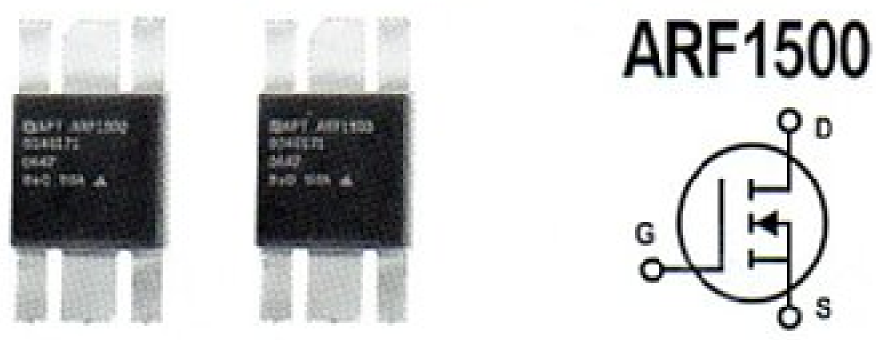
HL-2.5KFX

HF 1.5kW Linear Power Amplifier

Auto Band Set

RF POWER MOSFET



A pair of latest RF power MOS FET yields solid 1.5kW !

Features

- ■Lightest and most compact 1.5kW HF amplifier in the industry in its class.
- ■The amplifier's decoder changes bands automatically with most ICOM, Kenwood, Yaesu.
- ■The amp utilizes an advanced 16 bit MPU (microprocessor) to run the various high speed protection circuits such as overdrive, high antenna SWR, DC overvoltage, band miss-set etc.
- ■Built in power supply.
- ■AC 230V default (200/220/240V selectable).
- ■Equipped with a control cable connection socket, for the HC-1.5KAT, auto antenna tuner by Tokyo Hy-Power Labs.

Freq. Band	: 1.8 ~ 28MHz all HF amateur bands.
Operation Mode	: SSB, CW, (RTTY)
Exciting Power (RF Drive)	: 100W max.
Output Power (RF Out)	: 1.5kW min. SSB/CW (1.8kW PEP typ.) (1.2kW on 28MHz) : 1kW RTTY (5 minutes)
Auto Band Set	: With most ICOM, Yaesu, Kenwood Radios
Antenna Tuner	: Compatible with external Tokyo Hy-Power HC-1.5KAT
Drain Voltage	: DC 120V (with no RF excitation)
Drain Current	: 30A max.
Input/Output Impedances	: 50 Ω (unbalanced)
Input/Output Connectors	: SO-239 (M-J)
RF Power Transistors	: ARF 1500 × 2
Class of Operation	: Class AB, Push-Pull circuit
AC Power	: AC 200/220/230V/240V (50/60Hz, single phase), Consumption : 3,000VA max. at peak
Built-in Meters	: RF Output (Pf) : 2.5kW F.S. Multi-meter : Reflected RF (Pr) : 250W : Drain Voltage : Vd 150V : Drain Current : Id 40A
Cooling Method	: Forced air cooling
Antenna Relay	: QSK (Full break-in compatible)
Dimension	: 12.8 × 5.7 × 15.9 inches (W×H×D)
Weight	: Approx. 57.3 lbs.

HC-1.5KAT

HF 1.5kW Auto Antenna Tuner

Freq. Range	: 1.8 ~ 29.7 MHz
Output Impedance Range	: 12.5 ~ 200 Ω
	: Reduced range at lower band edges
Maximum Handling Power	: 1.5kW (P.E.P. / CW) : RTTY 1kW
Input Impedance	: 50 Ω
Tuning Power	: 50 W (80 W max.)
Tuning Time	: 1 sec. (typ.)
	2.5 sec. (max.) : Under typical worst SWR condition
	4.0 sec. (max.) : Under absolute worst SWR condition
DC Power Voltage	: DC 12 V ~ 14 V
	: From External AC adaptor
Current Drain	: 1.5 A max.
Quiescent Current	: 0.7 A
DC Power Polarity	: Negative ground
Display	: LCD Module : 16 characters × 2 rows
Operating Temp. Range	: −10 deg. to +40 deg. C
VSWR (Max.)	: 1.5 (typ.) or lower after tuning.
Circuit Type	: T-shaped network
Driving Motors	: Stepping Motors for Two Air Variable
	: 0.25 deg. resolution / step
L Changes	: Relays to short
Matching Algorythm	: Analog Control with MPU
	: Phase and IZI Magnitude Detected
Dimension	: Approx. 8 × 5.6 × 12 inches (W×H×D)
Weight	: Approx. 11 lbs.
Input Connector	: SO-239 (UHF)
Output Connectors	: Three SO-239's
Cooling	: Partial air forced cooling with fan.
Accessories	: DC power cable, 3.5mm dia. plug. Band Control Cable with DIN 7 pin plugs.

