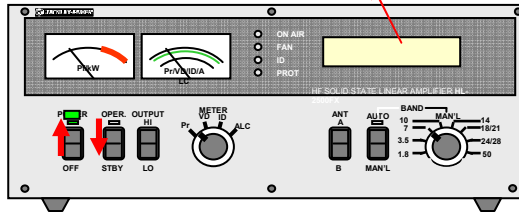


9 Operation

9-A Quick Learning / About Status Modes

1) STBY (Stand-by) Mode

1.8MHz AUT-CIV ANT-A
STBY Temp35C OUT_Hi

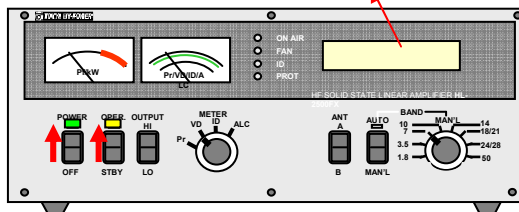


There are four operation status modes of STBY, OPER, ON-AIR, and PROT.

This is a status when POWER switch is only turned on. RF path is in THRU (or by-pass), and DC supply to FET drain is shut down. You may change BAND and other settings at this state.

2) OPER (Operate) Mode

1.8MHz AUT-CIV ANT-A
OPER Temp35C OUT_Hi



This is a status when POWER switch is turned on, and OPER/STBY switch is tuned to OPER. RF path is in THRU, and amp is turned into ON-AIR, as the radio's PTT is switched on. You may change BAND setting at this state.

CAUTION

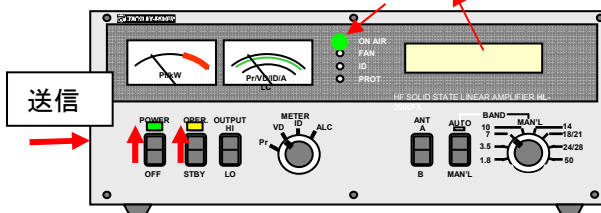
For your safety, the amp can not start up, if POWER switch is at OPER. Display below will appear.

PSE STBY OPERSW!

Turn to STBY once and turn to OPER again for reset.

3) ON-AIR(On-Air) Mode

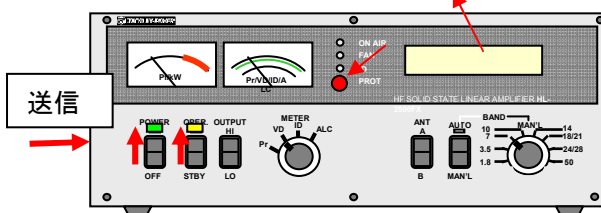
1.8MHz AUT-CIV ANT-A
ONAR Temp35C OUT_Hi



This is a status when transceiver's PTT is switched on, while POWER is turned on and OPER/STBY switch is turned to OPER. The amp is ready to amplify the driving signal from the transceiver. You may not change BAND and other setting at this state.

4) PROT (Protection) Mode

1.8MHz AUT-CIV ANT-A
PROT Over Heat



This is a status when PROTECTION circuit has tripped to shut off the amplifier. RF path becomes THRU, and internal circuitry may be shut down according to kinds of protections. Detailed explanation will follow.

9-B Quick Learning / About Basic Signs On LCD and LED Lamps

1) CB Band Inhibit

With ICOM, KENWOOD

EXCDMHz AUT-CIV ANT-A
STBY Temp35C OUT_Hi

The amp will shut down the transmission when driving signal of 26,000 through 27,999 (CB band) is detected due to FCC rule. When combining with ICOM and Kenwood radios, frequency data of operation is passed to CPU, even at RX state, to prohibit the transmission. **EXCDMHz** Is signed on LCD. (Freq. exceeded)

With YAESU, Manual Band Set, Frequency Count Band Set

28 MHz AUT-YAE ANT-A
PROT INHIBIT FREQ

When with Yaesu Radio, and with manual band set and freq. count band set methods, the amp transmission will be shut down when at TX

PROT INHIBIT FREQ will appear on LCD.

2) OPER. MODE Switch

LCD message

PSE STBY OPERSW!

