Broadcast Electronics

HOW TO INSTALL A NEW CCU IN

Genesis *Elite* Series 2HPA TRANSMITTER

Service Bulletin

SERVICE BULLETIN no. 2003	Arch. Interleaf ServBull3	Emission	Apostoli	Date 12/03/2020	TITLE *Connecting the CCU to Genesis Elite 2HPA*		
		Chkd.					
		Q.C.			CODE		
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EQUIPMENT: . . . . Genesis Elite transmitter 2HPA

MODIFICATION PURPOSE: . . . . Connection of a CCU unit

OPERATIONS: . . . .
- insertion and connection of the CCU in the tx cabinet
- firmware update of the MEX unit
- MEX set up
- CCU set up

ADDITIONAL EQUIPMENT: . . . . . .
- PC w/ USB running Windows 10
- USB cable
- External power meter / watt meter

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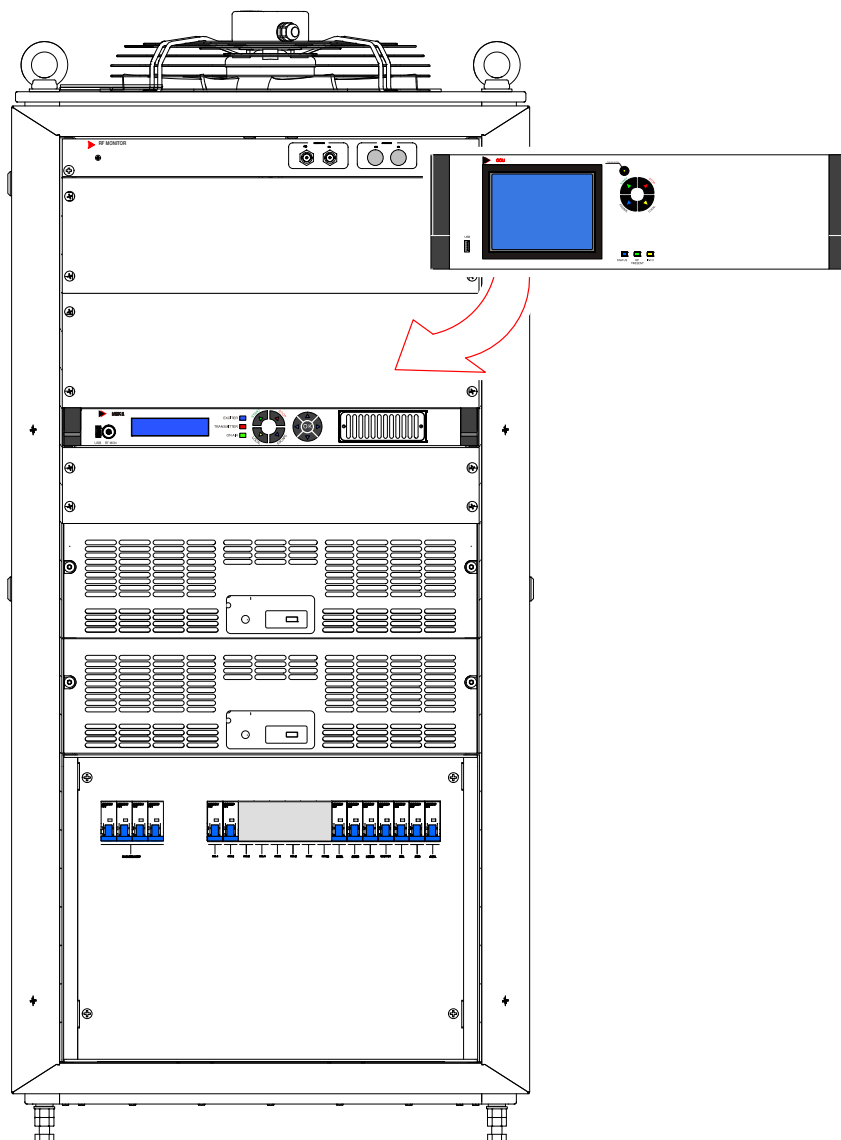- ⬤ Service Bulletin

