



AARE OVER

Bulletin of the Austin Amateur Radio Club
June 1991

LET'S HELP OUR NEW HAMS

MEETING

The next meeting will be Tuesday, June 11, from 8 to 9 PM. The location is Luby's Cafeteria on North Loop, about a block west of Burnet Road. We meet in the back room. Come early and eat dinner with everyone. The topic for this month's meeting is **Field Day 91**, June 22-23. Field Day is our national emergency-preparedness practice. Get ready to join the operating group (Novice / Tech, Phone, or CW) of your choice at the Club's station at a north-west Austin schoolyard. This is a super fun way for new hams to get on the air, and there will be plenty of folks there to help you. You don't have to engage in intellectual or witty conversations on Field Day, just make lots of contacts. High energy! Field Day goes for 24 hours straight, so you night owls are especially needed. Come to the meeting. Want to be a captain? Come to the meeting. Like to help set up the antennas and portable generator? Come to the meeting. If you can cook for a group in an outdoor setting, we beg you to come to the meeting!



As usual, Field Day will be at Doss Elementary School, on Far West Blvd. west of MoPac, at the top of the big hill. Tentatively, antennas are scheduled to go up Friday afternoon the 21st, with actual operation from 1 PM on Saturday to 1 PM on Sunday. Call our Activities Manager, Gary Pickens, 454-3230, for the latest information.



4TH OF JULY

With the 4th of July coming up, everyone should try for GB4JUL from North Yorkshire, England. NA5E and several ex-patriated hams started the annual celebration back in 1986. QSL manager is G1OQQ (?), or direct to Darley Amateur Radio Club, MHS, Darley, Harrogate, North Yorkshire, England HG3 2RF.

I have heard and seen more activity in the last three months about New Hams, than the previous two years! Whatever this thing is, it's BIG, and it's going to gain unbelievable momentum!

Regarding the "quality" of new amateur radio ops (subjective as it is): A very large number of these "new hams" are going to do the same thing you and I did. They are going to imitate most of the things they see and hear. We need to see articles in QST, CQ, (and that one that Wayne G. publishes too) about how the current ham population should be getting ready to be a positive influence on the large, fast influx of new ops. Perhaps some "Operating Tips" regular columns, etc.

These new ops ARE coming. How are we going to handle it? Will we be ready for them? Will clubs sponsor post-exam sessions to teach proper operating habits and **PRIDE** in the amateur radio service? Or (shudder) will the high number of new operators be mischievous and develop many of the wrong habits? I think the "ball is in our court".

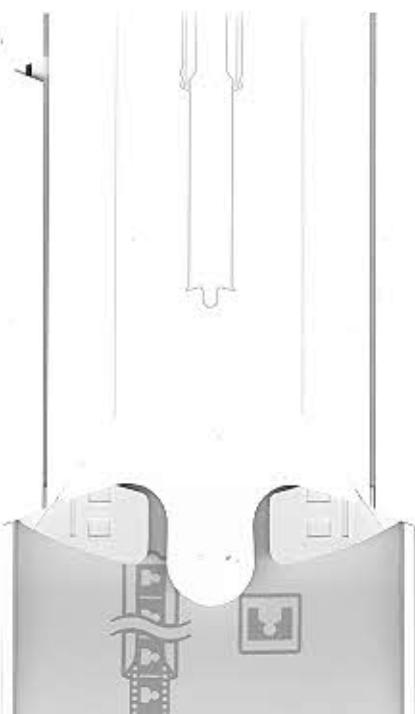
de Don Singletary, AA4VD

THE DIFFERENCE

Derek, AA5BT, on an interesting difference he has noticed between those hams who like Morse code, and those who don't, in the messages they leave on computer bulletin boards:

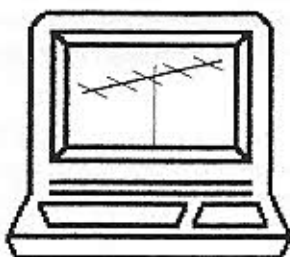
"Someone who is interested in CW posts an article asking for advice from others who use and like it, say, about techniques for copying fast code. It gradually

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EXPERIMENTS IN ANTENNA DESIGN

I recently had the opportunity to experiment with older versions of two antenna design programs: MININEC



and the Yagi Optimizer. I think some of the results will be interesting.

