

SPEECH INTELLIGIBILITY

John Rabson G3PAI (and F5VLF)

I found the article on measuring speech intelligibility by Mike Bedford, G4AEE, very interesting. For me it raises a number of questions.

In his example of the Modified Rhyme Test that deals with varying the final consonant sound, Mike seems to rhyme 'pat' with 'pass'. A Yorkshire man might naturally do this but an Essex man (me) would not. Consider also the Liverpool pronunciation of 'fair' that would sound more like 'fur' to people from some parts of England. If the listener was not familiar with the speaker's accent would this affect the scoring?

Would pitch error or audio quality also affect the score significantly? In the early days of SSB in the amateur service, I found signals from phasing transmitters significantly more intelligible than those from filter rigs. I also noticed that when the operator was a YL, slight mistuning made copy easier.

I understand the Test is intended to be context-independent. Given that, in practice, the vocabulary used in communications (for example in cave rescue or in a DX contest) would be fairly limited, would different results be obtained in such cases?

Finally, if the operators were familiar with each other's ways of expressing themselves, would this affect the results? I recall a cave radio link that was highly marginal (thank you Loran), and best results were obtained when the operators were husband and wife. As somebody present phrased it 'How many dB is a marriage licence worth?'

John's star letter wins this month's VX-3E handheld kindly donated by Yaesu UK.



YAESU
Choice of the World's Top DXers

Mike Bedford, G4AEE, replies:

John makes some interesting points and the bottom line regarding speech intelligibility tests is that there is no one size that fits all. I suspect that the Modified Rhyme Test was devised by an American rather than a Yorkshire man but it is true that the test would be better if word groups were chosen such that they rhymed to English speaking people of whatever accent. How easy it would

be to devise such a version of the MRT remains to be seen and for most people the ease of using ready-prepared word lists (as specified in an ANSI standard) will outweigh any such disadvantages.

It is also true that an amateur radio exchange is more forgiving than many other forms of communication because of the limited vocabulary and the predictable nature of the dialogue. Nevertheless, I would argue that standardised tests such as the MRT still do give an accurate measure of the reliability of the communication channel. Where the difference lies, however, is in what score is deemed acceptable. For a broadcast transmission a score of 90% would be wholly unacceptable but it would almost certainly permit an amateur radio contact to be completed successfully.

Harry Leeming, G3LLL

In the 1970s I experimented with an RF speech processor in the IF stages of the FT101, and did a lot of on air and closed circuit testing. The Japanese microphones issued with rigs at that time might have sounded nice if you wished to sing, but many lacked the brightness and clarity needed for communication purposes with the average European male voice. When these mics were used with a clipper, often this made the intelligibility even worse, unless some modification was made to the frequency response.

Of course, the best answer is to use a good communications microphone, but an enormous improvement to the weak signal readability when using speech processing can be made with the addition of just one capacitor.

The best exact value depends on your voice but, as a start, check the input impedance of the microphone socket and then connect a capacitor that has a reactance equal to this at 3kHz, in series with the live mic lead. You will, of course, have to increase the microphone gain to compensate, but this capacitor will attenuate all the low audio frequencies and provide a response rising throughout the audio range. Stations who receive you at good strength will report your audio as sounding thin and so it is wise to incorporate an in/out switch, but when your signals are weak and you are also using RF clipping the difference in readability is quite dramatic.

My experiments, and our subsequent small commercial venture with the G3LLL RF Clipper for the FT101, appeared not to go unnoticed, as Yaesu incorporated RF clipping, and a 'tone' switch on the microphone in many of their later models.

On a lighter note. I once listened in on a proud owner demonstrating his new rig on a net. He was testing the inbuilt speech processor, and was getting a mixed response as to the improvement, as he switched it on

and off. In the end I broke in and advised him that if he cared to open the lid he would find that on his particular rig the processor was an optional extra; all that was behind the processor switch was a bunch of wires. As Mike Bedford points out, assessing any change of intelligibility is not that easy!