Service Bulletin

## 1. Insertion and connection of the CCU in the Tx cabinet

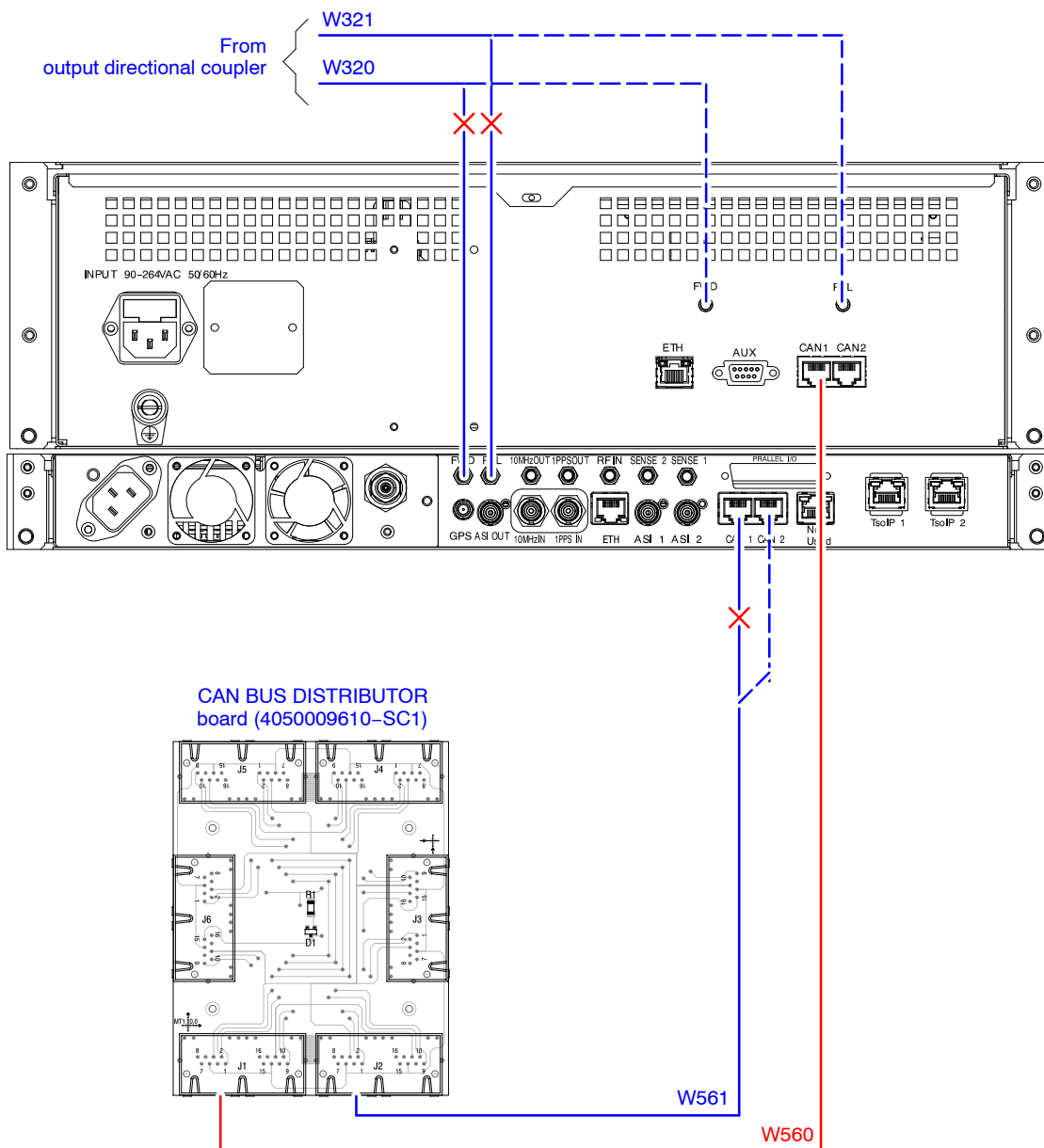| CAUTION! |
|---|
| *The transmitter must be switched off and the main breaker opened.* |

