

B-VARC

BULLETIN

The Monthly Publication of the
BRAZOS VALLEY AMATEUR RADIO CLUB, INC.

Fort Bend and Harris Counties, Texas

Editor-in-Chief: Production Editor:

Brenson Abbott - N5FSS Gerald Borg - N5APW

**PUBLICATION DEADLINE:
THE THIRD THURSDAY OF EACH MONTH**



VOLUME 10 ISSUE 4

APRIL 1987

OUR PRESIDENT SAYS

It's Picnic Time Again! On April 11 (rain date April 25) we will again gather at Doug Holley's place for the Bvarc Spring Picnic. Doug will be preparing the meat (Brisket) and Wade Eilers will be preparing the Sausage for us. Those who have attended before know it's a great afternoon not to be missed. The tickets, to cover the cost of the main course, will be \$3.00 per person. Laura Yates, KA5SGM, will be coordinating the side dishes and desserts. Please call her at 578-6321 (or see her at the club meeting) to let her know what you can bring. Thanks again, to Doug, for hosting our picnic!

Sharpstown Mall Time! Saturday, May 2, we will again provide free Mother's Day messages to the public in the Mall. This is a lot of fun. Many people come by to see what Amateur Radio is all about. If you can help out with equipment or setup please contact Steve Gottlieb, WA5OEN. In any case, please stop by our booth and say hello!

Field Day is coming soon, the weekend of June 27-28. This year the ARRL has invited Navcor Mars to participate in Field Day. Any station contacting at least one participating Mars station gets a 100 point bonus.

Continued on Page 7

BVARC MEETINGS

MEMBERSHIP MEETINGS

DATE: Second Thursday
TIME: 7:00 PM Eyeball
7:30 PM Meeting & Program
PLACE: Missouri City Courthouse,
located one mile south of
US 90-A on FM 2234

BOARD MEETINGS

DATE: First Saturday
TIME: 10:00 AM
PLACE: 10701 Corporate
Drive
VE Exam
location

BVARC NETS

Public Service Net

DATE: Mondays
TIME: 9:00 PM Local
PLACE: 145.47/144.87

Ft. Bend Cty. Emer. Net

DATE: Mondays
TIME: 8:00 PM Local
PLACE: 145.25/144.65

Slow Speed CW Net

DATE: Wednesdays
TIME: 7:45 PM Local
PLACE: 3.740 MHz

Ragchew Net

DATE: Wednesdays
TIME: 8:30 PM Local
PLACE: 3.960 MHz

BVARC OFFICERS AND DIRECTORS

PRESIDENT George Jolly, ND5E
VICE PRESIDENT Steve Yates, KA5DUU
SECRETARY Herb Nance, N5GZW
TREASURER Gerry Borg, N5APW
DIRECTOR - 3 year Robert Ricketts, N5JKD
DIRECTOR - 2 year Clint Gilliland, N5FNA
DIRECTOR - 1 year Jim Arnold, W5RNK
DIRECTOR - Past President Steve Schuster, WA5G

Treasurer's Report.....

Treasurer's Report as of April 6th, 1987

Balance as of February 27th, 1987			\$832.92
RECEIPTS			
1987 Dues	\$46.00		
Total Receipts	<u>\$46.00</u>		\$46.00
EXPENSES			
NSAPW - Postage for March	\$35.29		
Total Expenses	<u>\$35.29</u>		(\$35.29)
Balance as of January 31st, 1987			<u>\$843.63</u>

J

VOLUNTEER EXAMINATION SESSION SCHEDULES

The following are the Amateur Radio license exams scheduled to be held in this area in April and May, 1987. Info listed is:

- A. SPONSORED BY
- B. Session date
- C. Session location
- D. For information contact