Features

- HC-1.5KAT is a high power HF auto antenna tuner designed to work with Tokyo Hy-Power HL-1.5KFX and HL-2.5KFX linear amplifiers.
- When combined with these THP amplifiers, the band change is automatically made through the band data signal from the radio and the amplifier. It also works with other amplifiers as well, if band setting only is made in manual mode,
- Tuning time is typically within one second and 2.5 sec. max. in the worst case. It handles maximum power of 1.5kW pep/cw when the intrinsic antenna SWR is no more than 2.0
- Maximum impedance matching range is SWR of 4 to 1, and there are three antenna connectors.
- Two of high quality 3kV rating 200pF air variable capacitors are employed to form a " T " match circuit being driven by high speed stepping motors.
- Our own tuning algorithm together with an advanced 16 bit micro-processor enables an extremely fast tuning.

HL-1.5KFX

HF/50MHz Linear Power Amplifier

Auto Band Set

This compact and lightweight 1kW desktop HF/50MHz linear power amplifier has a maximum input power of 1.75 kW. Our solid-state broadband power amp technology makes it **the smallest and lightest self-contained amplifier in the industry in its class**.

Typical output power is 1kW PEP/SSB on HF and 650W on 6m band with the drive power of 85-90W. Bands set automatically with the **built-in band decoder**. You can forget about the band setting when the amplifier is connected to your modern radio through **supplied band data cables for ICOM CI-V, DC voltage (ICOM, Yaesu), and RS-232C (Kenwood)**. Manual band setting selectable as well.

All these data cables are included with the amplifier.

Freq. Band	: 1.8 ~ 28 MHz and 50 MHz (including all WARC bands.)
Mode	: SSB, CW, RTTY
Output	: 1kW max SSB/900 W CW HF, 650 W/50 MHz
Drive	: 80 ~ 95 W (100 W max.)
OTHERS	: Hard key/STBY control circuit. ALC output, Wide AC line voltages.
AC Power	: 100/110/115/120 V, 200/220/230/240 V 1900 VA max.
Dimension & Weight	: 10.7×5.6×14.3 inch (W×H×D), Approx. 45.5 lbs.

Features

- Lightest and most compact 1kW HF amplifier in the industry.
- The amplifier's decoder changes bands automatically with most ICOM, Kenwood, Yaesu.
- The amp utilizes an advanced 16 bit MPU (microprocessor) to run the various high speed protection circuils such as overdrive, high antenna SWR, DC overvoltage, band miss-set etc.
- Built in power supply.
- AC 230V (200/220/240V) default and AC 115V, (100/110/120V) (selectable)
- Equipped with a control cable connection socket, for the HC-1.5KAT, auto antenna tuner by Tokyo Hy-Power Labs.
- Two antenna ports selectable from front panel.
- Great for desktop or DXpedition !
- Full Break-in (QSK)

HL-550FX (FCC approval is pending.)

HF/50MHz 600W Linear Power Amplifier Weighing only 20.3lbs. !

NEW

Freq.	: 1.8～50 MHz all HF amateur bands including WARC bands
Mode	: SSB, CW, RTTY
RF Drive	: 65～90W
Output Power	: SSB 600W PEP max. CW 550W. RTTY 500W (5 minutes)
Final Transistor	: VRF 150 × 4 (MOS FET by Microsemi)
Circuit	: Class AB parallel push-pull
Cooling Method	: Forced Air Cooling
Multi-Meter	: Output Pf 1kW, Reflected Power 100W, Drain Voltage Vd 60V, Drain Current Id 50A
Input/Output Connectors	: Type M-J (UHF SO-239)
AC Power	: 1.4 kVA max. when TX AC 100～250V (Auto Select)
Dimension	: 9.1×5.7×15.4 inches (W×H×D)
Weight	: Approx. 20.3 lbs.