1.a Fitting the CCU to the Tx cabinet

1.) Remove the blank panel above the MEX unit and insert the CCU in its place

2.) Connect the power cable (W110, already wired in the cabinet) to the line "INPUT" connector of the CCU

3.) Connect the earth cable (PE3, already wired in the cabinet) to the termination on rear panel of the CCU unit

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1.b Connecting the CCU unit to the MEX unit

4.)   Disconnect W320 and W321 cables on rear panel of the MEX unit and connect them to the "FWD" (W320) and "RFL" (W321) connectors on rear panel of the CCU unit.

5.)   On rear panel of the MEX unit, disconnect W561 cable from "CAN1" connector and connect it to the "CAN2" connector.

6.)   W560 cable (delivered with CCU) must be connected from "CAN1" connectro on CCU rear panel to "J1AC1" connector of "CAN BUS DISTRIBUTOR" board (p/n. 4050009610 –SC1).

W321

From
output directional coupler

W320

INPUT 90-264VAC 50/60Hz

CAN BUS DISTRIBUTOR
board (4050009610–SC1)

W561

W560

——— pre–existing connection

——— new connection

2. Firmware update of the MEX unit

The firmware operation upgrade is controlled by a user friendly **g**raphical **u**ser **i**nterface (*GUI*) application running over Microsoft Windows operative systems 32 and 64 bit.

Itelco "*CMI/PIB USB Field Utility – v.1.0*" software allows a complete firmware upgrade of the "*Interconnection Board*" (p/n. 4050012410).

The version of the new firmware to be loaded is **V.2.99.1**. At the end of the update operations, the board will restart automatically.

2.a Connection of the unit to the PC

The USB port on front panel of the unit must be connected to any USB port of the PC where "*CMI/PIB USB Field Utility – v.1.0*" software has been installed. Operate as follows to establish the PC connection to the unit.
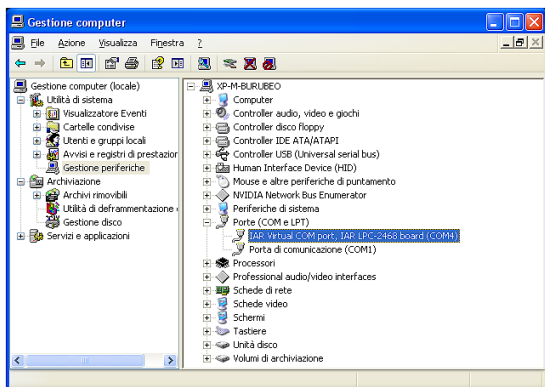

Fig. 2.1 – Software start
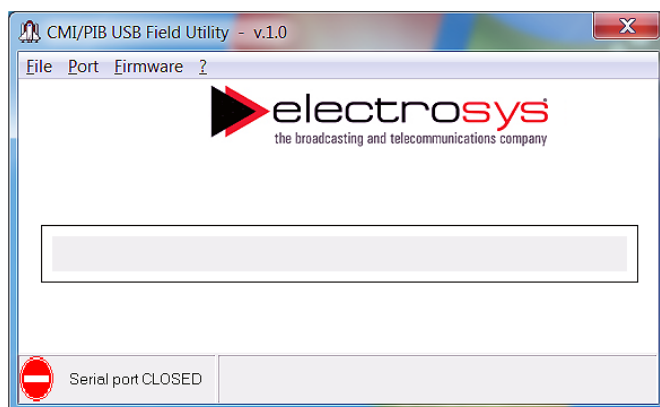
1. Double click on the software icon: the following dialog box opens.

