



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
Web Site -- <http://tamiamiarc.tripod.com>
W4AC Repeaters – 146.805 MHz(-), 444.100 MHz(+) both w/100 Hz PL



-- AUGUST 2006 --

-- PRESIDENT'S MESSAGE --

This month's message is being written from our temporary location in the DiVosta Village Walk development on South Honore up here in Sarasota. It looks like it will be mid- to late-October before we are able to move into a new villa in the Divosta Isles, a bit further south of this place.

Fortunately, the 2-meter J-Pole antenna built for me by Ken Anderson-W4JQT allows for communication with the TARC from here. I've been able to check into both the Tuesday night Simplex Net and access our W4AC Repeater. The low bands also aren't any problem ever since Stew Haag-W4MO worked his magic on my computer. I am now enjoying remote access to the HF radio at the TARC repeater site. I have to say that it was fun working a guy up in Cleveland without using any radio in my shack!

Stay cool, and I'm looking forward to seeing you at our August meeting.

VY 73 de Konrad-WA3RRS

-- AUGUST MEETING --

Our next TARC meeting will be at 7:00 PM on 10 August 2006 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. After the business meeting, a video of the 2005 FT5XO Kerguelen Islands DXpedition will be shown. Come on out!!

-- TARC WEEKLY NETS --

The TARC Simplex Net meets every Tuesday at 7:30 PM on 146.580 MHz; the TARC Net is held every Thursday, except on meeting dates, at 7:30 PM on our 146.805 W4AC Repeater (- 600 Hz offset and 100 Hz PL tone required).

-- UPCOMING DARN ACTIVITY --

The Diocese Amateur Radio Network (DARN) will conduct communications exercises at 11 AM and 7 PM on 14 August, and TARC members are encouraged to check in when prompted by the Net Control. As the DARN will be using our W4AC Repeater, please avoid use of EchoLink during the exercise period. Thanks!

-- HF STATION AVAILABLE --

Venice resident and Charter Member #13 of the Quarter Century Wireless Association, Frank Lester-W4AMJ passed away 03 July 2006, some six months shy of his 100th Birthday. Frank was active on HF radio until a short time before his passing, with a ICOM IC-746PRO transceiver. Frank's widow, Sally, has donated this equipment to the TARC, with the request that the equipment be used by a radio amateur—not sold or put on a shelf somewhere.

This topic was discussed at the 13 July TARC meeting, with the following outcome. Any TARC member who has the desire and the wherewithal to set up and operate this HF station should send a letter, via e-mail or US Postal Service, expressing such desire to the TARC Secretary on or before 31 August 2006. In that letter, they should emphasize that they:

- 1) Have the proper license to operate the equipment in the Amateur Radio HF bands.
- 2) Would be able to erect/install a suitable antenna for operation on the HF bands.
- 3) Have the true desire to be active on the HF bands, but lack the wherewithal to purchase appropriate equipment.
- 4) Have been an active member in the TARC.

In addition, all TARC members can nominate a fellow TARC member whom they believe to be qualified to receive this equipment. This should be with the knowledge and consent of the nominee.

If the recipient does not have prior knowledge or experience setting up a HF station, experienced TARD HF operators will assist with the installation and initial operation of the equipment. This equipment will not be given as an outright gift. Rather, it is to be considered as a long-term loan, with the understanding that if the recipient moves from the area, drops out of the TARC, becomes disinterested in using the equipment, etc., the equipment will be returned to the TARC for future use by another member.

All persons who submit letters, or who are nominated by others, will be notified of the names of the other members on the list for consideration. At the next Board of Directors' meeting, following submit-

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TAMIAMI AMATEUR RADIO CLUB

Minutes of the Meeting

13 July 2006

President Konrad Owens-WA3RRS called the meeting to order at 7:05 PM and led the pledge of allegiance. Jim Murdock-KG4KOT of Venice was welcomed as a returning visitor. Introductions were then made all around.

MINUTES – Peter Pesa-N4RD moved that the minutes of the 08 June 2006 meeting be accepted as published in the July 2006 issue of *The Communicator*, seconded by Diana Gregory-KI4GRF, and passed.

CORRESPONDENCE – Jack-W4JS reported applying for and receiving the K4S call sign for the 2007 Sharks Tooth Festival.

