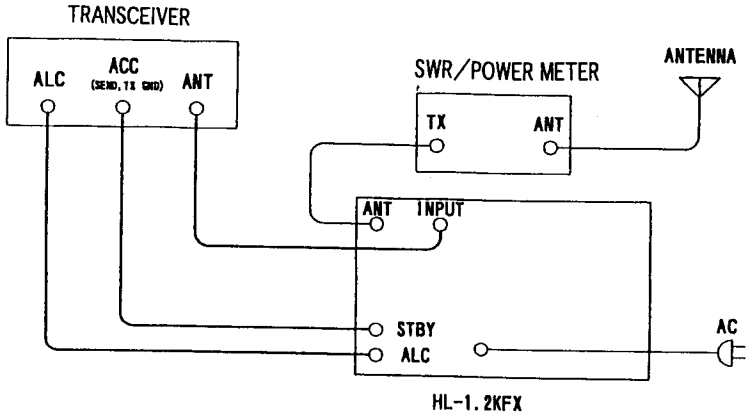
7. Connection & Operation

This section explains a one-antenna system connected to the transceiver and an external SWR/POWER meter



7-1 Connect AC cord and coax cables as illustrated above. Connect the cable from "SEND" to ACC or the remote terminals of transceiver, where it is marked "SEND" or "TX GND". These terminal pins are shorted to ground when the transceiver is in TX/ON AIR mode. If these connections are not made, the amplifier will not go into TX (amplification) mode. For a temporary check to the amp, ground the SEND center pin by inserting an RCA plug whose center pin has been soldered to the outer case of the plug with a small piece of wire.

7-2 At first, turn the ALC knob full clockwise to avoid ALC voltage to the transceiver. Application of ALC will be covered in the following section 8.

7-3 Keeping the POWER (AC mains) switch off, check the SWR of your antenna by keying the transceiver to TX mode (CW or RTTY mode). Monitor the SWR with an external SWR/Power meter. If SWR is 1.8 or higher at band center, the antenna has to be adjusted for lower SWR.. As an alternative, an antenna tuner may be inserted.

7-4 Turn the POWER switch on. Turn the BAND switch to a desired operating frequency band. Turn the STAND-BY switch to OPER (operate) position and the amplifier is ready to go. If you key the transceiver with the carrier level set relatively low (such as 20-30W), you will achieve an amplified output signal of a few hundreds watts. Monitor this output with the multimeter in the (Pf position) or with an external power meter. Increase drive level to roughly 50W and see if the antenna SWR stays constant. (As higher RF currents flow, some antennas may show a changed SWR value due to heated connector junctions and trap coils.)

7-5 You can now increase the drive level to nearly 80-90W to achieve maximum carrier output power of 630W (CW, RTTY) from the amplifier. If you change to SSB mode, peak voice power will reach approximately 750W. For high duty cycle transmissions like RTTY, SSTV, or FM modes, it is recommended you reduce the drive power by 30-40% compared with SSB/CW. In AM mode, the drive power should be strictly reduced to one third of SSB, or 30W at most, otherwise modulated amplitude peaks will be distorted.

7-6 With a high power transceiver in SSB mode, you can overdrive the amplifier resulting in a distorted output signal. This can also occur if you speak too loud or if you set the microphone gain too high. Speak into the microphone properly to reduce the possibilities of splattering into the neighborhood. The ALC is effective in preventing the output signal from being distorted or to limit the carrier level to within rated output levels. As long as you do not overdrive, you can disregard the ALC connection. See Section 8, ALC CONNECTION for details.

7-7 Protection circuits may work during operation depending on the conditions. If the protection circuit has shut down the amplifier, check the antenna SWR, Vd , AC line voltage, or try to reduce the drive level. To reset, turn off the POWER switch once, then back on again. The power transformer has an overheat protection in the coil layer. If this temperature switch activates, the amplifier will put you in receive mode with the cooling fan operating until the transformer has cooled off. It may take ten to fifteen minutes to cool, depending upon room temperature. For more details on this protection circuit, see Section 9.