The lower left corner of the box shows the indication "Serial port CLOSED"

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2. Open "Device Manager" to check which serial port is selected for the connection to the unit (in this example is port "COM4").
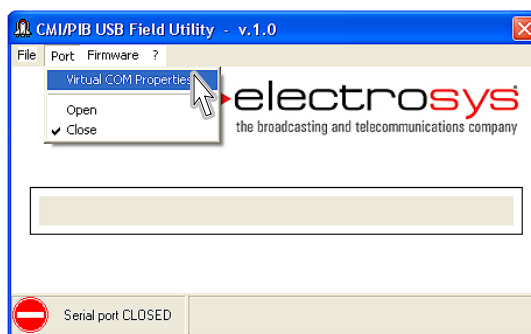
3. On Port menu select "Virtual Port Property" to open the dialog box "RS232 Property"
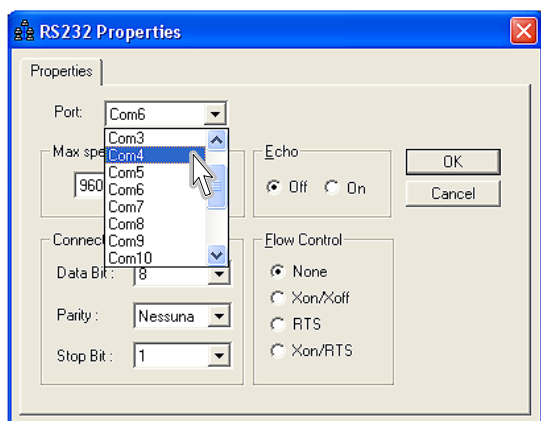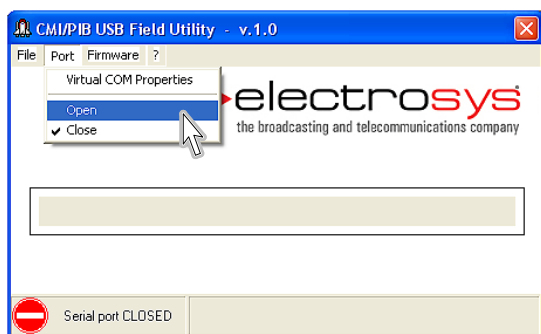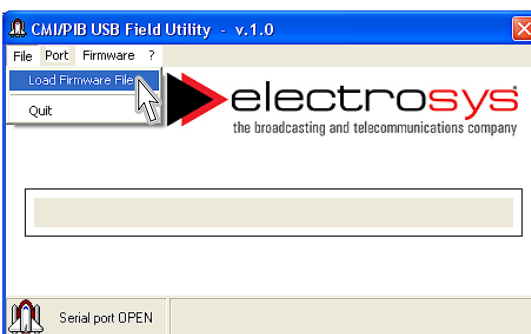

