



THE RICHMOND HAM

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June 2013

The RICHMOND AMATEUR RADIO CLUB will meet Friday, June 14th 2013, 7:00 PM, at the Bon Air United Methodist Church, 1645 Buford Road.

PROGRAM: An Introduction to HF Digital Communications by Dr. Joe Palsa K3WRY.

Coming Events:

June Meeting, June 14, 7:00 PM.

VE Testing Session, July 13th, 2013 9:am at the Bon Air United Methodist Church.

Field Day: June 22 & 23 Laurel Recreation Area including VE testing session.

Club Members!

If you are not receiving your copy of the Club's monthly newsletter, please contact Richard, WA4FEH, RARC's Treasurer, at wa4feh@gmail.com or phone 743-3899.

Getting to know this month's speaker

Joe Palsa, K3WRY, has quite a diverse background from police officer to Ph.D. For a number of years Joe worked in power and UPS systems for manufacturers who dealt primarily with government customers, including the military. The military work took him all over the world including time spent on Navy ships. Joe has numerous professional and ham affiliations and accomplishments. Of particular note, he is the EC for Chesterfield County and the State government liaison for the Virginia Section of ARRL.

While many of us claim to have a "bench" with a few tools, Joe has a "lab" that looks like the National Institute of Standards and Technology, and some of his test gear is traceable to NIST calibration standards. His ham shack is equally impressive.

From the Prez

The June newsletter column is the easiest one for me to write because I have plenty of material, just having returned from the Dayton Hamvention. My friend Wray, AB4SF, and I recently made our fourth consecutive annual pilgrimage to hamfest

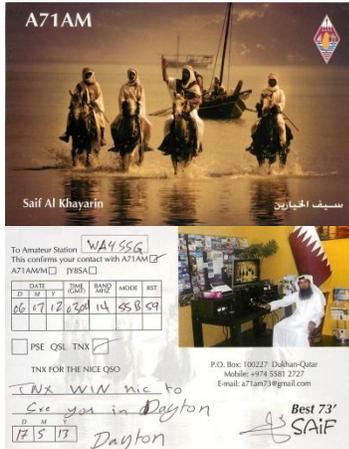
mecca. As I have come to expect, there were some minor irritations associated with the HARA Arena. This year there was no air conditioning in the buildings where the commercial vendors and forums were located. It was not a big deal because the weather was pretty pleasant. And unlike two years ago, the bathrooms worked just fine the entire weekend.

I had the perception that attendance was a little down from previous years, but the official numbers are not out yet, so we'll see. The past few years, attendance has been around 20,000, which is down from a peak in 2000 of over 28,000.

Though major vendors often use Dayton to launch new products, such did not appear to be the case this year. In fact, many of the products announced last year were still not available for sale. For example, the Icom 7100, an HF-UHF all mode (including D Star) radio was available to touch, but not to buy as it has not received FCC approval. Likewise, the Flex 6000 series SDR radio which had some of the biggest crowds at the booth last year, had a much smaller presence this year apparently because they still have yet to ship a 6000 series radio. Yaesu's new digital HT, the FT-1DR, which was announced last year, is FCC approved, but still not available for purchase, though orders are being taken. An interesting product from Northwest Digital Radio that was announced last year is also yet to be available for sale. And finally, I spoke to the designer of the Alpha Dreamtuner to pose "one question: When?" His response: "One answer: don't know." I guess you could say that the marketing folks can't help announcing products before the designers and production folks are ready to ship.

Dayton also attracts a number of DX hams and amateur radio associations from other countries. The folks from the Qatar Amateur Radio Association have had an impressive presence the past few years. In their booth this year was Saif, A71AM. As we chatted, I told him his call was familiar, at which point he pulled out an Ipad and said,

"Let's see if you are in the log." He found our July 2012 QSO on 20 meters, and proceeded to fill out a very nice QSL card which he handed me. That was neat.



I'll have a longer report of Dayton with some pictures on the Club website.

73
Win

May Meeting Notes

Meeting Date: May 10, 2013
 Meeting Time: 7:00 PM
 Presiding Offices: Win Grant, WA4SSG, President; Richard Arnold, WA4FEH, Treasurer; and Maylon Pearman, KG4RPQ, Secretary

Win Grant started the meeting by calling on Marshall Ervine, N4XBP, to describe the rules for the silent action after the meeting ends.

