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# CG-3000 AUTOMATIC ANTENNA TUNER



## INTRODUCTION

CG-3000 automatic antenna tuner (ATU) can cover whole HF amateur bands. It uses multi signal processing circuit to switch L/C to make perfect matching between your radio and antenna system. Fast tuning, less than 2 seconds for first initialize matching. 200 memory channels store the minimum SWR value to make further tuning.

## SPECIFICATION

Working frequency:	1.6-30 MHz (50 MHz not guaranteed)
Input impedance:	50 ohm
Max. input power:	200W PEP
Min. input power:	10W
Power supply:	13.8V +/- 10%
Current drain:	< 0.8 A
Auto tuning time:	Approx. 2 sec. (first time tuning) < 0.2 sec (return to memorized frequency)
Memory channels:	200
Usable wire length:	6 – 30 Mhz > 2.4 meters 1.6 – 30 Mhz > 8 meters

*\* All specifications are subject to change without notice or obligation*

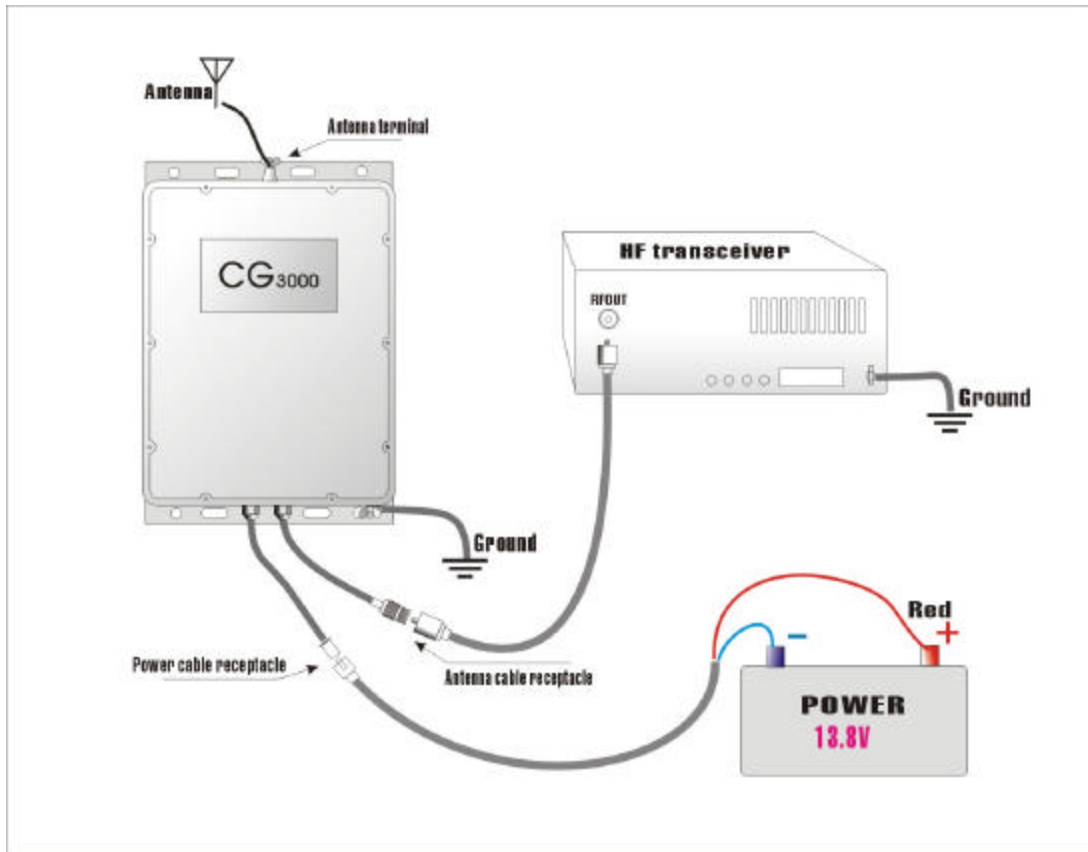
# USING CG-3000

## Installation

1. Connect an antenna.
2. Connect the ground wire.
3. Connect the transmission cable to transceiver.
4. Connect the control cable
5. Mount the CG-3000 to desired location.

- Never use the system without reliable ground connection.
- Never transmit or tune without an antenna. It will damage your tuner
- High voltage! Do not touch the antenna when it's transmitting or tuning

Fig. 1



\* The above 4 wires control cable is not provided. It's an option cable.

