THE COMMUNICATOR

Newsletter of the TAMIAMI AMATEUR RADIO CLUB

Incorporated 30 November 1984 – Venice, Florida
Mailing Address: 1419 E. Manasota Beach Rd., Englewood, FL 34223-6341
W4AC Repeater – 444.100 MHz &146.805 MHz(-) w/100 Hz PL
Web Site – http://tamiamiarc.org

-- SEPTEMBER 2013 --

-- PRESIDENT'S MESSAGE --

I've gotten my visual faculties in order so no more excuses for not doing the President's Message. Fall is upon us and the major storm season is just starting to warm up. With that in mind, are you ready? Antennas secure and well grounded? Do you have the frequencies for the local nets, HF-VHF and UHF? Are your HT's batteries in shape in case the wind does unkind things to your shack. I sometimes wonder, while listening to the breakfast talk and general radio confabs locally, how little is discussed about (how should I say it, "disaster preparedness"?) local extreme weather possibilities. I hear it all too often that this is Paradise we don't get anything that bad. Enough said. Are you ready?

What do we have ahead in Ham Radio? Let's look back to the end of the 19th Century. Scientist's thought there wasn't much more to learn when an upstart named Roentgen found some rays which would pass through the human body. No one could identify them and so they were called X-Rays. Two months later Henri Becqurel found that a piece of uranium ore emitted something that fogged photographic plates. As a result we have the Electron, the carrier of electricity, which was officially discovered in March 1897.

Who could have guessed that the "that's all there is to know" attitude would bite them again. In less than 5 years, new discoveries would conventionalize and produce a growing list of new ideas that would transform the 20th century in unbelievable ways.

If you told a physicist in 1899 that by 1999 we would transmit pictures into homes all over the world from satellites in space, that women would have the vote and that millions of people would carry telephones weighing ounces that could communicate with others around the world, what do you think the response would have been?

You know what our abilities are now; what will they be tomorrow? Keep an open mind and don't stop learning.

A lot of discussion at breakfast about setting up logging programs for HF and DX. Jack-W4JS does a great job of preparing DX Propagation for the newsletter and commenting on current propagation during our local nets. Did I just say local nets? Where is everyone lately? As shown in the calendar, they're on Tuesday at 7:30 pm on 444.1 MHz and Thursday at 7:30 on 146.805 MHz. How about checking in to show that you share an interest in our club?

Be safe and enjoy our great hobby.

73, Fred-KJ4TNI

-- SEPTEMBER MEETING --

Our meeting will start at **7:00 PM** on Wednesday, **11 September 2013** at the Coast Guard Auxiliary Training Center, 1200 South Harbor Drive. San Yoder-K3SY was scheduled to give a program on Lightning Arrestors and Surge Suppression. However, San is battling pneumonia, and we wish him the best. The program will be the official and intriguing video of the 2007 BS7H Scarborough Reef DXpedition.

-- LOOK AND LISTEN --

As mentioned by Fred, we are now experiencing almost daily electrical storms. Whether or not you have an outside antenna, it's often useful to know about how far the lightning is striking. A close approximation can be made by counting the seconds between the flash and the thunder. The following is based on the speed of sound being approximately 347 m/sec at 27° C at sea level.

Seconds	Distance (miles)
0	0.0
1	0.22
2	0.43
3	0.65
4	0.86
5	1.10

Keep in mind that lightning has been known to travel horizontally as much as 10 miles before striking. So do be respectful of lightning!

TAMIAMI AMATEUR RADIO CLUB
Minutes of the Meeting
14 August 2013

President Fred Lathwood-KJ4TNI called the meeting to order at 7:04 PM. Following the flag salute, introductions were made all around and Bill Nesbitt-KK4TEP was welcomed as a new member.

MINUTES – Fred requested a motion to accept the minutes of the 10 July meeting as published in the August issue of *The Communicator*. Guenther Hennig-AJ4QX so moved, seconded by Rich Greenberg-N6LRT, and passed.

CORRESPONDENCE – Nothing sent or received during the month.

TREASURER'S REPORT – Treasurer Don Jansen reported that the starting balance was $3563.81. Receipts were $10.00 from the July 50/50 and a $9.00 donation from Fred-KJ4TNI, totaling $19.00. Expenses were $12.93 to Birch Communications for Internet service. The 31 July balance is $3569.88. Rich-N6LRT moved for acceptance of the report, seconded by Guenther-AJ4QX, and passed.