Win welcomed new guests Greg Miller, K2GTM and Jordan Vance.

The April minutes were approved.

Richard Arnold gave the treasurer report for April. There were two new applications for membership from Wray Dudley, AB4SF and Jacob Mencarini, KK4OWZ. Welcome to the Club!

Allan Johnson, WA3J, reported on amateur exams to be given on May 11 at the church. Joe Palsa, K3WRY, gave a report on ARES plans with Chesterfield County. The county would like to work the CERT members in with the ARES people and train CERT members in Ham radio.

Thanks to Marshall Ervine for providing the refreshments for the evening.

There was one upgrade in license by Steve Lesley, KK4HBS, to Extra. Jacob Lesley,

KK4QMX, passed his technician class. Congratulations to both!

There was no old business to report.

Under new business, Win announced that Field Day would be a joint effort with the RATS club. A new club logo was completed and is now on the club web site at www.rarclub.net. The possibility of tee shirts and hats with the new logo was discussed.

The Manassas Ham Fest will be held Sunday June 9.

There was no further business so the meeting was adjourned.

Win introduced the speaker for the evening Brewer Pedin, W4MGA.

RARC VE News *Field Day testing*

The next VE testing session will be Saturday, June 22nd at 4:00pm, Field Day at the Laurel Recreation Area!

May 11th netted the following: 25 exams given resulting in 3 new Extras, 7 New Generals and 8 new Techs. Had one zero to General, one zero to Extra and one Tech to Extra. The majority of these came from the RARC school. High five to the team!

July's Testing session will be on the 13th at the Bon Air United Methodist Church at 9:00am. If you have questions about a session, please see our website, www.rarclub.net/ or contact Allan, WA3J, at 804-399-8724, or wa3j@arrl.net.

Club Info...

- RARC meets on the second Friday of each month at 7:00 PM, at the Bon Air United Methodist Church, 1645 Buford Road.
- We offer 10-week license prep classes in September and March with exams following.
- Members provide VE testing sessions on odd-months during the year.

FCC EXAMS EVERY MONTH on the SECOND SATURDAY. For January and all odd-numbered months: Bon Air United Methodist Church, 9 AM. Call coordinator, Allan Johnson, WA3J, 399-8724, or visit <http://www.rarclub.net/>.

For February and all even-numbered months, FCC test sessions are provided by the RAVE group. Coordinator, Pat Wilson, W4PW 804-201-1898 has information on his website <http://w4pw.org>.

Nets

RARC has the first and only D-STAR digital repeater in the area. 147.255 (+) and 443.7125 (+). In addition to our Wednesday local D Star net (below), we link the D Star VHF module for the National Capital Region D Star Net on Wednesday nights at 9pm. On Tuesday nights at 9pm, we link our UHF module to the North Carolina D Star Net, and on Sunday nights at 9pm to the South Eastern D Star Weather Net.

The Club sponsors several local radio nets each week. Join in for the informative discussions and fun.

Sunday	7:00 PM	50.135	USB
	7:30 PM	52.525	FM
Wednesday	7:00 PM	28.475	USB
	8:00 PM	147.255	D-STAR Repeater
	8:15 PM	145.730	Packet

Join the Richmond Amateur Radio Club. You don't have to have a ham license, just have a genuine interest in the hobby.

Annual Dues are:

80 and over	\$0
Age 12 and under	\$5.00
Age 13 to 18	\$10.00
Regular Membership	\$15.00

- Lots of information about the Club and our activities is available on our website, www.rarclub.net. Check it out!

Refreshment Schedule

We currently have the following commitments for upcoming meeting refreshments. Wouldn't your name sure look great on the list?

March - Bruce MacAlister
April - Pete Fundinger
May - Marshall Ervine
June
July
August
September
October - Dave Thomas

Save the Date

The RARC Annual Banquet will be held on Friday, November 8, 2013. We have secured a new venue this year that will have plenty of space for everyone. Details to follow.

Do you have a 2 meter J-Pole that needs a home?

