



THE COMMUNICATOR

Newsletter of the TAMAMI AMATEUR RADIO CLUB

Incorporated 30 November 1984 – Venice, Florida
Mailing Address: 1419 E. Manasota Beach Rd., Englewood, FL 34223-6341
W4AC Repeater – 146.805 MHz(-) w/100 Hz PL
Web Site – <http://tamiamiarc.org>



-- APRIL 2009 --

-- PRESIDENT'S MESSAGE --

Back in February 1998, there was an editorial in *CQ* relative to radio clubs and the personal contacts made between hams. In that editorial, the editor estimated that he had never met nor seen over 60% of his club's members at either meetings or functions. It appears that the TARC is experiencing the same lack of involvement by its members as do other clubs and organizations in this day and age. During the "season" about 10% of our members check into our three weekly nets and some 25% of our members attend our monthly meetings. I realize that about 30% of our members cannot readily attend our meetings due to a variety of reasons. However, what about the 45% that, to the best of my knowledge, should be able to come on out?

We are indebted to those non-participating members, however, for they pay their dues and help finance TARC activities on which they never voted. Perhaps these members are not indifferent, and just the knowledge that they are TARC members gives them satisfaction that they have done their part for the Club.

Ham radio can be a very impersonal hobby, in that we can talk to people in other states and countries on a friendly basis, however, we usually will never make personal contact with those people. Years ago most towns had at least one radio parts or repair shop where hams could drop by and meet one another. Larger cities had ham radio stores where hams often met to look at equipment and shoot the breeze. Such stores are gone from this area, such that membership in a radio club is the best means by which we can personally get to know others who share a common interest in at least one facet of life.

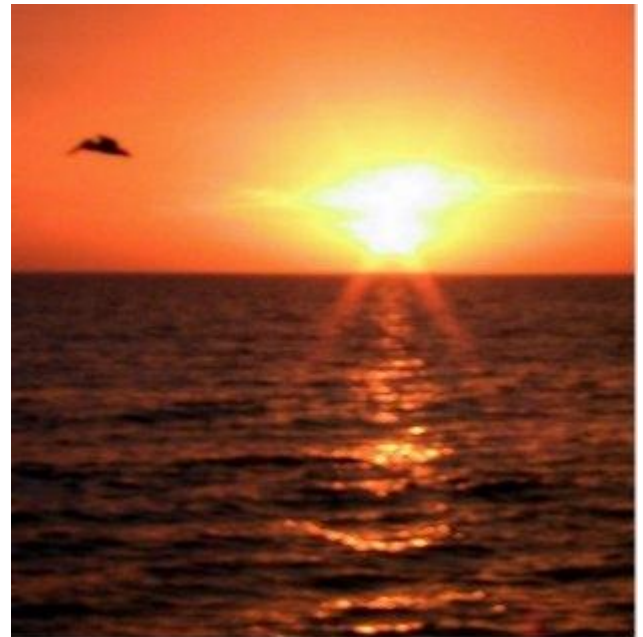
Therefore, I'm hopeful that those unseen members who have been "in hiding" will make some effort to check into our nets and come out to our monthly meetings. Make a new, or renew an old, acquaintance, and enjoy your TARC membership.

73 to all de Stew-W4MO

-- APRIL MEETING --

The doors open at 6:30 PM with an "Eyeball QSO" period until the business meeting kicks off at 7:00 PM on **09 April 2009** in the Community Room of The Gulf Coast Community Foundation of Venice, 601 South Tamiami Trail (Business US 41), across from the Venice Regional Health Center. The program will be a video on Hallicrafters. We hope to see you there.

-- SUNSET OVER THE GULF --



Roger Schmitt-WB4HDW caught the glowing rays of a Gulf sunset, with a pelican in flight.

--THE TARC'S WEEKLY NETS --

Tuesday at 7:30 PM, the TARC Simplex Net on 146.580 MHz.

Wednesday at 8:00 PM, the TARC DX Net on our W4AC Repeater, 146.805 (-) with 100 PL.

Thursday at 7:30 PM, the TARC Emergency Net on our W4AC Repeater, 146.805 (-) with 100 PL

Please check in whenever you can!

