

PACK RATS'



PACK RATS

CLUB CALL: W3CCX

MT. AIRY VHF RADIO CLUB, INC.

CHEESE BITS



MT. AIRY VHF RADIO CLUB, INC., PHILADELPHIA, PENNSYLVANIA ARNS
 50.125, 144.150, 220.125, 432.110, 1296.110 MHz, W3CCX - Repeater 222.98/224.58 Mhz
 Affiliated Club: AMERICAN RADIO RELAY LEAGUE
 Meetings: Third Thursday of each month at 8:00 P.M.
 Southampton Free Library, 947 E. Street Road
 Southampton, Pennsylvania 19866

VOLUME XXVI

APRIL, 1984

NUMBER 4

THE PREZ SEZ

I am confident that each of us who witnessed the program during our regular meeting for March found it rewarding to listen to Dave, N3CX/s presentation. His photogenic and informative presentation sparked participation by many who were present. It was sure interesting to learn the inside story of how transmitters at a commercial TV station are made up and how they operate. "Mega-Thanks", Dave, for an outstanding show!

Next months program promises to be equally interesting. Paul, WB3JYO, has been working on putting together a show that will be of value to all of us. So plan to attend and gain a better understanding of our county and local communications systems.

Our program chairman, Dave, WB2VLA, has really put together some outstanding programs recently. Let all of us continue to support our club activities by keeping our attendance at our regular monthly meetings at or above the current level.

Our "Ladies Nite" is only a month away; so, put only your YL or XYL in your plans for Saturday, April 28, 1984. This event, this year, should be the best ever. Doc, K3GAS, banquet chairman and the awards committee members are working hard to make this an enjoyable evening for everyone.

Looking forward to seeing all of you at both events in April, the regular meeting and the annual banquet.

Bill, WA2DPU

* * *

NOTICE

There is a new newsletter available for the VHF/UHF enthusiast called the "VHF+ Trading Post" which is run by Jack Parker, KC0W of Bismark, North Dakota.

The VHF+ Trading Post recently completed its 2nd issue and its number of subscribers is steadily growing as word spreads around. The newsletter includes operating news from 50 Mhz on up to the microwaves, schedule requests for moonbounce and meteor scatter work, and swap and sell items. In the near future, short technical articles and construction projects will be part of the publication.

The subscription rate is presently \$3.00 per year (12 issues). The address is VHF+ Trading Post, 1420 East Sweet Avenue, Bismark, North Dakota 58501

Tnx - KA3B

Pack Rats CHEESE BITS is a publication of THE MT. AIRY VHF RADIO CLUB, INC. Philadelphia, Pa. and is published monthly.

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We operate on an exchange basis with other publications. Anything that is printed in CHEESE BITS may be reprinted, unless otherwise stated, provided that proper credit is given.

SWAP SHOP ITEMS - NO CHARGE

DEADLINE FOR ARTICLES IS THE GENERAL MEMBERSHIP MEETING: THE THIRD THURSDAY OF THE MONTH.

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W2EIF, JOSEPH KILGORE
609-783-9478

CLUB HISTORIAN:

W3CL, HARRY B. STEIN

MONDAY NIGHT NETS

7:30 PM - 50.125 MHZ
8:00 PM - 144.150 MHZ
8:30 PM - 222.98/224.58
8:45 PM - 220.125 MHZ
9:00 PM - 432.110 MHZ
9:30 PM - 1296.1 MHZ

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W2EIF
K3GAS
WA2DPU-K3GYS
K3IUU-WA2DPU
W3CXU

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WA3YUE, BRUCE LOSS (2 yrs)
W3IIT, HARRY BROWN (1 yr)
WB2RVX, MIKE GALLO (1 yr)



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CALENDAR OF COMING EVENTS
Syllabus by Lee, K3MXM

