speleonics 20

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COMMUNICATION AND ELECTRONICS SECTION OF THE NATIONAL SPELEOLOGICAL SOCIETY

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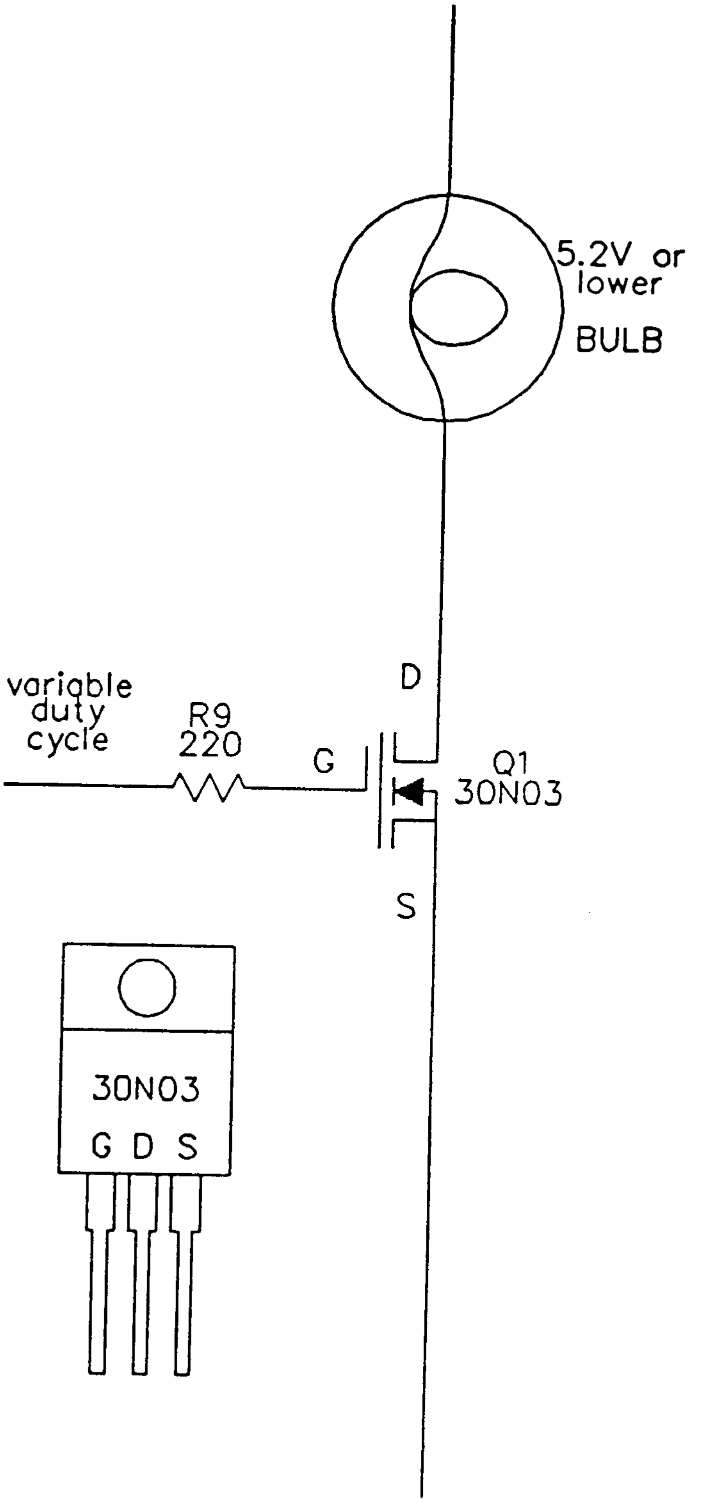

NOT ANOTHER LAMP-DIMMER! Efficient switching-regulator significantly enhances cave-lamp performance, including battery-energy usage, by maintaining bulbs at rated voltage. Kits are planned for this proven design. See page 9

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SPELEONICS is published quarterly (sometimes irregularly) by the Communication and Electronics Section of the National Speleological Society (NSS). Primary interests include cave radio, underground communication and instrumentation, cave-rescue communications, cave lighting, and cave-related applications of amateur radio. NSS membership is not required for newsletter subscription. Section membership, which includes four issues of SPELEONICS, is $6.00 in USA/Canada/Mexico, $8 overseas. Send subscriptions to section treasurer Joe Giddens at the address below (make checks payable to SPELEONICS.) I you have a ham-radio callsign or NSS membership number, please include them when subscribing.