TAMIAMI AMATEUR RADIO CLUB
Minutes of the Meeting
12 March 2009

President Stew Haag-W4MO called the meeting to order at 7:07 PM and led the pledge of allegiance. Jon Krijgsman-N1BDF from Shelton, Conn. was welcomed as a visitor. Introductions were made all around.

MINUTES – Secretary Jack Sproat-W4JS asked for a motion to accept the minutes of the 12 February 2009 meeting as published in the March 2009 issue of *The Communicator*. Guenther Hennig-KF4WFA so moved, seconded by Jon Hamlet-W4ZW, and passed.

CORRESPONDENCE – Jack reported that the annual renewal of our Florida incorporation registration was submitted and fee paid, the TARC return for a 501(c)3 not for profit corporation was filed with the IRS, and our application for participation in the 2009 Sharks Tooth Festival was completed and submitted to the sponsor.

TREASURER'S REPORT – Treasurer Don Jansen-KI4VGE reported that the starting balance was \$1863.26. Receipts were \$25.00 from the February 50/50, \$90.00 from membership renewals, and \$8.00 for a member badge, totaling \$123.00. Expenses were \$14.32 for DayStar Internet service at the repeater, \$61.25 for Florida incorporation registration renewal, and \$3.42 for newsletter printing, totaling \$78.99. The 12 February 2009 ending balance is \$1907.27. Peter Peas-N4RD moved for approval, seconded by Mike Hickey-NY4P, and passed.

COMMITTEE REPORTS

SUNSHINE – Matt Klapp-W2EQV reported that Martin Horowitz-N4RD is looking good and plans to be at the Charlotte County Hamfest this Saturday.

VE TESTING – Jack-W4JS advised that there have been no advance reservations for this Saturday's VE session, however, there could be a walk-in or so.

REPEATER/TECHNICAL – Stew-W4MO reported that our W4AC 2-meter repeater is working satisfactorily.

CLUB PROPERTY – Stew-W4MO reported no change in the Club property inventory.

PUBLICITY/MEMBERSHIP – Don-KI4VGE reported that we now have 91 members, including eight Life Members and 10 First-Year Free members.

NET OPERATIONS – Net Manager Bob Murphy-WA1UHG was not present.

LIAISON TO EARS – While no EARS representatives were present, we are aware that the

EARS would be co-sponsoring a hamfest on 14 March at the Charlotte County Fairgrounds.

LIAISON TO QCWA – Jack-W4JS reported that there were 35 members and friends at the 04 March luncheon meeting of Suncoast Chapter 53 at Denny's, Bee Ridge Road, Sarasota. Jack Parsons-K3OTY offered a program of photos showing his former extensive collection of antique battery powered broadcast receivers, telegraph keys, headphones, and memorabilia.

OLD BUSINESS – Pine View School ARC: Jon Hamlet-W4ZW reported that only six, of the 32 students who had signed up, attended the 08 March training session at Pine View. Several PVSARC members did get on the air during the ARRL DX Contest that weekend. A second training session will be held 22 March, with the Technician license exam to be given immediately afterward.

On 09 March, due to scheduling errors, only two PVSARC members showed up for a demonstration of the EchoLink mode.

Jon plans to install a multiband vertical in place of the Windom antenna now in place. The satellite antenna system is ready for installation, and Jon asked for assistance at 11 AM this Saturday.

Mike Hickey-NY4P moved that the TARC reimburse Jon for the cost of the vertical antenna with the proviso that the vertical become the property of the TARC if/when replaced at the PVSARC. Jack Gaddas-KY1Z seconded the motion, which was then carried.

NEW BUSINESS – Sharks Tooth Festival: Two Sign Up sheets for set up, take down, and operators were circulated, with 11 members offering to help. These sheets will be circulated again at the 09 April TARC meeting. It is planned to schedule operators such that at least three operators will be available at all times. Stew-W4MO commented that we need operators willing to stay on into the evening while propagation is still available.

WorldRadio: Jack-W4JS commented that some TARC members had questioned why the Englewood ARS had a "Visit Your Local Radio Club" notice in WorldRadio, but we didn't. Review of the WorldRadio web site showed that it costs \$70 annually to have a club listed in the publication. As such, the officers expressed no desire to have the TARC listed. VE sessions can be listed at no cost, and Jack may take that action in the future.