Until recently, the ARRL Handbooks had tables of several NBS "standard antennas". These have been considered, until recently, as reasonably good designs and have served many an amateur well. The tables show a two-meter antenna having 5 elements with equal element spacing and cut for 144.100 MHz.

I decided to find out how good this antenna really is and how much it can be improved. The following results apply to an antenna with non-insulated elements on a one inch boom with elements 3/16 inch (0.1875 inches) in diameter. MININEC calculated the NBS version as having forward gain of 8.9 dB (over a dipole), a F/B ratio of 9.5 dB, with an impedance of 18.2 ohms plus 11 ohms reactance.

I decided to see if MININEC could improve upon this standard design. After optimizing for the best forward/back ratio over 350 iterations, MININEC came up with a new design that has a gain of 8.4 dB, a F/B ratio of 27.5 dB, and an input impedance of 20 ohms minus 16 ohms reactance. This looked good, so I scaled down the original NBS design by 2% to shift the frequency to 147.000 MHz, then optimized it. The optimized design results were almost the same as for the 144.100 MHz version. In both versions, the worst side lobe was at least 17 dB down. Both sets of dimensions are shown below.

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APRIL EXAM RESULTS

Here are the results of the April 13, 1991 exams at the Texas School for the Blind. There were a total of 34 applicants, and the majority were there for the no-code Technician license.

Name	Call	Upgrade To
Keith Baker		Novice
Catherine Porter		Novice
Duarte Cabral		Technician
James Camp		Technician
Kevin Glueck		Technician
Jett Hanna		Technician
Kay Jack		Technician
Nicolas Karaolis		Technician
William Lee		Technician
Charles Lewis		Technician
Robert Longfellow		Technician
Richard Mach		Technician
Dan Pike		Technician
Stuart Stech		Technician
Carol Theil		Technician
Ronald Tucker		Technician
Jack Ward		Technician
Eugene Wyble		Technician
Brian Cooper		Technician+
Francis Lucas	KB5PCQ	Technician+
Travis Preece		Technician+
David Beer	KB5HZN	General
Terry Krey		General
Robert Moeser	N5RRL	General

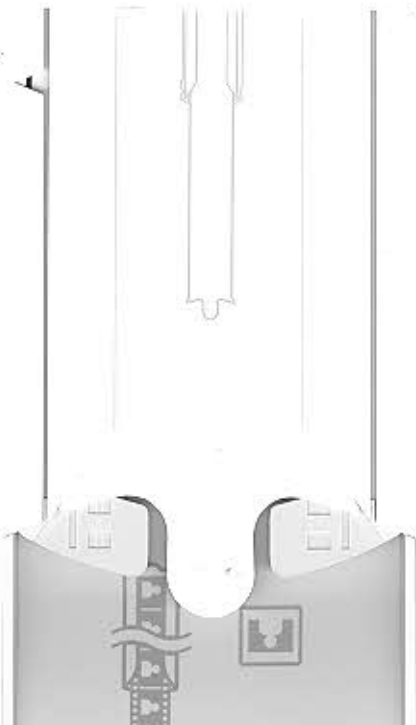
Congratulation to all of the above!

I would also like to thank the Ve's that came down to help out, Huck Huckabee and Gary Pickens. I would also like to thank David Marschall for helping with the paper work.



It looks like the July exams, and all subsequent exams (except for August, to be held at the Summer-Fest site), will be held at Murchison Middle School (previously Jr. High) on Far West Blvd. They will be on the **first Saturday** of each month, and will **start around 9:00 AM**. The reason for

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MINUTES

Meeting of the Austin Amateur Radio Club on May 14, 1991.

The meeting was called to order at 8:00 PM by our Vice-President, Stuart Rohre, K5KVH. President Mike Kellam, AA5JP, was out of town on business.

MINUTES: The minutes of the April 9th meeting were approved as printed.