The Boy Scouts have a need for a donated 2-meter J-Pole antenna for the July 2013 National Scout Jamboree. The crew for the electricity-electronics merit badge booth wants to be connected to the scout VHF net to show the scouts. They have the transceiver but not the antenna.

Contact Bruce MacAlister, W4BRU, 353-4269

Scouting Help Needed - Webelo's Communication Badge Leader

There will be a Webelo's Day Camp the week of June 17 - 21. The theme is Space Exploration and the Day Camp leaders would really like to hold a Communication workshop. The requirements are described at the following link:

http://www.boyscouttrail.com/webelos/webelos_activity_badge_requirements.asp#Communication (or Search Google for "Webelo Communication Badge")
Please contact Rosemary Tufaro @ rosemarysphotography@yahoo.com or (804) 467-4281

Help A Club Member

Grayle Hunley, KF4USV, is looking for volunteers to help give rides for older members to club meetings. He has members listed by zip codes to find those nearest to you. Contact Grayle if you can help. 730-0455

We Have A New Logo !!!

Thanks to Rob Thomas, KC4NYK for his work on this new RARC Club Logo. The new logo reflects the 1916 date of the club founding. Thanks again for a great job Rob!

Missed Dayton Again?

If you missed Dayton this year and would have liked to pick up some of those hamvention goodies, don't despair. A couple of our members have donated some Dayton trinkets to the Club for a drawing at the June meeting. Everyone in attendance will be eligible to win. All you have to do is be present to be eligible to win.

**"The Ham-ateur or There and Back Again"
by Jimbo Baggins
with apologies to J.R.R. Tolkien**

May 2013
Part 3

As I started unpacking my Camry for the 2nd time in less than an hour, I had a new found sense of success! I'd already made 2 contacts on 900Mhz with just an HT and though I was a bit lower in altitude, I was at 2,028 ASL instead of 2,500 ASL - I still had plenty of confidence that I'd be able to make a contact with N4MW (Dave Meier) on 1.2Ghz :)

There wasn't anybody else in the parking lot when I arrived which meant that I could pick exactly where I wanted to set up my gear. I chose a great spot, overlooking both the eastward and north-west facing parts of the state. The snow wasn't quite falling as hard as before, but I thought that working from the back seat of my car would still be a good place to operate.

I pulled all the gear back out of the car again and assembled the yagis. One speaker stand held the 23cm and 33cm yagis; the other, the 2m and 70cm yagis. I placed the 6m 1/4 wave on the top of the Camry and ran all the coax into the car through the rear window.

When I acquired the car, I ran 10 gauge wire from the battery to the trunk and terminated it with Power Pole connectors. The fuses in the engine compartment are 30 amp; I power my Icom ID-880H in the truck from that power source. When I wish to operate other gear, I use a 4-way power pole splitter. To make things simple, especially since I didn't bring my generator, I connected my IC-9100's power into the trunk power supply. The downside to using my car battery as a power source is that my Icom's like to have 13.8 volts - not 12.0 +/- . I can transmit something less than 50 watts without it being much of a problem, but when I hit 100 watts - the transceiver tends to power cycle - not a good thing :(The way to solve the problem is either purchasing and using a "battery booster" (think MFJ-4416B or N8XJK) or running the engine. I leave my solution to your imagination...

Dave Meier (N4MW) runs a bunch of CW beacons, one of which is on 2m - 144.280. I have a neat app for my phone called "Spyglass"; it's a fancy compass and one of the coolest features is that you can select a spot on a Google Map and the Spyglass app will give you a real-time, from where you are

right now direction location pointer to let you know where to aim your yagi :) So, Spyglass app up and running and I managed to direct the 2m and 23cm yagis towards Dave's place, using the "Armstrong" yagi rotator system. Change the mode to CW, band to 2m, and spin the VFO to 144.280 and I HEAR the BEACON!!! Whoo Hooo! 2m CW beacon contact identified at 10:18 in the log.

Flush with success, I change mode to SSB and set the calling frequency to 144.200 and start calling CQ. Hmm, seems mighty quiet... For about 30 minutes or so I try changing yagi directions, listening for beacons, calling CQ, changing bands and THEN - Wray Dudley (AB4SF) responded to a 2m CQ at 11:00. That was pretty neat since I know Wray and he lives all of 4 miles from my QTH as well. We had a short QSO and I went back to my random attempts to make contacts.

