

The COMMUNICATOR

The Tamiami Amateur Radio Club • Venice, Florida

COMMUNICATOR

MAY 2004

- PRESIDENT'S MESSAGE -

(As the "due date" for a President's Message fell while John, Dona and Pauli were heading north of the border, we're offering John's thoughts from an earlier time.)

I am writing this message while still in Florida but, hopefully, by the time you read it in *The Communicator* we will be back in Medicine Hat, Alberta with the rest of the VE6's. We will miss all of you! It comes to mind at this time how important our NETS are. We have a few well-established club nets on HF and VHF that should help all of us keep in touch. These are as follow:

HF Nets

10:00 am EDT daily on 14.283 MHz

7:00 pm EDT daily on 7.230 MHz

Local VHF Nets

7:30 pm EDT Tuesday on 146.580 MHz simplex

7:30 pm EDT Thursday on the 145.130 MHz repeater

(except the 3rd Thursday of each month which is the TARC meeting night)

These nets have been well-attended in the past with about a dozen or so friends on each one. They have withstood the test of time and are well known by the TARC members, as well as many other hams out there. Several members of the Englewood ARS check into these HF nets on a regular basis.

I run the HF net a lot during the summer, while during the winter Bill-W2OJ and some others, do the honors. In all fairness, it seems the first one there gets "elected" as "net minder" for the day. In the winter we have a couple of friends who are no longer snow birds, but who love to keep in touch with their friends in Florida. In the summer, however, we all scatter to the four corners of North America, and then it becomes a real test of our Ham bands and our stations. In the summer, I am 3000 miles northwest of Venice and am able to hear everyone in the East very well on 20 meters. Most of our members are in the Midwest, Northeast and Ontario. Feel free to check into the HF nets from your neck of the woods and keep us filled in on the latest news, weather, or "whatever"!

The VHF nets are very important because they are the basis for operations in the event of a hurricane or other disaster. These VHF nets can be linked to the HF frequencies by most hams here in Venice and Englewood, giving excellent support to the local officials. In my estimation, the main purpose of the VHF nets is that of providing a method for each of us to keep track of one another. This could be

invaluable in time of disaster. Not only are we able to help emergency officials, but we have the knowledge and ability to help each other! You can show your support of the TARC in a positive manner by checking into any of our nets when you have the time and inclination.

73 de John-VE6AIV

- MAY MEETING -

The May TARC meeting will be at 6:00 PM on Thursday 13 May 2004 in the "Community Room" of The Gulf Coast Community Foundation of Venice, 601 South Tamiami Trail (Business US 41), across from the Bon Secours Hospital. Following the business meeting, it is planned that Bob Avrutik-NIRA will show slides of his recent South Pacific cruise. This should be an interesting photo tour, so come on out!

- NO LOCAL BPL -

Concerned with some electrical type noise interference on his station, Eddie Palmer-K4JP contacted FPL to see if it was perhaps Broadband over Power Lines (BPL). The regional FPL Radio Technician is Tom Profant-K4TAP, who lives in Bradenton, and whose office is in Sarasota.

Tom informed Eddie that he had asked his superiors in Miami if FPL was doing any experimental BPL in the Sarasota/Venice area. The answer was that they do not have any plans for Broadband in this area. Eddie offered this update as there had been several e-mail queries and comments about local BPL.

Therefore, while you may experience some form(s) of electrical interference, it is not due to any BPL activity.

(From 28 April 2004 e-mail from Eddie Palmer-K4JP)

- WENG PROMOTING LOCAL CLUBS -

Englewood's WENG AM 1530 has been airing a report/call-in program the first Tuesday of each month that's dedicated to ham radio. Currently only the Peace River Repeater Assn. has taken advantage of this air time, however, WENG has invited all local clubs to participate. The program provides info to the general public on ham radio activities, as well as the services and benefits of ham radio. TARC member Jack Doyle-WX1JAD, WCF Section Public Information Coordinator, has asked for feed back from TARC. This looks like a great opportunity to spread the word, and will be discussed at the May meeting.

TAMIAMI AMATEUR RADIO CLUB

Minutes of the Meeting

08 April 2004

President John Fyke-VE6AIV called the meeting to order at 6:00 PM. Bill Rockwood-KE4ZAK led the pledge of allegiance to the US flag. Dwight Davis of Sarasota, John Donnelly-KY4JD of Venice, Jim Prentice-WA2MZF of Nokomis, and Rob Fyke-VE5AAF were recognized as visitors. John-KY4JD and Jim-WA2MZF subsequently joined TARC during the meeting.