- | | |
|-------------------------|----------------------------|
| 1. A. BRAZOS VALLEY ARC | 2. A. HOUSTON ECHO SOCIETY |
| B. (1) Apr. 14, 7PM | B. May 16 |
| (2) Apr. 25, 9AM | C. Houston, Tx. |
| (3) May. 12, 7PM | D. Frank Robichaux N5EJX |
| (4) May. 23, 9AM | 713-931-9091 |
| C. (1) Houston, Tx. | 3. A. BRAZOSPORT ARC |
| (2) Stafford, Tx. | B. May. 2 |
| (3) Houston, Tx. | C. Clute, Tx. |
| (4) Stafford, Tx. | D. Steve Ray KA5KRI |
| D. Stu Lamkin WB5IGG | 409-297-7494 |
| 713-777-3345 | 4. A. SAM HOUSTON AR KLUB |
| | B. Apr. 18 |
| | C. Cleveland, Tx. |
| | D. Sam Neal N5AF |
| | 713-592-2257 |

novices and techs on 10 METERS

Beginning March 21, 1987 UTC, Novice and Tech licensees were authorized to use SSB on 28.300 - 28.500 MHz. For full details on the Novice Enhancement order of the FCC, see QST for April 1987.

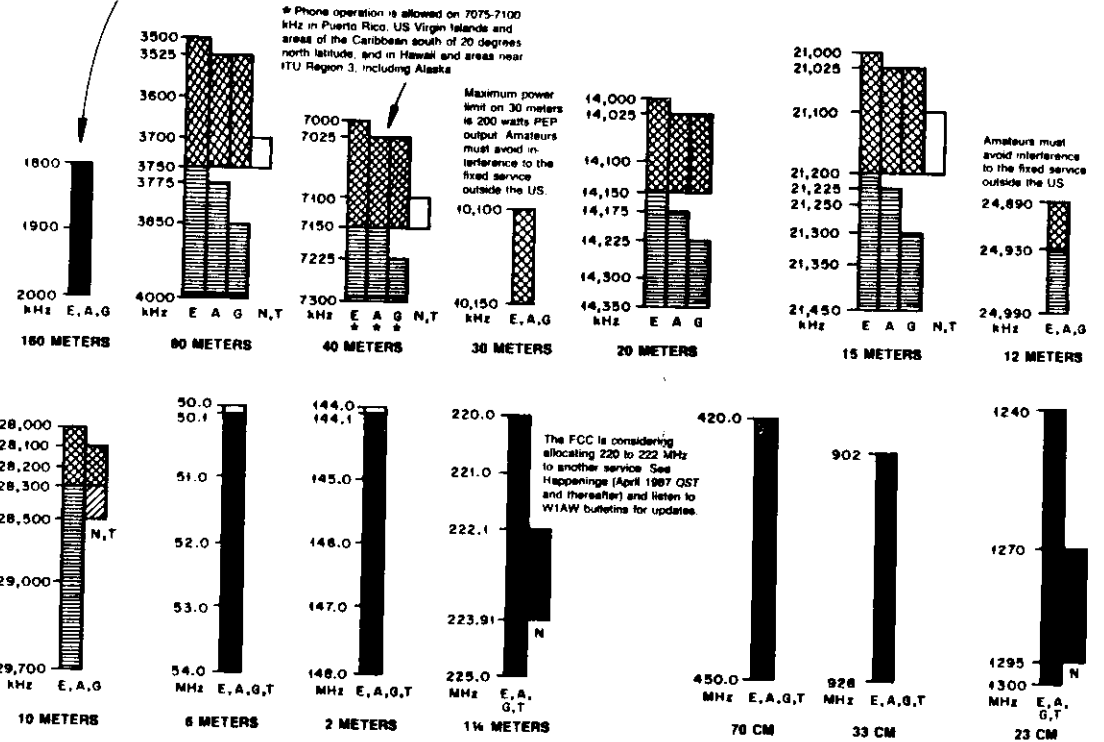
To give them a local net on which to use this new privilege and, hopefully to encourage them to upgrade to higher class licenses where they can REALLY PARTICIPATE in ham activities, the Houston SHOT Ten-Ten group has changed their weekly net frequency to 28.488 MHz. This net meets every Tuesday night at 8 PM Local time and hope to have a lot of new checkins from Novices and Techs.