Features

- Our solid-state broadband design engineers worked to make the HL-550FX, the lightest and most compact 600W HF amplifier in the industry. This world-class compact HF amplifier has the built-in switching mode power supply to save the weight.
- The amplifier's main PA section includes 4 high power MOS FET VRF150's by Microsemi, resulting in 600W PEP (SSB max.) on HF. The amplifier's broadband characteristics require no further tuning once the operating band is selected.
- The amplifier allows operation in full break-in CW mode due to the use of the amplifier's high speed antenna relays (made by Panasonic/Matsushita).
- With the unique duct structure design and the powerful blower fan, the aluminum heat sink block for RF PA module (and other components), are effectively cooled. The fan's quiet operation allows for even the weakest DX signals to be heard.
- The amp utilizes a sophisticated circuit to run the various high speed protection circuits such as overdrive, high antenna SWR, DC overvoltage, band miss-set etc.
- This amplifier is compatible with wide AC line of 100 to 250V, and is best suited for DX peditioners.
- For the safety of the operator, an Interlock system is employed. The AC power is shut down if the top cover is removed, and the automated safety interlock is activated.
- An analog multimeter allows the operator to monitor Pf (Forward output power), Pr (Reflected power), Vd (Drain voltage of power FET), Id (Drain current) etc.

HL-1.2KFX

HF 750W Linear Power Amplifier

Freq.	: 1.8～28 MHz all HF amateur bands including WARC bands
Mode	: SSB, CW, RTTY
RF Drive	: 75～90W
Output Power	: SSB 750W PEP max. CW 650W. RTTY 400W
Final Transistor	: SD 2933 × 4 (MOS FET by ST micro)
Circuit	: Class AB parallel push-pull
Cooling Method	: Forced Air Cooling
Multi-Meter	: Output Pf 1kW, Reflected Power 100W, Drain Voltage Vd 60V, Drain Current Id 50A
Input/Output Connectors	: Type M-J (UHF SO-239)
AC Power	: 1.4 kVA max. when TX AC 100/110/115/120V, AC 200/220/230/240V
Dimension	: 9.1×5.6×14.3 inches (W×H×D)
Weight	: Approx. 33 lbs.

Features

- Our solid-state broadband design engineers worked to make the HL-1.2KFX, the lightest and most compact quasi 1kW HF amplifier in the industry. This world-class compact 750W HF amplifier is the easiest to handle and operate.
- The amplifier's main PA section includes 4 high power MOS FET SD2933's by ST Micro, resulting in 750W PEP (SSB max.) on HF. The amplifier's broadband characteristics require no further tuning once the operating band is selected.
- The amplifier allows operation in full break-in CW mode due to the use of the amplifier's high speed antenna relays (made by Panasonic/Matsushita).
- With the unique duct structure design and the powerful blower fan, the aluminum heat sink block for RF PA module (and other components), are effectively cooled. The fan's quiet operation allows for even the weakest DX signals to be heard.
- The amp utilizes a sophisticated circuit to run the various high speed protection circuits such as overdrive, high antenna SWR, DC overvoltage, band miss-set etc.
- This amplifier is compatible with both AC 230V (200/220/240V included) and AC 115V (100/110/120V included). See the illustration in the AC Power Section for changing primary wiring of the power transformer.
- For the safety of the operator, an Interlock system is employed. The AC power is shut down if the top cover is removed, and the automated safety interlock is activated.
- An analog multimeter allows the operator to monitor Pf (Forward output power), Pr (Reflected power), Vd (Drain voltage of power FET), Id (Drain current) etc.

HL-450B

HF 400W Linear Power Amplifier

Features

- The HL-450B has a built-in auto band-select function. It uses a newly developed micro processor based technology, and works a smooth automatic operation when driven by the radio. In addition, manual band setting is possible as well. It is designed to be "user friendly".
- Since the HL-450B is compatible with our optional external remote controller (HRC-60), operation is possible from remote locations, if plugged into the socket at the rear panel.
- The HL-450B is equipped with a hard-key terminal to make a smooth send/receive switching with the radio, and also an output terminal for ALC circuit which controls the output of the radio. ALC helps suppress excessive output and avoid the signal distortion.
- The HL-450B has various protection circuits such as for high antenna SWR, over drive, over current etc. When any abnormal condition is detected, operation is automatically shut down to prevent the failure.
- The large analog power meter is easy to read and the output can always be monitored.
- HP-450, matching DC power supply is available.