TREASURER'S REPORT – Treasurer Don Gray-WD7A reported that the 08 June starting balance was \$4655.24. Receipts were \$8.00 from the June 50/50 drawing and \$65.02 sales tax refund from Sam's Club, totaling \$73.02. Expenses were \$41.00 for one month's Internet service at the W4AC Repeater site, \$17.62 for newsletter printing and postage, and \$91.35 for materials to improve repeater grounding, totaling \$149.97. The ending balance is \$4578.29. Don reported that our current membership is 75, including three Life Members and nine first year free members. Peter-N4RD moved acceptance of the report, seconded by Charlie Covell-W4DB, and passed.

COMMITTEE REPORTS

SUNSHINE – Konrad-WA3RRS commented on the 03 July passing of QCWA founding member Frank Lester-W4AMJ who lived in Venice. Joy Klapp-N2WUD has sent a card, and Peter-N4RD gathered signatures at breakfasts and the meeting for a card to Frank's widow.

VE TESTING – Jack-W4JS reported that all four candidates at the 08 July VE session were successful. One candidate with lifetime Novice license CW credit earned a General class license, while another with the same credit earned a Technician w/HF license. Another earned his Technician license and TARC member Bob Dienes-KI4MOY passed the CW for his General class license.

REPEATER/TECHNICAL – Stew Haag-W4MO reported that our W4AC Repeaters had been disabled during the 24 June electrical storm. Repairs were made to the equipment and additional ground rods were installed at the site. Stew would like to see more activity on our repeaters.

PACKET/GATEWAY – Bob-N1RA is out of state.

CLUB PROPERTY – Konrad-WA3RRS and Jack-W4JS advised that there is potential for Frank

Lester's widow, Sally, to donate Frank's equipment to TARC with the stipulation that the equipment be used by a deserving ham and not just sold. Following discussion, it was agreed that members who believe they could put this equipment to good use should submit a letter to the officers, stating their case.

PUBLICITY/MEMBERSHIP – Notice of our club meeting was finally posted in the *Venice Herald-Tribune*.

EMERGENCY COORDINATOR – Emergency Coordinator Peter Pesa-N4RD gave a rather impassioned plea for better participation in the DARN monthly exercises. Only three TARC members checked into the morning and evening exercises on 10 July. Peter invited anyone interested in joining the DARN to contact TARC member Bob Sullenberger-KG4VDU. Martin Horowitz-N4FA mentioned that the Charlotte County RACES/ARES, with whom EARS is affiliated, has been having good activity with its Wednesday night nets.

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

LIAISON TO EARS – Martin-N4FA thanked the TARC members who participated in the EARS Field Day activities. Some 450-500 QSOs were made during the operation. EARS will again operate K8ONV from the Boca Grande Lighthouse 19 and 20 August for International Lighthouse/Lightship Weekend.

LIAISON TO QCWA – Jack-W4JS reported that 12 Suncoast Chapter 53 members and friends attended the 05 July lunch at the Panda Pavilion, US 41, in Venice. The next lunch will be 02 August and all are invited.

CLUB HISTORIAN – There were no volunteers for this position.

OLD BUSINESS – None.

NEW BUSINESS – Procurement of Property Insurance coverage for the equipment installed at the W4AC Repeater site was discussed. The ARRL offers \$10,000 coverage for \$157/year premium, however, an inventory of equipment must be prepared. Martin-N4FA moved that the club purchase the ARRL coverage. Peter-N4RD seconded the motion, and the motion passed unanimously.

ADJOURNMENT – A motion to adjourn at 8:06 PM was made by Diana-KI4GRF, seconded by Peter-N4RD, and passed. There were nine members and one visitor present.

PROGRAM – Jack-W4JS presented a program on "Lightning Protection for the Amateur Radio Station."