VISITORS: Visitors included our speaker, Tom Comstock, N5TC, and his XYL, Judith, WBSQCI; Selby Barnett, K5ZJR; and Brian Cooper, KB5PIA.

NEW MEMBERS: Chester Bruington from San Antonio (Chester always brings a lot of test gear up to the Manchaca Swapfest); Robert Barron, KA5WSS, from Austin, an excellent transmitter hunter; and Ron Clayton, N5SYZ, a new Technician from Austin.

OFFICER REPORTS: It was noted that the Secretary, N5HPC, has extra AARCOVERS. The Chief Financial Officer or Treasurer, Amado, N5PCP, reported that the checking account has a balance of \$2,969.83. Amado also noted that we grossed \$199 at the swapfest and paid \$150 rental for the facility. In addition, we gained \$38 from the sale of surplus club

30 applicants showed up at last Saturday's ARRL VEC exam

property (an old rack, repeater components, power supplies, etc.). We have run out of room to store much of this type of equipment. Gary Pickens, WX5Z, the Activities Manager, was not able to be present. Stuart reminded us of the upcoming Field Day events on June 22 and 23. We will have more on Field Day at the June meeting. The next Manchaca Swapfest will be on October 12th.

ANNOUNCEMENTS: Larry Gunter, WB5BEK, reported that at last Saturday's ARRL VEC exam, 30 applicants showed up. There were 18 upgrades including 1 Extra, 2 General, 4 Technician Plus, and 11 no-code Technicians. Nine others gained credit for

portions of the exams. The next ARRL VEC exams will be on July 13th. The next exam period will be the WSYI VEC exams on June 1. Both will be at the Austin School for the Blind on West 45th Street. [the location

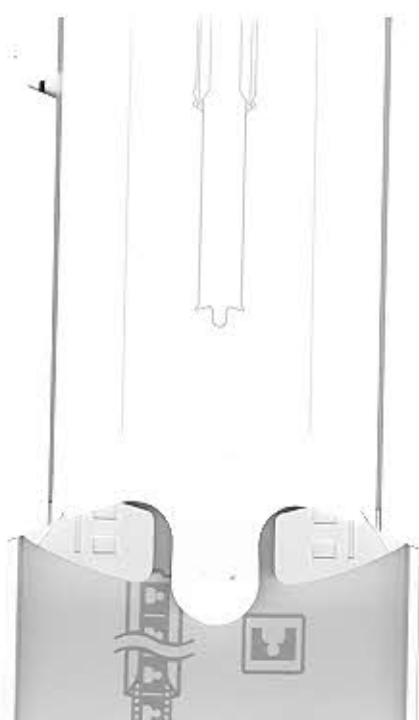
From March to April, the number of newly-licensed Technicians doubled and the number of new Novices increased four times

may change after June — ed.] Joe Makeever, W5EBJ, gave a short preview of this year's Summerfest, to be held on August 2, 3, and 4th at the Wyndham Southpark Hotel on IH 35 near Ben White Blvd. There will be two VEC Exam sessions, an indoor swapfest, symposiums, and more. Please note the date change from early announcements. Pete Jordahl, K5GM, reminded us that the date to vacate the lower 2 MHz of the 220 MHz band (220-222 MHz) is 8:00 PM local time on August 27th. The remainder of the band is still open, use it!

OLD & NEW BUSINESS: None

PROGRAM: Stuart, K5KVH, introduced Tom Comstock, N5TC, the Director of the West Gulf Division of the ARRL. Tom has held several offices in this Division over the years including that of Vice Director. Tom spoke on the future of amateur radio, the need for changes in rules because of new communication technologies (especially digital modes), current legislation concerning band (frequency) changes, college scholarships for amateurs, the no code license, and more. Tom also explained the purpose of the 15 ARRL Division officials serving the 150,000+ League members. There are three, the Director and Vice-Director who are responsible for ARRL policy, plus the Section Manager who is responsible for operational matters and reports to ARRL Headquarters. Each is elected individually, one does not report to the other. A short Q & A session followed which led into a discussion of no-code exams and programs designed to get young people in our hobby. From March to April, the number of newly-licensed Technicians doubled and the number of new Novices increased four times [with no-code, you would have expected the opposite — ed.]. The ARRL will soon hire a full time professional public relations representative. Tom, thanks for an interesting talk.