Freq.	: All HF amateur bands of 3.5~28 MHz including WARC bands.
Mode	: SSB (A3E), CW (A1A), FM (F3E)
Output	: SSB (PEP) / CW 400 W max., 350 W typ., 300 W min.
RF Input	: 50 W
DC Power Supply	: DC 13.8 V 60 A max.
Input/Output	: 50 Ω
Final Transistor	: THP-120 × 4
Cooling System	: Forced-air cooling
Input/Output Connector	: UHF (SO-239)
Built-in functions	: 1. Send/receive switching terminal (hard key) 2. Protection circuit (antenna SWR, over-current, over-voltage, over-drive, over-temperature, band mis-set) 3. Output power meter 4. ALC terminal 5. External controller (HRC-60, optional parts) terminal
Accessories	: DC power cord (red/black pair) 6'×1 Coaxial jumper cable : 2'×1 Stand-by cable (with RCA plug) 4'×1 Spare fuses : 30 A×4 Instruction manual, warranty card
Dimension	: 8.7×3.5×13 inches (W×H×D)
Weight	: Approx. 11lbs.

HL-45B

HF 45W Linear Power Amplifier

Features

- The HL-45B has a built-in auto band-select function when combined with Yaesu FT-817 QRP radio. It uses a newly developed micro processor based technology, and works a smooth automatic operation when driven by 817. In addition, manual band setting is possible as well.
- The HL-45B is equipped with a hard-key terminal to make a smooth send/receive switching with the radio, and also an output terminal for ALC circuit which controls the output of the radio. ALC helps suppress excessive output and avoid the signal distortion.
- The HL-45B has various protection circuits such as for over drive, over voltage etc.
  When any abnormal condition is detected, operation is automatically shut down to prevent the failure.

Freq.	: All HF amateur bands of 1.8~28 / 50 MHz including WARC bands.
Mode	: SSB (A3E), CW (A1A), FM (F3E)
Output	: SSB (PEP) / CW 45 W max.,
RF Input	: 5 W
DC Power Supply	: DC 13.8 V 8.5 A max.
Input/Output	: 50 Ω
Final Transistor	: RD 30 HVF1 × 2
Cooling System	: Natural Air Flow
Input/Output Connector	: UHF (SO-239)
Built-in functions	: 1. Send/receive switching terminal (hard key) 2. Protection circuit (over-voltage, over-drive) 3. Output power meter (LED) 4. ALC terminal 5. Auto Band-set (with FT-817)
Accessories	: DC power cord (red/black pair) ×1 Coaxial jumper cable : 2'×1 Control cable for FT-817×1 Spare fuses : 10 A Instruction manual, warranty card
Dimension	: 5.9×1.9×8.3 inches (W×H×D)
Weight	: Approx. 3.4lbs.

HL-350V$_{DX}$

VHF 330W Amplifier

Features

144 MHz band 330W amp for RF drive of 10W, 25W, and 50W. Multimeter for power out, auto-SWR, DC line voltage etc. GaAs Low noise RX pre-amp included.

Freq. Band : 144～148 MHz amateur band.
Mode : FM/SSB
DC Power : 13.8 V 48 A max. (negative ground.)
RF Out : 330 W max.
RF Drive : 10 W/25 W/50 W (Manual select)
In/Out Connectors : SO-239
Others : Low noise RX pre-amp., Meter for RF out, auto SWR etc. Protection for DC reverse polarity, high SWR etc. Terminal for remote controller (HRC-60).
Dimension & Weight : 9.6×3.9×14 inch (W×H×D), Approx. 12.5 lbs

HL-500V

(FCC approval is pending.)

VHF 500W Amplifier

Freq. : VHF 2m Band (144～148 MHz Amateur Band)
Mode : SSB, CW, FM
RF Drive Power : 20W and/or 50 W (Switch selectable)
RF Output Power : 500 W
In/Out Impedance (Zin/out) : 50 Ω (unbalanced)
Final RF Power Transistor : MRF 151G × 2 (by Motorola, M/A COM.)
Amp. Circuitry : Class AB Parallel Push-pull
Accessory Circuits : ① Meterings for Pf & Pr
② RF key circuit (Carrier operated send/receive switch)
③ Protection circuits (for antenna open/short, over current/Idc, PA unbalance, over drive, over heat)
AC Power : AC 100 V～240 V (Auto select), 1.2 kVA max.
In/Out connectors : Type N
Dimensions : 13.6×5.7×15.4 inches (W×H×D)
Weight : Approx. 33 lbs.
Accessory Parts : Coax Jumper Cable (69 cm) × 1
RCA plug × 2
Spare fuses 25 A × 1, 2 A × 1
AC power cord × 1
Cooling Method : Forced Air with Book Fan

