

A microwave test source for 24cm

By Andy Emmerson
G8PTH

Our amateur radio hobby is officially tolerated by HM Government in the belief that it fosters a process of self training in wireless telegraphy. Despite this, a lot of 'cheque book' amateurism goes on these days and I am no exception: if there is a kit available I will probably buy it, possibly even a Japanese black box if it is cheap enough. Kits and ready made items take the guesswork out of wireless, but of course they leave much less scope for self training.

Sooner or later, however, the keen radio enthusiast comes to the stage where no commercial device is available and it's all down to a bit of real homebrew construction. That's what is described here. Mind you this is no half kilowatt amplifier or 500 channel scanning receiver, but a simple test generator, just right for cutting your teeth on. Not too much theory but a chance to learn up construction and tuning techniques.

A bit of building never did

anyone harm, I thought, when Jean F2XO passed me a simple looking photocopy. Here was a construction project for a simple 24cm test generator, just right for testing receivers at 3m when you can't really expect to find any signals on the air. Only four transistors, a few coils, couldn't be easier... probably knock it up within an hour. Well, life is not like that, is it? To be honest, I had never previously built any project for the 1200MHz band and this little exercise turned out to be a good object lesson in self training. In the process I learned (a) how little information there is to be found in books on the nuts and bolts of making things actually work at UHF, and (b) how lucky it is to have friends who can impart this vital information. So if you have a need for a test generator at 23 or 24cm (you can fiddle with the dimensions if you dare) this might be just the project

for you. On the other hand, once you have read the article, you might not think so...

24cm FM amateur TV

Down to business. The original design for this test generator is by Jacques Pochet, F6BQP. Jacques is one of the gang of two dozen-plus people who are active in France on 24cm FM-ATV, a mode which is rapidly catching on here and in Germany. With the pressure on 70cm, it seems natural to get up on 24cm and it is the way the ATV repeaters will go in this country. Until we get those repeaters and as we have no beacons in the TV portion of the band a test generator is essential for any further home construction activities. This little gadget pokes out a healthy signal on 1255MHz, adequate for our purposes.

The circuit is quite conventional (Fig. 1): a crystal oscillator

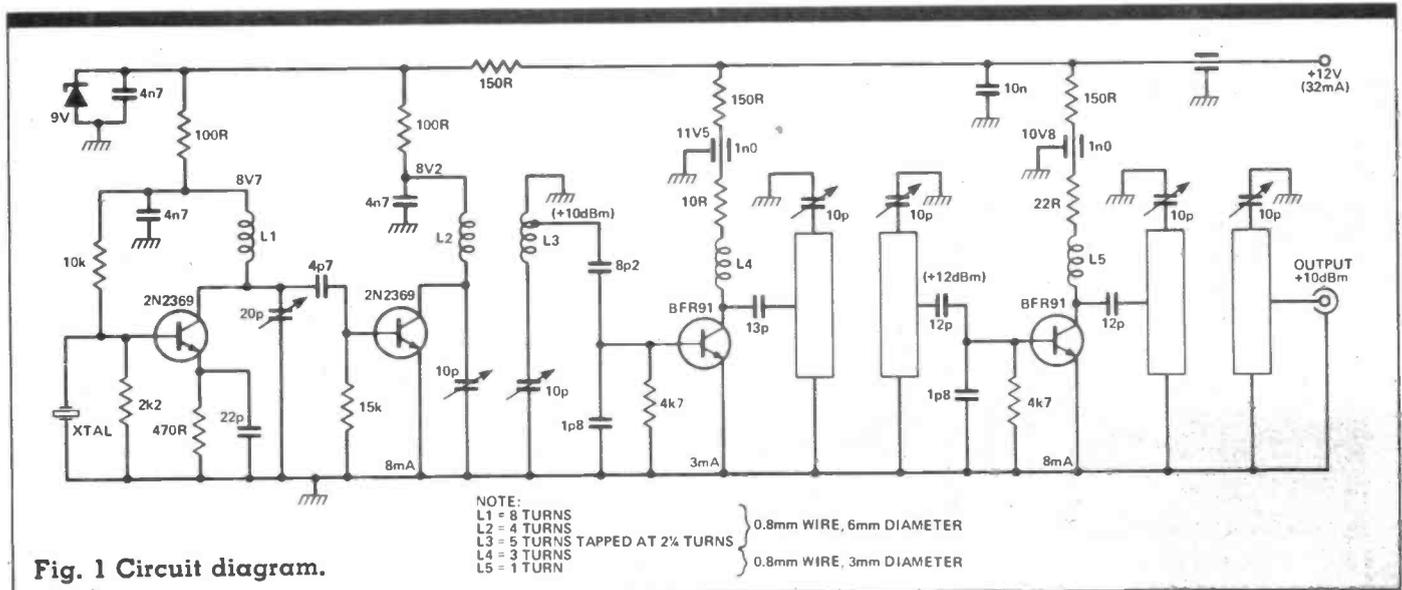


Fig. 1 Circuit diagram.