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SPELEONICS is the quarterly newsletter of the Communication and Electronics Section of the National Speleological Society. Primary interests include cave radio, underground communications and instrumentation, and cave-related applications of amateur radio. Membership is unrestricted (NSS membership not required). Membership, which includes four issues of SPELEONICS, is \$4.00 in

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----- EDITORIAL -----

The editorial of Speleonics #1 listed 7 projects that the Communication and Electronics Section thought were important. We have done well on 5 projects.

-We have a quarterly publication, it is on-time and well-received by our members.

-We have our own session at the NSS Convention. Both at Frankfort, Kentucky and at Tularosa, New Mexico we had lively sessions attended by about 40 people each time.

-We have a bibliography of cave-radio articles which is growing.

-We are developing a network of contacts internationally to report on developments.

-We have updated the NSS "Caving Information Series" on Communication.

Where then do we need to look, to review last year's projects to see if they are still important to us? The two projects of the original seven are "Designing high-performance, easily reproduced cave-radios" and "Working with the National Cave Rescue Commission to...(improve the utility of communication equipment)".

I feel both of these items are still key objectives. I feel cave radios can make caving safer, and rescues more efficient but to do this, high-performance, cheap radios are needed.

This issue carries a description of the Alberta Speleological Society radio which developed from

early work by Pete Hart of the Westminster Speleological Society in England. The unit has high performance; two-way voice to over 220 metres depth on 10 watts PEP, with small portable antennas; but cheap and easily built it is not.

Surely one way to approach high-performance and easy construction is to utilize commercially available radio systems. One method for licensed amateurs would be to experiment on the 160 metre band which Nevin Davis predicted could be useful for voice¹; A conclusion supported by experiments by Larry Jack². A second approach would be to build a converter to change the commercial radio signals to lower frequencies for cave-radio use. I am currently working on such a system to use CB radios at 115.2 kHz (to be compatible with existing ASS cave-radios).

Affordable voice-communication is the next challenge for the Cave Communication and Electronics Section.

Let's rise to the bait!

--Ian Drummond

¹ Optimum Frequencies for Underground Radio Communication. N. Davis, Nat. Speleo. Soc. Bull. Vol 32, #1, 11-26, (1970)

² Underground Radio is a Dirty Business. L. Jack, 73 Magazine, 57-59, Sept. 1975.