Respectfully submitted by: Joe Canfield N5HPC, AARC Secretary.



The Difference continued

degenerates into the usual "why not use a machine" / "why should I have to learn code" / "what an old-fashioned thing to do" discussion, ending in name-calling and recriminations.

"Whenever someone asks about the best microphone to use, I never see posts from CW enthusiasts saying that people who prefer to use voice are misguided morons. As others have said, if you want really solid QSOs, use the telephone. If you want to participate in ham radio as a hobby, use whatever mode you feel happiest with, and leave other people alone.

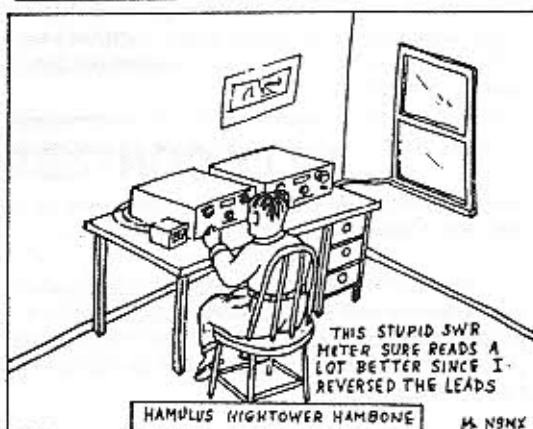
"I guess I'm still prejudiced, though - I just worked ET2A a few minutes ago on 20m CW. No lists, nets, partial calls, whistling, jamming — just people working DX. Works for me... If you don't like working DX, don't do it."

de Derek Wills, AA5BT, G3NMX

April exam results continued


the move is that the increased interest in Amateur radio has over-taxed the facilities at the School For The Blind. Listen to the Sunday SwapNet (9 PM, 146.94 MHz) for further information and confirmation of the expected move.

de Bill Wehling, KF5NB



de Auto-Call

ATV Club**Camera Amateurs**

At the May 21st meeting of the Austin Amateur Television Club, the co-existence of the current 426.24/439.25 ATV repeater with other area FM repeaters was discussed. The relationship between the ARRL 440 and 1296 MHz band plans, Texas VHF-FM Society coordination and the technical aspects of the different modes of operation were compared. 

The subject of the new Local Area Network (LAN) technology of "wireless" LANs that operate in the Amateur bands (900 MHz) and other commercial devices such as a "Television Multiplier", now sold by a local discount store, that uses RF to re-transmit cable TV pictures throughout the home (and wherever else they leak to) was discussed. It seems that our spectrum allocation is more and more the target of commercial ventures. These new devices will surely cause interference that may hinder emergency communications.

Frank, W5VDS, gave us a recap of the latest Houston ATV balloon experiment. He was able to see a few pictures of clouds taken by the camera in the balloon. The first balloon and payload reportedly hit a building and fell. The recovered camera was sent up again in another balloon and provided the pictures he saw.

Bob, W8ZSX, reported on his Dayton trip from the copious notes that he took. He attended three crowded ATV sessions that provided a mix of technical and historical aspects by well known ATV pioneers. An equipment contest brought forward many neat projects including repeater controllers with plenty of bells and whistles. The Phoenix bunch showed their creeper-talkies that had built in mini-cameras. The STS-37 shuttle mission ATV uplink video tape was played that showed various levels of picture quality from pre-arranged uplink sites around the world. Unfortunately, when they were over the Houston uplink site, their window antenna was rolled away from Earth which caused poor reception. A unique FCC rule was noted: an extra class license is required to operate from space!

For ATV info, contact W8ZSX, WA8PLR or N5MHI. Next ATV Meeting: June 18th, 7:30 PM, Sirloin Stockade 8828 Research.

de N5MHI, Jon Penner

Antenna Design continued

The Yagi Optimizer contains a subroutine for designing gamma matches for the antennas but I made no attempt to design a matching circuit. I tried optimizing one of the designs for maximum forward gain, but the pattern was full of side lobes and the input impedance was only 7 ohms.