COMMITTEE REPORTS

SUNSHINE – Nothing reported during the month.

VE TESTING – Two candidates at our 10 August VE session passed their Element 2 Technician exam, one of whom was our new member Bill Nesbitt-KK4TEP. Bill received a round of applause. One potential candidate has already inquired about our 14 September VE session.

REPEATER/TECHNICAL – Both repeaters are operational as long as the digital machine gun isn't present on the 440 repeater.

PUBLICITY/MEMBERSHIP – The latest roster shows 56 paid members, two student members and three life members for a total of 61 members.

NET OPERATIONS – Fred commented that we have had zero to 3 or 4 stations checking in to the two nets, and asked for better support by the members.

LIAISON TO QCWA – There were 14 members, spouses and friends at our informal 07 August lunch at the Panda Pavilion. 04 September will be our last lunch at the Panda as we will return to Denny's in Sarasota starting 02 October.

OLD BUSINESS – Nothing carried over.

NEW BUSINESS – Nothing raised for discussion.

COMMENTS FROM THE FLOOR – Jack Sproat-W4JS remarked that Rich-N6LRT had asked him about the potential for 10-meter propagation. Jack opined that there just isn't enough sunspot activity to support 10 meter propagation until perhaps during the coming winter season. Meanwhile most favorable propagation will be on 15 meters and lower frequencies.

ADJOURNMENT – A motion to adjourn at 7:14 PM was made by Bob Miller-KJ4NLP, seconded by Guenther Hennig-AJ4QX, and passed.

There were 13 members present.

PROGRAM – Hans Napfel offered an informative program on astronomy, including radio astronomy and knowledge of the universe being gained from various satellites, the Hubble Space Telescope, etc.

Jack Sproat-W4JS
Secretary

-- CENTENNIAL CERTIFICATES --

ARRL membership certificates commemorating the League's 100th anniversary in 2014 now are available. Members logged onto the League's website can generate their own certificates or cards online for printing.

"We want each ARRL member to know that he or she is a part of next year's big ARRL Centennial," says Membership Manager Diane Petrilli, KB1RNF. The certificate maker also produces a replacement membership card. The ARRL thanks past McGan Award winner Angel Luis Santana-WP3GW, for suggesting the 2014 ARRL Centennial Membership Certificate, which was designed by ARRL Graphic Artist Diane Szlachetka.

(From *ARRL Letter*, 08 October 2013)

-- FORTUNE COOKIE LOGIC --

Humor is an affirmation of dignity.

Nine-tenths of education is encouragement.

If you have no critics you'll likely have no success.