MINUTES - Bob Avrutik-N1RA moved to forego reading of the minutes of the 12 February meeting, published in the March issue of *The Communicator*, and the minutes of the 11 March Annual Auction, published in the April issue of *The Communicator*; seconded by Eddie Palmer-K4JP, and passed.

CORRESPONDENCE - Secretary Jack Sproat-W4JS reviewed the fact that when the TARC contributed \$500 to the West Central Florida Group, Inc. for construction of the "Big Stick" repeater we were to be a voting member of that organization. However, we had never been advised of any actions being taken by the executive of the WCFG, Inc. Consequently, he had recently exchanged e-mail correspondence with Paul Toth-NA4AR in that regard, and the TARC is now subscribed as a voting member and we should have better contact with that group.

TREASURER'S REPORT - Treasurer Bob Officer-WA6WAY reported that the beginning balance was \$3,798.57 and the 31 March 2004 bank balance was \$4,771.24. Income during the preceding month was \$1,265.50 from membership dues and hamfest sales; expenses were \$292.83 for the repeater relocation and printing and postage for the newsletter. There is an outstanding payment of \$255.13 for repeater expenses and \$50.26 for newsletter printing and postage, such that the treasury balance on 08 April is approximately \$4,465.85. Bob-N1RA moved acceptance of the report, seconded by Bill-KE4ZAK, and passed.

COMMITTEE REPORTS

SUNSHINE - Bill-KE4ZAK reported that Ken Truran-KC8BI is now back home from hospital, and would welcome calls or visits from TARC members and friends.

AUDITING - Bill-KE4ZAK and Peter Pesa-N4RD submitted their Audit of TARC Treasury, dated 23 February 2004, which found the records of the treasury to be in order and commended the Treasurer on an exceptional job of book keeping and neatness. Bill's request for reimbursement for lunch costs failed to muster approval, however.

VE TESTING - Jack-W4JS announced that David Haag was coming to the April VE session for Element 2 testing.

LIAISON TO FGCARC - Charlie Larson-KD4FZ stated that a new FGCARC president had been elected, that there was some controversy, the WCF Section executive had resigned from FGCARC, and that he was awaiting a less hectic time to attend the next meeting.

REPEATER/TECHNICAL - Jim Frey-W8ISZ reported that Murphy's Law was dominating progress on the installation of our repeater antenna on the new Clear Channel tower. It was discovered that the mounting hardware for the hardline and antenna were not of the proper material, necessitating an emergency search of the tri-county area for proper hardware. Then the Clear Channel engineer determined that our 262 feet of 1-5/8" hardline was too much loading for the tower. Consequently, there will be 200 feet on 1-5/8" hardline and 62 feet of 7/8" hardline to the antenna. This necessitated purchase of 7/8" hardline and connector hardware, and return of the excess 1-5/8" line.

FILED DAY - John-VE6AIV announced that Bill-KE4ZAK had resigned from the Field Day Committee. Bill commented on his reasons, which include such factors as the lack of young persons who could erect the antennas and the lack of persons interested in operating a Field Day station. Bill suggested joint participation with either the SERC or Englewood ARS. Marty Horowitz-W4MHH, who is EARS President, stated he would address this proposal at the next EARS meeting.

CLUB HISTORIAN - Marty Horowitz-W4MHH received a round of applause for agreeing to serve as our club historian.

LIAISON TO SERC/ARES/RACES/RED CROSS - Bob-WA6WAY reported that he had met with Sarasota County Red Cross officials on 07 April, and had agreed to serve as Communications Officer. His initial task will be getting some form of Amateur Radio communications network up and running. Bob reported that the Red Cross has a surplus 24' communications trailer which the TARC could receive at no cost. TARC would be responsible for licensing and any insurance. While the living quarters are in good shape, the communications area is gutted. Bill-KE4ZAK moved that TARC acquire this trailer, seconded by Peter-N4RD. Following discussion, the motion was approved.

LIAISON TO QCWA - Jack-W4JS commented that there were 23 members and guests at the 07 meeting of Suncoast Chapter 53 in Sarasota. An unexpected highlight of the meeting was the presence of 97-year-old QCWA Founding Member Frank Lester-W4AMJ and his wife, Sally.