Warning - I have not built either of these and am new to using the design programs. I may have made mistakes and would be interested in hearing from those who have experience in the use of these programs.

Optimized Yagi's (for best F/B Ratio)

	144.100 MHz		147.000 MHz	
	Spacing from R	Element Length	Spacing from R	Element Length
R	0.00	40.46	0.00	39.65
DE	17.27	38.18	17.13	37.44
D1	31.19	37.50	30.30	36.80
D2	49.66	5.50	48.73	34.58
D3	65.02	34.66	63.67	33.68

Notes:

- The first column shows the antenna element. R is the reflector, DE is the Driven Element, D1 is the first director, D2 the second director, etc.
- All dimensions are in inches.

de Joe Canfield, N5HPC

VCR BELTS DRIVE CAPACITORS

We of the Beaumont Amateur Radio Club own two Heathkit HW-101 transceivers to loan out to members (especially new Novices). The last time we checked out the transceivers, we noticed that their variable-capacitor drive belts were dry-rotted and needed replacement. We wanted to replace the belts soon, so instead of checking to see if they are still available from Heathkit, we found excellent replacements locally. We used VCR drive belts! They are of good quality, widely available and reasonably priced.

de Beaumont Amateur Radio Club
Reprinted from QST, Hints & Kinks

THE AARCOVER

Monthly Newsletter of the Austin Amateur Radio Club

Officers

Mike Kellam, AA5JP, President 836-7688, 919
 Stuart Rohre, K5KVH, V. President 255-3932, 918
 Amado Ramirez, N5PCP, Treasurer 280-1879, 916
 Joe Canfield, N5HPC, Secretary 258-4761, 917
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Ed Golla, K3AHS, Technical 255-4818, 111
 Joe Fisher, K5EJL, Emerg Coord'tor .. 926-4689, 119
 Joe Fisher, K5EJL, WSKA Trustee 926-4689, 119
 Rick Herndon, K5FNI, Editor 454-1670, 914
 Pete Jordahl, K5GM, Labels & Roster 454-7889, 913

Numbers after the call signs are phone number and autodial number on the 146.78 MHz repeater.

Address submissions to Rick Herndon, 1809 W. St. Johns, Austin, Texas 78757. Telephone numbers are 454-1670 (home) and 465-6338 (work).

Deadline for the next issue is the middle of this month. Late material will be saved for the following month.

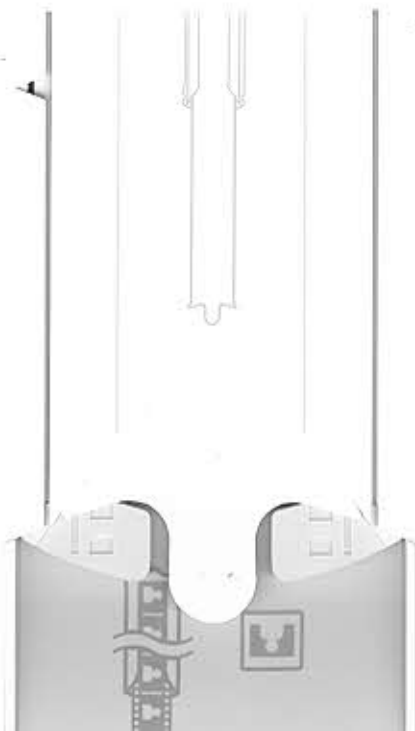
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We cheerfully accept commercial ads for only \$15 for a full page or \$10 for a half page. Members may advertise ham-related *For Sale* or *Wanted* ads free if space is available.

RTTY CONTEST

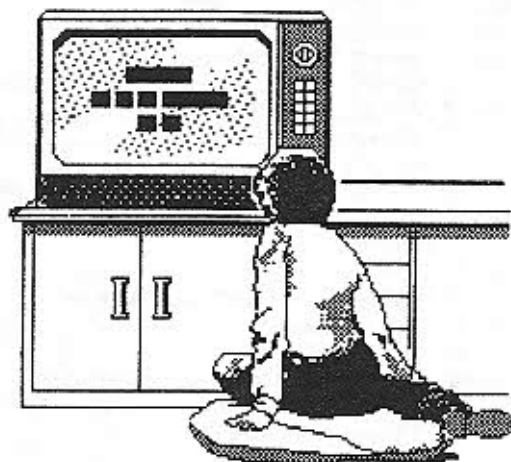
June 8th 0000Z until June 9th 2359Z is the duration of the 1991 ANARTS RTTY contest.