APRIL

- 1 The Delaware Valley Radio Association Hamfest - NJ National Guard Armory, Eggerts Crossing Road, Lawrenceville, N.J. A nearby Hamfest and well worth attending.
- 1 Personal Computer Show - Madison Square Garden, NYC, NY
- 6 Joseph Smith founded the Mormon Church, Fayette, NY 1830
- 7 (Saturday) Flemington Hamfest, Hunterdon High School, Flemington, N.J.
Info: Cherryville Repeater Assoc., Box 76, Fairview Dr. RD, Annandale, NJ 08801
- 7 Alewives begin run - Cape Cod, Mass. Let's go get them....
- 12 Board of Directors Meeting, QTH: W2AXU, Jack Power, 102 Upper Ferry Road, Trenton, N.J. Will monitor Pack-Rat Repeater for directions. Directors and interested amateurs always welcome to express their views.
- 14-15 The Ninth Trenton Computer Festival - Trenton State College, Trenton, N.J. Anyone into computers, learner or pro, this is the place to go -- Seminars, manufacturers displays and a big BIG flea market...
- 15 PALM SUNDAY
- 16 ARRL VHF/UHF Spring Sprint - 144 Mhz - 6 P.M. to midnight - local time.
- 17 PASSOVER
- 18 The Great San Francisco Earthquake - 1906
- 19 General Club Meeting - Southampton Free Library - 8 P.M.
Topic: Drex, W3ICC, Assisted by Paul, WB3JYO, will present a talk on county-wide and local public safety communications. The Mario Raffle, Frankie's Silent Auction, free refreshments. An open meeting to one and all.
- 20 GOOD FRIDAY
- 21 QRP ARC International QSO Party
- 22 EASTER SUNDAY
- 23 Hank Aaron hit his first home run in 1954
- 24 ARRL VHF/UHF Spring Sprint - 220 MHz - 6 PM to midnite - local time
Info Dept: 5/2 - 432 Mhz 5/10 - 1296 Mhz 5/19 - 50 Mhz
Full rules will be in April 1984 QST
- 27-29 DAYTON HAMVENTION - "The Big Daddy of All Hamfests"
- 28 PACK-RAT BANQUET AND LADIES NITE - Warrington Motor Lodge, Warrington, Pa.

NEW PRODUCTS OF INTEREST TO HAMS

By Lyn, W3NSI

1. HT AMP AND AC P.S. COMBO - 144 MHZ: VoCom Products Corp, is advertising an RF amplifier power supply module that can be used as a base station or mobile unit. When mobile, an HT rated at up to 5 watts output is coupled to the amplifier boosting the output to 35 watts. A 9.6 VDC regulated output is available at up to 1 amp to power the HT when mobile. When operated as a base unit, the built in AC supply powers the amp and the HT for fixed use. The power supply can also be used as an aux. P.S. for up to 7 amps at 13.8 VDC. Price \$100
65 E. Palatine Rd., Prospect Heights, IL 60070
2. ATV TRANSMITTER - KPA 5: P C Electronics has come out with a 1 watt color TV and audio unit built and tested on a 3x4 inch PC board. The unit could be mounted on a color TV camera as used with VCRs and operating on 439.25 Mhz, transmit the signal back to remote point for either recording or viewing. This would have the advantage of not having to carry the VCR recorder unit around. This is quite a trade-off in bulk and weight considering the 8 pounds of recorder against about 4 - 6 oz. of KPA5. For base use, this transmitter could be used with a low 'Z' mic for audio and could drive a higher power amplifier to increase the range a bit. Used alone, the KPA5 should be good for a mile at least. Operation is from 12 VDC at 1/4 amp. PC Electronics, 2522 Paxson Lane, Arcadia, CA 91006
3. HANDHELD REGENCY SCANNERS: Regency will soon introduce their HX 1000 and HX 3000 handheld scanners. The HX 1000 is a 20 channel programmable with a digital readout, covering 30-50, 144-174, 440-512 Mhz. List price is \$330 but it is being advertised at 210. The HX 3000 is the upscale version covering 25 to 550 Mhz in one continuous range. Both AM for the aircraft frequencies and FM are used. Up to 20 channels can be programed and the frequencies read on the LCD display. This should be the interesting item with coverage of 220 and the 225-400 Mhz military band (AM). List price is \$450 but is probably going to sell in the 325 class. The HX 3000, covering 5 ham bands should be a very popular item.

