

PRELIMINARY INSTRUCTIONS, ATLAS MODEL 210X/215X

Your new Atlas transceiver is very simple to install and operate. It required little more than connection to a 12-14 volt DC source, an antenna, and plugging in a microphone. However, the following notes are important, so please read them carefully before turning on the rig.

(1) Polarity of the 12-14 volt DC supply is extremely important. Reverse polarity will quickly (and silently) destroy most of the transistors. You need not be concerned about accidental reverse connection if: (a) You are using the Atlas DC cable with fuse or circuit breaker, or (b) the Atlas plug-in mobile kit. These are automatically protected by a heavy duty diode which will blow the fuse or trip the circuit breaker if the wrong polarity is applied. But, if you are not using either of the above, and are making your own connections, be extremely careful about polarity.

The negative battery terminal must connect to the transceiver chassis. This is done by plugging the male banana plug into the female jack labeled "NEG. GND." on the back of the transceiver.

The positive battery terminal must connect to the two male banana plugs protruding from the back of the transceiver and labeled "+12/14V". The two banana jacks that will be used for the positive connection must be connected in parallel,, as illustrated on page 12 of the Instruction Manual.

(2) It is very important that the antenna used with your Atlas transceiver presents a fairly close 52 ohm non-reactive load. If the SWR is as high as 2:1 power will be down 50%, and will decrease sharply if SWR becomes greater. The easiest way to determine if the antenna is loading the rig is to simply whistle into the Mic. and see how many amperes the P.A. will draw. Or, you can switch to "CW" mode on the function switch and turn the Mic, Gain (Carrier Insertion) up to full clockwise position. The meter on the transceiver reads 0 to 16 amps. on transmit. If you can load to 12 amps. or more, (typically 14 amps.) the antenna is OK.

If not, there is a matching problem related directly to how few amps. you can draw. Run the tuning dial up and down the band and you can quickly tell at what frequency the antenna loads the best. This will be particularly true on the lower bands, and with mobile antennas due to their restricted bandwidth. If the loading peaks at some frequency other than the one where you wish to operate, you'll know which way to prune the antenna.

CAUTION: Be careful to limit the length of time you run full power. Make the tests as quickly as possible, and don't let the heat sink get very warm. Refer to page 19 in the instruction manual.

(3) Antenna matching can often times be quite deceptive. Older tube type transmitters with Pi matching networks are able to compensate for considerable mismatch. This may seem like an advantage, but it is really only a cover up for an antenna problem which ought to be corrected. If the feedline is not matched to the antenna, efficiency and performance are bound to suffer. With the broadbanded, non-adjustable solid state amplifiers, such as is employed in your Atlas transceiver, the burden is placed directly on the antenna system. Either it looks fairly close to 52 ohms, non-reactive, or the rig will try to reject it. An SWR of 1.4 will work quite well, 1.2 is good, and anything less than that is all the better. You can work out with a 2:1 ratio, but not as well. It will soon become apparent that if the antenna is well matched, the rig will run full power input, as indicated by the ammeter. Both power output and antenna radiation will then be maximum, and signal reports will be outstanding.

(4) If you encounter a loading problem; that is, if you cannot get the whistle or CW power up to 12 amps or better, take the following steps:

- (a) Tune up and down the band to see if the antenna will load better at some other frequency.
- (b) Check the rig on another antenna, or an another band. This will let you k if the rig is working OK.
- (c) A 52 ohm dummy load is always a handy device to have around the shack. The Atlas "DL-200" is available at a very reasonable price. The ammeter on the Atlas will tell you how much input you're running. Again, if you can run it up to 12 amps. or more into a dummy load, you know that the transmitter is functioning properly, and if the antenna will not load fully, there is an antenna matching problem.

(5) If you happen to have an antenna that will not load the Atlas very well on the frequency you want, and it is not possible or convenient to adjust the antenna, an Antenna Tuner, or "Matchbox" can be useful. But remember that if you are feeding the antenna with coax. cable, and there is a mismatch, the antenna tuner is really only a "make do" system. The best thing to do is to correct the mismatch at the antenna. About the only exception to this is if you are using a non-resonant wire antenna, or feeding an antenna with open wire balanced feedline. The antenna tuner is then serving as a "Matchbox" to convert the antenna feedline so it will match the unbalanced coaxial cable. From that point, looking back toward the transmitter, we have the same requirement: the coax. line must look like 52 ohms, non-reactive in order to work most efficiently.

(6) If any problems arise with your Atlas transceiver, please ask your dealer for assistance, or contact our Customer Service Dept. at (714) 433-9591. Your new rig is fully guaranteed to provide many hours of the most satisfying operating pleasure.

73,

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