

ZERO BEAT

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Meeting Highlights

Here are the highlights from the February 3rd SEMARA business meeting: After the pledge and roll call, the secretary's and treasurer's reports were read and accepted.

It was noted that before the meeting, a code tape with a special message was played. Wayne Kingsley, WA1CCM, was the first to decode the message, and was rewarded for his effort.

Bill, WA1FYF, reported on a problem with frozen pipes, due to running out of fuel oil, and all the work that was done to repair it. Bill, K1IBR, reported on work being done to prevent it in the future. A sensor circuit is being hooked up to the repeater's alarm option. Bill also noted that he was here one day when Frades was backing into the yard, and he observed that they ran into a guy wire, damaging it.

Bob, KA1YDG, suggested requesting a new repeater frequency pair due to interference from other machines. Most were opposed to the idea, and no immediate action is planned.

There was no old business.

For new business, a vote passed to install some lights with motion sensors around the building. It was announced that the board of directors had a meeting, and decided to have a club yard sale, and possibly a cookout at the same time, and that they are now accepting

donations for the event. It was also mentioned that the hamfest committee was talking with other clubs holding hamfests about trading tables for members, in hopes of increasing attendance at both events.

It was determined that Louis Macedo, W1WAY, was eligible for a Life membership, and was granted such. A motion also passed to change the locks, and to install a deadbolt.

Next Meeting

The next SEMARA business meeting is March 3, 1994, 7:30 pm. The club meets Thursdays, with business meetings on the first Thursday of the month.

Time to Renew

Remember, it's time to renew your membership! Dues must be paid by the March meeting.

For many, it's also time to renew your subscription to the Zerobeat. The rates are \$6/yr for SEMARA members, and \$10/yr for non-members. The Zerobeat mailing labels show the two digit year, a dash, and a two digit month of the last issue you will receive. Check your label and see if you need to renew.

RF Standards

The ARRL has told the FCC that a proposal to adopt new standards for

exposure to radio frequency radiation should be terminated.

The proposal, which would change the Commission's guidelines to match those adopted by the American National Standards Institute and the Institute of Electrical and Electronic Engineers in 1992, was probably premature, and more properly should have been introduced as an FCC notice of inquiry. The new standards would replace less stringent standards adopted in 1982.

An FCC Report and Order in 1987 concluded that amateur stations should be exempted from such RF exposure guidelines, because amateur stations operate only intermittently, and at low power levels. Only rarely would amateur stations exceed the proposed, more stringent 1992 ANSI/IEEE standard.

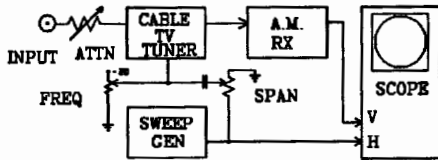
Packet Pals

Several students at the Rancho Middle School in Anaheim, CA are looking for "packet pals". If you're interested in participating, send a message off to Bill, N6MXU @ WB6YMH-2.CA for more information and the names of participating students.

If you are interested in meeting other hams in the "music business", send a message off to Bob, KE4DHY @ KC4BFF.#SCKY.KY. Bob works with "The Nitty Gritty Dirt Band" and wishes to contact other hams across the country who are involved in the industry, including roadies, management, drivers and others. Music preference makes no difference.

Spectrum Analyzer

You should have been at the last meeting! Bill, K1IBR, brought in his home brew spectrum analyzer. He had it on



display, and was doing FREE demonstrations for any interested HAM that asked. Even non-hams got a chance to check out the simple but effective benchtop tool.

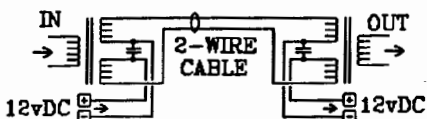
Put together with pieces from an old oscilloscope, a cable box tuner, an AM receiver, his specially designed sweep generator, and a handful of junk box parts, this gadget really does the job!

Circuit Design Contest

A few months ago we initiated a "circuit design contest". The idea was to design a circuit that would individually and remotely operate two (or more) relays using a two wire cable between the sites. We even expanded the contest to include a four-relay, 2 wire version, since the two-relay version was just too easy.