OLD BUSINESS - None

NEW BUSINESS - Peter-N4RD suggested that TARC consider a standardized name/call sign membership pin, and this will be investigated with regard to sources and costs.

COMMENTS - Bob-N1RA stated that when he was on his South Pacific cruise, he had no luck working any local stations, however, he did hear one local on the air chasing DX. Bob then presented Eddie-K4JP with a SWL card from C6ARA/MM.

ADJOURNMENT - Motion to adjourn at 6:46 PM was made by Hermann Reiper-VE3IRX, seconded by Eddie-K4JP, and passed.

see MINUTES, page 3

- "ATOMIC" CLOCKS -

How do radio-controlled clocks and watches set themselves to the atomic clock in Colorado? Many catalogs and stores sell "radio-controlled" clocks and wrist watches that are able to receive these signals. These clocks and watches truly are synchronizing themselves with the atomic clock in Colorado. This feature is made possible by a radio system set up and operated by the National Institute of Standards and technology (NIST), located in Fort Collins, Colorado. NIST operates radio station WWVB, which is the station that transmits the time codes.

WWVB is a very interesting radio station. It has high transmitter power (50,000 watts), a very efficient antenna and an extremely low frequency (60,000 Hz). For comparison, a typical AM radio station broadcasts at a frequency of 1,000,000 Hz. The combination of high power and low frequency gives the radio waves from WWVB the capability to cover all of the continental United States plus much of Canada and Central America.

The time codes are sent from WWVB using one of the simplest systems possible, and at a very low data rate of one bit/second. By comparison, a typical modem transmits over the phone lines at about 40,000 bits/second. The 60 kHz carrier is always transmitted, but every second it is significantly reduced in power for a period of 0.2, 0.5 and 0.8 seconds, as per:

- 0.2 seconds of reduced power means a binary zero
- 0.5 seconds of reduced power is a binary one
- 0.8 seconds of reduced power is a separator

The time code is sent in Binary Coded Decimal (BCD) format, and indicates minutes, hours, day of the year and year, along with information about daylight savings time and leap years. The time is transmitted using 53 bits and 7 separators, and therefore takes 60 seconds to transmit.

A clock or watch can contain an extremely small and relatively simple antenna and receiver to decode the information in the signal and accurately set the clock's time. The only thing more accurate that you can carry around easily is a GPS receiver, which derives atomic clock accuracy in real time from the atomic clocks in orbiting GPS satellites.

(From <<http://www.howstuffworks.com>>)

MINUTES, from page 2

There were 34 members and two guests present.

PROGRAM - Dwight Davis of Mote Marine Laboratory in Sarasota gave a very interesting and informative slide presentation, showing the history, growth and ongoing activities of this marine research facility.

Jack Sproat-W4JS
Secretary

"The law, unfortunately, has always been retained on the side of power; laws have uniformly been enacted for the protection and perpetuation of power." - Thomas Cooper (1759-1839), "Liberty of the Press", 1830

-TARC NET SCHEDULE -

The following schedule is provided by the TARC Net Manager, Bob Murphy-WA1UHG:

- 04 May (s) Bob - WA6WAY
- 06 May (r) Don - KD9SJ
- 11 May (s) Marty - W4MHH
- 13 May Meeting - no net
- 18 May (s) Peter - N2IZD
- 20 May (r) Jim - W8ISZ
- 25 May (s) Jim - W8ISZ
- 27 May (r) Jack - W4JS
- 01 Jun (s) Jack - W4JS
- 03 Jun (r) Charlie - KD4FZ
- 08 Jun (s) Bob - WA6WAY
- 10 Jun Meeting - no net
- 15 Jun (s) Jim - W8ISZ
- 17 Jun (r) Don - KD9SJ
- 22 Jun (s) Marty - W4MHH
- 24 Jun (r) Peter - N2IZD
- 29 Jun (s) Jack - W4JS

(r) = 145.130 Repeater; (s) = 146.58 Simplex

Show your support of the TARC by showing up on the Tuesday and Thursday night nets-both at 7:30 PM.