Jack Sproat-W4JS
Secretary

"Imagination is the eye of the soul." – J. Joubert

CURRENT/PENDING DX ACTIVITY & PROPAGATION FORECASTS

CURRENT and/or SCHEDULED DX ACTIVITY										
COUNTRY – CALL SIGN	ACTIVITY PERIOD	BEAR-ING	HF BANDS and BEST OPENING TIMES (GMT)							
			80	40	30	20	17	15	12	10
Greenland – OX3PG	Now Active	13	--	--	--	11-05	--	--	--	--
Swains Island – KH8SI	Now to 02 Aug	260	05-11	04-13	03-14	18-05	19-01	18-01	NO	NO
St Pierre & Miquelon – FP/KB9LIE; K9NOT	Now to 06 Aug	39	23-10	00-24	10-05	13-03	NO	NO	NO	NO
Samoa – 5W0DW, JB, KI and TR	Now to 10 Aug	257	05-12	04-13	02-13	18-05	19-03	19-03	NO	NO
Montenegro – 4O3T	Now to 13 Aug	47	00-05	22-06	21-06	20-05	15-22	NO	NO	NO
Timor Leste – 4W6AAB	Now to 15 Aug	300	10-11	09-12	10-13	12-16	14-15	NO	NO	NO
Philippines – DU9/DK2PR	Now to 15 Aug	327	NO	10-12	10-12	13-16	15-16	NO	NO	NO
Montenegro – YU6AO	Now to 18 Aug	47	00-05	22-06	21-06	20-05	15-22	NO	NO	NO
Guadeloupe – FG/AB2RF	03 – 07 August	303	22-12	00-24	11-04	16-00	18-22	NO	NO	NO
Corsica – TK/IZ1DSH	03 – 15 August	51	00-05	22-07	21-01	16-22	16-22	NO	NO	NO
Ghana – 9G5SE	05 – 12 August	88	00-07	22-07	20-03	13-02	13-02	NO	NO	NO
Rotuma Is – 3D2BD	05 – 17 August	263	06-12	04-13	04-13	00-04	01-04	NO	NO	NO
Macau – XX9TJS	10 – 16 August	341	NO	NO	11-12	14-17	15-16	NO	NO	NO
Svalbard Is – JW/IN3TCH & IN3SAU	12 – 14 August	13	01-06	23-07	21-03	14-20	15-21	NO	NO	NO
Faroe Is – OY/DL2RMC & DO3MSH	21 – 23 August	32	00-07	22-03	19-00	13-19	NO	NO	NO	NO
Iceland – TF/DL2RMC & DO3MSH	24 Aug – 06 Sep	28	00-08	22-02	12-23	12-21	NO	NO	NO	NO
Market Reef – OJ0LA	08 – 14 Sept	31	00-06	21-06	19-20	14-19	18-19	NO	NO	NO

Updated 26 July 2006, based on 26 July 2006 *QRZ DX*, 24 July 2006 *The Weekly DX* and *K1XN's DX Alert #607-C*

Note: **Time in bold** = Best Band(s) for opening; ??? = Call Sign not yet known; ++ = Phone Only; ** = CW Only; NO = No Opening forecast. Long Path bearings and opening times are underlined. All forecasts are calculated using *W6ELProp V.1.03* propagation software, available at <http://www.qsl.net/w6elprop/> by Sheldon C. Shallon-W6EL. Solar Flux and K-index varied in accordance with NOAA 27-day forecast.

-- JULY SOLAR ACTIVITY --

During July, the Solar Flux ranged from 70 up to 88, with a mean value of 75.8 (vs. 96.3 for July 2005 and 130.1 for July 2004). The A-index was ≤ 10 on 28 days.

There were several days during July when no sunspots were visible. Propagation conditions were generally favorable during the month.

-- AUGUST PROPAGATION --

During August, solar activity is expected to be at very low to low levels. No greater than 10MeV proton events are expected.

The greater than 2 MeV electron flux at geosynchronous orbit is expected to be at high levels on 02-05 August.

The geomagnetic field is expected to be at quiet to unsettled levels for the majority of the period. Recurrent coronal hole wind streams are expected on 07-08 August. Unsettled to active periods are possible 07-08 August. The Solar Flux should range from 75 to 80 during August.

(From *NOAA Weekly Forecast of Solar and Geomagnetic Activity*, 25 July 2006 and *NOAA 27-day Space Weather Outlook Table*, 25 July 2006)

--ANOTHER NEW DXCC ENTITY --

Under the most recent DXCC rule changes, certain former separation entities qualified as Political Entities. One such entity is American Samoa. As a result of the reclassification and upon filing of a request and substantiating evidence, and with concurrence of the ARRL DXAC and the Awards Committee, Swains

Island has been added to the DXCC List as entity number 337. Six DX operators headed off to Swains Island from Pago Pago on 27 July and showed up, operating KH8SI, the evening of 28 July, EDST. By 30 July, TARC DXers K1NOK, K3ZXL and W4JS had worked this new DXCC entity.