This month, we review the submissions made for the 4-relay part of the contest.

As mentioned last month, all the submissions delivered power to the relays from the remote site, as opposed to using a local power supply. Bill, K1IBR, used an

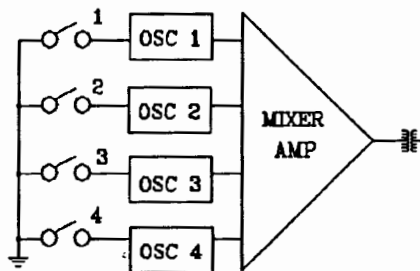


K1IBR's delivery of power to the relays.

interesting, and practical method of delivering the juice. He used two split winding 600-ohm transformers to pass D.C. power down the line, the same line being used to send the "control" signals, which were usually some sort of A.C. voltage. Looking at his diagram, you can see how it works. One line is the positive, and the other is the negative. The capacitors allow the A.C. signal to pass, but keep the D.C. voltages separate. Bill tells me this is similar to the way the telephone company does it.

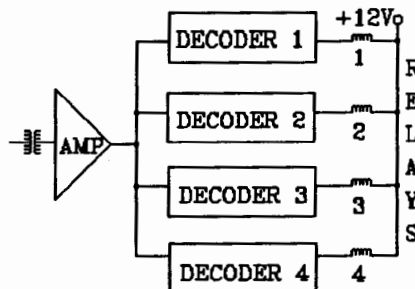
For control signals, Bill offers several options, all using the same basic technique of 'encoding' at the remote switch end, and 'decoding' at the relay end.

In one scenario, he uses four tone oscillators with a mixer amplifier. Each switch



K1IBR's analog tone encoding.

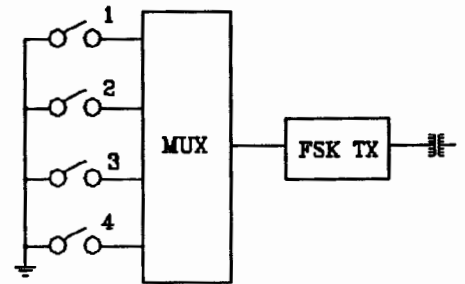
activates a unique tone. The output from the amp is sent down the line, and four tone decoders are used to watch for the correct tone. He suggests using tones in



K1IBR's analog tone decoding.

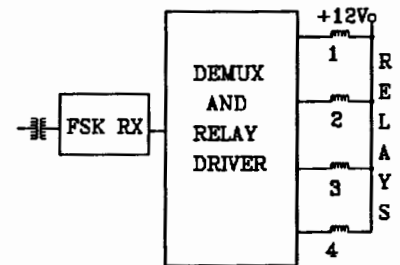
the voice band frequency range, such as 200Hz, 700Hz, 1200Hz and 1800Hz. Note, this makes it a little easier to troubleshoot too!

Bill's second scenario uses frequency shift keying. A multiplexer (MUX) is used



K1IBR's FSK encoding.

that enters data into the stream based on which switches are closed. The signal goes down the cable to the demul-



K1IBR's FSK decoding.

tiplexer which decodes the data and drives the associated relays. Note that this system is more easily expanded to include more relays.

Bill's other ideas include a polarity switched return to zero system, and a voltage level system.

Alas, no one else submitted any ideas, so Bill wins the contest.

The question now is what to do for the next contest. How about designing a unique circuit around a 565 IC chip? The winner gets a 565 IC as the prize!

Kids Net

The Champlain Valley Amateur Radio Club is sponsoring a "Kids Net" to encourage activity among young amateurs, and to promote interest in young non-amateurs. The net meets every Sunday at 7pm on 147.150+ in Plattsburgh, NY.