FREQUENCY CHART

Amateur stations operating at 1900-2000 kHz must not cause harmful interference to the radiolocation service and are afforded no protection from radiolocation operations, see January 1986 Happenings for details

US AMATEUR BANDS

(Effective 0001Z, March 21, 1987)



Operators with Technician class licenses and above may operate on all amateur bands above 50 MHz. For more detailed information see *The FCC Rule Book*.

KEY

- = CW ONLY
- ▨ = CW AND RTTY
- ▩ = CW VOICE, SSTV AND FAX
- = CW VOICE, SSTV, FAX AND RTTY
- ▧ = CW AND SSB
- E = EXTRA
- A = ADVANCED
- G = GENERAL
- T = TECHNICIAN
- N = NOVICE

US AMATEUR POWER LIMITS

At all times, transmitter power should be kept down to that necessary to carry out the desired communications. Power is rated in watts PEP output. Unless otherwise stated, the maximum power output is 1500 W. Power for all license classes is limited to 200 W in the 10,100-10,150 kHz band and in all Novice subbands below 28,100 kHz. Novices and Technicians are restricted to 200 W in the 28,100-28,500 kHz subband. In addition, Novices are restricted to 25 W in the 222.1-223.91 MHz subband and 5 W in the 1270-1295 MHz subband. (Effective 0001Z, March 21, 1987)

NET CONTROL SCHEDULE

2M - BVARC Public Service Net 144.87/5.47(ALT. 144.65/5.25)
4/1 - 4/8 - 4/15 - 4/22 -
4/29 -

75M - BVARC Rag Chew 3.960 MHz.
4/1 - WB5IGG 4/8 - WB5IGG 4/15 - WB5IGG 4/22 - WB5IGG
4/29 - WB5IGG

80M - BVARC Slow Speed CW 3.740 Mhz.
4/1 - Open 4/8 - Open 4/15 - Open 4/22 - Open
4/29 - Open ***** ***** *****

HONOR ROLL
B-VARC VOLUNTEER COMMUNICATORS

A. Houston - Tenneco Marathon
B. Bayou City Fun Run
C. MS-150 Bike Ride
D. Houston Azalea Run

Dick Hagerman WB5SRN - A	Ray Dillard WA5F - A,D
Joe Ross KA5GTU - A,D	Henry Freidenberg N5HF - A
Harold Parker ND5F - A	Tom Sellers K5CNU - A
Stu Lamkin WB5IGG - A	Roger Messick KA5NTY - A
Steve Dunkelberger N5JBL - A,D	Dick Hagerman WB5SRN - D
Gerry Borg N5APW - D	George Jolly ND5E - D

Thanks to roger (KA5NTY) and Jeff (N5ECP) for making last years MS-150 planning and activity a success.

Well as you can guess it is time to do it all over again I still need a couple of volunteers for the medical vans people that bring a HT or a mobile rig with mag mount antenna to supply communications for those vehicles with the rest of the group.

We also plan to have a nice dinner in Austin after the bike tour, so join us for a good time away from Houston.

MS-150 April 4 and 5.