The amp will be shut down, if POWER switch is turned on, while OPER/STBY is set at OPER. **PSE STBY OPERSW!** To reset, switch OPER. off and on. This is to avoid unintended sudden transmission, for your safety

3) TRACK Sign

3.5 MHz AUT-CIV ANT-A
TRCK Temp35C OUT_Hi

TRACK (Tracking) sign will appear, when the BAND changes , for a short period of 0.2 sec. This indicates that band frequency data is being sent over to combined auto tuner.

4) ID Lamp

- ON AIR
- FAN
- ID
- PROT

ID lamp lights when FET drain currents exceeds 55A, and is a kind of peak current indicator. It is not a problem, if it lights only at a voice peak (SSB).

5) FAN Lamp

- ON AIR
- FAN
- ID
- PROT

The cooling speed changes in proportion to the variation of internal temperature. As the ONAIR time gets longer , It is normal if fan noise sounds louder and FAN lamp to light brighter.

9-C Quick Learning / About TX Trial

We recommend for you to run a trial operation, at first, under the Manual Band Set mode (without band data cable connected to radio). With this trial, you can check if antenna, cables, and AC power line are in a proper condition. In case you encounter any trouble under Auto Band Set connection, later, you could return to this trial mode to see where the cause of trouble is.

1) Setting Before Power ON

Front Panel

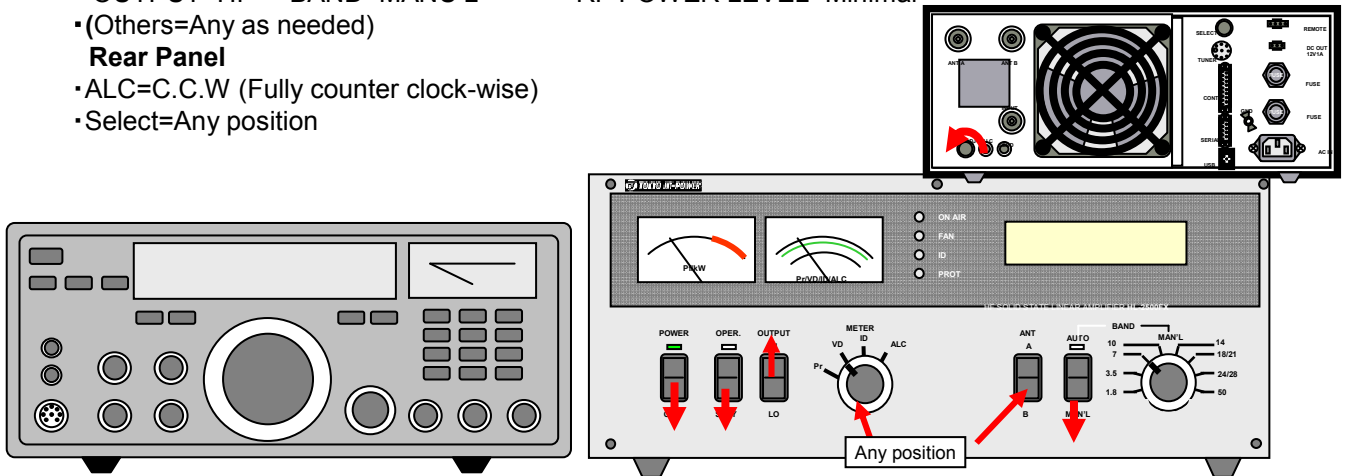
- POWER=OFF
- OPER=OFF (STBY)
- OUTPUT=HI
- BAND=MANU'L
- (Others=Any as needed)