- REGIONAL HAMFESTS -

- 08 May At Chester's Electronic Supply, 311 Missouri Ave. N., Largo. Info: Len-K4BDP, <len@ij.net>
- 22 May St. Petersburg Wormfest, Freedom Park, 49th St. & US 19. TI: 146.850, Info: Greg-N4XQU, <n4xqu@ij.net>
- 05 June North Brevard ARC Hamfest, DAV Chapter 109 Bldg., 435 Singleton Ave., Titusville. I-95 Exit 220 (Garden St), go E to first traffic light (Singleton), turn N, 3 blocks to site. TI: 145.490; Info: Bob-N6USP, 321-264-2622

(May 2004 QST and Web site of Bill Britton-KB4VOL, <<http://bellsouthpwp.net/k/b/kb4vol>>.)

- CALL SIGN STATUS -

As of 15 February 2004, call signs issued sequentially in the Fourth District were up to:

<u>Extra</u>	<u>General/Technician</u>
AI4ER	KI4ERO

(From May 2004 Worldradio)

- NEW MORSE CHARACTER -

Some time ago, an announcement was made concerning a new character for the "AT - @" symbol used in e-mail. The new character will be "AC" (dit dah dah dit dah dit). This new character will become "official" on 03 May 2004.

(From 28 April 2004 QRZ DX)

"There is no 'slippery slope' toward loss of liberty; only a long staircase where each step down must first be tolerated by the American people and their leaders." - Alan K. Simpson, US Senator, 28 September 1982

– TO "QRP" OR TO "QRO"? –

Field Day is coming up in June, and there is quite a multitude of categories in which stations can operate—including power. What, therefore, is the benefit of running maximum legal power--1500 watts (QRO)--as compared with 5-watt QRP or nominal 100-watt stations?

A 100-watt station produces a RF signal 20 times, or 13 dB, stronger than a 5-watt station. Considering 6 dB per S-unit, about two S units would be gained by using 100 watts versus 5 watts. The 1500-watt station, however, is 300 times, or about 25 dB and 4 S units, stronger than the 5-watt station. That full-bore station would be about 12 dB or 2 S units stronger than a 100-watt station.

Field Day is only concerned with Stateside and Canadian QSOs, such that it's 1-hop skip to New England and 2-hop skip to British Columbia; however, out to Hawaii is 4-hop skip from SW Florida. While there is some absorption loss every time a signal is reflected, the greater loss is due to the distance which the signal travels. Signals weaken with the square of the distance travelled. Therefore, a 2-hop signal is one-fourth as strong as a 1-hop signal, or a 6 dB (1 S-unit) loss getting to British Columbia versus to New England. Out to Hawaii, the 4-hop signal is one-sixteenth as strong as the 1-hop signal, or a 12 dB (2 S-unit) loss versus to New England. Therefore, with identical antennas, if the 100-watt signal was only S-4 in Hawaii, the 5-watt signal probably could not be heard at all. In New England, the 5-watt signal would have been S-7 if the 100-watt signal was S-9, and S-6 in BC if the 100-watt signal was S-9.

There may be some losses in the average QRP station which a QRO station would try to avoid, thereby gaining a few more dB advantage for the latter. For instance, a QRP station would undoubtedly use RG-58 coax, which has a loss of about 2.5 dB per hundred feet at 30 mc. In contrast, the QRO station would use something like Belden 9913 with a loss of only 0.75 dB/100' at 30 mc. The QRO station is probably more inclined to optimize the impedance match of the antenna/coax to the transmitter, rather than depend on an antenna tuner to improve the match.

If the QRP station using RG-58 has a SWR of 5:1 on 10 meters, but uses a tuner, almost 2 dB more are lost due to that high SWR in the coax. Therefore, the combination of high-loss coax and high SWR would decrease the QRP station's power to the antenna by some 4.5 dB, with the result that, of the 5-watt transmitter output, only 1.8 watts would reach the antenna. While it may seem "overkill" to use Belden 9913 on a QRP station, use of that coax would assure that 4.2 watts would arrive at the antenna on 28 mc.

While it's claimed that "Life's Too Short For QRP", in reality a low-power station using good antennas and feed lines is not at a disadvantage for short-skip contacts. However, when the 19 to 21 dB losses on the 9 to 11-hop skip to Western Australia are considered, and the 1.5 kw "Big Gun" is only S-8, the QRPer had best wait for another day.