4. On "Port" field select "COM4" port.
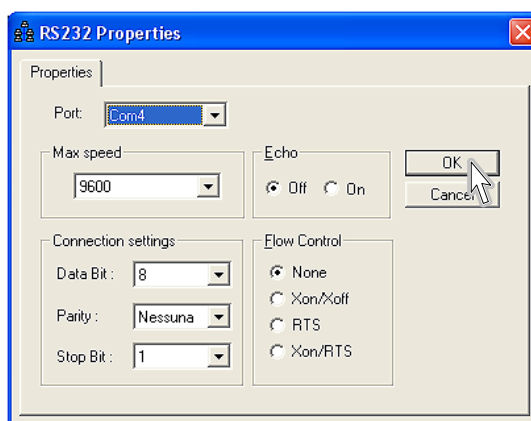
5. Now click "OK".

2.b   Loading the new firmware

At this point the serial connection between the PC and the unit is fixed and you need to select the updated firmware file.
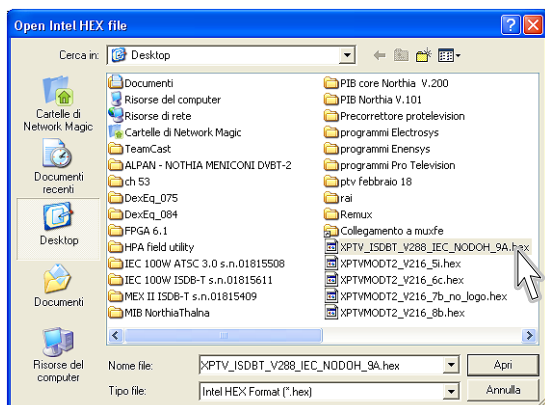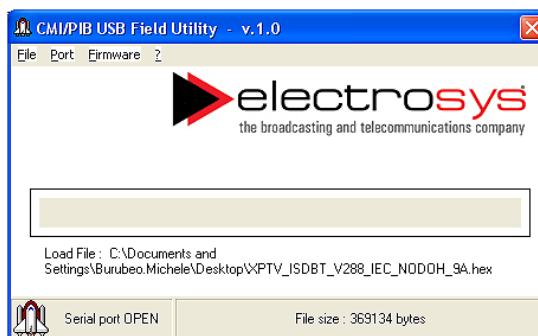

6. On "Port" field select "Open"

7. The lower left corner of the dialog box now shows "Serial Port OPEN".
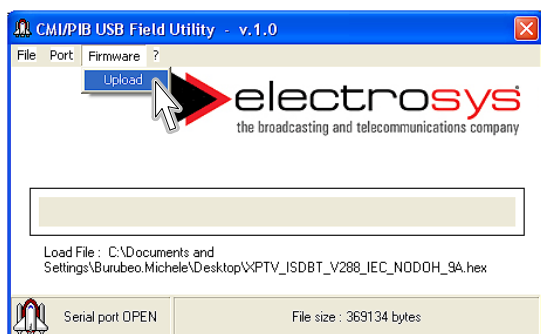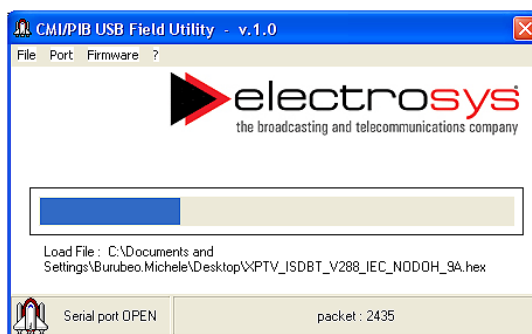
On "Port" field select "Load Firmware File".

8. The dialog box opens. Now browse to the wanted file (in this example is "XPTV_ISDBT_V288_IEC_NODOH_9A.hex" on the desktop) an click "OPEN".
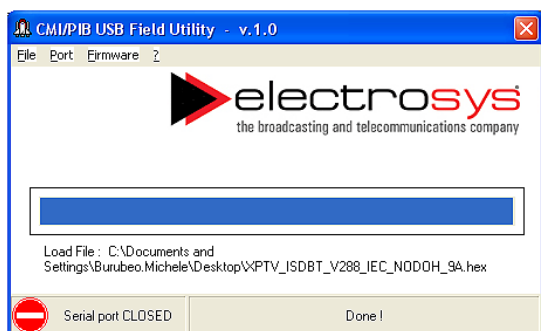

9. The dialog box shows the file name and its size.

10. On "PFirmware" field select "Upload".

11. The firmware uploading starts. A graphic bar shows the progress of the firmware loading.

12. At the end of the loading the serial port is disconnected and the logic board is restarted automatically.

3. MEX set up

After updating the firmware, some settings must be made on the unit. Operate as follows:

1. Switch on the transmitter and keep it in "RF OFF" condition.
2. Verify both CCU and MEX are in *local* operation.
3. On MEX unit access "SETTINGS" menu and set:
   - CAN1 = NOT USED
   - CAN2= adr2 (exciter A)
4. Put MEX unit in "REMOTE" operation

4. CCU set up

| 👉 NOTE! |
| --- |
| *Alarms and numerical values shown, are by way of example only.*
Only the settings necessary for this case are shown below, all other possible settings in this menu are factory set |