Dave Meier (N4MW) and I had agreed to meet around 11:30 or so and see what we could work; at 11:25 I made contact with Dave and Cissy Meier (N4ZRW) on 144.200. We chatted for a short while, tried FM - no luck, DV mode - no luck, and then decided to take the leap - 1.2Ghz, would it work??!?!??

I changed to 23cm, USB and 1296.100 was on my display. "N4MW N4MW N4MW - KJ4WLH" "N4MW here, hi Jim." - YEAAAA!!! 23cm contact - my 1st ever!!!! It was great, we chatted for a few more moments and said goodbye. The rest of the day was fun, but that 23cm contact was my goal - and the goal was achieved!

I heard a few beacons throughout the rest of the afternoon; but my final contact was Tom Flippin (KD4CMK) around 13:00 or so. Another 2m SSB contact; the interesting part, however, is that Tom's antenna was just a vertical that he uses for FM repeaters around town! Neither of us could believe how well we could communicate over the distance with incorrectly polarized antennas. The other interesting fact is that Tom lives CLOSER to me than Wray - Tom's about 2 miles away! Talking about a close knit 2m SSB family :) Wow!

I'd had enough, my voice was pretty tired from calling CQ and I was really tired of sitting in the back of the car. I packed away my logbook, cables, radios, etc. using the Boy Scout motto, "Leave no trace." I went back inside the visitor center to thank the nice lady, chatted for a few moments about my "accomplishments" of the day and said goodbye.

Once back in my car, headed down I-64 towards Charlottesville, I had time to reflect upon the day's events. The ups (23cm!), the

downs (boredom from aimlessly calling CQ to nobody), and the overall good fun of the day. I accomplished my primary goal, learned a bunch of life lessons, and was pretty happy with my outing. There will be a next time; perhaps when a VHF+ contest weekend comes around.

Thanks for letting me share my story - 73
de KJ4WLH
<https://plus.google.com/photos/100730157629447290908/albums/5848636869223652849>

Still lots of "June" left!

Richmond Amateur Radio Club (RARC) 2nd Annual June 2013 "Radio Run"

Purpose:

RARC wants to encourage ALL amateur radio operators to be MORE active on ANY band, frequency, or mode! Even if you are not (yet) a licensed amateur radio operator, you can still participate!

Check out the details in last months newsletter and give it a try! It's not a contest so if you miss a day or two you'll still have lots of fun and lots to talk about. Give it a try, you know you want to.

2013 Scout JamboreeThe 2013 Scout Jamboree from July 15 to 24 will have a substantial ham radio station running HF, VHF, and D-Star. It could be fun for club members to work it. The URL in the attached note gives you the info especially listening frequencies. There's a QSL card for the event. Ham radio gets a real boost in the Boy Scouts because one of the professional staffers is an avid ham. Here is a link to amateur radio at the Jamboree
<http://www.k2bsa.net/jamboree-live/>.

Thanks Bruce , W4BRU

Field Day!!!

Field Day will be here before you know it!! Mark your calendar for June 22nd & 23rd and get the sun block, coffee and repellent ready. If you've never tried it, you're in for a great time and great fun at the Laurel Recreation Area.

From Robert Orndorff, W4BNO: Once again the Richmond Amateur Telecommunications Society (RATS) and the Richmond Amateur Radio Club are teaming up for Field Day. We have reserved the same spot as last year, the Laurel Park Recreation Area, for this activity. The location includes a shelter with picnic

tables, a big soccer field with tall light poles that are ideally suited for hanging antennas. Restroom facilities are nearby and there is plenty of parking. We plan to have a cookout Saturday afternoon with burgers and hot dogs.

For radios, we plan to set up two HF stations, and depending on the amount of people and equipment that we have on hand, we can set up an additional GOTA station and a VHF station. RATS has two Icom 746 Pro radios with laptops that we can use for the HF stations. N1MM software will be used to log the contacts. We operate in a relaxed manner, so feel free to come out and spend some time on the radio making contacts. We will be operating as W4RAT this year. The GOTA station will operate as W4ZA.