See **MINUTES**, page 5

CURRENT/PENDING DX ACTIVITY & PROPAGATION HIGHLIGHTS

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	10
Nigeria – 5N00CH	Now to 24 July	84	23-06	21-06	20-03	13-01	16-00	17-00	NO	NO
Chad – TT8CF	Now to 01 July	73	23-05	22-06	21-02	12-00	16-00	16-00	NO	NO
Uganda – 5X4X	Now to 31 May	77	--	22-05	22-02	18-00	16-22	16-22	NO	NO
Solomon Is – H44MS	Now to 28 April	275	07-12	06-13	05-14	01-05	21-02	21-03	21-03	NO
Chagos – VQ9JC	Now to 18 April	54	23-02	22-03	22-03	17-21	16-20	16-20	18-19	NO
Senegal – 6W2SC	Now to 15 April	87	23-08	20-09	19-04	13-01	17-22	17-22	NO	NO
Guinea Bissau – J5UAP	Now to 15 April	90	23-08	20-09	19-04	13-01	16-00	17-00	NO	NO
Mellish Reef – VK9GMW	Now to ?????	267	07-12	05-14	04-15	01-03	21-00	21-00	21-23	NO
Lord Howe Is – VK9LA	Now to 03 April	249	07-12	05-14	04-14	01-03	22-01	23-00	01-02	NO
Rodriguez Is – 3B9/SP2JMR, 3B9/SP2JMB	01 – 08 April	84	23-02	22-03	21-04	18-00	NO	NO	NO	NO
Kenya – 5Z4/PA3EWP	01 – 12 April	76	--	22-05	21-05	18-00	16-23	16-23	NO	NO
Mariana Islands – KH0/K7FX	03 – 07 April	306	08-12	07-13	11-15	00-03	21-00	21-00	NO	NO
Christmas Is – VK9XGI	04 – 11 April	334	NO	11-12	11-13	14-18	16-17	16-17	NO	NO
St. Barthelemy Is – FJ/EB1HF, FJ/EC1DPM	07 – 12 April	113	--	--	--	12-03	--	16-00	--	NO
Aland Is – OH0/OH2YL	09 – 14 April	31	23-06	21-06	19-23	13-20	13-21	18-20	NO	NO
Mozambique – C91FC by 17 operators	09 – 13 April	101	23-05	22-06	21-06	17-00	13-16	13-17	NO	NO
Mauritius - 3B8/SP2JMR, 3B8/SP2JMB	09 – 17 April	88	23-03	23-04	21-04	17-00	14-16	14-16	NO	NO
Cambodia – XU7MDY	09 – 21 April	349	NO	NO	11-12	12-15	13-18	00-01	NO	NO
Western Sahara – S04R	12 – 17 April	75	23-08	21-08	19-05	12-02	15-00	15-00	19-21	NO
Morocco – 5C2A	19 – 25 April	64	23-07	21-07	19-03	14-00	13-00	NO	NO	NO
Svalbard Is – JW/F8DVD	19 – 25 April	13	01-06	23-10	21-01	14-00	14-00	NO	NO	NO
Samoa – 5W8A and 5W0DW	22 April	257	05-12	03-14	01-13	18-05	18-03	19-02	19-02	01-02
American Samoa – KH8/N9YU	22 – 24 April	256	05-12	03-14	01-13	18-05	18-03	19-02	19-02	01-02
Fiji – 3D2AD and 3D2DW	25 April	258	05-12	03-14	03-13	00-06	19-01	19-04	01-04	NO
West Kiribati – T30M and T30DW	27 – 29 April	278	06-12	04-14	03-15	18-06	19-04	01-02	01-02	NO
Ogasawara – JD1BLK and JD1BLY	29 Apr – 05 May	317	09-11	08-12	06-14	01-05	21-02	21-02	NO	NO

Updated 30 March 2009, based on 25 March 2009 QRZ DX, 30 March 2009 *The Weekly DX*, and <http://www.ng3k.com/>