\* 2 wires power cable is provided

Red wire: +12VDC

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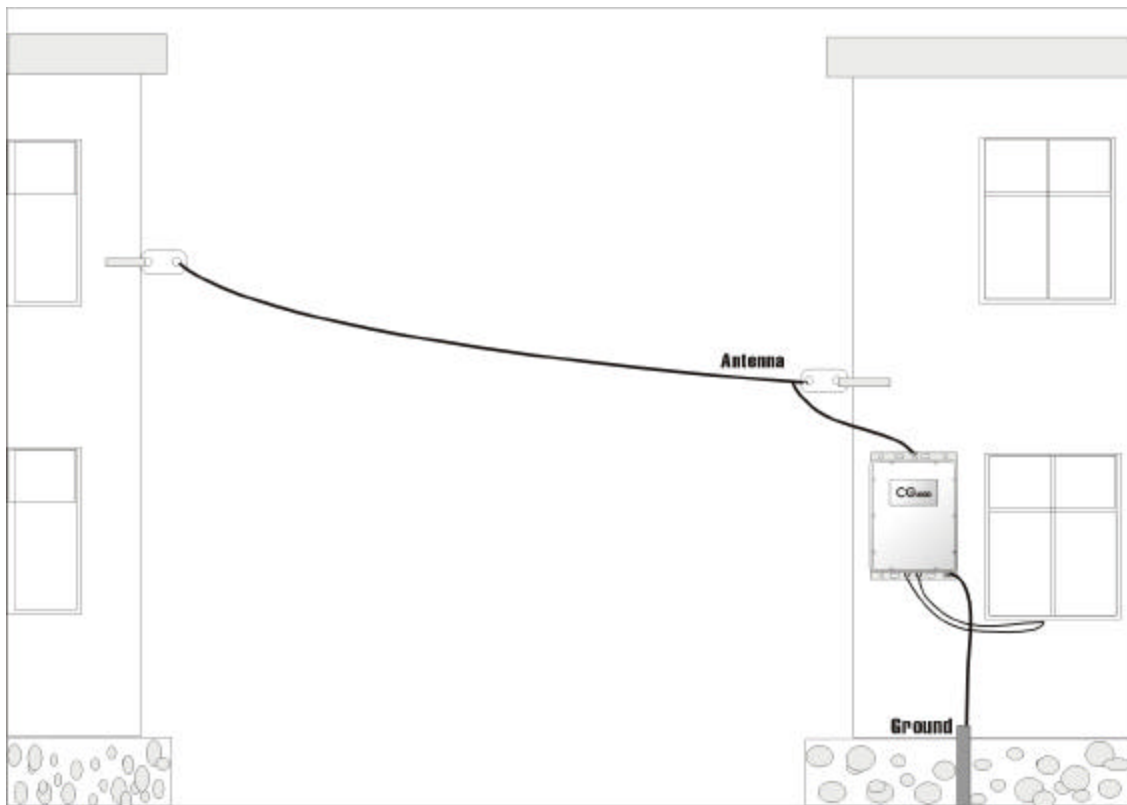
## Operation

After verify all the connection, choose your desired frequency and switch the transmit mode to AM, PACKET or any other continuous mode. Press PTT key, CG-3000 will automatically tune. You will hear some “click click” noisy, it means CG-3000 is tuning.

When you go back to the frequency which is tuned before, CG-3000 will pickup the existing L/C combination from memory setting and match the system.

To reset the tuner, just simply disconnect the power or use optional control box.

Fig. 2



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## Ground system

The CG-3000 must be connected to a good electrical ground. Good ground prevents shocks, interference and others.

Use heaviest gauge wire or metal strap available to connect to as large as possible metal object.

Install a quarter wave length of working frequency wire as counterpoise.

## Attention

1. Check the supply power to tune. If the power voltage is too low, CG-3000 will not work. And DO NOT reverse the polarity of the input power.
2. To ensure the proper tuning, the antenna must have enough length.
3. Do not install BALUN, it will cause difficult tuning.
4. Reduce the transmission coaxial cable as short as possible.

Calculation of undesirable antenna lengths

Length of half wave =  $300 / \text{operating frequency (MHz)} \times \frac{1}{2}$

*Please avoid using the antenna length that is close to a half wave or multiple of a half wave in length*



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