

on the page, and not tucked away in some awkward price supplement; (b) Offer three £1 discount vouchers, so that the majority of our regular customers are actually 'paid' to buy a catalogue.

Correspondents such as Mr Bourne offer a reasonably good indicator as to why, as you have yourself observed, the amateur radio components market is not exactly oversubscribed with specialist suppliers, and why most respectable professional distributors shudder at the prospect of engaging in the sort of business dealings where there are two enquiries to every order.

It is therefore surprising that the Electronic Component Industries Federation "Distributor of the Year" is still doing its best to provide a relatively unique service to a market that revels in raiding the "firm's stores" for most of its bits (being near to an "electronics firm in Chelmsford" we get to hear all about the electronics equivalent of filching the firm's paper clips and pencils). And even more surprising that this wicked firm has a standing offer of free bits to men (and women) of ideas, who undertake a project with the aim of publishing a feature (even in magazines published by firms in "Charing Cross Road").

Come, come Mr Ogden, next thing you'll be publishing letters about us glorying in the slaughter of innocent "Ham Radio publications".

Love to you all,

BILL POEL
(Ambit International)

Dear Bill, I always look forward to receiving letters from you. As to your plea for a more constructive relationship, I take pleasure in sending you a rate card. No, seriously folks, the cost of making a sale is something which I presume that you put into your retail price margins so there is little scope for moaning about the retail component business.

Having said that, Ambit offers an exceptionally useful service to people with an interest in building radio gear. While most other retail component suppliers have all but forsaken the market in favour of digital whizzbangs, the company has stuck with it and expanded its stock lines. I have no hesitation in pointing our readers in the direction of Brentwood. Far from it. Most of the bits for HRT projects can be purchased from Ambit. Good luck to you, Bill and no more wingeing about your lot — Ed.

TV TIMEBASES

Sir, I read G4PAY's letter (July 83) on TV timebase QRM with considerable sympathy.

Would it be possible for HRT to run a Which? style survey of televisions giving details of their relative spurious outputs and sensitivity to TVI?

Obviously we cannot dictate which brands of TV our neighbours buy, but we can at least put our own houses in order.

MARK PALMER G8IQV

Well, we can't at this moment because we haven't got the information. I've got an ITT 340 chassis and that's pretty good. If readers with an interest in combating line timebase TVI would send in a report to this office about the relative emissions from their own set (and note about susceptibility to TVI) I

will publish the results as a league table provided that we receive enough — Ed.

UPSIDE DOWN

OM, Your ideas of an inversion are inverted! (HRT, July). In the normal atmosphere both temperature and humidity fall with increasing altitude (normal "lapse rate").

Under inversion conditions the inverse occurs i.e. the temperature or humidity or both rise with increasing altitude. Hence your statement that "dense but humid cold air sits on top of warmer, dryer air close to the surface of the ground" is not correct. Subsidence would occur.

Many mechanisms of inversion formation exist but the commonest cause of inversions, maybe of limited extent and duration is ground cooling by radiation to a clear, night sky, especially in Spring and Autumn. In this case the Earth loses heat, cooling the lower layers of air which in turn can lose moisture (radiation fog), whilst the higher layers remain warmer and moister — the exact reverse of your explanation. Several layers may form in this way in which case ducting occurs which is often very directive. I do agree with you on the fact that the higher the frequency the more often tropo effects can be 'seen' and would urge the VHFer to move higher in frequency! One common effect in this part of the World is that GB3MLE on 70cm often disappears when there is inversion around and I start to look for Continental DX — that's because the height of the beacon antenna is often above inversion level and the signal is refracted into space rather than contained.

MIKE DIXON G3PFR

Thank you very much for your most interesting letter, Mike. I accept every point that you make. In my defence, I approached a large number of people for a definitive article on VHF propagation but no one came forward. In the event I had to write it myself and I am the first to admit that I am more at home with a soldering iron than a barometer! However, the practical implications in my article hold good and that is probably what counts at the end of the day — Ed.

HELP WANTED

Sir, Is there an amateur who owns a signal generator living in the High Wycombe area who would kindly realign a Trio JR500S communications receiver at a reasonable price for an OAP? The receiver is only slightly out of alignment, but even so, I would not like to try the trial and error method. A service manual with trimming details is available.

E. VAUGHAN

Any offers to HRT please, and we'll pass them on — Ed.

SLAVE SYNTHESISER CHIPS

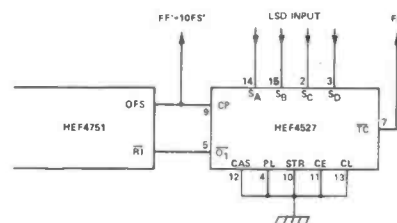
Sir, I read with interest your article in Ham Radio Today featuring your general coverage transceiver.

I am at the moment building a synthesiser to operate in conjunction with a multimode 2m transceiver.

I'm also using the Mullard HEF4750 and 4751. At the moment I'm using a second 4751 in slave mode and I am experiencing difficulty in getting this to work correctly. I noticed in your article you refer to being able to replace the slave 4751 by four CMOS chips and wonder if you could supply further information on this.

R.T. MIFLIN G8KLG

Yes. The slave chip can be replaced with a pair of cascaded 4527 rate multipliers programmed individually by a pair of 4029 up/down counters. Unfortunately, I haven't had the time to produce a full account of stepping down to 10Hz resolution with the chips but it can be done and the sketch below illustrates the basic idea (courtesy of Mullard). One decade is added for each 4527 put into circuit. I will leave you bright people to work out how to hang the other bits of circuitry on (such as the programming arrangements... I suggest dual rate frequency stepping. One rate uses the existing 4029's. The high resolution stepping puts the new decade counters ahead of the programming string. Oh yes. Don't forget to increase the PLL time constant. Once again, good luck — Ed.



HANDITALKIE AERIAL

Sir, It is my painful duty to inform you that the "improved handitalkie aerial for 2m", the design of which you published on page 10 of the June issue, is indeed very good.

I use an IC2E and, with its 'rubber duck' was unable to work PI, our local repeater, from indoors, although I could hear it very well all over the house. (PI is situated some 15 miles away). I was unable to work the repeater even when someone had opened it!

I built your design and can confirm, with some excitement, that I can now open the repeater and get very good reports — may I thank you very much for it and also for your excellent magazine.

With very best wishes to you and all your colleagues for the success of HRT.

J.C. TOURNANT G5MZI

Sir, Referring to your article in the June issue of your magazine (which is a very good one by the way) on VHF and UHF aerials.

I own a Yaesu FT208R handitalkie and so read with interest your article on the halfwave aerial for the 2m hand held operation.

Three times I tried to put this aerial together and three times failed. Not being the best of aerial builders I persevered, but now I am about to give up hope of ever completing a working one.

In the article you don't state how big the gap should be between the turns, which I'm sure must be quite important.