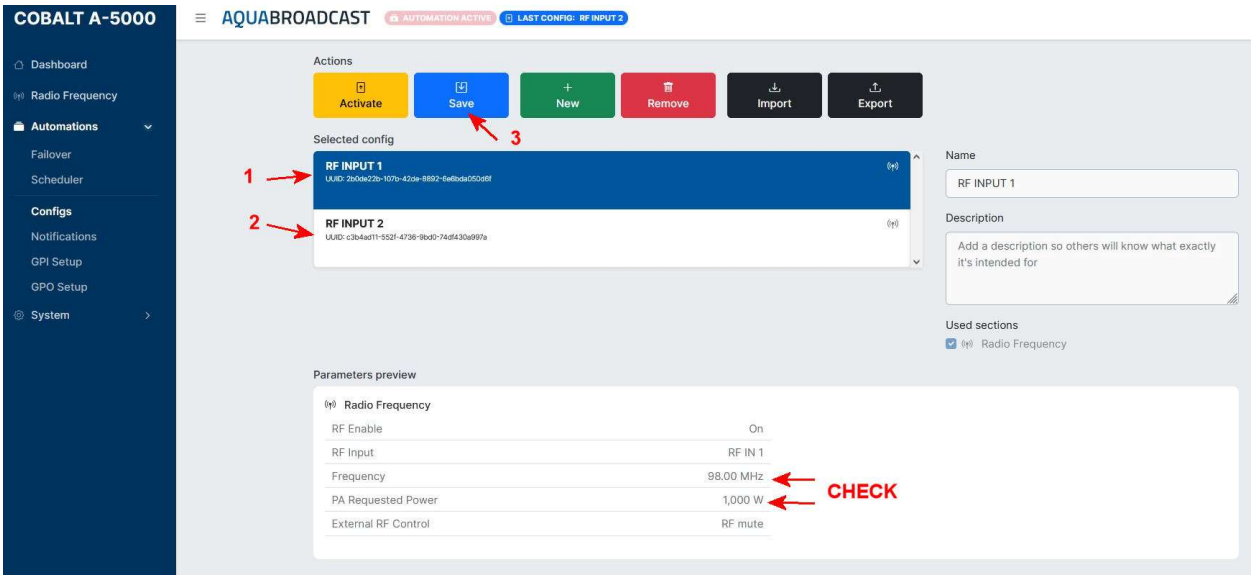
04

SETTING THE OUTPUT POWER

To set the output power you can proceed as the usual procedure in the RADIO FREQUENCY menu (this is the same procedure as in the C10 menu):

First click in the “locks” to enable the editing of frequency and power then on SAVE to confirm.

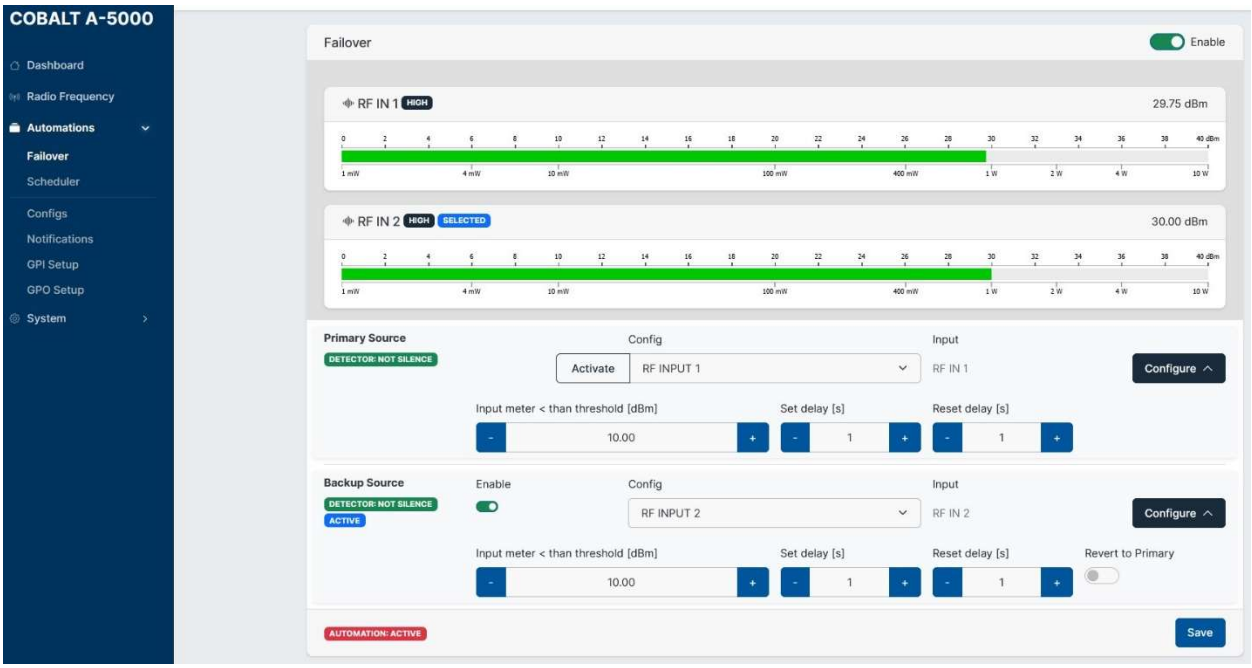
After this standard procedure you must save these values in the CONFIG files, in the A5000 amplifier only, to be recalled by the software in case of exciter swapping: in the webpage AUTOMATIONS/CONFIGS select the existing file RF INPUT 1 then click on SAVE (3). Repeat the procedure selecting the file RF INPUT 2 and click on SAVE again.