* * *

VHF/UHF REPORT

By Joe, W2EIF

The VHF/UHF bands have been quiet. There are a few contacts on 6 and 2 meters, an occasional bit of Es on tropo. One can usually find contacts on 2 mtrs around 144.2 Mhz. The packrat nets continue to do well, with good participation through 1296 Mhz. Wednesday nite, one can usually spot and sign into the North Carolina net run by either K4CAW or WA4ZIA. They usually point their beams in this direction about 10:15 P.M. local time.

The period January through April is usually the poorest propagation time of the year for VHF/UHF and probably causes the gang to look to other modes. One of these which seems to have sparked considerable interest, is the use of the satellite. The availability of the Yaesu 726 R and also the MMT 432/435 module seems to have made it easy to use the satellite. WB2NPE and W3HFY have been having a ball working Germany, Japan, Australia and many others using the 435.1 Mhz uplink - 145.9 downlink mode. These are the center frequencies. When receiving CW will be heard from 145.850 to 145.9, and SSB, 145.9 to 145.95. When transmitting CW is sent from 435.1 to 435.15, and SSB is sent from 434.95 to 435.1. Note that the SSB is inverted for example for USB to appear on 145.92 one must use LSB on 434.98 if you don't have 435 capability and just want to listen (a) obtain a schedule of the satellite orbits, azimuth, portion above the Horizon, (b) use the antenna that you have, preferably a beam, (c) point it in the direction of the satellite and listen from 145.095 to 145.15 Mhz. Maybe you will be able to hear Japan on 2!!

* * *

SWAP SHOP

FOR SALE: Heath H-89 digital computer system with 64KRAM, interantion disk drive, RS-232C interface, H-77 external disk drive + 60 floppy disks containing two operating systems. Loads of software, games and programs. Also advice & instructions.

CONTACT: W3FQD, Dick Huntzinger
Phone: 215-357-2960

FOR SALE: Motor-generator - 2.5KW - 2 cylinder army model No. PE75A - \$135. SB-500 - Heath 2 meter transverter - set up to operate w/heath 6 mtr SB110-\$50.

CONTACT: W3KKN, Ernie Kenas
Phone: 215-659-3485

FOR SALE: Two 9 el KLM 2 mtr beams; mounted on Horiz. cross boom \$35. Hygain 66B 6 el 6 mtr beam - all stainless hardware \$30.

CONTACT: WA2OMY - Gary Hitchner
Phone: 215-539-6409

FOR SALE: Gonset 903 2 mtr amp. (Single 4Cx250) \$300. Drake rcvng conv. SC-2, SC-6 CP1 & crystal calibrator \$75.

CONTACT: WA2DPU, Bill Smith
Phone: 609-386-2348

FOR SALE: Drake 2B with speaker and Q Multiplier. Good condition \$100. T4XC with power supply, \$210. Looking for 220 microwave module.

CONTACT: Dave Hackford, N3CX
Phone: Work = 215-482-0428
Home = 215-679-7293

FOR SALE: Tentec 509, pwr sply (100 W. line) \$395 Astron pwr suply - 35 amp. int./25 amp. cont. \$125. Heathkit HWB w/Regency pwr sply \$125. Complete Collins S-line w/ML-31 linear plus many extras - make offer. Tentec paddle w/four memory keyer \$65. Vibroplex keyer \$15. Super Dentron tuner \$75. Mosley Jr beam 10-15-20 mtrs \$85. Two 11 el. 2 mtr beam stacked w/rotator \$100. Mini-quad w/rotator \$95. Tentec freq. counter \$295.

CONTACT: A1, W3JWD
Phone: 215-332-9114

FOR SALE: Deepthroat jig-saw w/motor & table a bargain.

CONTACT: K3OBY, Jim Bowman
Phone: 215-342-6392

FOR SALE: Collins 75-A4 receiver - very good condition - with 3 filters \$250.

