or involuntary switching to Operate mode. While locked, an attempt for entering Operate mode will result in a message:

"OPERATE MODE IS LOCKED"

The other preference items need no explanation.

5-5. FAULTS LOG

This function reads on the screen the information stored in the memory about the last 28 HARD FAULT protection trips (Fig.5-5). By pushing the FILE button, the information may be also downloaded in a plain-text format file through the RS232 port and a computer using a standard terminal emulating program (TTY). The RS232 protocol is: 9600, 8 N 1.

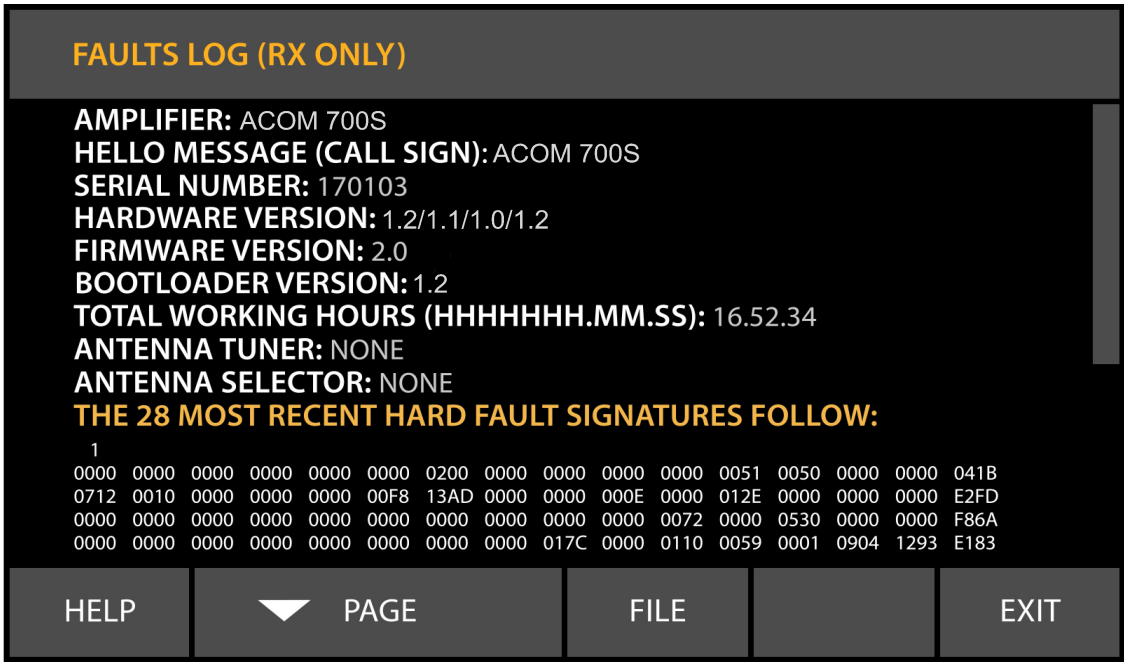

Fig. 5-5 Function FAULTS LOG

5-6. RESTORE DEFAULT SETTINGS

Four different factory reset levels are available (Fig.5-6).

In order to confirm the selected action the operator must push the ACTION - left (YES) button once more. After restoring the default settings, the control will return to the MENU SELECTION screen - Fig. 5. If the ACTION – right (NO) button is pressed, the "NO" is selected again, and the control will not leave the current position. At pressing the EXIT button in this position, the control leaves this menu without changing anything and returns in the previous window (the MENU SELECTION screen – Fig. 5).

