



## EXPERT 1K-FA 1KW LINEAR AMPLIFIER - QUICK START INSTRUCTIONS

**Note:** These QUICK START instructions will help you get up and running quickly with your SPE EXPERT 1K-FA linear amplifier. Included in these instructions are references to the appropriate sections in the 1K-FA User Manual for additional details should they be necessary. However, these instructions do not absolve you of the need to **read** and **understand** the User Manual. You can invalidate your warranty if you do not operate your amplifier properly.

### AMPLIFIER SET-UP

Before turning ON the amplifier for the first time, the following operations are necessary:

- 1) Read the manual!
- 2) Be sure that the amplifier is correctly set for the local mains voltage (Manual Section 7).
- 3) Connect the amplifier to the ground circuit (Manual Section 5)
- 4) Connect the antennas (Manual Section 6).
- 5) Connect the amplifier to the transceiver (Manual Sections 3 and 12). This requires at minimum connecting the RELAY and ALC cables between the amplifier and transceiver. To take advantage of the amplifier's full potential, it is advisable to connect the CAT interface as well (Manual section 2.3).

*Note: If ALC is not used, you must reduce your transmit drive power to 20 watts maximum before operating the amplifier.*

Turn ON [I] the main switch on back panel, and press the [ON] key on the front panel. Select the correct transceiver INPUT (1 or 2), and ensure the amplifier is in STANDBY prior to programming. If you change the INPUT or any of the antennas, you must repeat this programming.

*Note: Refer to your transceiver user manual to enable the amplifier keying output and the 'CAT' signal if necessary for your transceiver.*

*Note: Always disable the transceiver auto-ATU when the amplifier is ON (either in 'STANDBY' or 'OPERATE' modes).*

## Amplifier Programming

Carry out the following steps in sequence:

### A) Set Antenna (Manual Section 10)

- 1) Press [SET] and open the "ANTENNA" menu page.
- 2) Assign the desired antennas (max. 2) for each band. If you don't have an antenna for a band, input "NONE".
- 3) When all antennas are programmed, exit and return to STANDBY.

### B) Set CAT (Manual Section 10)

- 1) Press [SET] and enter the "CAT" menu page.
- 2) Select the transceiver brand
- 3) Select the type of connection between the amplifier and the transceiver (more details in Menu Section 12).
- 4) When programming is complete, exit and return to STANDBY.
- 5) To verify your programming selections, press the [CAT] key and all data stored will appear on the display.
- 6) To verify the correct "CAT" operation, press [SET] and select "MANUAL TUNE", While changing your transceiver VFO, you should see the amplifier frequency display follow. Then return to STANDBY.
- 7) In the same way, if "BAND CONTROL VOLTAGE" or "BAND DATA" are connected, check that the amplifier follows band changes at the transceiver. If it does not, verify that your programming (or your link) has been done correctly.

### C) Use of Automatic Tuner (Manual Section 8)

To complete amplifier programming, it is necessary to match the antennas to the amplifier by operating "TUNE". We recommend that you select each band with available antenna(s) and then program the tuner for any sub-bands in which you will operate. Refer to the table in Manual Section 19 to select the appropriate sub-bands for your operating preferences. Proceed as follows:

- 1) Find the central frequency of the sub-band to tune in the table (Manual Section 19) and set the transceiver to that frequency.
- 2) Transmit a continuous RTTY or CW signal from your transceiver.

**Note:** *If ALC is not used, reduce the transceiver power to 20 Watts maximum during this operation.*

- 3) Press the [TUNE] key on the amplifier. Automatic tuning will start and then stop when SWR is at a minimum. Sometimes it is possible to improve tuning by pressing the [TUNE] key again.
- 4) Repeat the previous steps for all bands and sub-bands you will be operating in.
- 5) Repeat all previous steps for any secondary antenna on the same band after selecting the secondary antenna with the [ANT] key.
- 6) All the previous steps must be repeated for both INPUTS (1 and 2).

**Note:** If ALC is not used, reduce the transceiver power to 20 Watts maximum before using the amplifier. Manually regulate your transmit drive power for the desired amplifier output (900 watts CW maximum).

**ATTENTION:** If you are using an external antenna tuner on one or more of the amplifier's antenna ports, proceed as follows for those antenna ports in order to avoid damage not covered by the SPE warranty:

- 1) Leave/restore the EXPERT's ATU to its default 50-ohm flat-tuned condition (manual SECTION 11.1) for any ports connected to an external antenna tuner.
- 2) For a MANUAL external antenna tuner, tune the manual antenna tuner with the amplifier in STANDBY, using just the exciter's power to tune for a low VSWR.
- 3) For an AUTOMATIC external antenna tuner, place the amplifier in STANDBY before initiating tuning with the external auto-tuner. The external auto-tuner should be placed in a semi-automatic mode so that it NEVER starts a tuning process unless the user can first take the amplifier off-line.
- 4) For any EXPERT antenna port or ports connected to an external antenna tuner, use the external antenna tuner ONLY from this point on.

**ATTENTION:** The EXPERT 1K-FA is an I.C.A.S. (Intermittent Commercial and Amateur Service) linear amplifier. Never stress, with an unnecessary test, the amplifier with long periods in key-down transmission.

For continuous duty cycle transmissions (RTTY, PSKxx, SSTV, FM, AM etc.) we recommend switching the power to HALF mode.

**You are ready to operate!**