05

FAILOVER FUNCTION

The A-5000 will swap the input signal from a failure exciter to the other one (backup). In the following picture you can see the FAILOVER setting page:



In the factory setting the A-5000 takes the input RF signal from the MAIN exciter until is over 10dBm (normally between 30 at 33dBm), below that it will automatically swaps the BACKUP exciter on-air in 1 second.

If the failing exciter will restart after a while, because of a temporary problem, it will be kept on standby as a BACKUP until a new event happens and it will be swapped on-air again.

- **IF YOU SWAP THE EXCITERS MANUALLY FROM THE DISPLAY OF THE A-5000 OR FROM THE WEB MENU RADIO FREQUENCY OF THE A-5000 THE AUTOMATIC CHANGEOVER WILL STOP WORKING. YOU MUST SWITCH OFF THIS FUNCTION BEFORE DOING IT, THEN SWITCH ON AGAIN TO RE-ACTIVATE THE FUNCTION OF AUTOMATIC SWITCHING OF THE EXCITERS SIGNAL.**

06

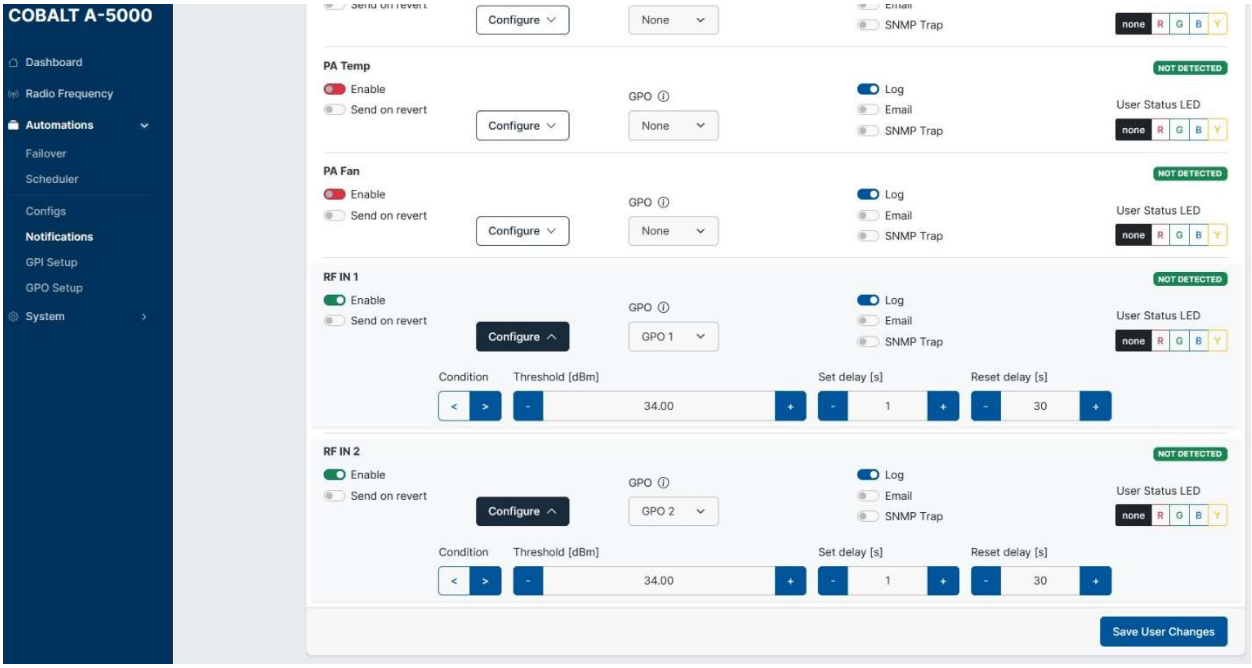
OVERDRIVE PROTECTION

This system protects itself from the too high RF input signals coming from the exciters but is necessary to connect the data cables included in the box as shown in chapter 1.