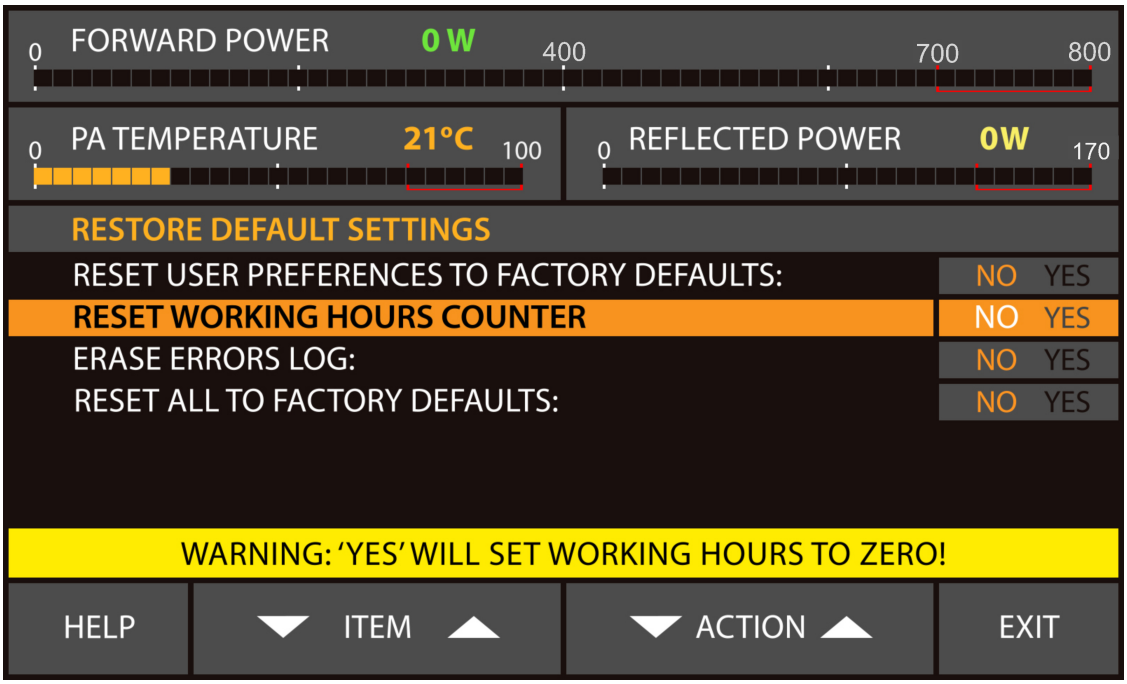

Fig. 5-6 Menu: RESTORE DEFAULT SETTINGS

6. REMOTE CONTROL

6-1. General information

The ACOM 700S may be controlled remotely by the RS232 port.

The ACOM 700S RS232 interface protocol is available on www.acom-bg.com.

7. MAINTENANCE

W A R N I N G **HIGH VOLTAGE!**

The mains line voltage and a high DC voltage of up to 500V inside the ACOM 700S amplifier are both LETHAL! For your safety, pull the amplifier power plug out of the mains wall outlet and WAIT AT LEAST three minutes EACH TIME BEFORE servicing the amplifier!

7-1. Periodic maintenance; general checks and cleaning

a) Periodically (but at least once per year) check all connections, contact cleanliness and the tightening of all connectors, in particular the coaxial ones.

Check the integrity of the cables, in particular when they are layed on the floor. Check also if the cables are secured well in the area where they come out of the connector body.

Pay particular attention to the mains plug and the wall outlet – if you have any doubts consult with an electrician.

Periodically check the SWR of the antennas and if this changes over time. Problems could occur more often in poor weather conditions – rain, snow, strong wind etc.

b) Periodically (more often in a dusty environment, but at least once per year) clean the air filters without opening the amplifier.

W A R N I N G

The air filters may be too dusty - be careful how you clean them so that you DO NOT INHALE (BREATHE IN) neither spill the dust over! Wrap it, for instance, in a wet cloth before cleaning!