(Adapted from *The ARRL Handbook for Radio Amateurs*, 1997)

– SUPER QRO? –

Some time back, your editor commented in a letter to a well-known DXer/contester in Maryland that "a Russian I worked a few months back told me he was running 4 KW, but that he had a 10 KW power supply! No doubt it came from California!!" In turn, his response was quite enlightening. He has been told by a number of Russian hams, in "eyeball QSOs", that it was routine for their big contest clubs to have 10 or 15 KW amplifiers, mostly from Soviet military surplus. He also wrote me that "some sunrise (on 75 meters) when you hear JA(xxxx) on the band, just remember my telling you that you will be listening to a 40 KW surplus Japanese military amplifier. Lots of JA's run 5 KW or so.....When I visited JA(xxxx), I witnessed the operation of a 15 KW amp with my own eyes. The lights sure dimmed when that baby was keyed!"

We used to joke a lot about "California Kilowatts", mostly out of envy over the W6's working Pacific DX which we couldn't even hear over here on the "right coast". As a whole, American hams are pretty conscientious about observing our power limits, although amplifiers are commercially available that can exceed those limits. But 40 KW? THAT'S ANOTHER STORY!!

– WHAT IS AN ANTENNA? –

"Krusty Olde" Kurt N. Sterba was recently asked to explain "antennas." ("Aerials", Kurt N. Sterba, May 2004 *WorldRadio*)

Kurt suggests relating the antenna to something most folks are familiar with, such as a stereo system. A stereo starts with a CD or tape player that converts the recorded sounds into an electrical signal. The amplifier makes it into a more powerful signal. But you can't hear anything, so you have to send the signal to a speaker. The speaker changes the electrical signal into a sound wave that you can hear.

A radio system starts the same way. Sounds are converted into electrical signals. These signals go to the transmitter. Actually the transmitter doesn't transmit anything. It makes the signal more powerful and also changes it to a frequency more suited to long distance transmission. This high frequency signal is applied to the antenna, which works like the speaker in the stereo. It changes the electrical signal into a radio wave and sends it out to be heard by radio receivers far away.

At the far location the radio wave comes to another antenna. This one works backwards. It converts the radio wave into an electrical signal. The receiver changes the frequency back to what it was originally, amplifies it and sends it to a speaker so the sounds can be heard.

So, an antenna can either change an electrical signal into a radio wave or it can change a radio wave back into an electrical signal.

With a stereo, the speaker must have a clear view of the room so it can fill the room with sound. Likewise, an antenna has to be up high in the clear so it can send its waves off into the air.

CURRENT/PENDING DX ACTIVITY AND PROPAGATION FORECASTS

CURRENT and/or SCHEDULED DX ACTIVITY									
COUNTRY - CALL SIGN	ACTIVITY PERIOD	BEARING	HF BANDS and BEST OPENING TIMES (GMT)						
			80	40	30	20	17	15	12
Maldives - 8Q7WP	Now to 09 May	41	-	23-02	22-02	21-00	2200	NO	NO
Faroe Island - OY???	Now to 13 May	32	00-06	22-09	19-03	12-22	NO	NO	NO
Mongolia - JT45D, JU45D, JV45D	Now to 15 May	354	NO	NO	09-12	00-05	11-15	NO	NO
Mauritius - 3B8/DL3LBP	Now to 21 May	88	00-03	23-04	22-05	03-06	NO	NO	NO
Guinea - 3XDQZ	Now to 22 May	90	00-07	21-09	20-10	10-04	16-01	15-01	NO
Svalbard Is - JW5RIA	Now to 30 May	13	02-03	00-10	21-13	14-22	14-22	NO	NO
Cambodia - XU???	07 to 19 May	349	NO	NO	11-13	11-14	1200	NO	NO
Morocco - CN2OA	21 to 24 May	64	00-06	22-08	20-10	15-04	NO	NO	NO

Updated 30 April 2004, based on 28 April 2004 *QRZ DX*, and 26 April 2004 *The Weekly DX*.

Notes: ??? = Call sign not yet known, ++ = Phone Only, ** = CW Only, NO = No opening forecast, **Time in bold** = Best Band(s) for opening

Long path bearings and opening times (if any) are underlined. All forecasts calculated via *W6ELProp V.1.03* propagation software,

<<http://www.qsl.net/w6elprop/>> by Sheldon C. Shallon-W6EL, with Solar Flux and K-index varied in accordance with NOAA 27-day forecast.

- SOLAR ACTIVITY DURING APRIL -

During April, the Solar Flux ranged from 88 up to 117, with a mean value of 101.3 (vs. 126.5 for April 2003 and 148.8 for April 2002). The A-index was ≤ 10 on 14 days during the month. Disturbed conditions were most prevalent 03-09 April.