CONTACT: Harry Stein, W3CL
Phone: 215-887-5052

FOR SALE: 4-400A/8438 \$15; PL 4-400A \$15; 7527 (4-400) new \$55; Digitally tuned AM/FM stereo for late model GM vehicles(w/clock) and 4 speakers (new) \$150; pair Jensen 4"x10" triaxial speakers \$25; micro cassette recorder \$10; passive subwoofer crossover (60 or 80Hz) DAL Quist model MXI \$105; Stereo cassette deck (for home stereo) Panasonic model RS-270US (Needs drive belt)\$40; Heath Field strength meter \$5; Stereo turntabel realistic model LAB-300 \$70; pair harley Davidson leather pants \$65; Honda CB-550 1975 motorcycle \$1,000; Honda CB-900 1980 motorcycle \$3,000.

CONTACT: Steven M. Simons, KF6AJ,
40 Lake Avenue Extension, Danbury,
Ct. 06810

Phone: days - 203-743-4416
nites - 203-746-6482

(I can transport the smaller items to Philadelphia on my frequent trips to the area

* * *

ANNOUNCEMENT

I would like to extend an exclusive invitation to all Packrats who are planning to attend the Tenth Eastern VHF/UHF conference. I will be hosting a cocktail party during the weekend of May 4-6, 1984 for Packrats only at my home in Nashua NH. I will also act as tour guide and reservation coordinator for Packrats making the trip. For more information Contact: K3HW, Hal Weinstein, 3 Melrose Street, Nashua, NH 03060. Phone: Home: 603-882-4817 Work: 603-885-7054

* * *

THE FOUNDATION FOR AMATEUR RADIO
RELEASE DATE: 3/1/84

THE FOUNDATION FOR AMATEUR RADIO, INC., a non-profit organization with Headquarters in Washington, D.C. plans to award fifteen (15) scholarships for the academic year 1984-85. The Foundation composed of fifty local area amateur radio clubs, fully funds two of these scholarships from the proceeds of its annual Hamfest. It administers without cost to the donors, three scholarships for the Quarter Century Wireless Association, two for the Dade (FL) Radio Club and one each for the Radio Club of America, the Richard G. Chichester Memorial The Young Ladies' Radio League, the Edmund B. Redington Memorial, the Amateur Radio News Service, the Columbia (MD) Amateur Radio Association, the Baltimore (MD) Amateur Radio Club and the Lewis G. Wilkinson Memorial.

Licensed Radio Amateurs may compete for one or more of these awards if they plan to pursue a full-time course of studies beyond high school and are enrolled or have been accepted for enrollment in an accredited university, college or technical school. Most of the scholarships require the applicant to hold at least an FCC General Class license or equivalent. The scholarship awards range from \$350 to \$900 with preference given in some cases to residents of specified geographical areas or the pursuit of certain study programs.

Additional information and an application form can be requested by a letter or QSL/postcard, postmarked prior to May 31, 1984 from:

FAR Scholarships
6903 Rhode Island Avenue
College Park, Maryland 20740

The Foundation is devoted exclusively to promoting the interests of Amateur Radio and to those scientific, literary and educational pursuits that advance the purposes of the Amateur Radio Service.

* * *

FROM: NORTHEAST VHF NEWS
Volume 13, No. 1, March, 1984

2304 MHz RECORD ESTABLISHED: A truly remarkable QSO occurred on July 28, 1983. W4HHK worked W8YIO on 2304 MHz, a distance of 582 miles!! Paul, W4HHK a pioneer in the business, related with understandable exuberance that after many weeks of skeds between the stations, contact was made via CW on troposcatter, with both stations running a kilowatt and "home-type" stations. Paul ran his 18-foot dish at 35 feet, while W8YIO used an 8-foot dish. This is believed to be a new U.S. distance record for 2304 MHz. (TNX Lunar Letter).

* * *

SUBJECT: ARMED FORCES DAY AT WEST POINT:

On May 12 and 13, 1984 the Meadowlands Amateur Radio Association will be operating at the United States Military Academy at West Point, New York in honor of "Armed Forces Day 1984".