Foreign subscriptions can be paid in U.S. "paper" dollars in the mail; an international money-order may cost as much as the subscription itself. Many members have sent cash without problems. (No foreign currency, please.)

Editorship rotates among the officers. Volunteers are encouraged to guest-edit or produce an issue. A technical session, followed by election of officers, is held annually during the NSS Convention.

Complimentary copies of SPELEONICS go to NSS offices and sections, the U.S. Bureau of Mines, U.S. Geological Survey, and the Longwave Club of America.

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Editorial:

Good Operating Procedures

In this edition of Speleonics, **Brian Pease** addresses the legalities of using cave radios without special licensing. His conclusions are very promising; it seems that caves radios as they currently exist are most unlikely to exceed the (US) FCC regulations on allowable emissions. However we need to remember a key provision of the regulations, that no interference can be caused to other users of radio-frequency devices.

How would we know if we have caused interference?

The best route would be if we were told immediately and through discussion were able to stop the interference.

Clearly a most undesirable way would be for the service which was receiving the interference to have to contact the FCC and have them go to the time and trouble of tracking the cave radio operation.

To avoid such a situation, no matter how unlikely it might seem, I would like to suggest that cave radio operators follow good operating practice, and in particular they identify themselves at the start and end of a cave radio session. This would allow anyone receiving interference to contact the operator with a minimum of fuss and presumably a maximum of goodwill to solve the problem. It would certainly help demonstrate a responsible attitude to use of the equipment.

How could cave-radio operators identify themselves? My suggestion is to use name and phone number.

I think it most unlikely that anyone other than the operator of the other cave radio will hear the call, but I think that as a group we cannot risk offending the authorities that regulate use of these frequencies. Articles such as Brian Pease's help us to design radios that do not exceed legal emission levels, and good operating practices will also help to avoid interfering with other users of the radio-frequency devices.

-- Ian Drummond

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ERRATUM

"Caver counter" circuit (Letters, Speleonics 19, page 1): **Pin 12 of 4047 must be grounded.** Contact Ian Drummond about availability of printed-circuit boards.

Announcements--

CALL FOR PAPERS: EQUIPMENT & TECHNIQUES SESSION

1994 National Speleological Society Convention
Brackettville, Texas, USA -- 20-24 June 1994

The technologies and techniques of cave exploration will be the focus of an all-day session that draws together many NSS Sections and other interested cavers. Before an interdisciplinary audience, both new developments and standard practices will be described, analyzed, and compared. Presentations by non-US cavers are especially welcome.

We solicit abstracts in the following areas:

- Accident and Safety Analysis
- Communications and Electronics
- Computing
- Digging
- Diving
- Lighting
- Photography and Video
- Survey & Cartography
- Rescue
- Vertical

There will be two formats for papers:

** Oral: a presentation before an audience, with time for questions (tentatively, between 15 and 25 minutes for each speaker)

** Poster: a show-and-tell presentation in which each presenter is provided a booth with poster boards and a table. This format is ideal for demonstrating wearable and hand-held equipment, computer applications, etc. The Poster session will not conflict with the Oral session, and should last 2 to 3 hours.

Please submit an abstract that includes title, name and address of the primary author, and a summary of the content of the presentation. The abstract should be self-contained and informative. For media, the order of preference is: (1) email; (2) Clear laser-quality printing, left-justified only, that can be scanned; (2) a DOS or Mac floppy disk with common word-processing formats or text file; (3) dot-matrix printouts or other text.

Abstract length is limited to 250 words.
Please indicate your preference for ORAL or POSTER format
Deadline for Abstracts is 15 April 1994.

The Equipment & Techniques Session will be co-chaired by **John Ganter** and **Bill Storage**. Please send your abstract to: John Ganter, 1408 Valencia NE, Albuquerque NM 87110 USA, Home: 505-265-5007, Office: 505-844-1304, FAX: 505-844-0244, Internet: jganter@ttd.sandia.gov

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