

is FM. The effective noise voltage, which is proportional to the control line impedance, modulates the capacitance of the varicap junction.

Lastly Miller effect. The drain to gate capacitance forms the feedback path between two high 'Q' oscillatory circuits. This is effectively about 10pF when the gain of the device is taken into account.

Oh yes, forward conducting diodes contribute very little noise because their effective resistance is very low during conduction; noise voltage is proportional to the square root of resistance — Ed.

ROLL ON HOME BREW

Sir, I read with interest Jack Hum's comments in the May edition of *HRT*.

As a relatively new licence holder (G6NGR) I am as yet exploring 2m, and being skint, set about 'home brewing'. (I do have the 'slight' advantage in working for a large semiconductor manufacturer.)

One of my colleagues, who is also a recent G6, bought a 'black box' rig, and in a recent conversation was telling me how he heard one chap calling CQ, and being firmly ignored, because "he was 2 or 3kHz off channel". On hearing this, I set about checking our workshop signal generator, and other bits I had assembled en route to my home-brewed TX/RX. The net result was that I hadn't a chance of holding the stability apparently required.

I say apparently; the trend amongst colleagues here is more home brew, mods to Pye taxi mobiles etc., the black boxes are just too expensive. I repaired one recently, and quite honestly, the hardest bit was driving it. More to the point, the gent who asked me to fix it (no names, no packdrill) hadn't a clue; and had been quoted £40 or £50 to replace one resistor (a parasitic stopper, 22 ohm, 1/2W carbon) which took me maybe half-an-hour to find (lucky!).

To sum up, there is a trend to simpler cheaper gear around here; there is a 'QRP' feeling on 2m in the 'all-mode' slot, 144.5 to 144.9MHz, where I am trying AM with three valves, and a two-valve receiver (not ready yet).

Many thanks, Jack Hum, it's a good column, keep writing, and let's have more 2m home brewing! We'll be listening (AM) in the all modes slot.

PETER THORNTON G6NGR

6 METRE LICENCES

Frank, First of all congratulations on a most interesting and refreshing new publication. I hope you manage to keep up the quality of the articles and the down-to-earth approach to amateur radio.

I have been most interested (and amused) by the recent comments in all the magazines about the 6 metre licences saga. I was one of the 25 amateurs approached in March 1981 by the RSGB and naturally expressed my great enthusiasm to have a permit. As you know nothing came of that particular exercise. I have been active on '6' since 1979 and have worked 20 countries and all continents except Australasia cross-band to 10 metres. When my application was unsuccessful in the latest approach I

was not too disappointed until I saw some of the call-signs who had been granted permits. I have one simple question to ask — if the RSGB saw fit to ask me if I wanted a permit 2 years ago, then why was I unsuccessful this time? Particularly when people have received permits who did not even possess a 6 metre receiver!

ROGER BARKER G4IDE

Ask the Home Office — Ed.

PUERILE MEANDERINGS

Frank, Look, I may not be the most inspiring writer in the world, but at least I write rationally and coherently. It therefore burns me up to find you printing puerile meanderings from the likes of that pathetic wally "SSB CB User", while my comments on your little piece on the RSGB a couple of months ago were totally ignored. What goes on, do you only want to encourage the lunatic fringe, or are you the only one permitted to criticise the RSGB in *HRT*? I suppose the charitable alternative is that the letter failed to arrive.

With reference to the article on 'planting' towers, p44 June, please note that the weight per cubic metre of concrete is not 230kg but about 2400kg. A slightly cheaper mix would be 1 part of cement to 2 parts of concreting sand to four parts of 20mm graded gravel. Broken bricks should be avoided for this application. The mix should not be too wet, and should be thoroughly compacted by ramming with a billet of wood or repeatedly plunging the blade of a spade into it. To prevent frost damage in cold weather no more than 2kg per cubic metre (less than 1% weight of cement) of calcium chloride should be dissolved in the mix water, in which case particular care should be taken with compaction to avoid corrosion of the foot of the tower.

BRIAN A CARTER G8ADD

SELF TRAINING

Sir, I feel that P. Short's letter in the May 1983 edition of *HRT* sells amateur radio rather short. The purpose of obtaining an amateur licence is to further the training of the licensee in 'wireless telegraphy'. In contrast CB merely allows citizens to talk to each other.

This distinction allows the amateur to use whatever equipment he or she may select. This freedom is one which we should protect at all costs. It would appear that P. Short would rather abandon our experimental abilities in order to obviate the need to buy (or build!) a wavemeter. Speaking as one of many amateurs who have never been formally educated in electronics, I have learned everything I know about radio through the "self training of the licensee". This knowledge is now sufficient to tackle and successfully complete a 2 metre homebrew transceiver — not many CB operators will ever learn anything beyond toytown slang.

There is a school of opinion that DX merely means long distance working. To me and to thousands of others it means using

the bands, rigs, antennas to the maximum which our individual skills will permit. Range as such does not have any importance. Anyone who has applied himself/herself enough to obtain a licence need have no fear of being closed down for lack of attention to interference prevention. *HRT* provides many useful circuits and ideas which should keep everyone on the straight and narrow.

Amateur radio is a superb hobby open to all who are prepared to put in the necessary groundwork. It is not CB, and I hope it never will be. Why should CB supporters not remain in their own allocations (ie. not on 28MHz) and allow amateurs to continue to learn the rules of wireless telegraphy? Contrary to common belief there are still some experimenters and home brewers around!

J S EDGAR G14FVM

Yes. I'm one — Ed.

Sir, Having just read P. Short's letter in May 83's *Ham Radio Today* I was surprised at the attitude he/she has taken.

Obviously P. Short's knowledge of amateur radio is poor, as the whole essence of his letter is pointless. However to put him in the picture, amateur radio is different from CB, PMR or any other use of radio as it is permitted for us to dive inside our black boxes or home-brew gear and tweak to our heart's content. Try to understand that amateur radio is not just radio operation, but it is equivalent to a radio technician or engineer with regard to PMR etc. We are licenced to run more power than CB, PMR, VHF marine radio etc. etc. on two metres and above, and this surely means other than having regular checks by BT or Home Office officials (with the large proportion of Class B licensees this is prohibitive expense wise) the amateur himself must therefore have equipment and know-how to realise and correct any faults in his station. Hence the need for checking equipment.

As for the point that CB users cannot be closed down I can recall at least four stations which have been closed down for interference. Also P. Short must be aware that AM and SSB CBers are closed down on a regular basis.

Also I am unaware of G6NSU's comments as I did not have this mag then, but if you really believe such a comment as "2m is worse than 27MHz FM for working range" then I feel you're very unaware of what 2m holds. It is about time you got a piece of equipment to receive on two as soon as possible because you're missing out. I can work further on 10GHz with 5mW of wideband FM than I can on 27MHz FM with four watts into a half-wave vertical. So go on, get your act together and find out what amateur radio is about before criticising something which you have no experience of or about.

The amateur licence is always changing to meet new methods of operation.

K BRAZINGTON G4LZV

When amateur radio was mainly a scientific hobby, it had a lot of respect. If it is mainly a black box activity, it's not surprising people see it as up-market CB — Ed.