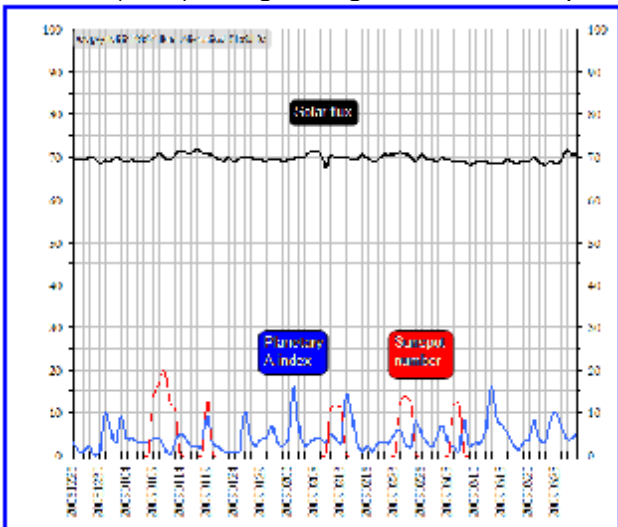
Notes: Time in bold = Band(s) with 75-100% opening; ??? = Call Sign not yet known; ++ = Mostly Phone; ** = Mostly CW; NO = No Opening forecast. Long Path bearings and opening times are underlined. All forecasts calculated using *W6ELProp V.2.60* propagation software, available to download at <http://www.qsl.net/w6elprop/>. Solar Flux and K-index varied in accordance with USAF 45-Day A/P Forecast.

-- MARCH SOLAR ACTIVITY --

During March, the Solar Flux ranged from 69 to 72, with a mean value of 69.2 (vs. 72.9 for March 2008 and 72.4 for March 2007). The A-index was ≤ 10 on 29 days.

Solar activity was very low. Region 1014 formed on 06 and decayed on 08 March.

Other than for active conditions 13-15 March due to recurrent coronal hole high speed streams (HSS), the geomagnetic field was quiet.



(Courtesy of: Jan Alvestad, <http://www.solen.info/solar/>)

-- APRIL FORECAST --

April solar activity is expected to be very low. No proton events are expected at geosynchronous orbit. The greater than 2 MeV electron flux at geosynchronous orbit is expected to increase to high levels 10-14 April. Solar flux should average 70 during April.

Geomagnetic field activity is expected to be at quiet levels through 08 April. Activity is expected to increase to unsettled to active levels 09-10 April due to recurrent HSS. Activity is expected to decrease to quiet levels 11-30 April.

(From NOAA *Weekly Highlights and Forecasts*, 24 February 2009, NOAA *27-day Space Weather Outlook Table*, 24 February 2009, and *45 Day AP Forecast*, USAF, 24 February 2009)

-- DX NOTES IN THE MARGIN --

A variety of Caribbean and Central American entities will be active in April, including 8P6DR, FG/F4EBT, HH4/K4QD and HH4/AF4Z, KP2YL, PJ2/PA4JJ, KG4CN, TI7WGI, and ZF2ZB.

Venezuelan Navy approval has been received for the YW0A-Aves Island, with exact dates being negotiated. This operation will take place in the April-May time frame. "Stay tuned."