(From Carl Smith-N4AA, 24 July 2006, and ARRL *DX Bulletin 31*, 24 July 2006)

-- GREETINGS FROM INDONESIA --



Four of the Indonesian DXers for whom Jack-W4JS is QSL Manager.

-- IRCs FOR SALE --

Need any International Reply Coupons? These cost \$1.75 each in the post office but you can have them for \$1.00 each. Contact Jack Sproat-W4JS via w4js@juno.com or at 475-1929.

CONTESTS & ACTIVITIES

Contest/Special Event	Begin-End Times/Dates	Bands/Modes	QSO With	Exchange
North American QSO Party	1800Z 05 Aug 0600Z 06 Aug	80 – 10 Meters CW Only	States, Provinces, Territories, NA Countries	Name + QTH
SARL HF DX Contest (South African)	1230Z 06 Aug 1630Z 06 Aug	80 – 20 Meters Phone Only	South African Stations	R/S + Serial Number
Ten-Ten International Summer Phone QSO Party	0001Z 05 Aug 2359Z 06 Aug	10 Meters Only Phone Only	Anyone, Anywhere	Call, Name, QTH 10-10#
National Lighthouse-Lightship Weekend	0001Z 05 Aug 2359Z 06 Aug	160 – 10 Meters Phone & CW	North American Lighthouses & Lightships	Name and QTH
Worked All Europe DX Contest	0000Z 12 Aug 2359Z 13 Aug	80 – 10 Meters CW Only	European Stations Only	R/S/T + Serial Number
North American QSO Party	1800Z 19 Aug 0600Z 20 Aug	80 – 10 Meters Phone Only	States, Provinces, Territories, NA Countries	Name + QTH
Keyman's Club of Japan Contest	1200Z 20 Aug 1200Z 21 Aug	160 – 6 Meters CW Only	Japanese Stations Only	R/S/T + Continent
International Lighthouse and Lightship Weekend	0001Z 19 Aug 2359Z 20 Aug	All Bands CW/SSB/Digital	Lighthouses and Lightships	Name + QTH
Russian District Award Contest	1400Z 19 Aug 0800Z 20 Aug	160 – 10 Meters Phone & CW	Russian Stations Only	R/S/(T) + Serial Number
Romanian DX Contest	1200Z 26 Aug 1200Z 27 Aug	80 – 10 Meters Phone & CW	Anyone, Anywhere	R/S/(T) + Serial Number
SARL HF DX Contest (South African)	1230Z 27 Aug 1630Z 27 Aug	80 – 20 Meters CW Only	South African Stations	R/S/T + Serial Number
Slovenian Contest Club RTTY Championship	1200Z 26 Aug 2359Z 27 Aug	80 – 10 Meters RTTY Only	Anyone Anywhere	R/S/T + Year of First License

From August 2006 issues of *QST* and *WorldRadio*

-- LIGHTNING PROTECTION --

A TARC member raised the question about the ability of a coaxial cable lightning protector to protect radio equipment attached to that cable. Reference can be made to the Polyphaser book, *Lightning Protection & Grounding Solutions for Communications Sites* for some answers.

A lightning strike on a tower/antenna is divided between the tower and all coax cables. Current on the coax is divided between the shield and the center conductor. Higher frequency components of the strike will travel on the shield. This means the shield will have a higher peak current with a shorter duration while the smaller and more inductive center conductor will have less current but longer duration. Grounding the shield at the top of the tower will help assure that the shield gets its fair share of the current.

For one coax cable and a 65kA strike (10% occurrence hit), a worst-case center conductor peak current value would be less than 7.5 kA. Some manufacturers claim their protectors will take 50+ strikes at 50 kA before failure. However, Polyphaser thinks a throughput energy rat-

ing, in Joules with a standard wave shape, is a better way of evaluating lightning arrester performance.

From the Polyphaser web site, their test result with their DC-blocking arrester is: 6kV/3kA 8/20µsec waveform to the protector resulted in let-through voltages (energy) of 195.313mV (6.29pJ). Such voltage would not harm a transceiver. It seems that if the manufacturer uses such test results to sell their product for real-life applications, the product must do the job.

