

Response to Changes for CB Communication - Updated

Hello every one!

My name Vitaliy Zamsha, ex [REDACTED] from Ukraine and live in Perth area, WA [REDACTED] for more than 24 years!

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I would be great that FM gonna be used on Australian 27MHz CB. Many countries like in Europe etc are using FM as most convenient mode of communication. That because FM more protected from AM noise etc. Also CB radio in FM mode has better voice quality, CB radio's noise limiter (squellch) works better, transmitter in FM mode works more effective and much stable if compare to AM or SSB.

Also should note that it's better to use narrow FM (similar to UHF CB band) because narrow FM gives more concentrated signal – I mean bigger density of transmitted RF power so we can get bigger distance and more channel's in the same band!

About initiation calls on specific channels – I think it's not necessary – CB user should use any channel for that and this will make it more convenient!

I propose to permit to use of a selcall on 27 CB and this can be easy implemented in FM mode. I already developed HF CB sell call in Ukraine for SSB mode – after many test I found out that one bit of selcall should be not be less than 500msec in duration when use it in a very noisy 27MHz CB (I used 600msec in my case). So when my selcall signal received by other radio - by a base station , base station opens audio amplifier and person at base station can start conversation, all other times base CB radio keeps silent even if someone else talking on that channel. To form a selcall signal I used two simultaneously sub-audio frequencies (in parallel like DTMF tone) because this gives almost 99% protection from false opening audio amplifier in destination CB radio when used just one frequency. One frequency at time (in one bit) does not give reliable protection because it can match any other accidental noise's frequency on 27 CB channels and other radio (destination radio) can be opened by that noise and nearby person just will hear unwanted noise! Method of using simultaneously two frequencies in every bit of selcall dramatically improves reliability of communication and reduces opening RX audio in destination radio from unwanted noise. In any case my wife was very happy when I implemented this method in our CB radios not to listen noise from accidentally opened audio as it was before! It would be much easier to implement this kind of selcall in 27MHz FM CB radios using DTMF signaling as it based already on two simultaneously frequencies on every sending bit! In SSB mode I used 2.2KHz sub carrier modulated with two sub audio frequencies!

Also I added feature when I send a special selcall code from my car's my CB then base radio receives it and responds back to me automatically so it gives me idea that I'm in reach distance to my base!

Also it would be great to permit to use a packet mode of communication on 27CB channels

In this case must be used the same principle for forming signals using two simultaneously audio or sub audio frequencies which makes our digital communication much reliable on noisy 27MHz where using standard AX25 packet almost not possible! So using modified packet it would be possible to send GPS coordinates from outback to any base station when someone travels there or to other CB user in case of emergency etc...

FM radio is much simpler to interface to other devices like a phone or computer to extend communication just beyond radio usage in case of traveling in outback where no mobile phone network!

I think CB user can use any channel for emergency calls where he or she can hear people's activity.

I hope that ACMA may allow to do modifications to CB radios audio stages without altering RF stages and to allow interfacing CB to other devices like mobile phones or computers. Also I hope that it would be possible to use a modified packet communication on 27 MHz and on UHF CB as well!?

It should be noted that only on 27MHz radio signals can refract from ionosphere to make long distance calls and bend hills and some mountains (not like on UHF channels) and 27MHz CB can cover more area!

Thank you for reading my notes which I hope will give some profit in radio communication

Vitaliy Zamsha, Perth, WA , 14/7/2025, P.S. - I give permission to correct this text and ask me any questions!