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CONTESTS & ACTIVITIES

Contest/Special Event	Begin-End Times/Dates	Bands/Modes	QSO With	Exchange
Bulgarian Open 40-Meter Contest	0000Z 04 Apr 0400Z 04 Apr	40 Meters CW Only	Anyone, Anywhere	6-digit serial, serial frn prev QSO
Polish DX Contest	1500Z 04 Apr 1500Z 05 Apr	160 – 10 Meters Phone & CW	Only Polish Stations	R/S/(T), serial number
Spanish RTTY Contest	1600Z 04 Apr 1600Z 05 Apr	80 – 10 Meters RTTY Only	Anyone, Anywhere	R/S/T, serial number
QCWA Spring QSO Party	1800Z 04 Apr 1800Z 05 Apr	160 – UHF SSB, CW, Digi	QCWA Members	Yr. licensed, QTH, name, Ch.#
URE (Spanish) 60 th Anniversary Contest	0000Z 11 Apr 2359Z 12 Apr	160 – 10 Meters SSB, CW, Digi	Anyone, Anywhere	R/S/(T), serial number
Japan International DX Contest	0700Z 11 Apr 1300Z 12 Apr	160 – 10 Meters CW Only	Only Japanese Stations	R/S/T, CQ Zone (5, locally)
Yuri Gagarin DX Contest	2100Z 11 Apr 2100Z 12 Apr	160 – 10 Meters CW Only	DXCC Entities (Call "CQ GC")	R/S/T, ITU Zone (8, locally)
TARA Skirmish Digital Prefix Contest	0000Z 18 Apr 2400Z 18 Apr	160 – 6 Meters Digital Modes	Anyone, Anywhere	Name, Prefix
Polish DX RTTY Contest	1200Z 25 Apr 1200Z 26 Apr	80 – 10 Meters RTTY Only	Anyone, Anywhere	R/S/T, serial number
Helvetia (Swiss) Contest	1300Z 25 Apr 1259Z 26 Apr	160 – 10 Meters SSB, CW, Digi	Only Swiss Stations	R/S/(T), serial number
Florida QSO Party	1600Z 25 Apr 2159Z 26 Apr	40 – 10 Meters Phone & CW	Anyone, Anywhere	R/S/(T), Florida County

From ARRL "Contest Corral"

-- BATTERY POWER BREAKTHROUGH --

Progress is being made on a lifetime battery pack for handheld radios, courtesy of the Department of Defense and the Navy.

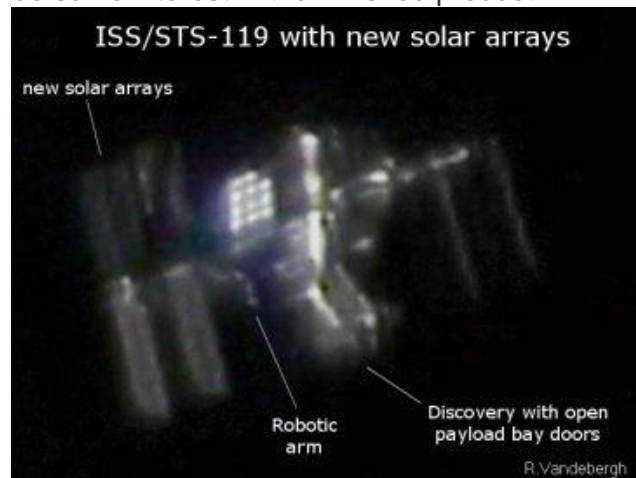
These new battery packs are utilizing nuclear reactors taken from decommissioned submarines. They are reduced in size and transformed into a manageable form of energy. Currently, the packs have been formed into a shell that will fit most amateur radio handheld radios. Each pack is rated at over 1,700,350,000 ampere-hours and should last a lifetime. However, as they are a nuclear power source, and the user must be protected from radiation emitted by the pack, each pack weighs 18 pounds due to the construction of the lead shielding of the pack.

For more info, call 1-800-555-0000 or visit <http://www.dod.gov/amateur/idiot/iamanaprillfool>.

-- ISS SPROUTS NEW WINGS --

The International Space Station's solar arrays are the largest deployable space assemblies ever built. Astronauts unfurled a pair of the starboard side of the outpost, adding enough power to double the size of the station's future crew. Amateur astronomers are already noticing a change in the station's profile.

As numerous locals witnessed the launch of the shuttle carrying these panels, there should be some interest in the "finished product."



This photo was taken by Ralf Vandebergh from his backyard observatory in the Netherlands. "As the ISS flew overhead, I manually tracked it using my 10-inch Newtonian reflector. Note the shuttle with its payload bay doors open. The Canadian robotic arm, which helped install the arrays, is also visible."

(From Spaceweather.com, 19 March 2009)

He has the attention span of a lightning bolt. – Robert Redford

-- LOTS'A SUPERVISION! --



When Jack Gaddas-KY1Z recently poured the foundation for his crank-up tubular tower, he had three supervisors on the job. All seem pleased with Jack's efforts.