-- REGIONAL HAMFESTS --

- 12 August Fort Pierce ARC ARC Hamfest at Indian River Community College, 3209 Virginia Ave. Ft. Pierce. TI: 147.345 (107.2 Hz PL), Info: Pete-KD4SPW, 772-465-5204
- 26 August Tampa ARC Hamfest, TARC Operations Center, 7801 N 22nd St. Tampa. TI: 147.105 (146.2 Hz PL), Info: Biff-K4LAW, 813-265-4812

(From <http://bellsouthpwp.net/k/kb4vol>, the Web site of Bill Britton-KB4VOL and August 2006 *QST*)

-- NEWS FROM GERMANY --

(Your editor received an e-mail from TARC member Martin Zippe-DJ6OM/AF4ID that provides interesting insights of European ham radio activities. The following is taken from Martin's e-mail.)

I was at the Dayton Hamvention in 2004, so I can compare it with Friedrichshafen (*the largest hamfest in Europe*). Both have all the big manufacturers present, as well as many of the smaller makers of fine junk for us hams. Both have huge flea markets, which are most interesting to me as a home brewer, and you may find some hard to get parts, or even equipment from commercial or military sources that is otherwise beyond the reach of the average ham.

Dayton is bigger, but in Friedrichshafen you may find interesting lectures and discussions, and there are representatives from almost all of the ham radio clubs and organizations from around the world with interesting displays of their activities. Most interesting, the vendors and the people at the flea market come from different parts of the world. Predominant at Friedrichshafen are hams from Eastern Europe, the Balkans and the Mediterranean. With the end of the East Block a lot of interesting military equipment poured into the ham community. The best time was ten years ago, but you can still find really great bargains, especially rf and microwave parts.

But to me, Friedrichshafen seems to be in decline and I've heard the same thing about Dayton. There is a new generation coming up, to whom the privilege of operating a transmitter means nothing. Communication is done by other means, and none require the burden of learning Morse code or trying to understand what's going on behind the shiny front panel of their radios. Feeling satisfaction in achieving a hard to reach goal seems unknown to the new generation...poor people. Well, I'll keep pounding brass anyway.

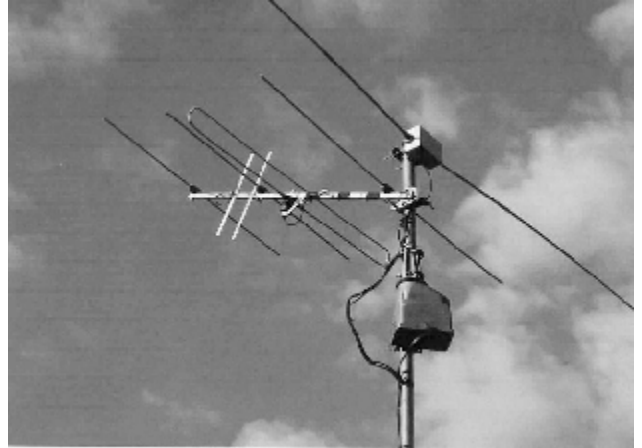
I've been a VHF enthusiast for many years, a somewhat successful homebuilder and developer of equipment in a time when there was nothing useful on the market. I did a lot of contesting and had quite a few contacts beyond the 1000-mile range—all with a 10-element yagi and less than 10 watts. Being on the air when the bands are open is much more important than running a lot of power.

But, that is here in Germany. My antenna is 80' above ground and 1800' above sea level. Even on FM with a vertical I can regularly use repeaters from Italy to the Czech Republic. You can't compare that with Florida, which is so flat!

However, to me, the main problem is a lack of activity. In Europe we had participants in the VHF contests by the thousands, at least when I was contesting. Last year, in a VHF contest while in Florida,

I heard only about a dozen stations, and my best DX was Gainesville. In Europe, we had "activity days" every week and there was a good chance to work somebody over 300 miles away. Perhaps most important, we have beacons all over the country. You can check out and improve your equipment, and get a reliable feeling for the influence of the weather on VHF propagation.

The mode for 2-meter DX is CW; without CW 2-meter DX will die. The DX clusters may be useful, even though I don't like them much. You have to have your radio switched on to find out if there's an opening. Again, you need beacons.