- MAY PROPAGATION -

During May, solar activity is expected to be at very low to moderate levels. Isolated moderate activity is possible from three sunspot regions. The greater than 2 MeV electron flux at geosynchronous orbit is expected to reach high levels from 03-07 May, 15-16 May and 21-24 May due to recurrent coronal hole high-speed streams

The geomagnetic field is expected to range from quiet to minor storm levels. Active to isolated minor storm levels are expected on 02-05 May and 20-22 May due to returning coronal hole high-speed streams. A weaker coronal hole is due to return to a geo-effective position on 14-15 May with unsettled to active conditions expected. Otherwise, the geomagnetic field will be at mostly quiet to unsettled levels.

(From *NOAA Weekly Highlights and Forecasts*, 27 April 2004)

Due to the declining sun spots and lower Maximum Usable Frequencies (MUF), 10 and 12 meters will offer little or no openings. Fifteen meters will provide some great DX during May, but primarily on transequatorial paths. North-south long path openings during May are rare on 15 and declining on 20 meters.

Peak worldwide conditions are expected on 20 meters for an hour or two after local sunrise and during the afternoon hours. From sundown to midnight, moderate DX conditions should exist on 20 to many areas of the world. During this same time, 40 meters should provide easterly openings. Seasonal noise will make DXing on 80 a challenge.

From midnight to local sunrise, look for openings to most areas of the world on 20, 30 and 40 meters. Look for the Far East and long path openings to southern Africa and the Indian Ocean.

Conditions should be *Above Normal* 10-15, 17-18, and 25-29 May; and *High Normal* 7-9, 16, 19-20, and 22-24 May. (From "Propagation", Tomas Hood-NW7US, May 2004 *CQ*)

- DX TIDBITS -

D-Day Commemorative Stations: A number of French Special Event stations will be on the air, commemorating the 60th anniversary of D-Day:

TM6JUN from the Utah Beach Museum, 13 May-13 June
F/ON6JUN/p from the Pegasus Bridge Museum, several days before, on, and after 06 June.

TM6BMC from Mont Caisey, 05-06 June

TM6OCH from Cherbourg, 19 June to 02 July

TM6OVS from the Vassieu en Vercors Partisans Museum, 06 June.

Saudi Arabia: While activity from Saudi Arabia has been limited to HZ1AB (US military detachment) and members of the royal family, licensing exams were recently held for the benefit of other residents. It is not known how many passed the exams, however, they will have power and frequency restrictions. Operation with 200 watts on all HF bands except 80 and 30 meters is permitted upon receipt of a station license and call sign.

St. Pierre & Miquelon: Two hams from the US 9th District will be on with 100 watts from Room 5 of the Maxotel 02 to 11 July. Peg-FP/KB9LIE will be on SSB on 6, 12 and 17 meters, while Paul-FP/K9OT will be on CW on 30 to 160 meters.

Aland Island: DC7VS, DC7ER and DL7NJ will be on from OH0 from 10 to 24 July. Look for them on SSB/CW/SSTV and PSK31.

Turks & Caicos: For prefix hunters, the unusual call sign VQ5V will be used by W5AO and K4RO in the CQ WPX Contest the last weekend in May.

(From 28 April 2004 *QRZ DX*)

"The high-minded man must care more for the truth than for what people think." - Aristotle (384-322 B.C.)

CONTESTS & ACTIVITIES

Contest/Special Event	Times/Dates	Bands/Modes	QSO With	Exchange
FISTS Spring Sprint	1700 GMT 09 May 2100 GMT 09 May	80 - 10 Meters CW Only	USA and Canadian Stations Only	Name. R/S/T, State, FISTS # or Power
Alessandro Volta RTTY DX Contest	1200 GMT 08 May 1200 GMT 09 May	80 - 10 Meters RTTY Only	Anyone, Anywhere	R/S/T, Serial No., CQ Zone
Portugese Navy Day	0800 GMT 08 May 2300 GMT 09 May	80 - 10 Meters Phone/CW/PSK31	Portugese Stations Only	R/S/(T) + Serial Number
Baltic Contest	2100 GMT 15 May 0200 GMT 16 May	80 & 40 Meters Phone & CW	Stations in Estonia, Latvia and Lithuania	R/S/(T) + Serial Number
His Majesty King of Spain Contest	1800 GMT 15 May 1800 GMT 16 May	160 - 10 Meters CW Only	Spanish Stations Only	R/S/T + Serial Number
US Counties QSO Party	0000 GMT 15 May 2400 GMT 16 May	80 - 10 Meters Phone Only	Anyone, Anywhere	R/S + County & State
CQ WW WPX Contest	0000 GMT 29 May 2400 GMT 30 May	160 - 10 Meters CW Only	Anyone, Anywhere	R/S/T + Serial No.