Rear Panel

- ALC=C.C.W (Fully counter clock-wise)
- Select=Any position

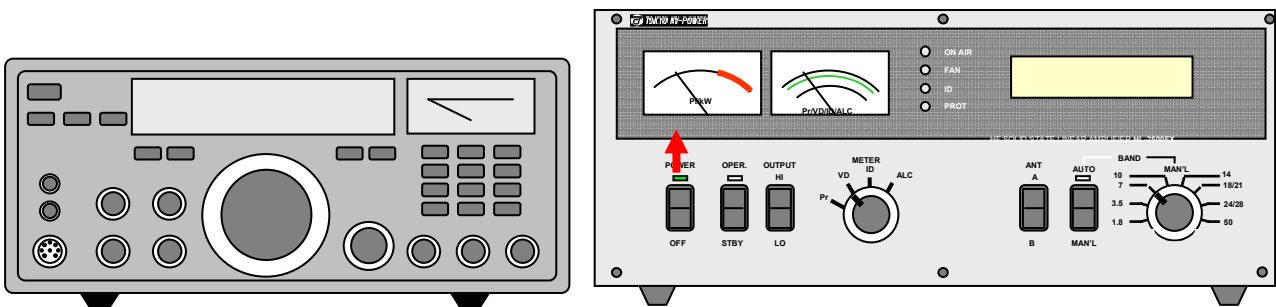
Transceiver

- Mode=CW (or RTTY)
- RF POWER LEVEL=Minimal

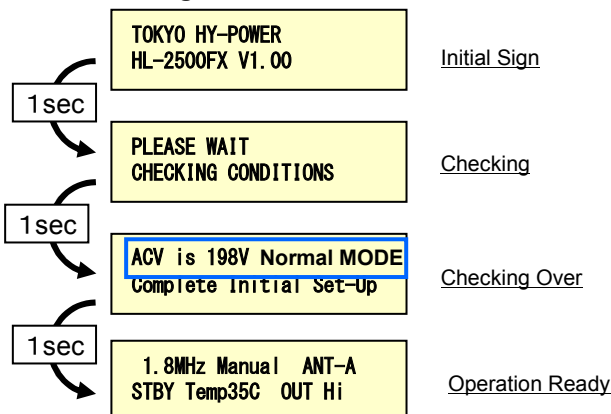


2) Powering ON

Turn the POWER on and the amp will start to execute initial self-check, Following messages will appear on LCD until status reaches normal operation mode.



Signs



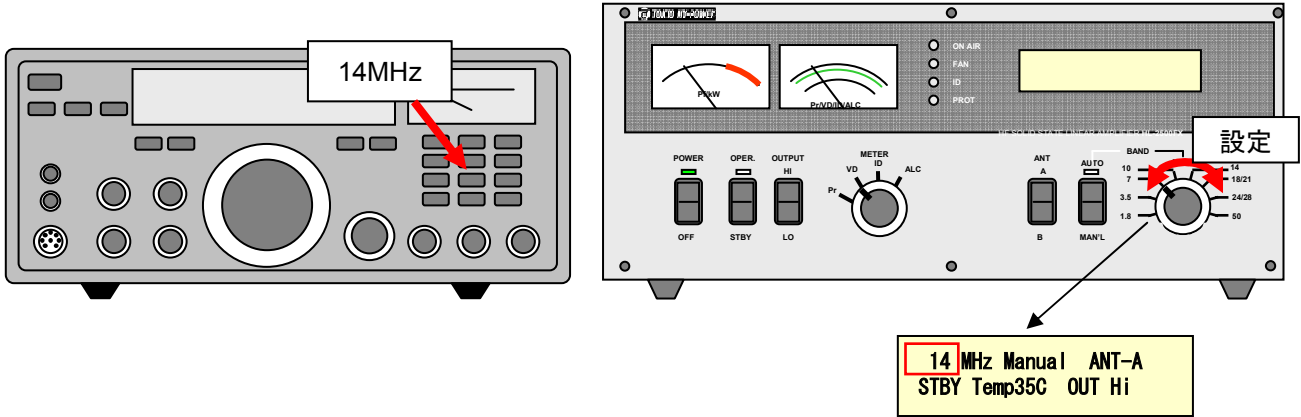
NOTE

After turning POWER switch on, MPU chip will check to see if AC line voltage is usable for the amplifier.