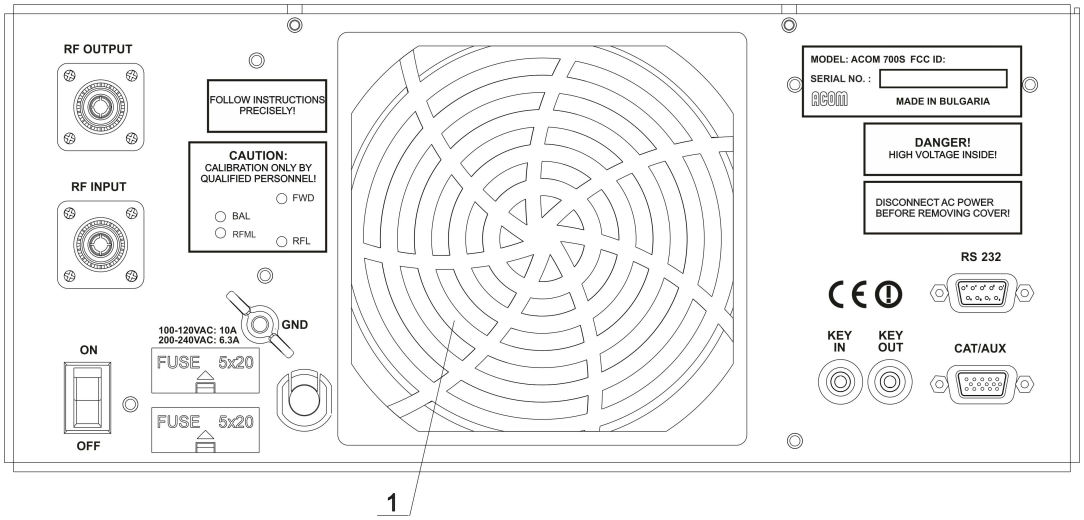

Fig. 7-1 – Rear View - Air filters

ACOM 700S has one air filter that is accessible form the rear - see Fig. 7.1. The filter is contained in an externally mounted plastic enclosure. The cover of the enclosure, together with the filter itself, is removed by gently pulling it away from the amplifier. Carefully clean the filters and covers from dust, wash them with tap water and *leave them to dry up before you mount them back.*
Also clean (as much as possible from the outside, without opening the amplifier) all ventilation apertures on the cover and the chassis, including the ones on the bottom. Finally put the filter back in the filter enclosure cover and click the cover back in place.

C A U T I O N

Do not use solvents for cleaning – they can be dangerous to you, as well as to the coating or the amplifier plastic parts.

In case of need, clean up the amplifier outside surfaces without opening it. Use a soft piece of cotton cloth, slightly moistened with clean water.

7-2. Replacement of fuses

W A R N I N G **HIGH VOLTAGE!**

If replacement of fuses is necessary, first pull out the amplifier mains plug from the mains outlet and wait for at least 3 minutes!

The main fuses of the amplifier are located on the rear panel – Fig. 2-1.

The fuses must be of the fast type, European size 5x20mm, rated for 250VAC and rated as follows:

C A U T I O N

The fuses must be rated for a current corresponding to your mains nominal voltage: 16A for operation from 100-120VAC mains voltage or 10A for operation from 200-240VAC. Use only standard fuses!

C A U T I O N

Never replace any fuses inside the amplifier without special instructions from your dealer! Blown internal fuses can be a symptom of a more serious problem, which should be resolved beforehand. Unauthorized replacement of inside fuses infringes the warranty conditions!

7-3. Using the fault codes (signatures) for diagnostics

The data of the last 28 HARD FAULT protection trips is stored in the amplifier memory – see S. 4-6(c).

The data can be downloaded from the memory through the RS232 port and stored in a computer file even if the amplifier cannot be turned on after a serious fault – only external power has to be fed to the Control unit in either of the following ways:

- 8 to 15V DC voltage applied to the “Debug mode” input (Table 2-1) of the CAT/AUX port. The power supply has to be capable to provide 0.4A of current;

- if the Control board has already been removed from the amplifier, it can be powered directly with +5V (0.4A) and the fault log downloaded via the RS232 port.

In the FAULT LOG reading mode (Fig. 5-5), the Control board automatically transmits the data from the memory trough the RS232 interface. Depending on the number of fault events stored in the memory, the transmission may take between 0.5 and 12 seconds. A pause of 6 seconds follows, than transmission starts again. The data can be read in a plain-text format with a computer, using a standard terminal program.

You can send the recorded file to your dealer or to ACOM accordingly. They could also provide the

necessary instructions, if you choose to decode the downloaded hexadecimal data by yourself.

7-4. FIRMWARE UPDATES

C A U T I O N

Before you change the firmware version, check the new version compatibility with the revisions of the hardware and of the boot loader in your amplifier - see S. 5-5. If you have any doubts about the versions, please consult your dealer *before* you undertake any action.