No, Jack's not going HF mobile with a 2-element cubical quad on his truck. It's just a trial assembly of the 20/17/15-meter quad that will go on his tower.

-- PROPOSED VACUUM TUBE PC --

(Ed. Note: The following is a summary of a paper to be presented by Lord Euphell Forritt at the 01 April meeting of the Venetian Cybernuts Komputer Klan.)

Having a better background in vacuum tubes vis-à-vis solid state devices, I decided to use tubes for the construction of my 01-04 PC. I chose the 12AX7—a relatively cheap dual-triode.

With at least 8 MB of RAM, quite a number of tubes were required, so I ordered directly from a factory in the small Baltic country of Krapup Wackout. Ised Nokitoff, the company's president, was flabbergasted at the order—he acted as if no one had ever before placed an order for 4 million 12AX7's and tube sockets! As point-to-point wiring would be done, I found that my store-bought computer lacked capacity to calcu-

late the number of solder connections or the amount of solder needed for this project.

When I contacted FPL, I had trouble making them understand the need for 105 kv feed mains in order to reduce the current load of the 01-04 PC.

I'll need to construct a 350,000 sq. ft. building to house the 01-04 PC. To handle the heat, exhaust fans with 200,000 cu. ft./minute capacity are needed. Exhaust flow will be directed along Venice Beach to ensure warm winter air temperatures and enhance tourism.

I estimate that screen redraws will take about 6.31 minutes—enough time for the operator to enjoy a cold drink.

The 01-04 PC will cost about \$23 million, and it will be ready around 01 April 2012. I still need information on where I can obtain a 150 VDC @ 1.5 MegaWatt "wall wart," so any assistance is welcome. Wal-Mart can't help me out!

(Have a great April Fool's Day!)

-- SUNSPOT PROGNOSTICATING --

We ventured up Sarasota way to hear from the undisputed sage of HF communications. We found his steady, dowsing rod ready and the future all plotted. "Cap'n Lee," we asked, "what are the prospects for the future with Cycle 24 sunspots? Tell us what you know."

We got a quick answer. "I look for the SSN to remain close to zero for the next several months, and I am prepared to say that from then on things will go up. Absolutely!" We thought this over for a bit and then pressed for more information. "But are you sure?" we asked. "Are you sure?" The divining rod started to twirl. "Foursquare!" was his empathic answer. "My studies indicate that when we are at zero, the only way we are going to go is up. Positively!"

(Adapted from DX IS! The Best of the West Coast DX Bulletin, edited and published by Charles Allen-W5DV and James Allen-W6OGC, 1981)

MINUTES, from Page 2

COMMENTS FROM THE FLOOR – None

ADJOURNMENT – A motion to adjourn at 7:33 PM was made by Peter Pesa-N4RD, seconded by Mel Bullock-W4PSE, and passed. There were 22 members and one guest present.

PROGRAM – Jack-W4JS discussed "The Ins and Outs of QSLing and Being a QSL Manager".

Jack Sproat-W4JS

Secretary

-- CASPERSEN BEACH SUNDANCERS --

Newly minted DXers, affectionately known as QRPerS, who are now struggling along with a monthly average of one or two sunspots and a solar flux of 70 are unaware of what DX was like back in 2000-2002 when the smoothed sunspots were 115-200 and the smoothed solar flux was 180-195. Hence, we have called upon the Caspersen Beach Drum Circle and the Caspersen Sundancers for assistance in bringing back the sunspots and the glory days of DXing. After all, if the Palos Verdes Sundancers out on the West Coast could pull off such miracles, cannot such local talent do the same? Sure they can! We will visit them from time to time for encouragement, so be alert for updates as we receive them.

--WHAT ON EARTH?? --



Should we run and protect the women and children or the birds in the trees from “Dead-Eye Konrad” Owens-WA3RRS? Fear not, for he’s just aiming this tennis ball gun to shoot a line over a convenient tree.



After the tree supports had been shot, Peter Pesa-N4RD went “rooftop” to prepare the 80-meter antenna for Bruce Brown-WA8IQF. Note Peter’s “crane kick” posture. What a team!