Features

- HL-500V is a solid-state VHF/144 MHz band linear power amplifier with the maximum output power of 500W. Switching type AC to DC power supply is built in. It is great for 2m DX communications as well as EME QSO.
- AC voltage is automatically selected between AC 100V and 240V. No rewiring of AC primary voltage is required, if you change operating AC line voltage. Only the AC plug change is needed to fit your particular operating location.
- A pair of the latest RF MOS FET, MRF 151G's, designed by Motorola, are used at the power amp stage to achieve a stable output of 500W max. Broad band design has eliminated the troublesome tuning operation as is needed with a tube type linear amplifier. Turn the AC power switch and you will be on the air. With the duct structure for cooling air flow, an ideal cooling effect has been achieved.
- RF key circuitry is built in. When the RF driving power is detected, the amp will be automatically keyed. Also the STBY (stand-by) terminal is located at the rear panel with which the amp is keyed through the radio.
- Various protection circuits have been built in such as for power supply, antenna, RF power amp board etc. for the safety.
- A large analog meter monitors the forward and reflected power always.

World Class Tuning Speed !

HC-200AT

HF / 50MHz 200W Auto Antenna Tuner

HC-200AT works with variety of antennas such as short whip, vertical, half lamda dipole, random length dipole with ladder type open feeder and so on.
Tunes with lightning speed of one second and a half (typ*1) or 4 sec. max. *2 in the frequency range of 1.8～54MHz.
0.2 sec for memory mode. (*1 for SWR of 3.5:1 , *2 for SWR of 10:1)
Works with any HF/6m radio with output of up to 200W.
16 bit micro computer controlled LC network tunes for wide range of antenna impedances (5～500Ω for 3.5～54MHz, 15～500Ω for 1.8MHz)
Tunes random length long wire antenna of 25 feet minimum in the frequency range of 7～54MHz. (83 feet min. required for 1.8MHz operation)
Large analog SWR meter automatically displays SWR status. Ten memory channels to store ten latest tuning status.
Two channel coax antenna terminals and one wire antenna port.

Freq. Range	: 1.8～54 MHz
Impedance Range	: 5～500Ω (3.5～54MHz) 15～500Ω (1.8MHz)
Handling Power	: 200 W max. PEP/CW
Input Impedance	: 50Ω (SO-239)
Output Connectors	: Two SO-239's and one wire antenna terminal
Tuning Time	: 1.5 sec (typ.), 4 sec max, 0.2 sec for memory tuning mode
DC Power	: 12～14 V 0.8 A max. 0.1 A after tuning is finished.
Dimension & Weight	: 7.7 × 2.4 × 9.5 inches (W×H×D), Approx. 2.3 lbs.
Optional Parts	: Radio Interface Cable (ICOM) HTC-100 AT/ICOM5 (17ft.) and / ICOM10 (33ft.)
Balun for open feeder HBL-100	: 1 : 4 balun for balanced feeder antenna.

HP-460

Matching 60A DC Power Supply for HL-450B as well as HL-350VDX.
Light weight design due to switching mode operating system.

- Best suited for feeding DC 13.8V / 60A of power to radio equipment to be operated at home and base station.
- Over-current protection circuit will work to decline both output voltage and current to avoid damage of the power supply, when load current exceeds the maximum limit.
- Designed to be free from RF intrusion that makes operation instable.
- Voltage drop across the output DC cables can be cancelled, when REMOTE Sensing terminal is used.

AC Input	: AC 90～132 V (50 / 60Hz) (Auto Select)
DC Output	: DC 13.8 V, 60 A max (8 hours continuous) (DC voltage adjustable for 1～15 V)
Output Regulation	: Within 2 % at rated maximum condition of 13.8 V / 60A
Ripple	: 5 mV max RMS at 13.8 V / 60A load
Fuse	: 20 A
Cooling	: Forced Air Cooling
Dimension & Weight	: 8.3 × 4.3 × 15 inches (W×H×D), Approx. 13 lbs.

TOKYO HY-POWER

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