Perform the following settings:

- *transmission frequency* on "OPTIONS / CONFIGURATION" menu
- *wattmeter calibration* on "OPTION / WATTMETER" menu

4.a Setting the transmission frequency

Acces "OPTIONS / CONFIGURATION" menu and set the frequency in "FREQUENCY (Hz)" field. Operate as follows:
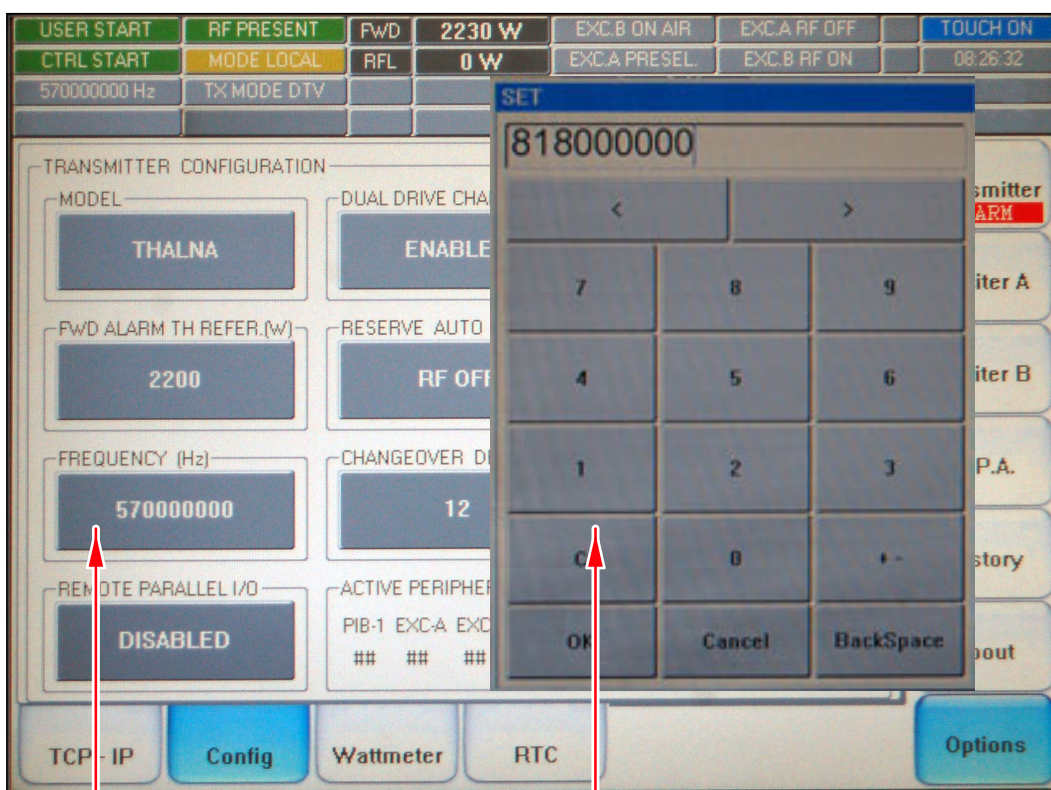
1. touch on "FREQENCY (Hz)" field to set or to change the frequency