The Club will be operating under the Club station call "N2BMN". The following is the list of operation: May 12, 1984...at 1400Z to 2000Z May 13, 1984...at 1400Z to 1700Z End. 14310 Mhz...SSB; 7.250 MHZ...SSB; 144.225 MHZ...SSB; 146.550 MHZ...FM: 50.125MHZ...SSB.

Send a large S.A.S.E. with a \$.37 U.S. Postage to accommodate an 8 1/2 x 11 certificate of confirmation of QSO to: P.O. Box 324 Little Ferry, N.J. 07643. CU on the Air, N2BMN.
(Times -UTC)

* * *

TV TEST PATTERN
(A SOFTWARE PROGRAM)
By Bert, K3IUW

Recently, I needed a test pattern source for doing a convergence adjustment on a color tv set. It seemed like an ideal task for the home computer. I prepared the following program to generate an array of small white crosses on a black background. It worked well for the task at hand. You may find it useful. The program is written in TI BASIC which should be adaptable to Commodore, Sinclair, etc.

```
100 REM THIS IS A TV TEST PATTERN PROGRAM FOR CONVERGENCE ADJUSTMENT
110 CALL CLEAR
120 CALL COLOR (2, 16, 2)
130 FOR A=1 TO 24 STEP 3
140 FOR B=1 TO 29 STEP 3
150 CALL HCHAR (A,B,43)
160 CALL VCHAR (A,A,43)
170 NEXT B
180 NEXT A
190 GO TO 190
200 END
```

If anyone has any other useful short programs, I would be interested in seeing them. Also interested in information on an RS232 interface for the TI99 or adaptation of a printer to the unit.

* * *

VISITORS - MARCH 15, 1984 MEETING

KA2NYF - Janet, Deptford, N.J.	K2TXB - Russ, Tabernacle, N.J.
WB2ONA - Warren, East Brunswick, N.J.	KA2NWI - Don, Kendall Park, N.J.
W3BNQ - Sam, Blue Bell, Pa.	Ex K3EMR - August D. Felix, Elkins Park,
WB8ZAR, Dave, Cinnaminson, N.J.	

APPLICATION FOR MEMBERSHIP

WB2ONZ - Warren Whelan
8 Gunia St.
East Brunswick, N.J. 08816

CHANGE OF ADDRESS

W3AJF, Horace Deacon, Jr.
3625 W. Moreland Road, Apt. L-26
Willow Grove, Pa. 19090

KD6KD, Greg Adams
43 Nettle Tree Lane
Levittown, Pa. 19054

* * *

FROM THE ARRL LETTER MARCH 15, 1984

UoSAT-B was successfully launched from Vandenberg AFB on March 1, 1984, at 1959 UTC. Following the deployment of the Landsat-D' satellite, UoSAT-B (now called UoSAT 2 or UoSAT-OSCAR 11), separated from the launch vehicle at 2111 UTC. (Landsat was the primary payload, an Earth resources technology satellite.) Initial telemetry indicated that the spacecraft was functioning nominally. However, on the second day of orbit,

(Continued on Page 8)

TID BITS

Sun Watcher, Jack Power, W2AXU, reports the Monthly Sunspot No. for February 1984 = 84.5 -- Smoothed No. for August 1983 = 65.7.

K3VYG, Gordon Vogt has been under the weather - hope you are feeling better by press time!

W2EIF, Jo Kilgore didn't make our last meeting - it all started with a flat tire on Rte. 73 in New Jersey - be careful out there Jo!

Our traveling Pack-Rats warming up in Southern climes are back again - W2AXU & WA2WYE; W3KKN & W3TNP, W3ZD & WB3DSK, K3MXM & Peggy. K3KTY is back down again and then over to England.

Two of our members have applied for the VEC program - K3QQ, Ric Jansen and AK30, Frank Kerns.

K3ACR reports he will be putting up his tower this Spring after a bit of a windfall. Will be back with good VHF antenna systems.