Contact Ray Dillard WA5F - 467-9245

SUNDAY	MONDAY	TUESDAY	WEDNESDAY
WEST HOUSTON RACES NET 8:00 PM 146.06/66 MHz	S. TEXAS EMERGENCY: 8 PM 145.47/87 FT BEND CNT ARES: 8:00PM 145.25/65: BVARC PUBLIC SVC: 9:00PM 145.47/87:	10X HOUSTON SHOT: NET 8 PM 28.488 AMSAT NET 10 PM 145.45/4.85 MHz	1 BVARC SI CW NET 7:45 PM BVARC RA 75M SSB 8:30PM
5 WEST HOUSTON RACES NET 8:00 PM 146.06/66 MHz	6 S. TEXAS EMERGENCY: 8 PM 145.47/87 FT BEND CTY ARES: 8:00PM 145.25/65: BVARC PUBLIC SVC: 9:00PM 145.47/87:	7 10X HOUSTON SHOT: NET 8 PM 28.488 AMSAT NET 10 PM 145.45/4.85 MHz	8 BVARC SI CW NET 7:45 PM BVARC RA 75M SSB 8:30PM
12 WEST HOUSTON RACES NET 8:00 PM 146.06/66 MHz	13 S. TEXAS EMERGENCY: 8 PM 145.47/87 FT BEND CTY ARES: 8:00PM 145.25/65: BVARC PUBLIC SVC: 9:00PM 145.47/87:	14 VE-EXAM 7:00 PM 10X HOUSTON SHOT: NET 8 PM 28.488 AMSAT NET 10 PM 145.45/4.85 MHz	15 BVARC SI CW NET 7:45 PM BVARC RA 75M SSB 8:30PM
19 WEST HOUSTON RACES NET 8:00 PM 146.06/66 MHz	20 S. TEXAS EMERGENCY: 8 PM 145.47/87 FT BEND CTY ARES: 8:00PM 145.25/65: BVARC PUBLIC SVC: 9:00PM 145.47/87:	21 10X HOUSTON SHOT: NET 8 PM 28.488 AMSAT NET 10 PM 145.45/4.85 MHz	22 BVARC S CW NET 7:45 PM BVARC R 75M SSB 8:30PM
26 WEST HOUSTON RACES NET 8:00 PM 146.06/66 MHz	27 S. TEXAS EMERGENCY: 8 PM 145.47/87 FT BEND CTY ARES: 8:00PM 145.25/65: BVARC PUBLIC SVC: 9:00PM 145.47/87:	28 10X HOUSTON SHOT: NET 8 PM 28.488 AMSAT NET 10 PM 145.45/4.85 MHz	29 BVARC S CW NET 7:45 PM BVARC R 75M SSB 8:30PM

AY	THURSDAY	FRIDAY	SATURDAY
: 2	: 3	: 4	BREAKFAST
SPEED:	:	:	BUNCH HOLLIDAY
40 MHz:	:	:	INN S.W. FREEWAY:
:	:	:	WEST BELFORT
CHEW :	:	:	8:30 AM
T :	:	:	BVARC BOARD
60 MHz:	:	:	MEETING RESCHED-
:	:	:	ULED FOR MS-150
: 9	: 10	: 11	:
SPEED: BVARC GENERAL	:	:	:
40 MHz: MEMBERSHIP	:	:	BREAKFAST BUNCH
:	:	:	HOLIDAY INN
CHEW : FELLOWSHIP 7 PM	:	:	S.W. FREEWAY &
T : MEETING	:	:	WEST BELFORT
60 MHz: -CALL TO ORDER-	:	:	8:30 AM
:	:	:	:
: 16	: 17	: 18	:
SPEED:	:	:	:
40 MHz:	:	:	BREAKFAST BUNCH
:	:	:	HOLIDAY INN
CHEW :	:	:	S.W. FREEWAY &
T :	:	:	WEST BELFORT
60 MHz:	:	:	8:30 AM
:	:	:	SAM-HOU VE EXAM
: 23	: 24	: 25	:
SPEED:	:	:	BREAKFAST BUNCH
40 MHz:	:	:	HOLIDAY INN
:	:	:	S.W. FREEWAY &
CHEW :	:	:	W. BELFORT 8:30A:
T :	:	:	:
60 MHz:	:	:	VE EXAMS 9:00 AM:
:	:	:	:
: 30	:	:	:
SPEED:	:	:	BREAKFAST BUNCH
40 MHz:	:	:	HOLIDAY INN
:	:	:	S.W. FREEWAY &
CHEW :	:	:	W. BELFORT 8:20A:
T :	:	:	:
60 MHz:	:	:	:
:	:	:	:

Continued from Page 1

By the way, we will be moving the April Board of Director's meeting to avoid conflict with the MS-150. If you are planning to attend check with a board member for details.

Robert Ricketts, N5JKD, has assumed the duties of Net Manager for the Monday night Public Service Net. When Robert calls on you to act as net control, please say "yes!". It's not difficult and the experience really does give you confidence.