New this year: Overseas winners in the single operator, multi operator and SWL sections will each receive a winners plaque. Expect to see more DX stations participate in this year's contest. Rules are available in the RTTY Journal.



CHOKES IMPEDES TVI

I'm a CATV trunk-line technician. In most of the amateur CATV cases I've seen, interfering signals get



to the TV set on the outside of the drop cable's shield braid. (The drop is the cable between your house and the pole.) This occurs because the drop cable acts as a random-wire antenna for MF/HF signals.

In every case of such interference I've handled, I solved the problem by wrapping 8 to 10 turns of the CATV cable through a TV-deflection-yoke ferrite core. (Locate the coil within 2 or 3 feet of the point at which the cable connects to the TV system.) This places approximately 60 to 80 microhenries of inductance in series with the drop-cable shield—an inductance that acts as a broad-band choke because of the core characteristics and the low distributed capacity of the winding. Because installing the choke doesn't affect RF transmission inside the cable and doesn't break the coax shield, the choke does not affect the drop's leakage and impedance characteristics.

In stubborn cases, an additional core or cores can be used to choke common-mode MF/HF conduction on the TV system's ac line cord(s).

de Mark S. Graalman, WB8JKR
(Reprinted from QST, Hints & Kinks)

Danger! Shut off blasting. Amateur Radio in use.

MAY EXAM RESULTS

Here are the results of ARRL/VEC exams given on May 11, 1991 at the Texas School for the Blind:

Name	Call	Upgrade To
Robert M. Carwell	N5NCW	Extra
Mark E. Moore	None	General
Thomas J. Rohrer	None	General
Price W. Brock	KB5PJS	Technician Plus
Arthur H. Dunlap	None	Technician Plus
Gerald W. Garcia	None	Technician Plus
Catherine J. Porter	None	Technician Plus
Billy J. Benefiel	None	Technician
Gloria W. Hawkins	None	Technician
Zane C. Hudson	None	Technician
Howard W. Kidwell	None	Technician
Terry M. Long	None	Technician
James D. Marrone	None	Technician
Charlie T. Porter	None	Technician
Billy J. Sharp	None	Technician
Mark E. Thompson	None	Technician
James R. Thompson	None	Technician
Steven R. Webb	None	Technician

There were a total of 30 candidates taking exams. Besides the above upgrades, 9 candidates passed one or more exam elements, but did not upgrade their license.

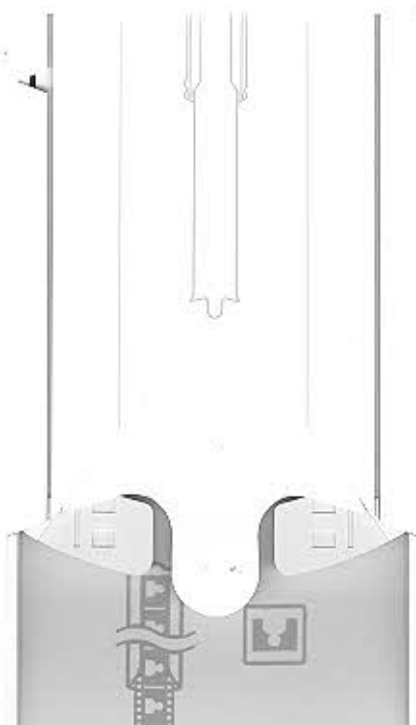
VE EXAMINERS

Steve Runyon	WQ5G
Joe Makeever	W5EBJ
Les Lewis	AA5AK
Alex Vrenios	KX9I
Bob Redouty	KF5KF
Neil Eisner	N5KEA
Curt Goodson	W4QBU
Larry Gunter	WB5BEK

Also assisting were Shane Evans, WB0A and Connie Williamson, KB5MBU, who volunteered their help.