MAJOR CURRENT/UPCOMING DX ACTIVITY & PROPAGATION HIGHLIGHTS

CURRENT and/or SCHEDULED DX ACTIVITY

COUNTRY – CALL SIGN	ACTIVITY PERIOD	BEAR-ING	HF BANDS and BEST OPENING TIMES (UTC)							
			80	40	30	20	17	15	12	10
Nepal – 9N1AA; Mostly RTTY	Now Active	13	**NO**	**0000**	**23-01**	**12-03**	**13-16**	13-16	13-16	NO
Jordan – JY9FC; by E78A, ** + SSB/Digital	Now Active	49	**23-04**	**22-05**	**21-06**	**17-01**	**12-20**	**13-19**	16-18	16-18
Libya – 5A1AL; **	Now Active	60	**23-05**	**22-07**	**21-07**	**11-02**	**12-22**	**14-21**	16-19	16-19
Galapagos Is – HC8/G8OFQ; ++	Now to 30 Sept	196	--	**00-24**	**12-08**	**13-02**	**15-23**	16-22	16-22	NO
Bangladesh – S21R; 100 watts, inverted V	Now to 30 Sept	8	**NO**	**0000**	**23-00**	**12-03**	**13-16**	14-16	14-16	NO
Laos – XW0YJY; by E21EIC	Now to 14 Sept	353	**NO**	**NO**	**NO**	**11-15**	**13-17**	14-16	14-16	NO
Cape Verde – D44TXP; by M0DGQ, **	Now to 11 Sept	89	--	**21-10**	--	**11-04**	--	--	--	--
Palestine – E44PM; by HB9IQB	Now to 07 Sept	49	**00-04**	**23-05**	**22-05**	**18-00**	**12-21**	**15-20**	16-20	16-20
Rodriguez Is – 3B9EME; Italian team	01 to 09 Sept	84	**23-02**	**22-03**	**22-03**	**19-04**	**16-21**	**15-17**	15-16	18-21
Malta – 9H3BF; by IT9DBF	02 to 06 Sept	55	--	--	--	**11-00**	--	--	--	--
Corsica – TK9ZM; by IK2WZM, holiday op	02 to 08 Sept	51	**23-06**	**21-07**	**20-06**	**11-01**	**12-23**	**15-20**	16-21	16-21
Fr. Polynesia – FO/KH0PR; IOTA, ** Digi	03 to 25 Sept	243	**03-12**	**02-13**	**01-14**	**12-10**	**15-05**	**16-04**	**16-01**	**16-00**
Micronesia – V63DDD, V63LU ++/RTTY	04 to 16 Sept	293	--	**06-13**	**05-14**	**02-16**	**13-03**	**20-01**	**20-23**	20-21
Laos – XW8XZ, XW1YC	05 to 10 Sept	353	**NO**	**NO**	**NO**	**11-15**	**13-17**	14-16	14-16	NO
Botswana – A25JK, A25CF; SSB, PSK	05 to 12 Sept	104	**23-05**	**22-06**	--	**18-05**	**11-20**	**12-18**	**14-17**	15-17
South Korea – HL05GDB; all modes	06 Sept - 03 Nov	335	**09-11**	**09-12**	**08-12**	**23-14**	**22-01**	22-01	22-01	NO
Palau – T8GM; by PG5M, **	06 to 07 Sept	307	**09-12**	**08-13**	**07-13**	**11-16**	**13-04**	**21-03**	21-01	21-01
Papua New Guinea – P29VNX; CW & digital	07 to 14 Sept	283	**08-12**	**07-13**	**06-13**	**05-16**	**02-16**	**13-02**	**20-01**	21-23
Namibia – V55V; German team	07 to 15 Sept	107	**23-05**	**22-07**	**21-07**	**18-02**	**12-20**	**13-18**	**14-18**	15-18
Micronesia – V6G; by PG5M, **	08 to 15 Sept	293	**07-12**	**06-13**	**05-14**	**02-16**	**13-03**	**20-01**	**20-23**	20-21
Palau – T88TV; by W5MJ, **	10 to 16 Sept	307	**09-12**	**08-13**	**07-13**	**11-16**	**13-04**	**21-03**	21-01	21-01
Svalbard Is – JW5E; German team	13 to 16 Sept	13	**00-09**	**23-11**	**22-12**	**11-00**	13-23	14-22	14-22	16-21
Palau – T8GM; by PG5M, **	15 to 19 Sept	307	--	**08-13**	**07-13**	**11-16**	**13-04**	**21-03**	21-01	21-01
Mauritius – 3B8/G0TSM	18 to 28 Sept	88	**23-02**	**22-03**	**22-04**	**19-01**	**16-19**	**15-18**	**14-17**	14-17
Svalbard Is – JW/DL2JRM, JW/DO6XX	20 to 23 Sept	13	**00-09**	**23-11**	**22-12**	**12-22**	13-21	14-21	14-21	16-18
Oman – A43MI; all modes	20 to 24 Sept	43	**23-02**	**22-03**	**22-03**	**19-02**	**12-21**	**13-18**	15-18	15-18
Fiji – 3D2GC; by LZ1GC	20 to 26 Sept	258	**05-12**	**04-13**	**04-14**	**02-15**	**18-03**	**18-01**	**19-00**	**19-22**
Market Reef – OJ0W; by OH3WS, **	21 to 27 Sept	31	--	**21-10**	**20-11**	**11-21**	**13-19**	**14-18**	15-17	14-19
Lord Howe Is – VK9LL; holiday style	22 to 29 Sept	249	**07-12**	**05-13**	**05-14**	**02-14**	**19-03**	**20-02**	**21-01**	21-00
Uganda – 5X1NH; by G3RWF	24 Sept – 16 Nov	77	**23-04**	**22-05**	**21-05**	**19-01**	**16-00**	**13-23**	**15-21**	16-20
Svalbard Is – JW8DW; by LA8DW	25 Sept – 03 Oct	13	**00-09**	**23-11**	**22-12**	**12-22**	13-21	14-21	14-21	16-18
Rotuma – 3D2GC/p; by LZ1GC	27 Sept – 11 Oct	263	**06-12**	**04-14**	**04-14**	**01-15**	**18-02**	**18-01**	**19-23**	20-22

