

LETTERS

Please address correspondence to:

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S-METER SAGA

Sir, Your comment at the end of my letter printed in the May issue says "End of conversation". But you can't leave it there as your statement is incomplete and therefore misleading.

You say "Let $OdB=0.5\mu V$ ". Fine, but what notch on the S-scale should that input represent? To what authority do you attribute your definitions? I'd like to know if ITU, IARU, FCC or any similar body has produced an official recommendation about S-points and reference level. If so I've missed it.

The competition question in the January issue that sparked off my initial outburst involved a power increase from 10 to 40watts. The answer being sought was 1 S-point. But, as already indicated, KW users would measure $1\frac{1}{2}$ S-points. Should they be failed?

In the February issue G3WPO covers the subject very well. The 1982 ARRL Handbook says that attempts were made to make S9 equivalent to $50\mu V$ and each S-unit equal to 6dB. This system never caught on probably because of design difficulties such as gain variations between bands and different AGC performance from receiver to receiver.

S-meters can give only an indication of relative field strength, not an absolute measurement thereof as commonly believed. In practice they are a mixed blessing to be taken with a pinch of theoretical salt.

RAY BURGESS, G3RXG

Sir, If I may update my last letter, I am indebted to the Editor of *Practical Wireless* for sending the enclosed IARU 1981 recommendations for S meter calibration. This is the first hard evidence I have seen of an official recommendation. It is interesting to note that the reference levels change between HF and VHF.

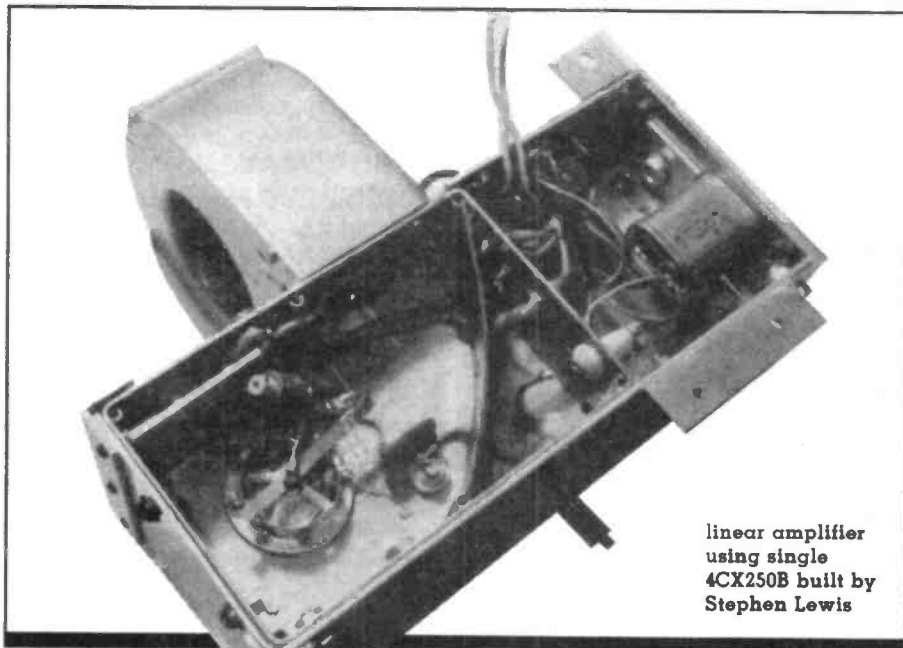
It is probably safe to say that most equipment in circulation does not comply with these standards. These are recommendations, not regulations, and unless an equipment specification states that the S meter conforms to IARU standard, there can be no guarantee that it does, in fact the chances are that it does not.

So I think most of my previous remarks are valid. I will continue to avoid any misconceptions by giving subjective reports, but with just half an eye of my definitely nonconformist S meters.

RAY BURGESS

HF LINEAR

Mr. Ogden, I took great interest in your article, *400 Watt HF Linear Amplifier* in May's edition of *Ham Radio Today*.



linear amplifier
using single
4CX250B built by
Stephen Lewis

I agreed with your argument that it may be technically far easier at HF to obtain the legal limit by using a relatively low voltage power supply (say 1.2kV) and increasing the number of valves, however, it is my view that it would be wiser and as economic to concentrate on designing a power supply capable of delivering 2kV+ and incorporating all necessary PA metering and a number of safety and valve protection facilities. Having constructed such power supply unit, it should then be possible to utilise it with any single valve 4CX250B amplifier designed for bands from 160 metres through to 70cm. I would point out that whilst the construction of a multivalve amplifier at HF is simple, at VHF the design of an amplifier with two valves or more is very complex.

I have recently completed the construction of a single valve 4CX250B 2-metre amplifier and associated power supply. The power supply took six months to construct and develop whereas the amplifier took only three weeks to complete.

The power supply was very cheap to build since all expensive components were obtained from a Heathkit DX100U AM HF Transmitter which was purchased for £25. Prior to the advent of the semiconductor SSB era, many amateurs owned the DX100U, so it is not surprising that they are seen at most rallies with a price tag of £20 to £35. The DX100U is housed in a 19" steel case with a slide-in heavy gauge 19" steel chassis which

is ideal for supporting heavyweight transformers and chokes. The case was used for the power supply together with a 600V 200mA transformer, a 1600V 500mA transformer, a 6H 500mA choke, a 7H 200mA choke, the panel meter, ceramic rotary switches and valve sockets, electrolytics, high wattage resistors and toggle switches. For the HF operator there are additionally all components required for anode and grid pi-networks, some SO239s, a high quality modulation transformer, two 6146s and two KT88s.

Not bad for £25?

STEPHEN LEWIS, T.Eng (CEI), G8JCT.

OM, Yesterday I saw your *HRT* mag on sale, so I bought a copy, attracted by the *400W HF linear*. I've been collecting parts for a *G2DAF*, but will try one based on your design, as I think it will be more easily driven by my FT7.

One point though: the grid circuit uses a 2:3 toroidal transformer. Will you please give me details of the type of core, and the winding details?

Second point: you have not incorporated any delayed switching of the 1300V supply, whereas elsewhere I have read that valves can be damaged if the HT is on before the cathodes have reached operating temperature. Any comments?

I like the look of your magazine, as do my mates G3US and G3HCX. I like the excellent typeface and the un-stodgy style of presentation. May you have much success in the future.

WALTER FARRAR G3ESP