Field Day runs from Saturday June 22 to Sunday June 23. We will begin to assemble at the facility around 10:00 AM to start setup. We can start operating at 2:00 PM local time. Our plan is to operate all night, wrapping things up around noon on Sunday. The biggest need for help is for setup and take down. We appreciate the cooperation of clubs during this event and are looking forward to a good time this year.

The Laurel Park Recreation Area is located on Hungary Spring Road near the intersection of Old Staples Mill and Hungary Road, near the train tracks.

For more information about Field Day, see the ARRL web site: <http://www.arrl.org/field-day>

Silent Auction and Yard Sale

This year's club fundraiser was again a success. This was only possible because of the generous support of each of you who donated ham equipment, household items and plants, placed bids at the auction, and made purchases at the yard sale. There would have been no auction or yard sale without you! Many thanks also to those who volunteered their time to set up the auction and yard sale, assisted with yard sale operations, and cleaned up afterward: Richard Arnold, Ron and Barbara Chase, Ed and Nancy Bryce, Christy Osterloh, George and Harriett O'Mara, Win Grant, Pete Fundinger, Ron Farley, and A.C. McNeer (who procured a large number of items for the yard sale). I know there were others who assisted, and I thank each of you as well. This was a great team effort by our club members!

Marshall
N4XBP

The SWAP SHOP

Club members may list their wares in the newsletter. Send descriptive information to Armand at wa1uqo@arrl.net, or call me at 804-454-0564. The Swap Shop is presented in the newsletter as a benefit to our members. RARC takes no responsibility for items sold or traded in this newsletter. The ad will appear three times unless extended. Interested parties will contact you directly. **You must be an RARC member to place an ad.**

Wanted to Buy: Power supply 13.8V @ 20 amps - Contact Herb Johansen KI4HWS @ 379-9530

Wanted: Elmer to assist with the set-up of an ICOM V8000 transceiver. Contact Herb Johansen KI4HWS @ 379-9530

For Sale: President HR 2600 Mobile Multi-Mode 10 Meter Transceiver. Good condition. Output power – CW 25 Watts; USB/LSB 25 Watts PEP; AM/FM 10 Watts. Includes microphone, power cord, and manual. Checked out on the RARC 10 M net with good audio report. Price \$100. Proceeds go to RARC. Contact Marshall Ervine at (804) 320-8629; marshe73@verizon.net

Icom IC-V80 2 Meter HT. Good condition. Output power 0.5/2.5/5.5 Watts. Includes battery, drop-in charger, manual, and software with USB programming cable. Checked out on local ARES net with good audio report. Price \$50. Proceeds go to RARC. Contact Marshall Ervine at (804) 320-8629; marshe73@verizon.net

ESTATE SALE: The following equipment is practically all from the estate of N9WMU. I have tested all to the extent that I could showing condition etc. Prices are listed but keep in mind **ALL BEST OFFERS** will be considered. Equipment is sold as is – no warranty. Call if you have any questions. You may also cut and paste the url's given for items in your browser for more detailed information. Terms of sale are cash. Contact Jerry Williams KJ4IT at 804-357-2190 both voice and text. My e-mail is kj4it.jw@gmail.com.

MOBILES:

ICOM IC-2720H VHF/UHF FM Transceiver . s/n 2245 Radio is in good condition but is missing mounting brackets otherwise it is complete. **PRICE: \$245.00**

ICOM ID-800H VHF/UHF *D-Star*** Transceiver:** Radio is in very good condition and is complete with all brackets and cables. Has the original factory manual and the original box it came in when new. Radio is also supplied with pc based ICOM Programming Software and cable. **PRICE: \$375.00**

Yaesu FT-8000 V/U Transceiver. s/n 6J090591. Is in fair physical condition but works well. It comes with the factory user manual. The black insulation on the retractile MH-36R mic cable has deteriorated exposing the inner individual conductors (but they are not shorted). It seems that a new mic cable (p/n T9206534) is available from Yaesu for \$27.30 and could be replaced by a technically astute ham. A new microphone is available from Amateur Electronic Supply for approximately \$70. **PRICE: \$125.00**

ICOM IC-37A 220 MHz Transceiver: Is in fair condition, powers up but may need some repairs on both the transmitter and the receiver. Comes with a HM-23 DTMF mic and the owners manual but missing the brackets. **PRICE: \$25.00**