73 de ND5E

Upcoming Events - Compiled by N5JBL

Apr 4-5	Sat,Sun	MS-150 Bike Ride (WA5F)
Apr 11(25)	Sat	Bvarc Spring Picnic
Apr 24-26	Fri,Sat	Dayton Ham convention
May 2	Sat	Mother's Day at Sharpstown
Jun 13-15	Sat,Sun	ARRL VHF QSO Party
Jun 27-28	Sat,Sun	ARRL Field Day
Jun 27-28	Sat,Sun	National Weelchair Games (K5CNU)
Jul 10-12	Fri,Sat,Sun	ARRL National Convention (Atlanta)
Aug 1-2	Sat,Sun	ARRL UHF Contest
Sep 12-14	Sat,Sun	ARRL VHF QSO Party
Oct 16-18	Fri,Sat,Sun	Boy Scouts Jamboree
Nov 6-8	Fri,Sat,Sun	ARRL Sweepstakes, CW
Nov 20-22	Fri,Sat,Sun	ARRL Sweepstakes, Phone
Dec 4-6	Fri,Sat,Sun	ARRL 160-Meter Contest
Dec 11-13	Fri,Sat,Sun	ARRL 10-Meter Contest

ROSTER_UPDATES

1. ALLEN MATTIS - N5AFV NEW WRK PHONE (713)951-5525.

NEW_MEMBERS

1. MICHAEL SCISM - WV5M - 7959 KENDALIA - HM(713)777-7193
HOUSTON 77036 - WK(713)240-0700

2. JIM JEFFERIES - W5EFB - 5405 ASPEN - HM(713)664-0652
HOUSTON, 77081

HELP ME WELCOME OUR NEWEST MEMBERS AT THE APRIL MEETING.

FOR ALL ROSTER CHANGES PLEASE CONTACT ONLY JACK WN5A AT
495-1121(HOME) OR 975-6300(WORK).

Hello again, hope you enjoyed my comments from last month.

Kenwood has introduced a new Quad Bander - TS-670. It covers 40,15,10 and 6 meters, has keyboard frequency selection and VFO, 80 memories for band & mode, all mode squelch, noise blanker, and rf attenuator. Accessories include general coverage unit, voice synthesizer, FM unit and if filters.

For all the Dual Bander fans Encomm Inc. handle several products tailor made for them. The first is a Dual Band VHF-UHF linear, Model HL-725D By Tokyo Hy-Power. 10 watts in 50-60 watts. They also have two dual band base antennas by Diamond. They are both are verticals and the only difference being size and gain. The DP-DX50 is about 4 feet long with a gain of 2.8 dbi(vhf) and 5.8 dbi(uhf). The DP-DX200 is 5 1/2 feet long and 4.5dbi(vhf) and 7.2 dbi(uhf).

For all you Icom IC-28 owners, the UT-29 encoder/decoder only works in simplex and does not work in in duplex. Icom said this was just overlooked because there are no repeaters in Japan.

The February 87 QST on page 20 has a super comparison of HF receiver specs for over 40 radios are listed and compared. see how your hf radio stacks up against those new rigs.

73 and get on hf.

Jack WN5A

AMSAT NA News Service Bulletins, Saturday, 14 March 1987
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Phase Four Initial Design Proceeding Very Well

According to Jan King, W3GEY, efforts are now accelerating in firming definitions and specifications for AMSAT's first geosynchronous satellite program, Phase 4. Jan is AMSAT's Engineering Vice President and oversees the Phase 4 design effort. He envisions a 1991 initial operational capability for the first Phase 4 bird.

A team of more than 20 professional engineers and scientists within AMSAT are now engaged in intense system and architectural studies which will lead to a Phase 4 design concept by year's end. Dick Jansson, WD4FAB, Phase 4 Engineering Administrator, reports important breakthroughs in 5 key areas insure Phase 4 will not only be the most advanced and capable OSCAR to date, but that it will actually advance the state-of-the-art in several key technologies. Many of the innovations now envisioned by AMSAT engineers have never been employed before in any spacecraft.

Among these innovative technologies are Fluid Momentum Control (FMC), a unique momentum control concept pioneered by Lou McFadin, W5DID of Houston, an engineer with NASA at the Johnson Space Center. Bob McGwier, N4HY, of Princeton, N.J. is working on the system with Lou. The system envisioned would eliminate the momentum wheel required by three-axis stabilized spacecraft such as Phase 4. The momentum wheel is very expensive and since it has moving parts, it represents potential failure node. The FMC concept will pump a ferro-magnetic fluid around the spacecraft for momentum transfer and control. The pumping would be done magnetically to eliminate a motor driven pump.

