

AT&T Microwave Oscillators

Overview

Surplus microwave oscillators operating in the 5–6 GHz region are starting to show up a ham radio swapfests.

The unit described here is an AT&T/Lucent/Alcatel Model 142PC. One quirk is that they require a *negative* voltage for both the unit itself and an internal heater.

The RF output power is around 10 milliwatts (+10 dBm). There is an access hole on one side of the unit for slightly adjusting the output frequency via a trimmer capacitor. The bottom of the unit has two threaded #4–40 holes for attachment to a heatsink.

There are four wires attached to the unit which are colored RED, BROWN, YELLOW, and BLUE.

<u>Wire Color</u>	<u>Description</u>
Red	Ground
Brown	-15 VDC at 100 mA
Yellow	Oven Lock Alarm
Blue	-24 VDC at 500 mA Oven Heater

The oscillator will still work without the oven voltage applied, but the output frequency may drift. The entire unit does get quite warm, so it should be attached to an appropriate heatsink.

Pictures & Construction Notes



Overview of an AT&T/Lucent/Alcatel Model 142PC Microwave Oscillator.

It's stock operating frequency was 5362.5 MHz and its RF output power was +9.5 dBm.



Alternate view showing the access port for the frequency adjustment trimmer capacitor.



Tweaking the oscillator's final output frequency down to 5362.0 MHz, or as close as possible.

Since these oscillators are not phase-locked, there will be some slight drifting in frequency until they warm up and stabilize.