Updated 29 August based on the 26 August *The Weekly DX*, the 28 August *QRZ DX*,, and the NG3K Contest/DX Page, http://www.ng3k.com

Notes: **Time in bold** = the Bands 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 by date in accordance with USAF 45-Day A/P Forecast.

-- AUGUST SOLAR ACTIVITY --

The Solar Flux ranged from 103 to 132, with a mean value of 114.8 (vs. 115.7 for August 2012 and 101.8 for August 2011), and the A_p index was $\geq$ 7 on 17 days. The sunspot number through 30 August ranged from 35 to 161, with a mean of 91.6. Sunspot Regions 1809 to 1836 were active, with three M-class and 58 C-class flares.

HF propagation was often disappointing during August, what with the A_p index hitting 16 on 05 August, 24 during the 13-18 August period, 17 during the 21-25 August period, and 12 on 27 August. 04-05 and 14-16 August were disturbed conditions with G1 storms 16 and 27 August.

-- SEPTEMBER FORECAST –

Solar activity is expected to be very low with a chance for M-class (R1 radio blackouts) flares with the return of old Region 1817 from 02 to 15 September.

No proton events are expected.

The greater than 2 MeV electron flux at geosynchronous orbit is expected to be normal to moderate levels with high levels expected on 02-07 September, 12-16 September and 19-21 September due to activity associated with recurrent CH HSSs.

Geomagnetic field activity is expected to be mostly quiet but with quiet to unsettled levels on 05 September due to CH HSS activity. Unsettled to active levels are expected 01-02 September, 10-14 September, 17-19 September and 27-29 September.

The Solar Flux should range from 95 to 125 and average 110.0 during September. The best window for DX propagation is forecast to be 07-17 September when the Solar Flux will range from 115 to 125. However, the A_p may hit 18 on 12 September.

(From *NOAA Weekly Highlights and Forecasts*, 26 August 2013, *NOAA 27-day Space Weather Outlook Table*, 26 August 2013, and *45 Day AP Forecast, USAF*, 26 August 2013)

MAJOR CONTESTS DURING AUGUST

Contest/Special Event	Begin-End Times/Dates	Bands/Modes	QSO With	Exchange
All-Asian DX Contest	0000Z 07 Sept 2400Z 08 Sept	80 – 10 Meters SSB Only	Asian Prefix Stations	RS, Operator Age (00 for YLs)
Russian Radio RTTY WW	0000Z 07 Sept 2400Z 07 Sept	80 – 10 Meters RTTY Only	Anyone, Anywhere	RST, WAZ Zone (5)
DARC 10 Meter Digital "Corona"	1100Z 07 Sept 1700Z 07 Sept	10 Meters Only All Digital Modes	Anyone, Anywhere	RST, Serial
QCWA Fall QSO Party	1800Z 07 Sept 1800Z 08 Sept	160 – 2 Meters All Modes, CQ100	QCWA Members	Calls, Chapter, Name, 1st Yr Lic
North American Sprint	0000Z 08 Sept 0004Z 08 Sept	80 – 20 Meters CW Only	North American States, Provinces, Entities	Both Calls, Serial, Name, SPC
Worked All Europe DX Contest	0000Z 14 Sept 2400Z 15 Sept	80 – 10 Meters SSB Only	EU Stations Only, See web site for QTC rules	RS, Serial
FOC QSO Party	0000Z 14 Sept 2359Z 14 Sept	160 – 10 Meters CW Only	Members of First Class Operators Club	RST, Name
ARRL September VHF Contest	1800Z 14 Sept 0259Z 16 Sept	6 Meters and Up SSB, CW, Digital	Anyone, Anywhere	Grid Square
North American Sprint	0000Z 15 Sept 0400Z 16 Sept	80 – 20 Meters SSB Only	North American States, Provinces, Entities	Both Calls, Serial, Name, SPC
Scandinavian Activity Contest	1200Z 21 Sept 1159Z 22 Sept	80 – 10 Meters CW Only	Scandinavian Stations	RST, Serial
CQ WW RTTY Contest	0000Z 28 Sept 2359Z 29 Sept	80 – 10 Meters RTTY Only	Anyone, Anywhere	RST, CQ Zone (5), State