9—C Quick Learning / About TX Trial

3) Band Setting

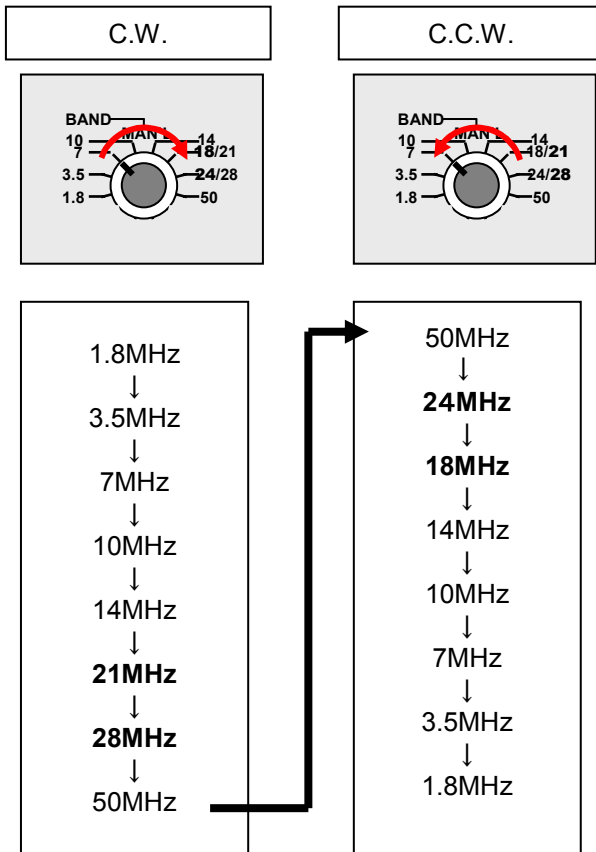
Set the freq. BAND as desired for both transceiver and HL-2500FX.
(Ex.: 14MHz)



NOTICE

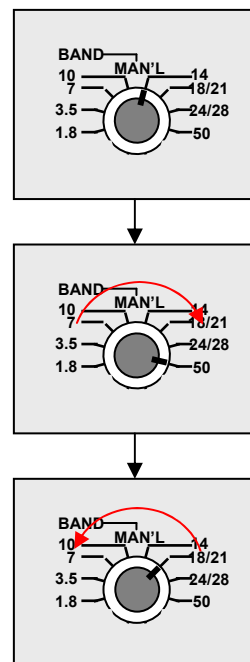
When the BAND switch is turned under Man'l Set mode, selected BAND will shift as follows:

- If turned clock-wise, BAND will shift in the order of 14⇒21⇒28⇒50MHz.
- And if BAND is turned back, counter clock-wise, BAND will shift in the order of 50⇒24⇒18⇒14MHz.



Example

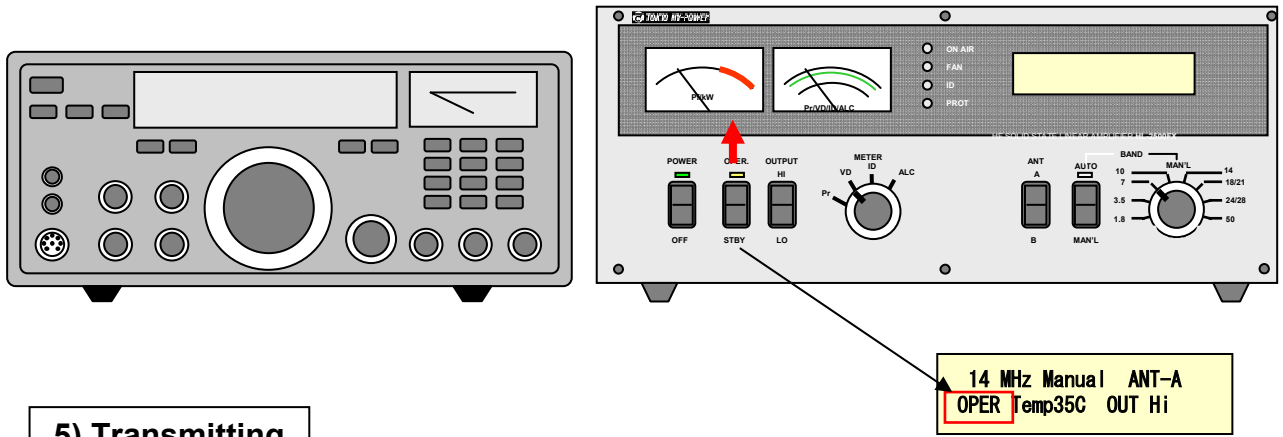
If you are shifting up from 14 to 18, you have to turn to 24/28 once, and then turn back to 18/21.



