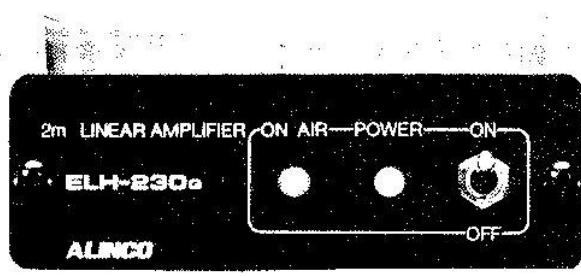


VHF HAND-HELD LINEAR AMPLIFIER

ELH-230G

INSTRUCTION MANUAL



 **ALINCO ELECTRONICS INC.,**

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■ Outline

ALINCO Model ELH-230G is a small type Linear Amplifier of high quality which is applicable to handy portable transceivers in range of 145MHz.

Designed compact to be set anywhere. Designed simple for basic function. It amplifies 1W – 3W Input Signal into 10W – 30W. Your transceiver is surely graded up with its high quality.

■ Features

1. This unit is applicable to all kinds of handy portable transceivers on the market. Transmission and reception conversion can be done with its unique sensitive carrier control system.
2. Equipped with Power Transistor 2SC2640 of high credibility, this unit ensures steady operation for long use.
3. Time Constant of carrier control can be converted SLOW or FAST. Select FAST for FM, SLOW for SSB. (Selected SLOW, when OFF, it is delayed for one second.)
4. Even less than 0.5W Input can be amplified by about 10dB.

■ USAGE

1. Connect as Fig. 1.

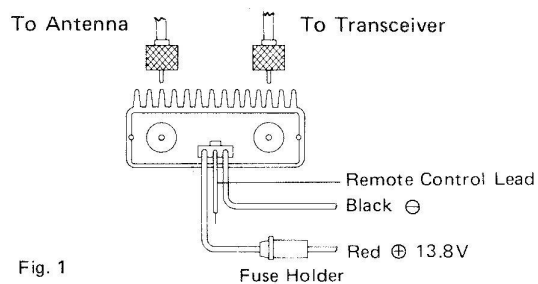
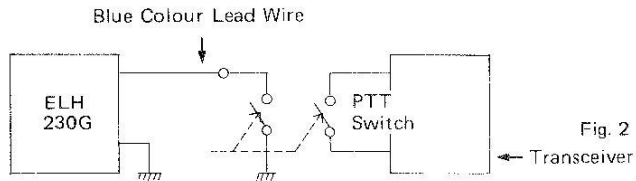


Fig. 1

2. See if power source and coaxial cable are correctly connected and then switch on. Make sure that when TX AMP is switched on, the Power Lamp and the On Air Lamp are lighted at the same time and the On Air Lamp soon goes out. If the power source is connected incorrectly, the protection circuit will operate automatically and blow the fuse. In case this happens, change the fuse, reconnect correctly and switch on.
3. Depending on the band, use the "FAST-SLOW" switch you can find on the bottom; FAST for AM, FM and SLOW for SSB, CW. When using remote control lead on the rear side, select FAST for all bands.
4. After switching on the power source of transceiver, put the PTT switch to ON. This should light the On Air Lamp, which shows that Linear Amplifier is

- operating.
5. Turn off the transceiver with the PTT switch, and the On Air Lamp will go out. Linear Amplifier will automatically stop operating. When the "FAST-SLOW" switch is set SLOW (SSB), it takes one second until the amplifier stops operating after putting the PTT switch to OFF.
 6. Equipped with sensitive carrier control circuit, this unit does not require other control circuits. But when using other control circuits, connect as Fig. 2.



■ **For Longer usage, please be careful to observe the following points:**

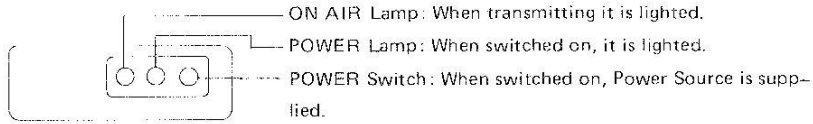
- 1) This unit is designed for 50Ω of Input & Output Impedance. Using the antenna with different impedance from 50Ω not only reduces the efficiency but also damages the dear power transistor. Be sure to use the antenna with the right impedance.
- 2) Before using, make sure that the SWR between this unit and the antenna is under 1.5. In case the SWR is over 1.5, be sure to reduce it by adjusting the antenna.
- 3) This unit is designed for the power source 12V (Rated). In case of mobile use, make sure that the voltage is not over 15V. Operation voltage of this unit is from 11V to 15V.
- 4) After transmission for more than five minutes, this unit becomes considerably warm. Do not use it in a place of bad ventilation, or it may shorten the transistor's life. Be careful not to set this unit near inflammable things such as gasoline.
- 5) Input power beyond rated would damage the transistor. Keep Input power below 3W.
- 6) Make sure that Input power to carrier control is not less than 0.1W.
- 7) When SSB is selected by carrier control, the On Air Lamp twinkles according to the volume, but this does not mean anything wrong.
- 8) Do not shock this unit with excessive power, or it may be damaged.
- 9) Do not remodel the circuit or others, or this unit may be damaged with no guarantee given.

■ **Rated**

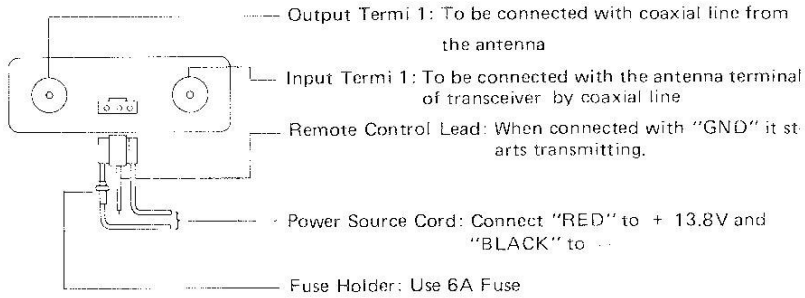
Frequency	144MHz – 146MHz
Band	FM, SSB, CW
Rated Voltage	13.8V DC (– earth)
Consuming current	When transmitting about 4.5A When receiving about 250mA
Transmitting Power	30W (at Input 3W)
Exciting Power	1W – 3W
Input-Output Impedance	50Ω
Input-Output Connector	M type
Accessory Function	● Carrier Control ● Protection against wrong connection of Power Source ● Carrier Control with Time Constant Convertible
Number of Used Semi-Conductors	● RF Power Transistor x 1 ● Transistor x 3 ● Diode x 6 ● LED x 2
Used Fuse	6A (φ6.4 x 30mm)
Accessories	● Instruction Manual x 1 ● Mounting Holder x 1 ● Spare Fuse x 1 ○ M3 Screw x 4 ● M4 Screw x 2 ● M4 Nut x 2 ● DC Cord x 1
Dimension	165(L) x 91(W) x 41(H)mm
Weight	About 495g (Body only)



(FRONT)



(BACK)



(BOTTOM)