Packet Directory

144.990	N1KBT	145.090	KC1CE
144.990	NS1N	145.090	KD1NU
145.010	Fara Digi	145.570	WA1OAJ
145.010	N1CSI	145.530	KQ1K
145.050	WA1ZUF	145.710	KA1THM
145.070	WQ1O	145.710	KC1KM
145.090	AA1FS	145.710	N1LDY
145.090	K1UGM	145.730	KC1UA

Scholarships

The Foundation for Amateur Radio is administering 49 scholarships for the 1994-95 academic year. Awards from \$500 to \$2000 are available to fulltime college students who are licensed amateurs.

New Form 610

Beginning March 1, the FCC will accept ONLY the NEWest version of its form 610 for new licenses, renewals, call sign changes, etc.

Coast Guard Net

A "Coast Guard Net" will be called by N6LQ, a former RM2, beginning April 4th, 1994, at 1200 CST, on 14.300 MHz.

ARRL Survey

The ARRL is conducting a survey about the Vanity Callsign proposal. If you want

The Glossary

Amateur Service

A radio communications service for the purpose of training, communication, and technical study by duly authorized persons interested in radio technique solely with a personal aim and without payment of any type.

Peak envelope power

The average power of a signal at its largest amplitude peak.

your input to be heard, contact Bill Burden, WB1BRE, the New England Division Director.

This Week Anniversary

"This Week in Amateur Radio" will celebrate its one year anniversary on March 5th, with a special two hour show. The hobby's only satellite delivered audio bulletin service, carried on the Omega Radio Network each Saturday at 7:30 pm est, is on Galaxy III, 17, 5.8 MHz wideband audio.

For more information, contact WA3RKB at 518-877-7374, or via packet @ WA2UMX.#ENY.NY.

Members List Online

The SEMARA members list is available online at Dreamer's BBS (508-991-6058), and on packet at AA1FS (145.090), for quick look up of a member's address or phone number. Any member listed in the database can retrieve information about another member.

Lawman Net

The International Police Association Net meets weekly on 21.410 at 1700 UTC. Net control is Bob, W6RFX, and all law enforcement members are welcome.

Museum Net

The United Radio Amateur Club of Los Angeles is sponsoring a "museum station" net, from the Los Angeles Maritime Museum. K6AA, net control, invites all stations that operator from a museum to check in on 21.262 at 1815 UTC. The alternate frequency is 14.220. Further information is available via packet @ N6YN.#SOCAL.CA.

'94 SEMARA OFFICERS

President

Pete Carreiro, KA1WOJ, 993-6262

Vice-President

Robert Peckham, KA1YDG, 995-9137

Secretary

Karen Peckham, N1LIE, 995-9137

Treasurer

Pat Carreiro, KA1YUH, 993-6262

Board Members

William M. Miller, Jr., K1IBR

Bill Field, WA1FYF

Linda Medeiros, KA1QCO

Trustees

Bill Field, WA1FYF

Morris Fogaren, WB1GJO

Joe Midurski, W1EKW

Edward Blouin, KA1AW

Norman Robitaille, N1DNI

Buildings & Grounds Committee

Bill Field, WA1FYF, Chairman

Technical Committee

William M. Miller, Jr., K1IBR, Chairman

Ways & Means Committee

Pat Carreiro, KA1YUH, Chairman

Cordless Phone Frequencies

Ch.	Base	Handset
1	46.610	49.670
2	46.630	49.845
3	46.670	49.860
4	46.710	49.770
5	46.730	49.875
6	46.770	49.830
7	46.830	49.890
8	46.870	49.930
9	46.930	49.970
10	46.970	49.990

Repeater Directory

145.150 -	WA1DGW, Fall River
145.490 -	KA1WBF, Fairhaven
146.700 -	WA1RBT, Cranston
146.655 -	WA1GPO, Falmouth
146.685 -	N1OEG, Plymouth
147.000 +	W1AEC, South Dartmouth
147.045 +	WA1AIC, Yarmouth
147.135 +	ND1N, Taunton
147.180 +	WB1FLD, Bridgewater
147.315 +	N1BBT, Wareham
442.200 +	NY1D, Fall River
443.450 +	K1MYL, Westport
443.600 +	NS1N, Norwell
444.250 +	WA1GPO, Falmouth
444.350 +	W1ACT, Fall River
444.550 +	WA1ZUF, Bridgewater
446.325 -	KA1CLX, Plymouth
446.625 -	NC1K, Plymouth
448.675 -	N1FFH, West Greenwich

Know of any local repeater frequencies not listed here? Send them in to the editor!

