

# EXPLORING the 10 ME

*We publish below a full report of the work done in Australia in the exploration of the 10 metre band of wavelengths. The new International Regulations which come into operation next year, force the amateur still further down the scale of known wavelengths. The 30 metre band which he pioneered and proved to the world is now used by commercial stations, the 20 metre band is threatened, and we find him here penetrating further into the unknown.*

WITHOUT a doubt the 10 metre band has intrigued Australian experimental transmitters. For a long time this band has been available to Australian transmitters and has been left entirely dormant. There is probably a good reason for this, but there is no excuse for any of us for not having previously thoroughly investigated its peculiarities, advantages or disadvantages, if any. Many Australian experimenters have spent a lot of time probing the mysteries of the spectrum around 5 metres with little or no success. The outstanding work in this direction was done by 2IJ and 2GW with the co-operation of 2DY, who bridged the distance between Sydney and Bowral by the medium of a 5 metre signal.

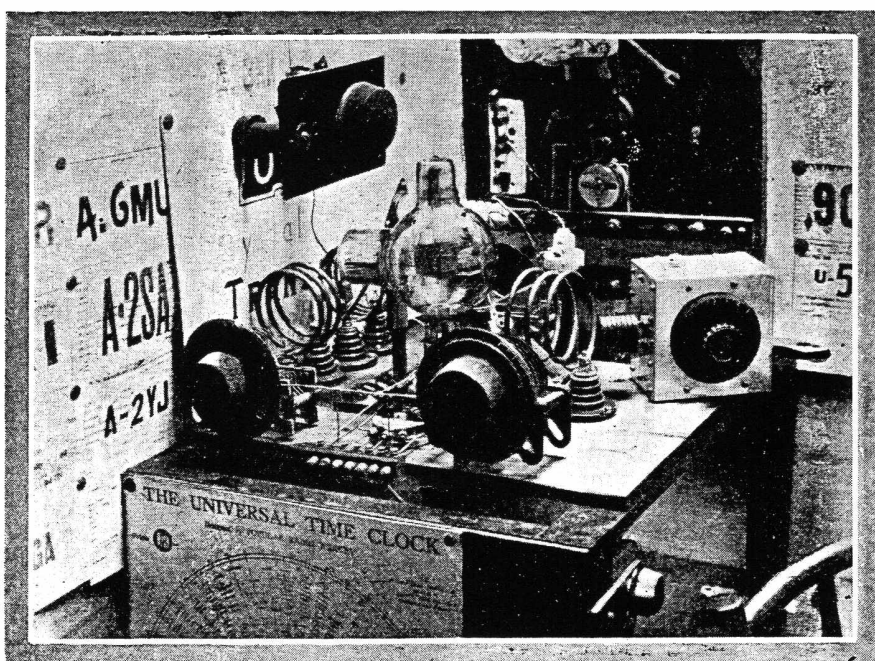
Little was said about it at the time, but every active experimenter in Australia admired their persistency. They got very good results indeed, before the mysterious "green devil," more staidly known as "atmospheric conditions" stepped in and decreed that those 5 metre signals should disappear. In other States experimenters were at work and varying reports of results obtained reached this office. They were disappointing, however, and the 5 metre band remains a mystery.

Not so with its bigger brother. For a time it was only natural that 10 metres should be condemned as something akin to 5 metres and as something to avoid like the plague. It was argued that if 5 metres behaved badly, then 10 metres could not be much better.

But, along came the Washington Conference which decreed that the private experimental transmitter should have a place "in the sun," and a wholesale slaughter of the wavebands took place. It remains to be seen whether it will be for better or worse (personally, I think the former), but the realisation of the necessity for immediate preparation for these changes prompted the American Radio Relay League to organise an exploration of the 10 metre band which had been "generously" granted to the experimenter in place of his higher wavebands now wanted for the commercials. A few Americans, both high and low power transmitters, started in and effected two-way communication over long distances without any trouble. French 8CT was heard in U.S.A.; American 2JN in France; 9EF worked both coasts of America from his central location, and publicity appeared in the columns of QST in due course. This stirred the Australian to activity. He realised the necessity for co-operation in keeping schedules and checking calibration.

Since then it is surprising to note how many have been quietly working on this 10 metre exploration. My request for information from those concerned has been very well answered, although the response has not by any means been complete. The first trouble does not appear to be with the transmitters used for 10 metres, but with the receivers. Some have reported that their screen grid receivers used for 32 and 20 metres cannot be induced to function at 10 metres, and they have reverted to the straight detector and audio arrangement.

This should not be so. The midget receiver used at 2NO and described in the previous issue of RADIO will amplify at radio frequency well below 10 metres without any trouble. It is just a matter



The 10-metre transmitter at 7CW used the UX-852 in the T.P.T.G. circuit.

# TRE BAND

By 2NO

With Contributions from

2DY, 2HC, 4PN  
5CM and 1AN

of changing the coils and away she goes. Both the UX222 and the A442 screen grid valves amplify well, but the A442 is the better of the two for the purpose. The tuning is not as difficult as were our old-fashioned low lossers, when we tried to use them on 20 metres a year or two ago with a tuning capacity of .00025 and a plain dial.