The next ARRL/VEC exam will be given at 11:00 am on July 13, 1991. **Location and time are uncertain at press time.** If you have any questions regarding the upcoming exam, please contact me at 473-3526 (work) or 345-7281 (home).

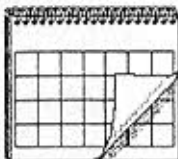
de Larry Gunter, WB5BEK



UPCOMING NATIONAL HOLIDAYS

CALENDAR

June 7-9 Ham Comm & West Gulf Div. Convention (Arlington)
 June 8-9 ARRL VHF QSO Party
 June 8-9 ANARTS RTTY Contest
 June 11 Austin Amateur Radio Club Meeting
 June 15 Hiram P. Maxim Scholarship deadline
 June 17-21 K5ALU Boy Scout Special Event
 June 18 Austin ATV Club Meeting
 June 22-23 Field Day
 June 24-28 K5ALU Boy Scout Special Event
 July 2 Austin Repeater Organization Meeting
 July 13 Ham exams—**VERIFY LOCATION**
 July 20 QCWA Meeting
 July 27 ARRL Hamfest, Texas City
 August 2-4 SummerFest @ Windham Southpark
 August 23-25 ARRL Nat. Convention, Saginaw, MI
 August 27 Hams must vacate 220-222 MHz
 September ? Amateur Radio Awareness Day
 October 12 Manchaca



17 JUN Germany Day of Unity, 1954
 17 JUN Iceland Anniversary of Establishment of the Republic, 1944
 19 JUN Kuwait National Day, 1961
 23 JUN Luxembourg National Day, 1962
 25 JUN Mozambique Independence Day, 1975
 26 JUN Malagasy Proclamation of Independence of the Republic, 1960

 Canada

27 JUN Djibouti Independence Day, 1977
 29 JUN Seychelles Independence Day, 1976
 30 JUN Zaire Independence Day, 1960
 01 JUL Burundi Independence Day, 1962
 01 JUL Canada Canada Day, 1867
 01 JUL Rwanda Independence Day, 1962
 01 JUL Somalia Independence Day, 1960
 02 JUL Norway Birthday of H.M. King Olav V, 1903

04 JUL Philippines Independence Day, 1946



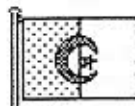
United States

04 JUL Tonga Birthday of H.M. King Tupou IV, 1918

04 JUL U.S.A. Independence Day, 1776

05 JUL Algeria Independence Day, 1962

05 JUL Cape Verde Islands Independence Day, 1975



05 JUL Isle of Man National Day, 1752

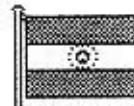
05 JUL Venezuela National Day (Signing of Independence, 1811)

06 JUL Comoro Islands Independence Day, 1975

06 JUL Malawi Independence Day, 1964, and Republic Day, 1966

07 JUL Solomon Islands Independence Day, 1978

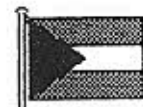
09 JUL Argentina Independence Day, 1816



Argentina

09 JUL Morocco Birthday of H.M. King Hassan II, 1929

10 JUL Bahamas Independence Day, 1973



Bahamas

EXAM INFO

Austin ham radio exams are given on alternate months by the W5YI VE's (even number months) and the ARRL VE's (odd number months). The exam location has been the Texas School for the Blind, but it **may move** to Murchison Middle School (Jr. High), located on Far West Blvd. down the hill from our Field Day site at Doss Elementary. For up-to-date information please contact Larry Gunter, WB5BEK, the ARRL exam VE, at 345-7281; or Bill Wehling, KF5NB, the W5YI exam VE, at 272-8233.

WEEKLY EVENTS

SwapNet...Sundays, 9 pm, 146.94 MHz
 LunchNet...Thursdays, BurgerTex on Airport Blvd.
 QCWA Net...Thursdays, 8:15 pm, 147.18 MHz
 Breakfast...Saturdays, Simon David deli.

The Japanese magazine "CQ Ham Radio" is doing well. Its circulation is one of the three largest among monthly magazines in Japan—Goh Kawai, N6UOK