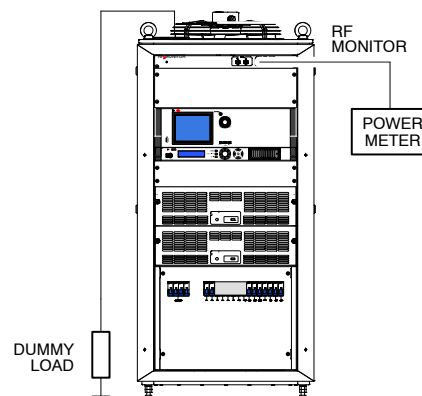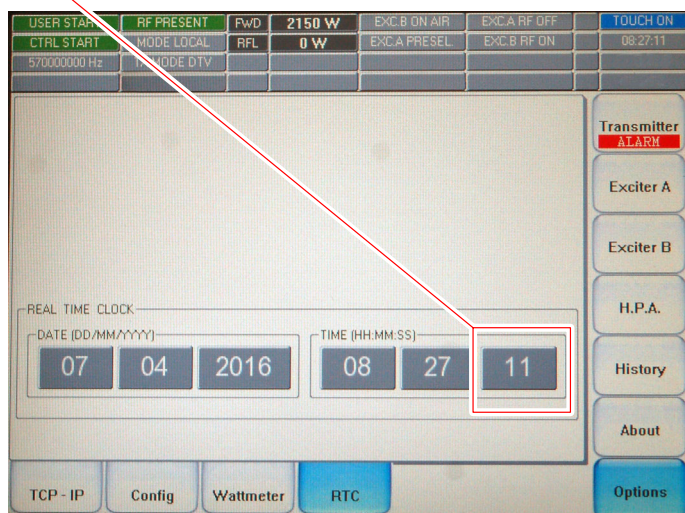2. a pop-up keyboard is displayed. Digit the frequency to be set (in Hz) then push "OK".

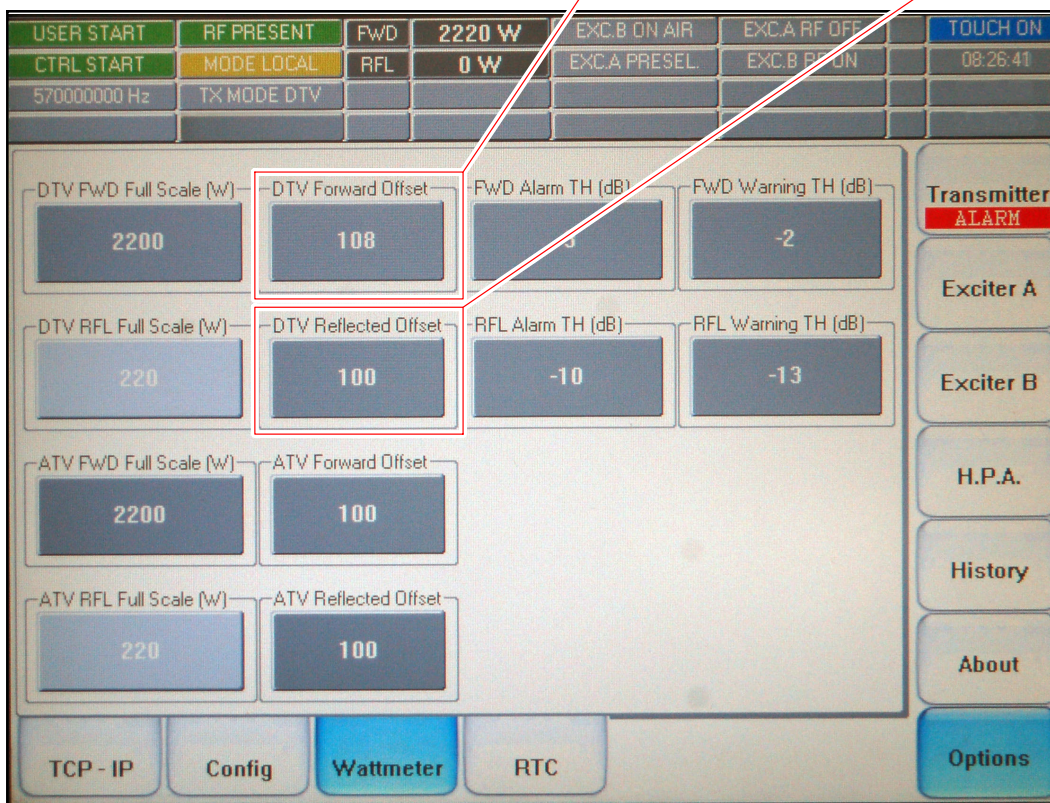| SERVICE BULLETIN no. 2003	Arch. Interleaf ServBull3	Emission	Apostoli	Date 12/03/2020	TITLE *Connecting the CCU to Genesis Elite 2HPA*		
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4.b Setting the wattmeter calibrations (*Fwd and Rfl offset values*)

Set up the test–bench shown in the side picture.