Use of the satellites is a substitute for the big antennas I used to have. My equipment is modest and perhaps the smallest that makes sense. I run 5 to 20 watts to the 4-element yagi on VHF and a homemade 2-element HB9CV (*dual driven elements*) on 70 cm. As seen in the photo, the antennas rotate horizontally and are tilted 25° above the horizon. I can access all the CW/SSB satellites, mainly on CW and APRS. But, again, there are very few CW stations. The FM satellites are hard to access and a few more dB would help. The dipole at the rear is for the AO-7 satellite which also uses 29 MHz. Down the mast a bit is a UHF GaAs FET preamplifier, in an old coffee tin that needs repainting every year.

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-tal of these letters, the TARC officers will review these letters and rank them, based on relative merit. The names and ranking will be presented to the members at the following general meeting.

Send submittals to the TARC Secretary as per:

Jack Sproat-W4JS

1410 E. Manasota Beach Road

Englewood, FL 34223-6341

w4js@juno.com

"A free society cherishes nonconformity." – Henry S. Commager, *Freedom, Loyalty and Dissent*, 1954

-- ANTENNA HEIGHT & COVERAGE --

Whether your interests are in HF, VHF or UHF propagation, the location of your antenna is a vital factor in determining the usefulness of your station.

Radio waves that stay close to the earth are called *ground waves*. Included in the generic ground wave are those which follow the Earth's curvature, bending in the Earth's lower atmosphere, or *troposphere*, usually no more than a few miles above the ground. Propagation in this tropo zone is a major factor in communication above 50 MHz. Radio waves that utilize the ionosphere for propagation are known as *sky waves*.

Ground wave propagation on HF varies from about 100 miles on 160 meters down to 10 miles at 30 MHz. For frequencies above 50 MHz, the average communication range can be approximated by assuming radio waves travel in straight lines, but with the earth's radius increased by one-third. The distance to the "radio horizon" can be calculated from the equation, $D_{\text{miles}} = 1.415(H_{\text{feet}}^{1/2})$, where H is the height of the antenna. For example, a handtalkie five feet above the ground would have a radio horizon of about 3.2 miles. A repeater antenna at 200' would have a radio horizon of 20 miles.

In reality, however, reliable propagation can be achieved beyond the radio horizon due to the aforementioned tropo bending of the signals. To estimate a station's capability, two basic numbers must be determined: Station gain and path loss. Station gain is made up of eight factors: receiver sensitivity, transmitter power, receiving antenna gain, receiving antenna height gain, transmitting antenna gain, transmitting antenna height gain, transmission line loss, and required signal-to-noise ratio.

Several TARC members have attempted to enable the Naples DARN station to access our 2-meter W4AC Repeater, a distance of some 70 miles. The path loss at 144 MHz over 70 miles is 186 dB. With FM bandwidth varying from 6 to 20 kHz and an assumed noise figure and transmission line loss of 8 dB, repeater receiver sensitivity will vary from 152 to 158 dBW. Receiver sensitivity at the Naples station will vary from 154 to 160 dBW. For the Repeater, there is a 6 dB antenna gain, a 16 dB antenna height gain, 14 dB transmitter power, 4 dB ground reflection and - 4 dB signal/noise ratio. For the Naples station, there is 6 dB antenna gain, 0 dB antenna height gain, 14 dB transmitter power, 4 dB ground reflection and - 4 dB signal/noise ratio. Therefore, the repeater's signal at Naples should be 10 to 16 dB, or a maximum signal of about S-2; probably too low to break the squelch. The signal from the Naples station would be 8 to 14 dB, again a maximum S-1 to S-2 signal. Obviously, there is very marginal potential

for reliable communication between the W4AC Repeater and the Naples DARN station with the current equipment. There is little that can be done to improve the repeater's range, therefore, any improvements would have to be on both transmitting and receiving at the Naples site. This would involve installation of a very high gain antenna at a significantly higher elevation above ground. Increased power output and addition of a mast-mounted receiving preamplifier would also improve the potential for reliable communication.

(All calculations based on nomographs and methodology in The ARRL Antenna Handbook, 18th Edition)

-- W4AC REPEATER SITE EQUIPMENT --



Don Gray-WD7A (l) is being introduced to the equipment at our W4AC Repeater site by Stew Haag-W4MO (r). In addition to the repeaters, there are two remote controlled HF transceivers that can be accessed via the Internet. Several TARC members are making use of those remote transceivers. Contact Stew to learn more about this equipment and how to use it. It's a great way for members lacking HF capabilities to get on those frequencies and make some contacts around this and other countries.

"I used to have an open mind, but my brains kept falling out."