POSITIVE VIEWS

Martyn, MM3XXW

New resolution for 2009, negatives are history, positives are the new negatives! What a breath of fresh air, well said Julian, I take my hat off to you sir and I wish there were more like you!

For such a long time I've pretty much glanced over the 'Last Word' due mostly to its historical overbearing negativity about this, that or the other. CW ops complaining about SSB ops, SSB ops complaining about CW ops, SSTV ops complaining about all ops, contesters & contests every weekend transmitting where they shouldn't, the fact that you only hold an M3, an M6 or a 2 something call (allegedly not real amateurs in the short-sighted opinion of a few) etc the list is endless, boring and, let's face it, totally redundant!

Julian's letter was the first one in a long time that I've bothered to read from start to finish and I have to say that I couldn't have put it better myself, (in fact I wish I had). I totally agreed with every word he wrote and you (*RadCom*) were absolutely 'spot on' to have published that particular letter.

It has to be said also that January's 'Star Letter' was superb also and well done to Duncan, G3WZD (a worthy winner) for taking the time to write it, I'm sure that Katie, M6KTE will appreciate his comments immensely and be encouraged by his comments; more of this ilk is the way forward lads and lasses regardless of call!

RSGB QSL BUREAU

Alan Yarker, G3TAY

I am a regular activator of Scottish Islands and, although I do say my home call is G3TAY, I still receive cards marked for GM3TAY. The solution came in conjunction with the GM3 QSL manager who requested GM3TAY envelopes. I now send appropriate envelopes to both managers for G3TAY and GM3TAY. This has worked well for some years now.

Thank you to all QSL managers and the QSL Bureau for all their help.

HELPLINES

Tom Morgan, G0CAJ/ZS1AFS

I have returned to amateur radio after several years and, during the last couple of years, I have been building my station. As someone who is no longer in the UK for most of the year, I must say that without *RadCom* I would not know what is going on in amateur radio. The magazine is posted to me every month and I have made use of many articles, as well

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as checking what DX is on HF.

However, the magazine is not just a one-way conveyor of information. Several times, when I have had a problem or need help, I have used the Helplines column. I am amazed at the level of response. The latest was a query regarding a deaf FT101B that I was given. (One can hear many FT101s on 40m and 80m inter-ZS.)

I have often received the answer to my questions before I receive my copy of *RadCom*. No, I do not mean it is slow to arrive, but the speed of response is astounding. So, this is a thank you to all of those operators who check the Helplines and help others. When I was in the UK permanently, I did not appreciate what a 'lifeline' this could be (I am not suggesting a new name for the column).

As an aside, I have chased a lot of DX as a ZS1, and have received help from several stations, in Europe, that have prompted the DX station to call me after they have worked him. This appears to be in contradiction to many letters written to Last Word.

RUDENESS

Charles Bryant, GW3SB

It is with great sadness that I read the letter from G. Mack in the December issue of *RadCom*. I am an old man now but I remember, very clearly, being licensed, when I was a schoolboy, in 1936 and obtaining a 'full' licence in 1938. G3+2 calls were welcomed by the amateurs of the day and I received much help from older amateurs, alas no longer with us.

I was elected to FOC in November 1947 and I never recall hearing any member making disparaging remarks about another amateur. If the person mentioned by your correspondent was, in fact, a member of FOC, I apologize on his behalf.

One of the reasons why we are so enthusiastic about the use of CW is because, in days of low sunspot counts, DX can very frequently be worked using simple (and therefore relatively inexpensive) equipment and antennas. I have myself worked VK with 5 watts and 66 feet of wire laid along the top of a hedge, no more than 5 feet above ground. This would be very difficult using telephony.

D-STAR

Dale Haines, G4IPZ

I am sure I can't be the only member to be somewhat concerned by the most recent *RadCom* cover happily reporting on a method to 'talk worldwide without a radio'. OK D-Star

is here for better or for worse but surely the entire tenet of our hobby is basically 'wireless' communications.