Legend: Serial = Sequential number of contact starting with 001; S/P/C = State, Province, DXCC Entity
From ARRL "Contest Corral" and WA7BNM Contest Calendar at http://www.hornucopia.com/contestcal/
NOTE: State QSO Parties are not shown. See above references for information.

-- PENDING FCC UPDATES --

At the July NCVEC meeting, the VEC representatives were informed that the FCC has several items in the Part 97 rules under consideration. These include:

1) Granting exam credit for expired and beyond-the grace-period licenses.
2) Shortening the grace period during which an expired license can be renewed.
3) Correspondingly revising the time a call sign remains unavailable to vanity applicants.
4) Reducing the number of VEs needed to administer exams.
5) Amending the rules to permit remote test administration.
6) Allowing Amateur radio stations to transmit certain emission types.

While some licensees have complained about their information being public, the FCC will not remove or conceal a licensee's name or address from its public database.

Also of note, the same licensee can serve as a trustee for a single club license and clubs can only have one vanity call sign.

(From *ARRL Letter*, 22 August 2013)

-- VANITY FEE GOING UP --

The new FCC regulatory fee of $16.10 to apply for an Amateur Radio vanity call sign went into effect Friday, 23 August. The Commission offered no explanation for the higher fee. In another change, starting in FY 2014, the FCC will require that all regulatory fee payments be made electronically.

The FCC says it expects $230,230 in revenue to cover the costs of administering the vanity call sign program. It anticipates 14,300 vanity call sign applications.

(From *ARRL Letter*, 22 August 2013)

-- OPEN SOURCE SOFTWARE --

Makoto Mori-JE3HHT has made his popular MMTTY, MMSSTV and MMVARI amateur radio software available as an open source. These three software packages were originally developed to support RTTY, Slow Scan Television, PSK, and MFSK respectively. On 01 August all of these applications were released to open source development under the LGPL license. More information on these programs is on the web at www.mm-open.org. (From *Amateur Radio Newsline*™ Report 1880 – 23 August 2013)

-- POTENTIAL GEAR EVOLUTION --

(The following evocative article was submitted by Andy Durette-KB1HIP for our consideration.)

"What We Need Next in the Evolution of Ham Gear" by Doug Grant, http://www.edn.com , 12 August 2013

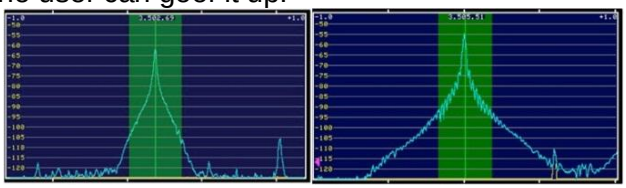
(Note: The EDN Network is an electronics community for engineers, by engineers, with the information, tools, courses, and professional connections you need to get your job done and get your ideas from concept to reality as quickly as possible.)

Over the past few decades, ham equipment has seen huge technological advances. Simple things like adding computer control for frequency, mode, etc., came early. Up-converting receivers allowed cheaper filters and general-coverage receive capability. Many HF rigs now include 6 meters, and some compact rigs offer HF plus VHF/UHF operation.

DSP and various flavors of SDR have penetrated the amateur radio equipment market, adding powerful capabilities and flexibility in filtering, demodulation, and signal generation. And the improvements in receiver performance (both weak signal and strong signal), a focus for at least a decade, have gotten us to the point that the performance of most receivers at the high end is limited by atmospheric noise at the low end, and highly unlikely large-signal conditions on the high end. So what's next?