* * *

ARRL BULLETIN NR 16 FROM ARRL HEADQUARTERS NEWINGTON CT MARCH 9, 1984 TO ALL RADIO AMATEURS BT; The FCC has released a Notice of Proposed Rulemaking on the subject of reimbursement of out of pocket costs incurred by volunteer examiners and volunteer examiner coordinators in connection with the preparation, processing or administration of Amateur Radio examinations. FCC proposes in PR Docket 84 265 that volunteer examiners and volunteer examiner coordinators may be reimbursed for actual expenses incurred, but total reimbursement for an examination may not exceed four dollars. The four dollar figure may be adjusted annually for inflation. FCC does not specify how the reimbursement fee is to be divided between VEC and VE. Comments are due by April 16, reply comments by May 1. Details will be in the ARRL letter for March 15 and in May QST AR.

* * *

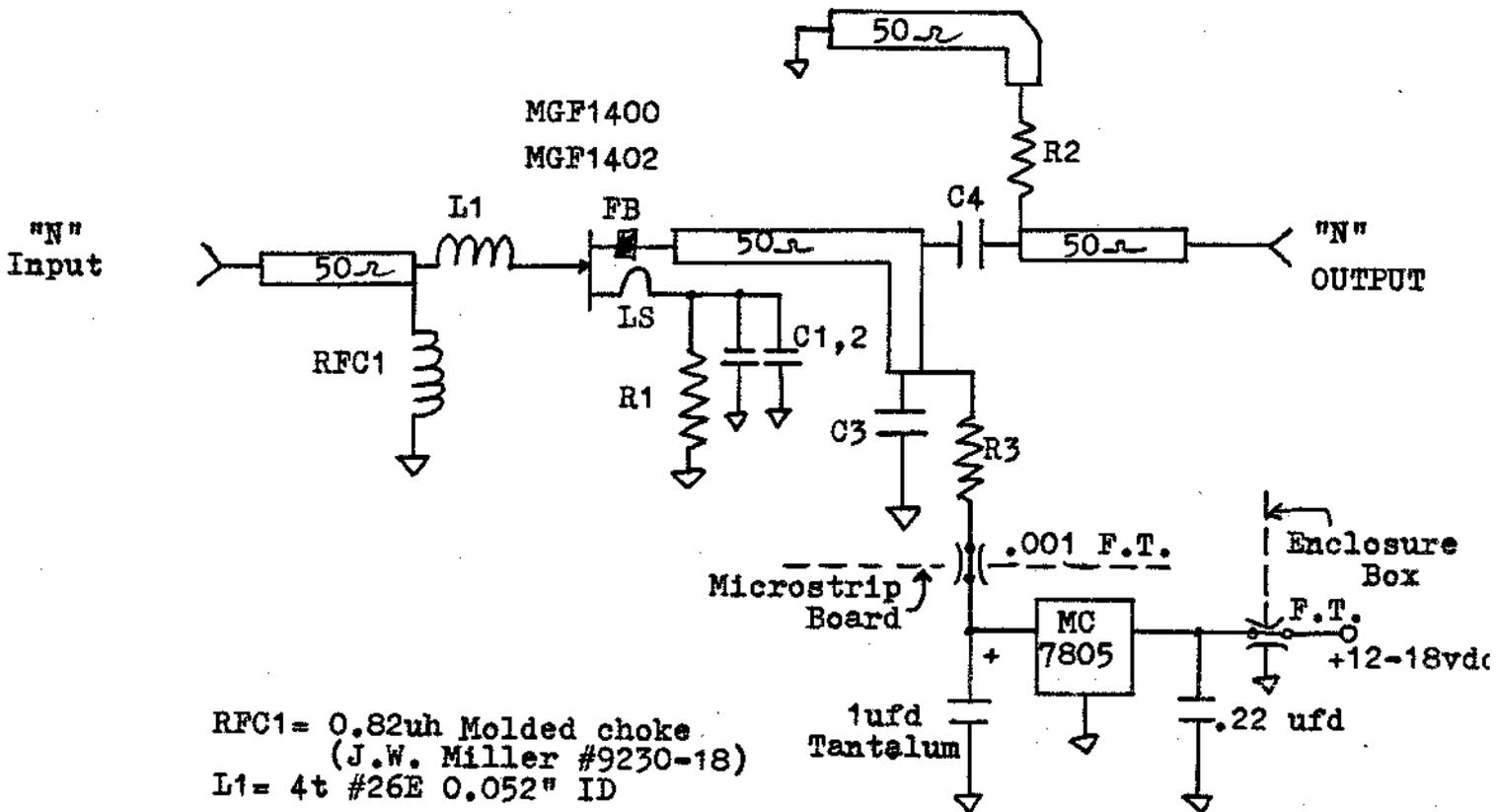
ARRL LETTER CONTINUED

the spacecraft became silent, and the command station at the University of Surrey (England) was unable to command the satellite. Reports indicate that the beacons are on, but at a very reduced power output (on the order of a few microwatts!). In order to hear the beacons, an antenna array capable of moonbounce communications must be used.

Harold Price, NK6K, reports that attempts to command the satellite using the 1.2 GHz uplink have been going on, but without success. Orbital predictions from Phil Karn, KA9Q, have been corrected to compensate for Doppler shift. (Doppler shift at 