CALENDAR

February

- 26: Cabin Fever Auction, Gardner, MA
- 26: Ham Fest, Milton, VT

March

- 3: 7:30p, SEMARA Business Meeting
- 5: Hamfest, Lewiston, ME
- 6: 10:30a, Ham Fest, Braintree, MA
- 12: Computer Show, Taunton, MA
- 18: Ham Fest, Hudson, NH
- 20: Ham Fest, Mattapoisett
- 26: BBS Computer Show, Fall River

April

- 6: 7:30p, Ham Fest, Barnstable, MA
- 7: 7:30p, SEMARA Business Meeting
- 17: Computer Show, Cranston, RI
- 17: MIT Flea Market
- 29,30: Dayton

May

- 1: Dayton
- 1: Computer Show, Taunton, MA
- 5: 7:30p, SEMARA Business Meeting
- 14: National Exam Day
- 15: MIT Flea Market

June

- 2: 7:30p, SEMARA Business Meeting
- 5: Flea, Newington, CT
- 19: MIT Flea Market

July

- 7: 7:30p, SEMARA Business Meeting
- 17: MIT Flea Market

August

- 4: 7:30p, SEMARA Business Meeting
- 21: MIT Flea Market

VE EXAMS

March

- 2: Acton, MA Dave, 508-263-3712*
- 5: Marshfield, MA Tom, 617-585-9425
- 6: Shirley, MA Tom, 508-425-6672*
- 6: Northampton, MA Jim, 413-245-3228
- 7: Cambridge, MA Bob, 617-593-1955
- 9: Billerica, MA Bruce, 508-851-2886
- 10: Providence, RI Judy, 401-231-9156
- 12: Marlboro, MA Bob, 508-485-7006*
- 12: Pittsfield, MA Adrian, 413-458-8219
- 12: Falmouth, MA Geoffrey, 508-548-0969
- 13: Gloucester, MA Rick, 508-283-2278
- 13: Fall River, MA Jesse, 508-676-8641
- 13: Shirley, MA Tom, 508-425-6672*
- 16: Lunenburg, MA Tom, 508-534-9377
- 19: Melrose, MA Scott, 617-322-7654
- 20: Westborough, MA Bob, 401-333-2129
- 20: Shirley, MA Tom, 508-425-6672*
- 23: Cambridge, MA Nick, 617-253-3776
- 25: Holyoke, MA Jim, 413-245-3228
- 27: Shirley, MA Tom, 508-425-6672*

April

- 2: Middletown, RI Jack, 401-683-2250
- 3: Shirley, MA Tom, 508-425-6672*
- 4: Cambridge, MA Bob, 617-593-1955
- 6: Acton, MA Dave, 508-263-3712*
- 9: Brewster, MA Henry, 508-255-2818
- 9: Falmouth, MA Geoffrey, 508-548-0969
- 9: Marlboro, MA Bob, 508-485-7006*
- 10: Athol, MA John, 508-249-5905
- 10: Framingham, MA Dick, 508-877-0563
- 10: Gloucester, MA Rick, 508-283-2278
- 10: Shirley, MA Tom, 508-425-6672*
- 13: Billerica, MA Bruce, 508-851-2886



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- 14: Providence, RI Judy, 401-231-9156
- 16: Marion, MA Dave, 508-991-4291*
- 16: Melrose, MA Scott, 617-322-7654
- 17: Shirley, MA Tom, 508-425-6672*
- 17: Southwick, MA Yorke, 413-566-3010
- 20: Cambridge, MA Nick, 617-253-3776
- 20: Lunenburg, MA Tom, 508-534-9377
- 22: Holyoke, MA Jim, 413-245-3228
- 24: Shirley, MA Tom, 508-425-6672*

*Some sessions require preregistration and do not allow walk-ins. Please check with the contact listed for each session to verify the exam date, time, and location.

SEMARA, Inc.
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