

## CHECKS ON FM AMPLIFIER MODULES

**Transmitter in subject:** FT 5000FS

**Malfunctioning found:** 2 modules FA 1000FS are not working correctly (led “UNBAL” is switched ON).

**Failure found:** One ore more power amplifier modules, inside the *FA 1000 S* are not working in the correct way.

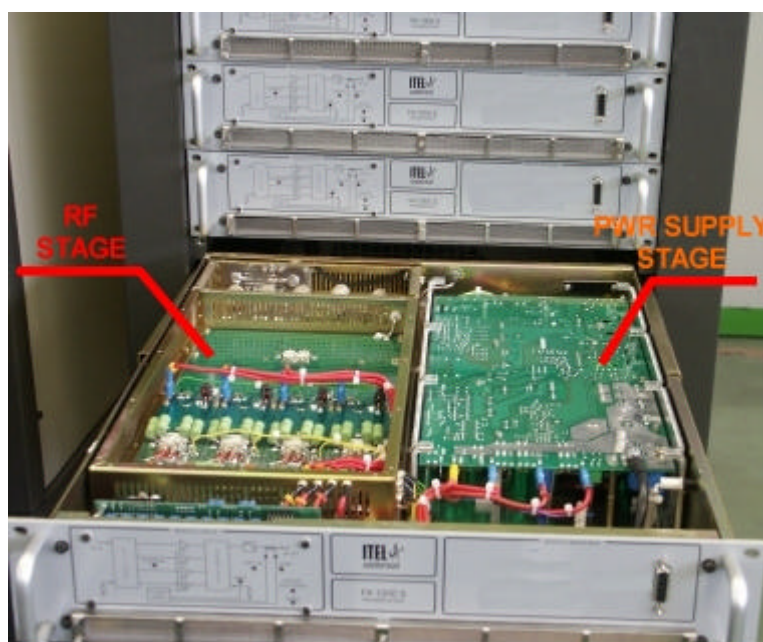
### Intervention:

- a) Switch OFF the transmitter FT 5000FS
- b) Take out the module (drawer) with failure. The drawers are mounted on guides with end sliding blocks, thus pull the drawer until the end of its run.

**This operation must be carried out slightly with maximum care in order not to damage the cables connected at the back of drawer.**

- c) Take out the cover of drawer, then take out the cover of RF module and that of power supply (Fig. 1).

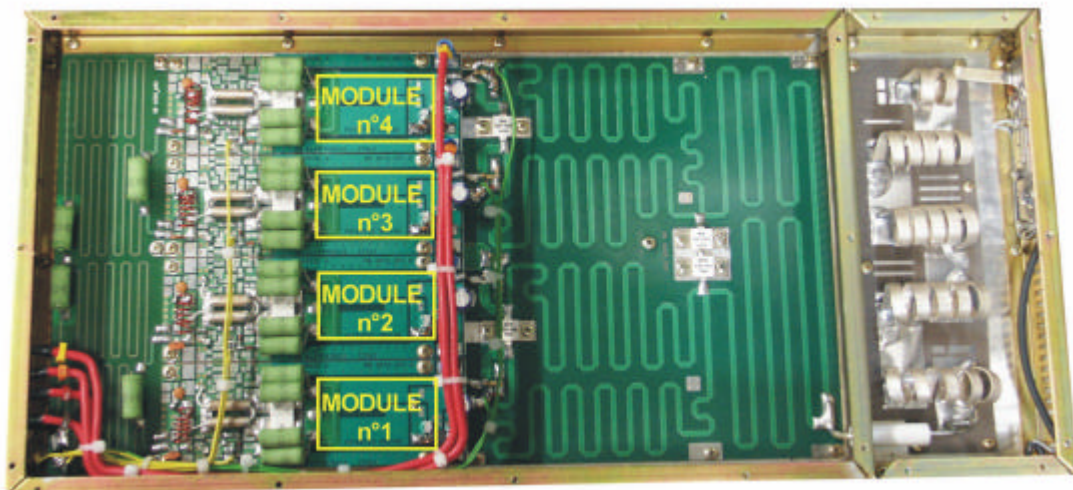
**Fig. 1**



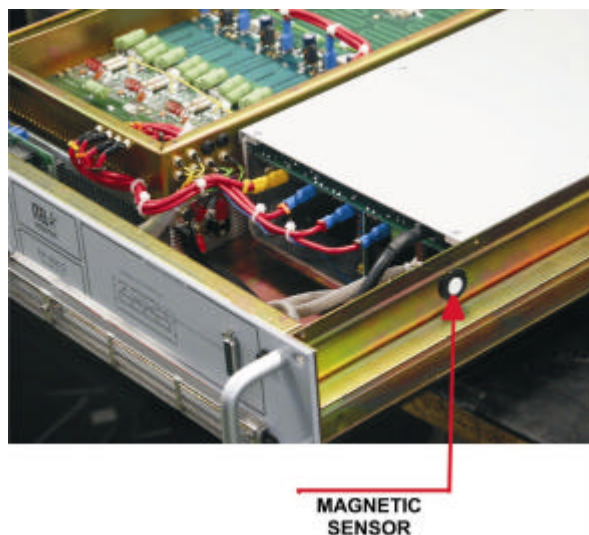
- d) Check all the boards in RF module (Fig. 2) trying to find out eventual burnings and/or signs of discharge.
- e) After a careful visual checking you must take some voltage measuring to find out the presence of eventual non visible faults.

In order to make such measuring you need first of all to bypass the switch on consent (magnetic sensor) placed on the right side of the drawer (Fig. 3).