Bob McGwier is also teamed with Phil Karn, KA9Q, on a unique spread spectrum ranging technique. It is envisioned as allowing ultra-precise location of Phase 4 in orbit by using an entire transponder passband spectrum while not interfering with on-going communications on the transponder.

Dick Jansson, WD4FAB, has completed the initial cut on the spacecraft's thermal design. Dick says that the use of a heat pipe design on the

spacecraft will allow precise temperature control across its entire surface.

In the area of transponder electronics, Karl Meinzer, DJ4ZC of AMSAT DL, has provided a continuous stream of improvements in the HELAPS technology which will allow for its use at higher frequencies than ever before including, perhaps, even at S-Band, 2.4 GHz. HELAPS stands for High Efficiency Linear Amplification by Parametric Synthesis. In general, it is a means of improving the efficiency of linear amplifiers such as used in OSCAR transponders to unprecedented levels. This technology is patented and highly coveted for its efficiency. Added to this is the remarkable technique for digital communication called RSM (Rectangular Spectrum Modulation) also pioneered by Dr. Meinzer. Both HELAPS and RSM will likely be used on Phase 4 and, if AMSAT DL decides to push forward with Phase 3D, as now seems likely, these state-of-the-art technologies will certainly be employed there as well.

James Miller, G3RUH, is investigating the use of digital signal processing techniques on Phase 4. These would automatically null selected uplink passband frequencies when uplink signal appearing there exceeded a certain threshold. This technique, if employed in Phase 4, could provide the long-sought relief from alligator abuse, a lingering concern with linear transponders. The technology may be especially relevant where a hemispheric satellite footprint opens new risk areas of both inadvertent and malicious interference to transponder communication activities routine and otherwise.

In the area of propulsion, Rick Fleeter, WA8VGK, has developed an innovative concept for attitude control jets. These will insure Phase 4 points in the right direction, right at the earth. Unlike any other prior OSCAR, Phase 4 will not spin or tumble but be stable in three axes. To maintain that stability, occasional "nudges" need to be applied to the spacecraft. Those "nudges" come from small jets on board. Rick's innovation is in the type of fluid used for the jets and their efficiency. Since the fluid is expendable, the overall lifetime of the spacecraft is limited by the quantity of consumables carried aboard. Thus the efficiency of the propellant is paramount. Fleeter's concept apparently is one of the most advanced ever conceived.

The Phase 4 design effort is off and running with a remarkable degree of enthusiasm and innovation evident throughout the design team. More talent is being brought on-board every day. Recently Mike Staal, K6MYC, joined the team. Mike's specialty is antenna design. One of the founders of KLM,

he designed many of their space communication antennas including all the current crossed yagis such as the 18C, 22C and 40CX beams. Mike will tackle Phase 4 VHF and UHF antenna design. Also recently joining the design team is Gordon Woodcock, President of the L-5 Society. Gordon is a hardware systems engineer at the NASA Marshall Space Flight Center.

The current Phase 4 design effort has the immediate objective of developing a concept and initial design to present to the Board of Directors for possible full scale development funding by the close of 1987.

ABOUT THE BRAZOS VALLEY AMATEUR RADIO CLUB

Organized in 1977, the club has been growing steadily. It is a gathering place for ham radio operators in Southwest Harris and Ft. Bend Counties and surrounding communities. It is a general purpose type of ham club offering a variety of activities open to all interested persons. Membership is open, not only to licensed ham operators but also to anyone interested in the hobby. In addition to regularly scheduled monthly membership meetings, the club conducts classes leading to amateur radio licenses each year and sponsors a volunteer examiner team which offers examinations in all levels of ham licenses each month.

For more detailed information about the club and any of its activities, call Stu Lamkin WB5IGG at (713) 777-3345.

THOUGHT FOR THE MONTH

What can we say but "GLORY BE!" when God breaks out in an apple tree?
— Oliver St. John Gogarty

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Amateur Radio News Service