1.2 GHz is on the order of 30 kHz per minute!). One of the problems with the orbital predictions is that there is a bit of confusion as to whether the elements are based on the landsat or UoSAT satellite. Observations indicate that it is possible that "Landsat" is actually "UoSAT," or perhaps the two satellites are very close together, and another possibility (although highly unlikely) is that Landsat is producing some 145.825 MHz spurs, making tracking the satellite difficult.

The command group has been using Chip Angle's (N6CA) station, running 160 watts into a 340-element array, for about 60 kW EIRP. Wally Lynstruth, WA6JPR, Skip Hansen, WB6YMH, and Henry Radio, through Jack Somers, WA6VGS, have loaned equipment for the effort. These command attempts will continue after the tracking problem is sorted out.

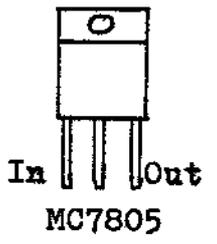
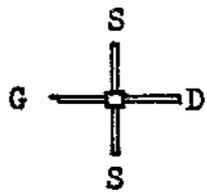
Modifications to W6PO type 1296 Mhz. Preamp
by Dave Mascaro, WA3JUF



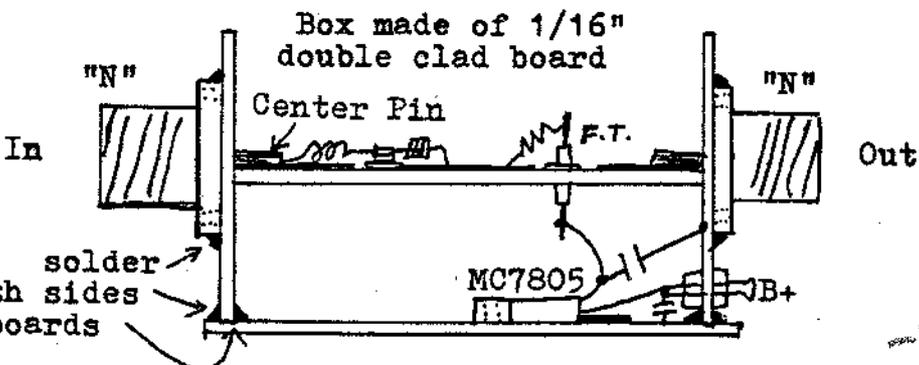
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C1,2 = 100pf RMC uncased discs
(Applied Invention) (mount device with LS = 3/4 of lead length)
C3,4 = 100pf chip caps (ATC or Vitramon)
Ceramic caps preferred

R1 = 68Ω (68-100Ω)
R2 = 51Ω 1/8w with no lead length
(cut slot in board for R2)
R3 = 68Ω (68-100Ω)



Typical enclosure using end launchers.



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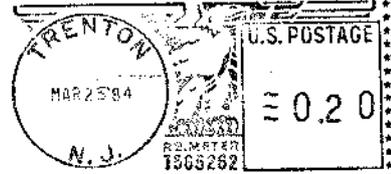
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