I am not a Luddite despite possibly appearing to be so but I have no doubt that many of the ardent D-Star advocates are the same ones who pour scorn on Hamsphere for example. At least in the case of Hamsphere it attempts very successfully in my view to accurately simulate conditions on the HF bands.

I am not against innovation despite what I may convey here but surely a bit more thought over *RadCom* cover taglines is in order.

Dave Lawley, G4BUO

The beautiful picture of a tower and antennas in the snow on the front of December *RadCom*, distracted my attention for a while from the far more alarming headline 'Wired D-Star - talk worldwide without a radio'. I have to ask, what on earth is such a topic doing in the Society's magazine at all, let alone on the front cover? The 'R' in RSGB stands for 'Radio', and we don't want to become the 'Chat-room Society of Great Britain' so what business is it of the Society's to review, and thereby promote, non-radio means of communication?

There are many organisations that have their greedy, acquisitive eyes on the parts of the spectrum from HF through to microwaves that are allocated to radio amateurs. These allocations were hard-won and many of the team who fought for those allocations over the years were distinguished members of RSGB in their day. You are doing a gross disservice to their memory by supporting non-radio communications media such as D-Star, CQ100 and Echolink. You are making it possible for commercial interests to argue that we no longer need our allocations in the radio spectrum because we can (quote) 'talk worldwide without a radio'.

Before readers rush to defend or condemn modes like D-Star, I'd like to relate a couple of situations we've heard about. By and large, UK amateurs are very lucky, we have the resources to put up antennas, buy or construct our radios and operate, within reason, at will. Not every other amateur is in that enviable position.

One situation concerns an elderly amateur who has been on the air for many years. Currently, due to failing health, he lives in a nursing home where it just isn't possible for the antennas to go up. He's been feeling rather isolated from 'old friends' with only a receiver. But D-Star, via the computer, changed all that and he's been able to keep

in touch with some of those amateurs he's enjoyed talking to over the years.

The other situation involves Kenyan radio amateurs. It is beyond amateurs in that country to get and install a D-Star repeater, but some of their members may be able to run to a Dongle with their computer, as Internet connectivity is improving in Kenya. Sadly for them, one Internet provider is seriously considering BPL – Kenyan amateurs have presented some powerful objections but fear the worst. Ed

80M CLUB CHAMPIONSHIP

Tony Wadsworth, G3NPF

I note with some dismay that this year there will be seven months of the 80m club championship, instead of six, with January hosting three sections of Club Championships and two sections of Affiliated Societies Team Contest.

The diminishing local member participation would indicate that my Club, the Horsham Amateur Radio Club, was finding it increasingly difficult to maintain members' enthusiasm for last year's arrangements and I fear this change could be the last straw for many people, myself included. I assume this type of contest was intended to encourage and promote interest and activity amongst the ordinary rank and file who may otherwise not get involved in club activities at a local or national level. I suggest increasing the number of contests may well have the reverse effect.

I am forced to ask what logic lies behind this change? It would be a good idea if the organising committee realised that the vast majority of RSGB members are not contest fanatics and take part in these contests for the good of their local clubs, not because they have an overwhelming desire to give up other activities in favour of damaging their hearing, getting a sore throat or suffering repetitive strain problems in their wrists. One only has to listen on 80m to know that there is considerable resentment among the general amateur radio population about the number of contests that often render the band unusable for normal communications.

I would remind the Contests Committee of the old adage "if it ain't broke, don't fix it".

Dave Lawley, G4BUO, replies on behalf of the Contest Committee

G3NPF's apparently rather jaded view of the 80m Club contests seems to be at odds with the increasing level of participation in these events, and it is clear from soapbox comments that newcomers are enjoying the contests.

The simple reason for reinstating the January sessions is that the longer skip at that time of year gives a chance to stations further afield, particularly GM. They find it very hard to compete later in the year and this move goes some way towards reinstating the balance.