From May 2004 *Worldradio* and May 2004 *QST*.

- CONTESTING FOR NEWBIES -

Human society is built around the concept of competition, be it in business and industry, sports, or the personal drive to be successful in one's career. And, yes, there is competition on the ham bands in the form of breaking DX pileups to formal weekend contests. When the hams were given the "wasteland" 200 meters and down, certain time periods were set aside to attempt transatlantic QSOs, with these time periods evolving over time into the ARRL DX Contest. Now contests of all nature can be found on the ham bands just about any weekend.

How does one start contesting? First off, you must have some understanding of what contest will be on, what modes will be used and what the exchange will be. That info is given in the monthly charts as shown above. You don't charge after some contest station and then not know what exchange to give him! Complete rules for most contests are given in *QST*, should you work enough stations to merit submitting an entry.

You don't have to have a "big gun" station to be competitive. Some contests, such as the *CQ WPX*, have separate low power entry categories. If your antenna(s) performs best on one band, you can probably do best by entering in the single band category.

Learn the propagation characteristics of the different bands by doing some SWLing during various daytime and nighttime hours. That will give you a better idea of when the different bands offer the most activity.

Don't be afraid to try contesting. It's a good way to sharpen your operating skills and see how well your station performs "against" the others on the air.

"There have existed, in every age and every country, two distinct orders of men—the lovers of freedom and the devoted advocates of power." - US Senator Robert Haynes (1830)

- FORM FCC 605 UPDATED -

Form FCC 605 is the application form used to inform the FCC directly of your change of address or to request a renewal of your license. Effective 03 May 2003, the FCC will only accept such applications on Form FCC 605 dated December 2003. While the changes in this form are not applicable to Amateur Radio, none the less, this is the only version that will be accepted.

It is also mandatory that all applicants have and use their FCC Registration Number (FRN) on this form. Use of the Social Security Number is no longer permitted, other than at a VEC exam session. The VEC will then apply for or assign the FRN.

While registration for a FRN can be done via the Internet, for those who desire to use paper, Form FCC 160 must be used. This form is submitted to the FCC in Washington, DC then, after the FRN is received, Form FCC 605 is submitted to Gettysburg, PA.

ARRL members can use NCVET Form 605 for address changes and license renewals, submitting the form directly to the ARRL. However, if you are not an ARRL member, the current cost to process that form is \$12.00.

If you have need for these forms, or have any questions regarding license renewals or address changes, contact the TARC VE Team Liaison Jack Sproat-W4JS at 475-1929.

- CQ WPX CONTEST -

The last weekend in May will see the ham bands filled with stations participating in the CW version of the CQ Worked All Prefixes Contest. This is a rather "low key" contest, in that anyone can work anyone, but it is very popular and quite a number of multi-operator contest stations will be set up around the world. Even if you just make one or two contacts, you can still have fun. Just "5-N-N, 1," 5-N-N, 2" etc. "N" is for "9" and much faster.

— AN ANTENNA PRIMER —

Awhile back we saw a "pulp" catalog advertising 5/8-wave 10-meter verticals that would yield 11 to 12 "dB" gain. No mention of this being dB_i or dB_d , but why worry about technicalities with claims of such outstanding gain! Before any "little pistols" operating under antenna restrictions think this is just what they need to blow away the "big guns" in a DX pileup, please be advised otherwise—for the purchaser would be sorely disappointed—as such performance is impossible, and we will herewith explain.

First off, what is a decibel, or dB? Named after Alexander Graham Bell, inventor of the telephone, it is a unit for expressing the ratio of two amounts of electrical or audio signal power. The main reason dB is used is that successive power gains or losses may be added together. The number of dB in this power ratio is equal to 10 times the common (base 10) logarithm of the two powers, and is expressed mathematically as:

$$\text{dB} = (10)(\log_{10})(P_1/P_2)$$

As "11 dB gain" in an antenna would increase the user's output signal by a multiplier of 12.6, this magical antenna would certainly be a cheap way to attain full legal output power! Unfortunately, there is no such easy way to the top of the pileup.