-- OVER OR IN THE AIR --



Since he’s worked all 338 DXCC entities, Bob Marchese-K1NOK has spare time to slice a few clouds now and then. So, off he went in this Citabria to take in the sights during Bike Week at Daytona Beach. Bob says, “A fine scenic trip!”

-- CHATHAM ISLAND-ZL7T --



A multinational team of nine DXers from New Zealand activated Chatham Island in the South Pacific from 05 to 10 March. Some 75% of their QSOs were on CW and most single-band QSOs—29%--were with this beam on 17 meters. ZL7T was QRV on CW, SSB, RTTY and PSK on all HF bands except 12m, making 10,580 QSOs and spreading a little happiness. QSL via ZL2AL if you worked them. (From ZL7T Web site)

April 2009

Sun	Mon	Tue	Wed	Thu	Fri	Sat
			1 QCWA Lunch, 11:30 AM @ Denny's TARC DX Net, 8 PM, W4AC Repeater 146.805	2 TARC Emer- gency Net @ 7:30 PM, W4AC Re- peater 146.805	3 Breakfast @ Peach's, ± 7:45 AM	4
5	6	7 Breakfast @ Peach's, ± 7:45 AM TARC Net @ 7:30 PM, 146.580	8 TARC DX Net, 8 PM, W4AC Repeater 146.805	9 TARC Meet- ing, Gab Session @ 6:30 PM, Meeting @ 7 PM	10 Breakfast @ Peach's, ± 7:45 AM	11 TARC VE Session @ 9:00 AM, Venice Public Library
12	13 DARN Emer- gency Net @ 11 AM & 7:30 PM, Starts on W4AC re- peater 146.805	14 Breakfast @ Peach's, ± 7:45 AM TARC Net @ 7:30 PM, 146.580	15 TARC DX Net, 8 PM, W4AC Repeater 146.805	16 TARC Emer- gency Net @ 7:30 PM, W4AC Re- peater 146.805	17 Breakfast @ Peach's, ± 7:45 AM	18
19	20	21 Breakfast @ Peach's, ± 7:45 AM TARC Net @ 7:30 PM, 146.580	22 TARC DX Net, 8 PM, W4AC Repeater 146.805	23 TARC Emer- gency Net @ 7:30 PM, W4AC Re- peater 146.805	24 Breakfast @ Peach's, ± 7:45 AM	25
26	27	28 Breakfast @ Peach's, ± 7:45 AM TARC Net @ 7:30 PM, 146.580	29 TARC DX Net, 8 PM, W4AC Repeater 146.805	30 TARC Emer- gency Net @ 7:30 PM, W4AC Re- peater 146.805		

NOTE: If the W4AC Repeater is inoperative, nets scheduled for activity on the repeater will be held on the simplex frequency of 146.580 MHz. Thanks for your cooperation.

**TAMIAMI AMATEUR RADIO CLUB, INC.
MEMBERSHIP APPLICATION**

Name _____ Call Sign _____ Class ____ ARRL (Y/N)____

Local Address _____ City _____ Zip _____

Summer Address _____ City/State _____ Zip _____

Tel. No. _____ E-Mail _____ Application Date _____

Please check activity interests: Ass't Net Control __, RFI/TVI __, VE Testing __, Training __, Packet __, RTTY __,
Computers __, DXing __, Contests __, Field Day __, Publicity __, Emergency Communications __, Special Events __,
VHF/UHF __, SSTV __, ATV __, Repeater __, EchoLink __, Other (specify) _____

Single Member @ \$15.00/year __, Family Membership @ \$20.00/year __ (\$8.00 after 30 June for remainder of calendar year. \$15.00 after 31 October grants membership through remainder of year and all of the following year.)

MAIL TO: TARC, 1419 E. MANASOTA BEACH RD, ENGLEWOOD, FL 34223-6341

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The Communicator is a monthly publication
Of the Tamiami Amateur Radio Club, Inc.

Editor: Jack Sproat-W4JS

Circulation: Don Jansen-KI4VGE

2009 TARC Officers

President: Stew Haag-W4MO

V. President: Bruce Brown-WA8IQF

Secretary: Jack Sproat-W4JS

Treasurer: Don Jansen-KI4VGE

Directors: Konrad Owens-WA3RRS

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