To reach all the output levels required (1Kw to 5KW) only 1 to 2W input signal is enough.

When, for some reason, the input power from one of the exciters increases more than about 3W (value set from the factory) the driver will be stopped by the interlock and the active input swaps to the BACKUP exciter thanks to the FAILOVER FUNCTION.

After 30 seconds the unit restarts the failing exciter to check if it is working in a normal output range and it will be kept in standby as a backup, otherwise it will be stopped again for 30 seconds, repeating this check until a human interaction.



This is the protection setting page for this function, just for your reference.

PLEASE, DO NOT CHANGE ANY OF THESE VALUE

WITH NO REASON OR WITHOUT INFORMING US.

07

USER ALARM LED INFO

In the front panel there are a few important LEDs to understand, you can also refer to the User Manual for all the other display indications.
https://aquabroadcast.co.uk/files/attachments/9e50550c9d3b3fb08d0865db42618b0a9f700284.pdf

The USER LED is set to indicate 2 status:

- BLUE means there is no RF signal from the EXCITER 1
- YELLOW means there is no RF signal from the EXCITER 2

The RF IN 1 or 2 LEDs indicate the status of the input signal:

- GREEN shows the on-air signal
- YELLOW shows the standby ready signal as backup
- OFF shows that no RF signal is present in that input

The RF LED shows the output level of the amplifier:

- GREEN it reached the required power level set.
- YELLOW the power level is rising to reach the set level
- RED the power level is failing to rise

It's important to inform you that the RFL is set to be shown in the display in steps of 50W, it means that under 50W of reflected power you read 0W, then 50W, then 100W until the ALARM stops the amplifier. This is safe for the internal RF components, no worries.

08

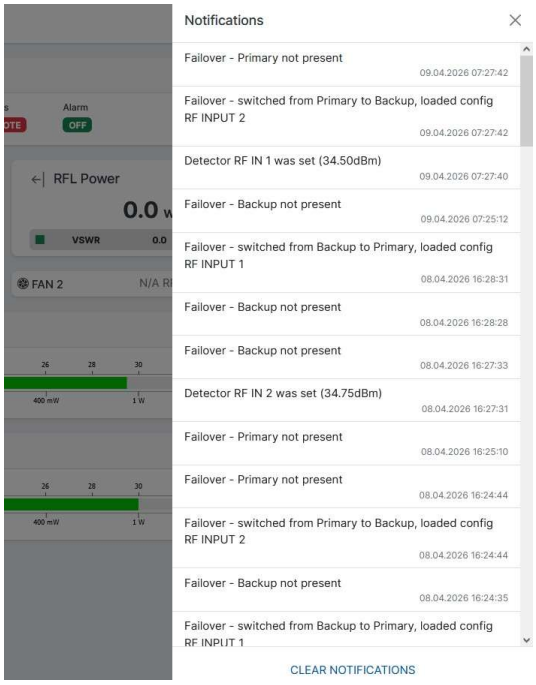
NOTIFICATIONS LIST IN THE DASHBOARD

In the DASHBOARD, the main page of the web menu, there is the list of all alarms that occurred during the device lifetime.

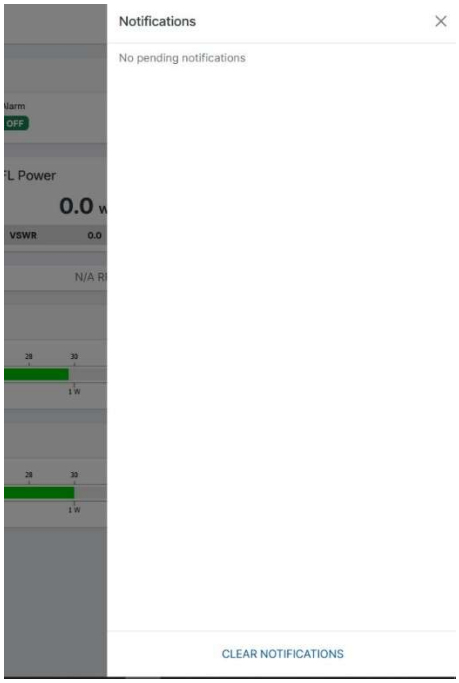
It's hidden behind a little bell in the top right corner and has a red circle with the number of the alarm recorded in it (only if there have been alarms, during tests for example).

When you click on the little bell it appears a window with the alarms recorded and the time that happened (picture 1).

If you want to clear it (the alarms are saved also in the LOG files) you just click at the end of the window (CLEAR NOTIFICATIONS) to get it empty again (picture 2).



Picture 1



Picture 2

IMPORTANT: cleaning the alarms list takes a little time and sometime is necessary to reload the web page with the refresh button in your browser.