ALINCO DR-1200 2-meter data radio: Appears to power up ok but I did not have enough accessories to adequately test this unit. No bracket or mic but has a manual. **PRICE: \$25.00**

PORTABLES/SCANNERS

Uniden "MYSTIC" Marine/Weather 1W/5W VHF Portable/GPS, s/n 4000755. Seems to check out OK. In very good condition and comes with accessories. Can provide downloaded PDF users manual or you can download it yourself at this link. <http://www.uniden.com/marine-electronics/full-vhfgps-mapping-handheld-marine-radio/invnt/mysticq> . **PRICE \$195.00**

Yaesu VX-6R VHF/UHF hand held. s/n 5K091328 . This is a VHF/220/UHF portable. It checks out OK. It has a desk charger, a 12-vdc auto cable and a USB cable that connects between a pc and the mic jack on the radio. Comes with the factory user manual. **PRICE: \$165.00**

Yaesu FT-60R Dual Band VHF/UHF walkie talkie. s/n 1D280433. This is a VHF/UHF portable. Checks out OK. Has Yaesu wall wart charger and original factory manual. **PRICE: \$120.00**

Radio Shack HTX-400 Miniature UHF Portable. s/n 99090055. Specs: 420 - 470 MHz Receive, 420 - 450 MHz Transmit; Power Output: 200 mW, dimensions: 2-1/4 x 3-3/8 x 1-1/16 inches; PL tone SQ and TX, and true S-meter. A downloaded users manual in PDF can be provided on CD. **PRICE: \$30.00**

Baofeng UV5R VHF/UHF s/n201206R01653. Works and comes with programming software, cable and manuals plus the desk charger. Also included is a **Baofeng UV-3R** which is not working (may need to be charged). **PRICE \$45.00 for both**

Radio Shack PRO-2045 Scanner s/n 65001512 . The Radio Shack PRO-2045 200-Channel Weather Alert Home Scanner is a wideband receiver that gives you direct access to frequencies used by police, fire, rescue, amateur radio, as well as aircraft communications, GMRS Citizen's Band, and commercial FM. (NOTE: This is not a trunked receiver.) Preliminary spec overview is at this link http://support.radioshack.com/support_electronics/doc33/33681.htm and a complete download of the owners manual is at this link http://support.radioshack.com/productinfo/DocumentResults.asp?sku_id=20-418&Name=Radio%20Scanners&Reuse=N **PRICE: \$125.00**

YAESU FT-33R 220 Mhz Handheld: Powers up seems to work but may need work. Have the wall wart charging transformer and a copied user manual. **PRICE: \$25.00**

2-each **Bendix/King Model EPH-5101A direct entry 148-174 MHz band commercial VHF portables.** Radios are in good condition physically and 'talk' to one another. This is the popular "H" model of this series that upgrades to amateur service using software that has been downloaded to a CD and instructions that have been included to accomplish this task.

The package also includes the following associated hardware and accessories: 1-each Model LAA-0325 Desk Top Rapid Charger and 1-each Model LAA-350 Vehicular Radio Charger which allows portables to be interfaced to an external antenna and microphone; 1-each Radio-to-Radio Cloning Cable; 8-each LAA-0125 10-vdc NiCad battery packs (condition unknown); 5-each Model LAA-0139 Battery Holders for "AA" size batteries (2 of the holders are labeled as compatible with the AN/PRC-127 radio set); 1-each LAA-0207 Speaker Mic (connects directly to portable); 3-each style LAA-0275 mics with modular type plugs used with mobile radios or desk chargers: 1-each black nylon carrying case. I **do not** have a Bendix/King RIB box for programming these radios with a PC. Documentation includes user manuals; detailed programming manuals; schematic diagram for programming and cloning cables; and a quick reference channel programming guide.

