The CG-3000 Auto ATU

A User Review

By Dick Whittering G3URA/SV0XBN

The CG-3000 Automatic ATU was purchased earlier this year for use at the 2nd QTH so that extra bands could be covered with the minimum of fuss.

The ATU is just over 12 inches tall, 10 inches wide and 3 inches deep. It weighs in at around 4 pounds and comes complete with 5 metres of twin-core cable so you can feed it with the 12 volts needed to keep the beast alive. It is n ot an ATU for the SWL.

With limited space out here, my initial thoughts were to run a wire vertically up a glass fibre fishing pole from the ATU and then horizontally to a separate fixing. This would be the classic Inverted 'L' shape, 12.5 metres long overall and with 6 metres being vertical. It was used for a week during February and gave me easy access to 80m, which is a new band for me out here.

During our next visit, the aerial was extended to 19m and although the basic inverted 'L' configuration was followed, the ATU was sited on a different roof with only 4m vertical, then some 8m horizontal before the last 7 metres sloped down to a TV aerial pole on a nearby roof. It sounds crazy, but the aerial uses four different roofs for support or fixing, and not one of them is mine!

It must be remembered that if an ATU is used to 'tune' an aerial, the result is always a compromise. Ideally we need a proper resonant aerial for the band we want to use, but sometimes, as in my case, this is not always possible so the following is a table of my 'worst case' SWR readings on the various bands with both 12.5m and 19m of wire. As I use mostly CW, the low parts of the bands were chosen. The first column is the frequency, the second is the SWR measurements with 12.5m of wire and the final column the SWR for 19m of wire.

Freq.	**SWR**	
(MHz)	**12.5m wire**	**19m wire**
1.815	3.5:1	3.0:1
3.510	2.8:1	1.6:1
7.010	1.7:1	1.2:1
10.105	1.4:1	1.3:1
14.010	2.5:1	1.5:1
18.068	2.0:1	2.4:1
21.010	1.75:1	2.0:1
24.890	3.0:1	2.0:1
28.010	3.0:1	3.5:1

As suspected, the longer wire works better at lower frequencies but a dipole or vertical for 10, 12 or 15m would be no problem to put up here, even with my limited space. Looking at the figures above, I was particularly pleased with the SWR reduction on 80m.

When switching from one band to another, tune-up on the new band was pretty instant and overall I am pleased with the ATU as it allows me coverage on bands that I could not operate on before without a separate aerial. It is not the great panacea of ATU's but it works fine for me, and if you can only put up a long wire and need to tune it, this ATU could well be your answer.

One final comment; you have to remember that if you are using, say 20 meters and you switch to 40, you will think the band is dead until you hit the key or press the PTT switch. The ATU then remembers the 40m settings, re-tunes itself, and the band comes to life as if by magic!

73

Dick G3URA/SV0XBN
E-mail: g3ura@lefars.org.uk

Links

CG-3000 advert and more details
http://www.cgantenna.be/cg3000.html

CG-3000 manual
http://www.cgantenna.be/cg3000N.pdf