When ACOM issues a new firmware version, the user can upload it in the amplifier after he checks the compatibility – see the note above.

When compatibility is confirmed a return to an earlier version is also possible.

8. SPECIFICATIONS

8-1. Parameters

a) Standard frequency coverage (*):

1.800 - 2.000 MHz
3.500 - 4.000 MHz
5.250 - 5.450 MHz
7.000 - 7.300 MHz
10.100 - 10.150 MHz
14.000 - 14.350 MHz
18.068 - 18.168 MHz
21.000 - 21.450 MHz
24.890 - 24.990 MHz
28.000 - 29.700 MHz
50.000 - 54.000 MHz

(*) Extensions or changes of the frequency coverage are possible on request.

b) Rated output power: 700W +/-0.5dB, PEP or continuous carrier.

c) Intermodulation distortions (IM3): better than 31dB below the rated PEP.

d) Harmonic and parasitic emissions output suppression: better than 60dB (65dB typically).

e) Input and output impedances:

- nominal value: 50 Ohm unbalanced, UHF (SO239) type connectors;
- input circuit: broadband, SWR below 1.2:1 (1.1:1 typically); 1.8 – 54 MHz continuous range without retuning or switching;
- RF by-pass path SWR - below 1.1:1, 1.8-54 MHz;
- acceptable SWR at the output load (the antenna): up to 3:1 with proportional power reduction and up to 1.5:1 for full output power;

f) RF power gain: 14dB +/-1dB (typically 27W for 700W output power);

g) Mains power supply voltage: 93-265VAC.

h) Mains power consumption at full output power: 1350VA or less wth a power factor of 0.95 or higher;

i) Mains power consumption in Low Energy (waiting) mode: less than 1VA;

j) Complies with EU safety regulations and electromagnetic compatibility standards, as well as with the US Federal Communications Commission (FCC) rules;

k) Environmental conditions:

- temperature range: -10ºC to +40ºC (14ºF to 104ºF);

- relative air humidity: up to 95% @ 35ºC (95ºF);

l) Dimensions (projections not included) and weight, operating: (W x H x D) 372 x 171 x 427 mm (14.6 x 6.7 x 16.8 In); 10.5 kg (23.15 Lbs).

8-2. Functions

a) Receive / transmit control:

- KEY-IN input – Phono RCA jack; voltage applied to the transceiver keying output up to +12V; current drawn by the transceiver keying output up to 6mA;

- An optional KEY-OUT output – Phono RCA jack; output resistance: not more than 120 Ohm; maximum safe input voltage from the transceiver +50V; maximum safe current drawn by the transceiver: 20mA;

- **minimum** dead time, necessary for safe amplifier switchingover from receive to transmit: 10ms between the transmit request on the KEY IN input and the RF drive on the RF INPUT jack.

b) Frequency control directly by CAT from the transceiver.

c) Remote control through RS232 interface.

d) Remote power on by DSR/DTR and CTS/RTS lines on the RS232 port.

e) Remote power on/turn off by DC voltage impulse or continuous DC voltage on CAT/AUX port ON_RMT input.

8-3. Storage and shipment

a) Environment conditions for storage and shipment:

- temperature range: -40ºC to +70ºC (-40ºF to 158ºF);

- relative air humidity: up to 75% @ 35ºC (95ºF);

- above sea-level: up to 12000m, including the luggage compartment of an aircraft.

b) Dimensions and weight at transportation (max): (W x H x D) 481 x 291 x 475 mm (18.94 x 11.46 x 18.70 In); 15kg (33 Lbs).

9. DISCLAIMER of LIABILITY

All ACOM 700S specifications and descriptions are based on the latest information available at the time of this document's printing. As we are always striving to improve and update our products, ALL PRODUCT, PRODUCT SPECIFICATIONS AND DATA ARE SUBJECT TO CHANGE and ACOM reserves the right to make changes and improvements at any time without further notice or obligation to notify any person or organization of such revisions or changes, made in order to improve the reliability, function, quality and design and/or performance of the ACOM 700S. Further, this Operating Manual is provided "as is" and ACOM shall not be liable for possible errors contained herein.

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