INSTRUCTION MANUAL

2 Meter Power Amplifier

Model HL—30V

TOKYO HY-POWER LABS., INC.

* General Information

Model HL-30V is a compact, light-weight, linear power amplifier designed especially for 144MHz band FM/SSB hand-held and portable transceivers. Boosting 0.5 – 3W input to 30W level, this amp can expand the service range of handie and portable radios. Since the entire aluminum cover act as a heat sink, this set is extremely thin and compact.

* Features

1. Matching almost all kinds of hand-held and portable transceivers of 0.5 to 3W output.
2. Rugged, VHF high gain, high power transistor, 2SC1946A is used for stable and reliable performance.

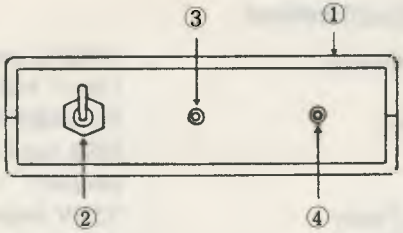
* Specifications

Frequency:	:	144MHz amateur band (144 – 148 MHz)
Mode	:	FM/SSB(CW) (SSB requires internal jumper)
DC Power	:	13.8V (negative ground)
DC Current	:	4A (max.)
Output Power	:	25W
RF Input	:	1W (0.5 – 3W)
Input/Output Impedances	:	50 ohms
Input/Output Connectors	:	SO-239
Accessory Circuits	:	COX (carrier operated T-R

		switch), Reverse Polarity Protection
Semiconductors Used	:	RF Power Transistor x 1 Other Transistors x 2 Diodes x 7 LED x 2
Fuse	:	5A (6.4ϕ x 30mm)
Accessories	:	Manual
Dimension	:	100(W) x 30(H) x 158(D) mm
Weight	:	Approx. 520g

* Explanation of features

Front Panel



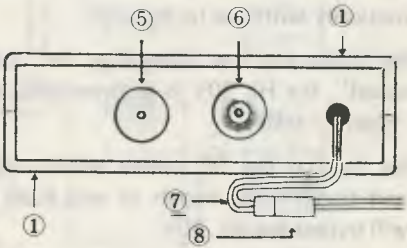
(1) Cover : Aluminum, act as a heat sink

(2) DC Power Switch : ON/OFF

(3) "POWER" Pilot Lamp: Red lamp indicates DC power is on.

(4) "ON AIR" Pilot Lamp: Green lamp indicates the amp is transmitting or on air.

Rear Panel



(5) "TX" Connector : Connect the cable from the transceiver

(6) "ANT" Connector : Connect antenna

(7) DC Power Leads : Red for positive, black for negative

(8) Fuse Holder : 5A

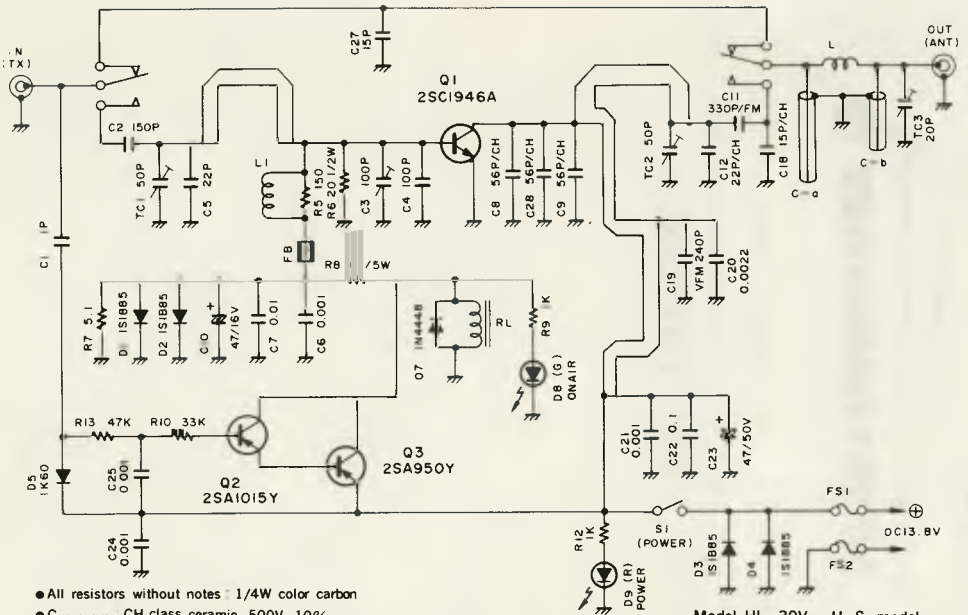
* Setting and Operation

1. Connect DC power leads to the DC power supply and/or the battery, red lead to the positive (+) terminal and the black one to the negative (-).
2. Using a coaxial jumper cable (50 ohm type), connect "TX(IN)" of the rear panel to the Antenna connector of the transceiver.
3. Connect the antenna cable to the "ANT(OUT)" at the rear panel.

4. The impedance condition of the antenna used (or SWR) must be checked to be 1.5 or less by using SWR meter.
5. Transmitting with transceiver, the HL-30V is automatically switched to transmit.
6. By operating the transceiver in "stand-by (or receive)", the HL-30V is automatically switched to the "receive" state.
7. By turning the DC power switch off, the receiving and transmitting signals to and from the transceiver will bypass the HL-30V.

* Caution

1. Nominal DC power supply voltage of HL-30V is 13.8V, and HL-30V is designed to work from 12V battery system. Please do not apply DC voltage over 15V, or the internal transistor circuitry will be destroyed.
2. Since high quality, precision components are used throughout, trimming of the internal parts is not required.
   Due to the precision tuning and spectrum analysis instrumentation needed to assure compliance with the applicable regulation, please do not adjust any portion or part of this device.



- All resistors without notes : 1/4W color carbon
- $C_{8,9,12,18,28}$: CH class ceramic, 500V, 10%
- R_6 : Carbon, • R_8 : Cement type
- Other capacitors without voltage notes : SL type ceramic 50V 10%

Model HL–30V(A), U. S. model

CIRCUIT DIAGRAM

ENCOMM, INC

2000 Avenue G, Suite800, Plano, Texas 75074

Phone : (214)423−0024

TOKYO HY-POWER LABS., INC.

1-1 Hatanaka 3-chome,Niiza,Saitama 352 JAPAN

Phone : 0484−81−1211

Printed in Japan

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