1. Switch on the transmitter pushing "**START**" key on CCU front panel.

2. The settings of the wattmeter calibrations must be performed on "OPTIONS / WATTMETER" menu of the CCU, which is under *password.* The password "113" must be entered in the "SS" field of the "OPTIONS / RTC" menu.

3. After the password has been entered access "OPTIONS / WATTMETER" menu and set the forward and reflected offset values in "DTV Forward Offset" and "DTV fReflected Offset" fields.
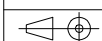

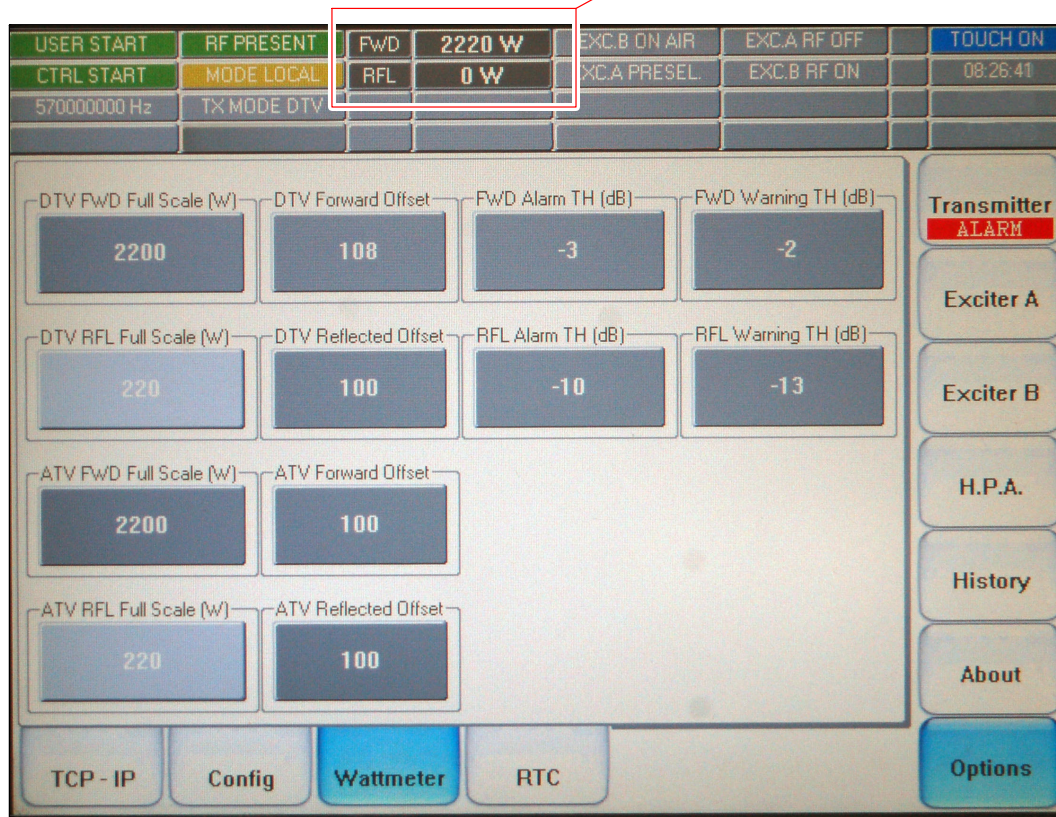| SERVICE BULLETIN no. 2003	Arch. Interleaf ServBull3	Emission	Apostoli	Date 12/03/2020	TITLE *Connecting the CCU to Genesis Elite 2HPA*		
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4. Increase / decrease the offset values until the values read on the status bar are the same as those indicated by the external power meter.