

section and very good performance in 'licensing conditons'.

This seems to indicate that while candidates can learn, parrot fashion all the tiny details of who to send your revoked license to and when to transmit your call sign, they cannot apply very basic electrical theory.

Incidentally, I shall be taking the RAE myself in May, but I have no intention of claiming a Class B license; by this time next year I should have taken the PO Morse Test and got a G4+3.

(Did I see an opinion to the effect that the license should be confined to those over 18?)

MARTIN SMITH RS4962

It's a personal opinion but I would love to see radio amateurs becoming more aware of the technical aspect of our hobby. Power to your elbow, Martin. — Ed.

A very reasonable view

Editor, To quote a phrase "Morse Code is an archaic form of communication": As a professional communications engineer and a confirmed CW addict I couldn't agree more with that sentiment.

The reason I use so much CW., is because I really do enjoy it! I like to loaf along at 35-40 wpm with my contemporaries on 80 and 40m. Admittedly I use an electronic keyer and paddle or even sometimes a keyboard sender.

My point is, I don't want to force CW on to any guy who doesn't want to use it. CW is another language, full of nuances, varying styles and for me is sheer pleasure. I also enjoy rock music, but loads of people don't. In the end it must be each guy to his own!

As a G3 of 1066 vintage I would like to see Class B licensees given every opportunity to use morse. Perhaps on 144/70/28 and 1.8MHz for starters. Usage is great practice and would certainly keep the CW band segments alive.

I could even go along with the idea of a code free licence for everyone because CW surely doesn't make you any better at mis-operating an SSB TX and spluttering over the bands!

On the other hand I get frustrated by people, usually Class B licensees who bleat about having to learn morse etc., etc. My attitude is, please don't knock something unless you have tried it first!

All the standard CW arguments about bandwidth, better DX capabilities and so on are probably true, but amateur radio is a hobby isn't it? There are loads of differing transmission modes available so why

not let everyone try their own thing if they so wish.

As a parting shot I must add I favour the American idea of graded licences, that would really improve standards — technically where they need to be raised.

STEVE WILSON G3VMW

I agree completely with everything you say. I must confess though that I don't enjoy CW very much. Occasionally, personal bias creeps in even though you don't intend it to — Ed.

MISTAKEN IDENTITY

Sir, I find your suggestion that the minimum age limit for a licence should be raised to 18 to be detrimental to me and other young op's. I am 14 years old and have had by G6HZU call for nearly a year now. Not only have I (and other young op's I suspect) had to put up with being called a YL by people who know well that I am not, and a young whipsnapper etc., but now the trend is to blame us for every belch etc. on the repeaters. How often have you heard "That's some kid playing music on the repeater"? I have not saved up the money to buy equipment for 3-4 years by doing odd jobs with no 'free gifts' from my parents to be greeted that "all op's under 18 are wallies!"

I hope to take my CW test soon. I'll have to scrimp and save for components for the Homebrew HF CW rig that I'll build. I just hope that I'll get a slightly warmer welcome than I got on VHF from the so-called 'real hams'. This is only half though, the others have been helpful and considerate. I wish they were all so.

J. PELHAM G6HZU

PS What about a simple, cheap, 20 meter CW TX/RX? 10 watts out? PPS Sorry about the long letter, but I feel very strongly about this.

Sorry, it wasn't my opinion. I've been playing around with radio gear since I was eight. I suspect that the GPO would have called me more than a wally if it had caught up with me then — Ed.

SPEECH PROCESSING

Frank, I read your article on speech processing with great interest.

When I first adopted ssb in 1952 the usual mode was AM. At that time baseband clipping was being widely used by amateurs to increase their AM talk power. Some ssb pioneers tried this form of clipping, but it showed no apparant advantage. The explanation of this finding was later given in an

article by Dr D A Tong (1). SSB generated from baseband clipped audio does not have an RF envelope whose amplitude is well defined. To avoid flat topping one is unable to use the hoped for increase in AF gain, when compared with no clipping. On the other hand RF clipping produces an SSB signal of well defined amplitude, so one can keep the average output power high without splatter. (But if the post-clipper gain is too high splatter could be continuous! One should not assume that the ALC will take care of this)

The other important advantage of RF clipping is that the harmonics generated fall at multiples of the sideband frequency and are all removed by the second sideband filter, as are most of the intermodulation products. Compare this with the baseband case where the "real nasties" the harmonics of audio frequencies below $f_{ch}/2$ (i.e. below 1.5 KHz) fall in the passband of the second filter. Much of the power in speech lies in the lower frequencies so this is significant. Thus it is clear why RF clipped speech sounds much cleaner than that which is baseband clipped. A 6 to 10 dB increase in loudness can be achieved with little audible distortion. Beyond this level of clipping distortion increases without much gain in loudness. One can play the clipper through a tape recorder to adjust the clipping level. Personally I increase the pre-clipper gain with normal speaking until all syllables sound clipped, then set up the rig for no flat topping with fairly close speaking. I calculate that my legal ssb signal is equivalent to at least 10 kW of AM! The RF clipper seems like the only exception to Murphy's Law.

Good luck with the new mag. I'm glad to see it's not for licensed appliance operators".

JEREMY WHITFIELD G3IMW

(1) AF and RF clipping for speech processing. D A Tong, Wireless World Feb 1975. pp 79-82

I take your point but also take issue in the nicest possible way. The effect of clipping an SSB signal is to increase the phase change rate on the zero crossings as well as flat topping the signal as one expects.

The final 'clean up' filter can only respond to the rate of phase change as a precise function of its bandwidth. The result is that the filter puts back envelope modulation on the 'squared SSB' albeit with improved risetimes on the unclipped SSB signal. What about an article on the subject, Les? — Ed.