This equipment is believed to be in good condition but is sold as is. **Pictures available upon request. PRICE: \$75.00**

HF RADIO

Yaesu FT-817 5-watt QRP HF/VHF/UHF All Mode Transceiver s/n 1G350218 and a **LDG Z-11** QRP HF Auto Tuner (no s/n) <http://www.ldgelectronics.com/c/252/products/7/30/3> and a **Palomar** 5-50 Mhz 50 watt wideband linear amplifier (amplifier not tested). Transceiver and tuner has been tested and appears to work ok. Radio comes with factory user guide and "Nifty User Guide" and dc power cables for the transceiver and the Z-11 and a hand microphone. **PRICE: \$675.00**

ANTENNAS and RELATED ACCESSORIES

Ameritron Model RCS-8V Remote Antenna Switch: Unit is new in the box – never used. HF thru VHF. **PRICE: \$135**

AN/GRA-4 40' Guyed Antenna Mast (Military) – This is a popular antenna with portable and field day operators. The mast set appears to complete with all sections, guys and guy ropes. Please refer to the following link http://www.ontariosurplus.com/pdf/tm11_2651.pdf which is an example for setting up three AN/GRA-4 sets. Masts are in good condition (not bent). **PRICE: \$225.00**

MFJ-260C 300-watt dry dummy load rated up to 600 Mhz.
<http://www.mfjenterprises.com/Product.php?productid=MFJ-260C> No s/n. New In Box. **PRICE: \$30.00**

MFJ-1704 4-position coax switch new in box. No s/n. New In Box.
<http://www.mfjenterprises.com/Product.php?productid=MFJ-1704> . **PRICE: \$70.00**

MFJ-1661 Manual Screwdriver Antenna in like new condition although it will require a base mount. Please cut and paste manufacturers URL in your browser for full specs. Picture of the actual unit is available on request. No s/n.
<http://www.mfjenterprises.com/Product.php?productid=MFJ-1661> **PRICE: \$85.00**

MFJ-1910 33' Black fiberglass telescoping mast . **PRICE: \$70.00**
<http://www.mfjenterprises.com/Product.php?productid=MFJ-1910>

Tripod Supported Military Style Fiberglass Mast approx 31' tall self-supporting similar to those at www.goverticalusa.com . Comes with two guy rings all in a rubberized tote bag. In very good condition. Picture available on request. **PRICE: \$135.00**

POWER SUPPLIES

Astron RS-20A 16 Amps continuous 20 Amps surge. Input : 105-125V AC, Output: 13.8V DC, Internally adjustable from 11-15V DC. Solid-state electronically regulated with fold-back current limiting and crowbar overvoltage protection. Heavy-duty heat sink. Three-wire AC power cord and chassis mounted fuse. Made in USA. Dim: 5" x 9" x 10.5"; 18 lbs. **PRICE: \$50.00**

Alinco DM-330 MVT Switched Power Supply, s/n 0000854. Small, lightweight but provides 30A cont., 32A peak with variable voltage (5-15V DC). Lighted V/A meter. Rear panel high current terminals and front panel cigar and quick disconnect terminals. Dim: 6.8"w x 2.6"h x 6.5"d, 4.4 lbs <http://www.aesham.com/switching/alinco-dm-330mvt/> . **PRICE: \$120.00**

Computer Accessories

Tigertronics Inc. Tiger Trak Model TM-1+ Programmable Tracking Module with manual but no software but that may be downloadable. Also included is a TinyTrak3Plus ("built and tested") so the included Mini Manual V1.01 says. A full manual and a .ZIP file for programming can be found at www.byonics.com/tinytrak3plus.zip
Units appear to be unused and are being sold together **PRICE: \$65.00**

Tigertronics Inc. Signalink Sound Card Radio Interface Model SL-1 Revision-C s/n0509301. Comes with the factory manual but no software (readily available on the internet). Comes with enough interface cables to connect to Yaesu equipment. Housing is marked "set up for Yaesu FT-817". **PRICE: \$65.00**

ARES (Amateur Radio Emergency Service)

Safety Supply Factory Model C3NIN5001 Size 4-XL Safety Jacket with polyester/polyester mesh with waterproof seams. Has 3A reflective materials. Also included is a size 3-xl reflective mesh tee shirt. Finally there is an ansi approved safety helmet. Appears to be like new but is sold as is. Picture on request. **PRICE: \$55.00**

Thought For The Day

Experience is what you get, when you didn't get what you wanted.

73 de:

Win Grant	WA4SSG	PRESIDENT	(804) 272-9695	wa4ssg(at)arrl.net
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