**Fig. 2**

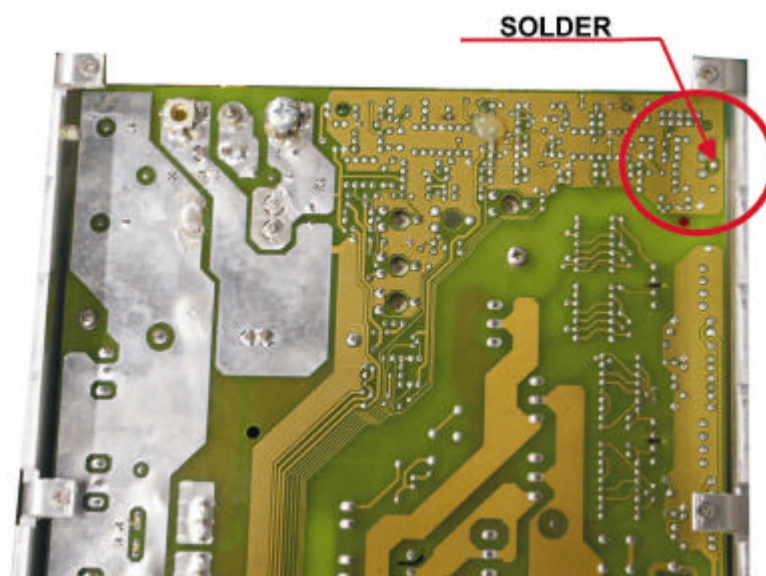


**Fig. 3**



f) To bypass the magnetic sensor you need to act on the power supply module, shortcircuiting with some tin the shown pads Fig. 4.

Fig. 4

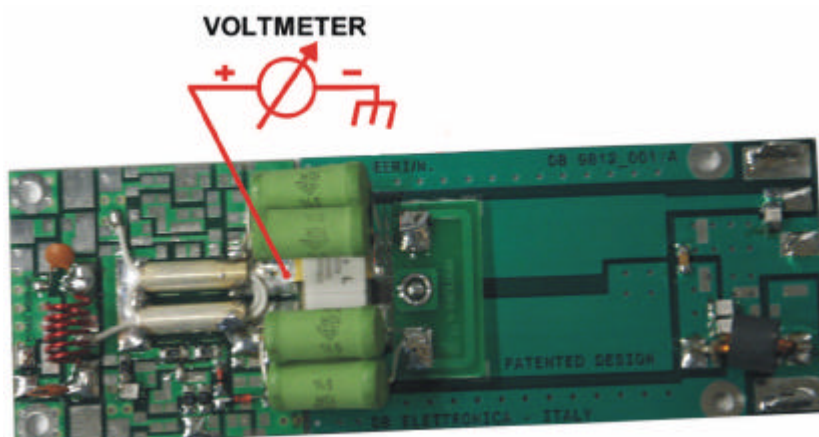


g) Put the cover to the power supply module **“to avoid risks of electrical shocks”**.

h) Switch ON the FT 5000 **without giving power at the input.**

i) Take measure of the GATE voltage (Fig. 5) in the four AMP300 modules and write the values below (*Typical value = 2.5 V*):

Fig. 5



VG1 = ..... (module n°1 – see Fig. 2)

VG2 = .....(module n°2 – see Fig. 2)

VG3 = .....(module n°3 – see Fig. 2)

VG4 = .....(module n°4 – see Fig. 2)

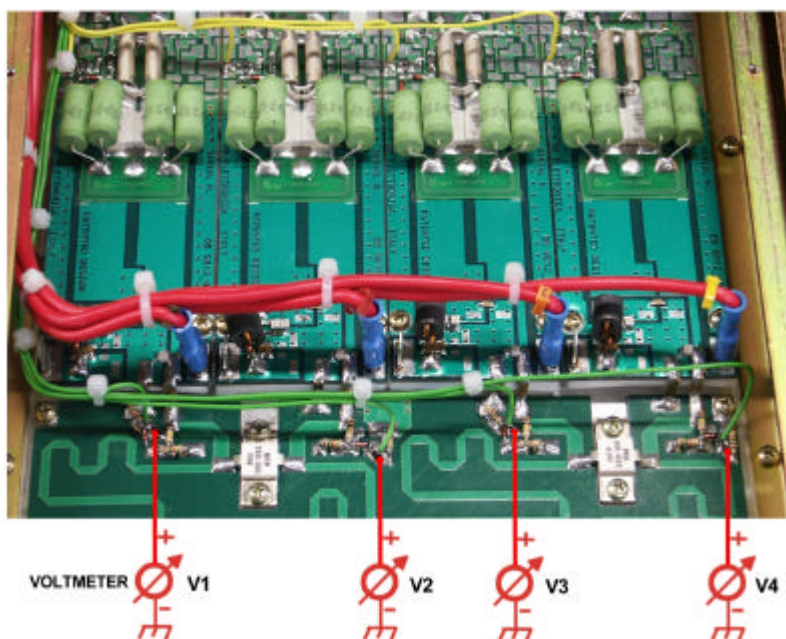
j) After having made the 4 GATE measures, you have to give power at the input of transmitter, up to (and not over) the alarm led “UMBAL” switches ON on the front panel of *FA 1000 S* taken in exam.

k) Find out the module or modules (AMP300) which are working uncorrectly, through the voltages unbalancing measures (Fig. 6), and bring the value as shown here below:

V1 = .....      V2 = .....      V3 = .....      V4 = .....

**Typical value** = When the 4 modules are working correctly the voltages V1, V2, V3, V4 have all almost the same value.

Fig. 6





The measured voltages, sensibly different from the others that are equal to  $\emptyset$  V, will allow you to find out those modules which are working uncorrectly.

l) Once you have found the non working modules, lower the power bringing it to zero and then switch off the FT 5000.

m) Repeat the same operation shown here above also for the second *FA 1000F S* having the same problems (led "UMBAL" turned ON).