In my view, the transmitter is next. Some transceivers use signal-generation chains that are either poorly thought out or offer too much user adjustment. If you are active on HF, you've no doubt heard a station with a very wide SSB signal, usually the result of a poorly-adjusted gain control, speech processor, or overdriven amplifier. Ironically the generic term for a power amplifier is a "linear", while many of them are driven well past their linear operating region. Some manufacturers have taken the step to provide an option for operating the typical 100-200 watt output stage in Class A for higher linearity. Some hams are enthusiasts of "high-fidelity" single sideband transmission, and a Class A (really linear) final amplifier prevents intermodulation distortion and can provide a very clean-sounding signal. This of course, is at the expense of the amplifier stage continuously dissipating a lot of power, compared to a Class AB or B output stage, which only consumes significant power when a signal is applied. Operating a kilowatt transmitter in Class A is not practical due to the excessive heat generated and electric bills. *(A bit of humor regarding power costs.)*

The other problem is on CW transmission. Some manufacturers provide adjustable rise time on the CW waveform. A too-fast rise time creates "key clicks", making the CW signal occupy more bandwidth than necessary, causing interference that no amount of receiver filtering can eliminate. Some manufacturers have chosen to eliminate user control of CW rise time, having determined the optimum envelope shape for minimizing bandwidth and hard-coded it so no user can goof it up.



Comparison of two CW signals – green box represents 400 Hz bandwidth

So I guess the two things I want to see next in ham gear are better transmit paths and fewer adjustments available on them so users don't misadjust them. What do you think? Share your thoughts below.

The following varied Comments were offered on the web site:

I'd like to see "ultra-low power" equipment, so I can run it from batteries or solar panels when The Grid goes down for as long as possible.

How about addressing the problem, rather than the symptom...the problem in this case is clueless users. It's up to the ham radio community to teach fellow hams the ropes. If you want to change things, put your experience to good use other than in front of a radio and "Elmer" a greener ham.

KV0S has been working on a system that seems to get of more than 50 dB of transmit IMD suppression. Apparently he achieves this by using a dedicated receiver to digitally sample an attenuated version of the final RF output and digitally process it to provide a digital feedback signal that is used modify the digital signal to the D/A.

Your Editor's thoughts: No question that HF transceivers have gotten very sophisticated over the past decades. I know there are some controls on my two radios that I've never touched. Are there too many bells and whistles on these rigs? What's a newbie to do? Read the manual and seek assistance from others who are familiar with that, or a similar, radio. Don't shun help. We all sought help when getting started.

September 2013

Sun	Mon	Tue	Wed	Thu	Fri	Sat
1	2	3 Breakfast @ Peach's, ± 7:15 AM 440 Net @ 7:30 PM, 444.100 Rptr	4 QCWA Lunch @ Panda Pavilion 11:15 AM	5 TARC Net @ 7:30 PM, W4AC Repeater 146.805	6 Breakfast @ Peach's, ± 7:15 AM	7
8	9 DARN Emergency Net @ 11 AM Starts on NI4CE repeater 145.430	10 Breakfast @ Peach's, ± 7:15 AM 440 Net @ 7:30 PM, 444.100 Rptr	11 **TARC Meeting @ 7 PM, Coast Guard Training Center**	12 TARC Net @ 7:30 PM, W4AC Repeater 146.805	13 Breakfast @ Peach's, ± 7:15 AM	14 **TARC VE Session @ 10:00 AM, Venice Library**
15	16	17 Breakfast @ Peach's, ± 7:15 AM 440 Net @ 7:30 PM, 444.100 Rptr	18	19 TARC Net @ 7:30 PM, W4AC Repeater 146.805	20 Breakfast @ Peach's, ± 7:15 AM	21
22	23	24 Breakfast @ Peach's, ± 7:15 AM 440 Net @ 7:30 PM, 444.100 Rptr	25	26 TARC Net @ 7:30 PM, W4AC Repeater 146.805	27 Breakfast @ Peach's, ± 7:15 AM	28
29	30					

NOTE: If the W4AC 146.805 Repeater is inoperative, nets scheduled for activity will be held on the W4AC 444.100 MHz Repeater. 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) _____

Regular Member @ $25.00/year ___, Family Membership @ $30.00/year___, Non-Voting Student Membership @ $5.00/year___ . (New Regular Members joining after 30 June pay $15.00 for remainder of calendar year. $25.00 dues payment after 31 October grants membership through remainder of year and all of the following year.)

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