9-C Quick Learning / About TX Trial

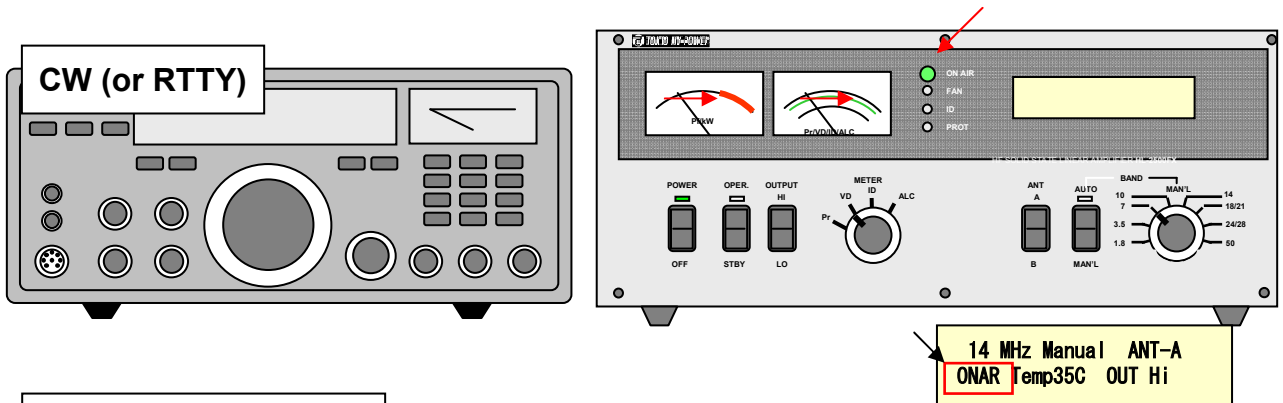
4) Switching to OPER

At OPER. (Operate Mode) status, the amp is ready to run together with combined transceiver.



5) Transmitting

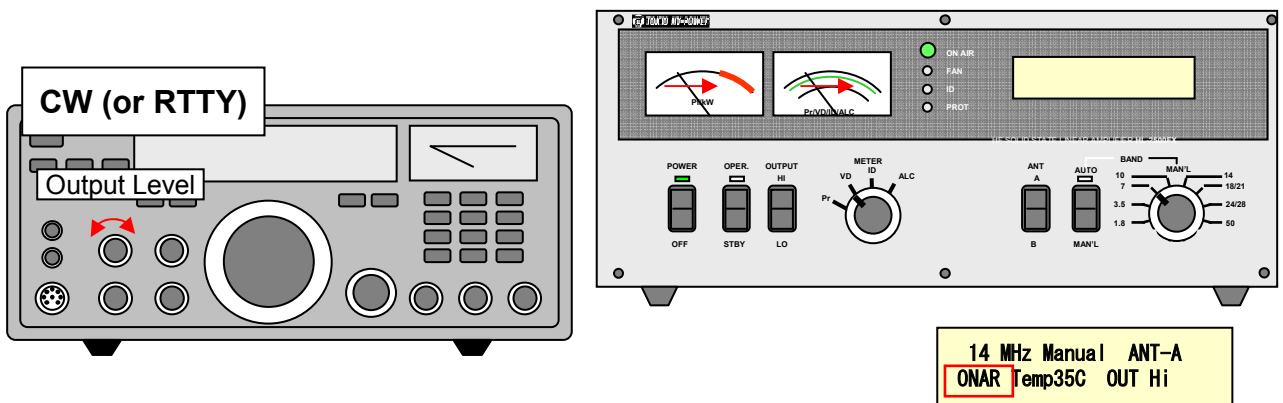
Key (RTT) the transceiver with CW (or RTTY) carrier. The amp is driven to transmit.



6) Increasing Output

Adjusting the knob of transceiver 's RF LEVEL, increase output level to desired value. (1,500W is maximum limit on HF, and 1,000W on 50MHz.

Observe reflection from antenna and RFI (interference) to nearby home appliance. Insert multiple number of clamp-on ferrite cores respectively to every coax cable s as well as various control and grounding cables around the amp and the transceiver.



9-C Quick Learning / About ALC Adjustment

7) ALC Adjustment

ALC helps the amp keep its output power at desired level. ALC is effective to avoid overdriving of the amp, especially when high power transceiver is combined.

When adjusting ALC, use a dummy load of 2kW capacity, and /or a good antenna with SWR of 1:1 or less.

- ① "ALC ADJ" pot should be, at first, turned fully counter clock-wise.
- ② Select desired freq. band and CW (or RTTY) mode.
- ③ Increase the driving power from the radio so that required output power is achieved from the amp.
- ④ Carefully increase further the drive until five to ten percent increase is obtained for output.
- ⑤ Turn "ALC ADJ" pot clock-wise carefully so that output gradually decreases, to reach desired level.

(For more details, see "Hints and Tips of ALC, www.tokyohypower.com)