What about dB_i and dB_d ? The former refers to dB gain over an *isotropic antenna* and the latter refers to dB gain over a 1/2-wave dipole antenna. If a radio wave could originate at a point source in free space, it would spread out in an ever-growing sphere, with the source at the center. This theoretical antenna has no directivity as it radiates equally well in all directions, therefore, it is useful as a "measuring stick" for comparison with actual antenna systems. A dipole antenna has numerous lobes, with the major lobes broadside to the antenna, therefore, a 1/2-wave dipole has directivity and 2.14 dB gain over the isotropic antenna. In the real world of antenna performance, therefore, it is important to know if the gain quoted for an antenna is dB_i or dB_d , as that 2.14 dB equates to a power multiplier of over 1.63. Always look for these references in the antenna literature or advertisements of reputable manufacturers.

A 1/4-wave vertical has no gain with reference to a 1/2-wave dipole, however, a 5/8-wave vertical antenna has a gain of about 3 dB over a 1/4-wave vertical, due to the fact that more of the transmitted signal is directed at a low wave angle. Therefore, the maximum gain to be expected from any 5/8 wave antenna is 3 dB_d , or a power multiplier of 2.0, i.e., the transmitted signal power is doubled.

What manner of antenna would yield 11 or 12 dB_d gain on 10 meters? Well, you better have a bit of property and a high torque rotator, for you'll need an 8-element yagi on a 60-foot boom! Perhaps an easier alternative would be to stack two 6-element yagis, each on 36-foot booms, and spaced $\pm 32'$ on the tower. But a 5/8-wave vertical? "No way, Jose." Save your money! "*Caveat Emptor*"

(Ref: *The ARRL Antenna Book, 18th Edition, 1997*)

— DX JITTERS? —

Usually when a ham shows off his station to anyone, one of the first questions asked is "How far can you talk?" To really impress the visitor, it's nice to casually respond, "Well, Perth, Western Australia is about 18,150 km from here—almost half-way around the globe—and I've worked it several times". But just the mention of having made contact with any reasonably distant foreign country is bound to stir thoughts of exotic locales, ancient ruins, swaying palm trees, etc. in the visitor's mind, and he is amazed at what you can do with the black box(es) on your desk.

You do this by working "DX", which just means working distant stations. (On 2 meters, Gainesville is DX, so we're talking the HF variety here.) Perhaps some operators are wary of working DX for they consider that activity to be only for those stations with full-bore amplifiers and big antennas. It is true that such "big gun" stations may get through to some weak-signal DX station which the "little pistol" can't even hear, and that certainly can be discouraging. Others may get "turned off" by the raucous cacophony of a pileup calling a DX station. And, some folks claim they have a tough time understanding English spoken with a heavy foreign accent. There is an easier way to start working DX, and that's via the "DX Net", which even some "big guns" may have to use sometimes.

Start by listening in the morning on 14226.5 kHz for the "Southern Cross" DX Net, which looks for DX in eastern Asia and Oceania. Later in the day, a DX net fires up on 14245 kHz. The routine is the same for either net. DX stations check in—and sometimes these are very rare stations running low power or with operators having limited English capability. Usually two or more stations will act as net control, so the entire USA can be heard by them. If you can hear the DX station and want to work him, when the net control asks for "anyone wanting the DX", you give your "last two", meaning the last two letters of your callsign. (This is technically illegal, as full calls are required, however, the practice has been used for over 20 years and it's generally overlooked by the authorities.) Assuming that you get on the "list", when your "last two" are called, you then call the DX station, give your complete call sign (twice if signals are weak) and his report—and nothing else. He'll respond, you acknowledge and turn it back to the net control. See; it's not that hard to break into Dxing!

— WEB SITES OF INTEREST —

Radio Propagation: W6EL's MiniProp program is available free at <www.qsl.net/w6el/prop>. Space weather and near real-time worldwide MUF graphs can be seen at <www.spacew.com/www/realtime.html>.

Antennas: The EZNEC series of antenna analysis/modeling programs can be reviewed at <www.eznec.com>. EM Scientific, Inc. publishes the MiniNEC antenna analysis/modeling programs at <www.emsci.com>.

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