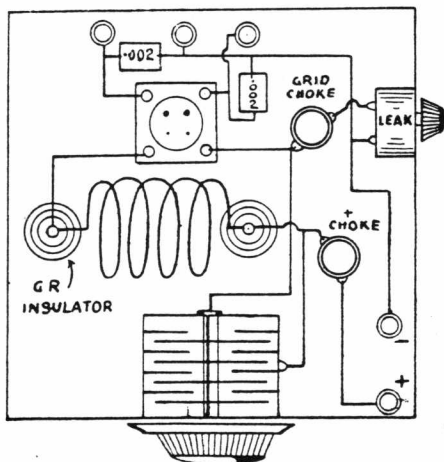


Fig. 1.—The layout of the 10-metre Colpitts oscillator.

On the Midget the low 10 metre signals from 2RX are at loud speaker strength continuously; 2LH is at fair strength, as is 2UI, and many other signals have been heard spasmodically. There is no doubt in the writer's mind about interstate signals. Many 10-metre signals have been heard at intervals, weakly, but it has seemed to be our luck to tune in during the adjustment of a transmitter with a very wavery note.

The strange thing is that during the interstate tests on September 23 the only signal I heard was 2RX. I noticed that on 23 metres interstate signals were very weak at that time whereas the Englishmen were rolling in at R6 and R7 for

two hours, so that it seems that if only we had an organised test with England on this date, something interesting might have happened.

Observation shows that the conditions governing 20 and 10 metres are very much akin. The only photographs to hand are of the excellent 10 metre transmitter at 7CW and a low power Colpitts rig at 2NO. The latter corresponds with 5BY's outfit and has not at the time of writing been tested out.

As I write, excellent news is to hand from 2DY. His report on the tests is given herewith.

## 10 Metres at 2DY

ON Sunday, September 23, while many of us were searching among the crowded mass of swinging waves on the 32 metre band, history was being repeated "down under" on the 10 metre band. Following on the fine QSO by 3BQ and 6SA on 10 a few weeks ago, this gives extra proof of the undoubted value of the band. The following message received by 2DY at 10 p.m., September 23, should speak for itself:—

"To Editor RADIO,

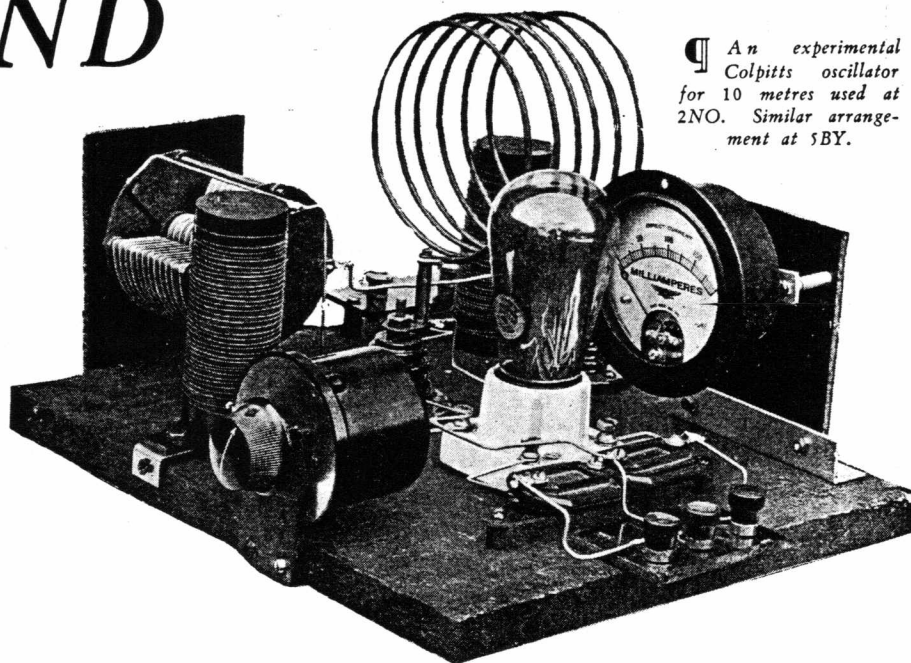
Held two-way communication to-day, Sunday, September 23, at 1.20 p.m. N.Z. time with OA3CP on 10 metres OA3CP signals were R8 steady RAC. Regards.

Sig.,

H. B. Arthur,

OZ1AN,

Sec., N.Z.A.R.T.



An experimental Colpitts oscillator for 10 metres used at 2NO. Similar arrangement at 5BY.

The following report also received should be of interest to some of those also busy on "ten."

"Heard this a.m.: OA, 3GR, 7CS, 3MY, 3GM (not sure about 3GM) and 2RX, who was heard by 1FT at 5 p.m. his time Str was R8 to R9. Pse advise 3GR and 7CS and 3MY that I heard them this morning."

Some others were also heard in N.Z. at good strength throughout the day. A report has been received from another source that 2DY was also heard during the morning. (Unconfirmed as yet.)

The log at 2IJ and 2DY would read like this:—

"Sunday, September 23.

A.M.: Listened and called occasionally —ND.

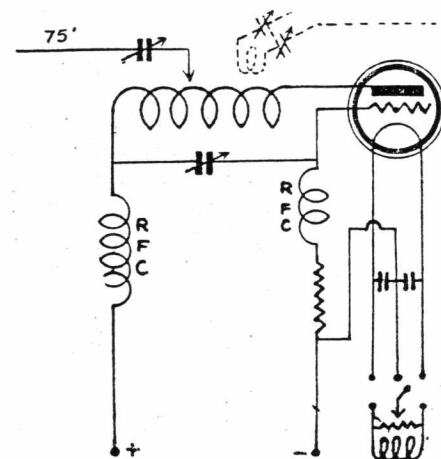


Fig. 2.—The circuit of the 10-metre Colpitts oscillator