

# *The Ragchewer*

*JUNE 2004*

The Monthly  
News Letter  
of The Lancaster  
& Fairfield  
County  
Amateur Radio  
Club

## **Club Meetings:**

1st Thursday of  
every month at  
7:30 p.m. at the  
Club House on State  
Route 37 (Granville  
Pike) next to Beavers  
Field.

## **Radio Night:**

Every Thursday  
of every month  
(Except 1st Thursday)  
at the Clubhouse,  
6:30 p.m.  
to 8:30 p.m. on State  
Route 37 (Granville  
Pike) next to Beavers  
Field.

## **Net:**

Mondays 9 p.m.  
147.030 MHz (+.6)  
146.700 MHz (-.6)  
Alternate Freq.  
443.875 MHz (+5)

## **Club Packet BBS:**

145.53 MHz  
K8QIK-1 BBS  
K8QIK-2: OHIO53  
(Club Node)

The ARRL Letter Vol. 23, No. 22 May 28, 2004  
NTIA hints at Phase 2 BPL report findings  
FCC extends BPL reply comment deadline by three weeks  
ARISS contact marks two "firsts"  
Amateurs assist following tornados  
Nurture ham radio's newcomers, Haynie tells Dayton forum  
FCC chairman assures congressmen on restructuring  
Solar Update  
IN BRIEF:

This weekend on the radio  
ARRL Certification and Continuing Education course registration  
ARRL to sponsor Emergency Communications seminar in Arizona  
+W1RFI to represent ARRL at BPL session  
Commemorative Air Force-Memorial Day special event set  
Indy 500 special event station gets the green flag  
National Hurricane Center's WX4NHC sets annual test  
==>NTIA TIPS HAND ON ITS ADDITIONAL BPL FINDINGS  
National Telecommunications and Information Administration (NTIA) Acting  
Administrator Michael Gallagher says his agency's complete Phase 2  
broadband over power line (BPL) study is targeted for release later this  
year. In remarks May 17 at the United Telecom Council's "Telecom 2004,"  
Gallagher hinted at some findings in the Phase 2 study, which NTIA says  
will provide "additional guidance" on contending with BPL interference.  
The NTIA advised against putting the present FCC rule making proceeding on  
hold until release of its full Phase 2 report, however.  
"Key Phase 2 technical analyses have been completed," Gallagher told the  
UTC gathering, "and the findings are appended to NTIA's comments on  
proposed rules." The NTIA has posted its Phase 1 BPL study on the  
proceeding, ET Docket 04-37, and has indicated to the FCC that it will  
file its comments on or about May 28.  
Responsible for developing telecommunications policy for a White House  
that's promoting BPL, as well as for administering federal government  
radio spectrum that could be affected by the technology, the NTIA finds  
itself with a stake in both sides of the BPL controversy.

The principal concern, Gallagher acknowledged, is that BPL systems might  
interfere with federal government and other radio services. The NTIA's  
Phase 1 study showed that interference risks already are high under  
existing Part 15 rules. Among its recommendations for reducing  
interference were frequency shifting and notching as well as "refined  
compliance measurement procedures."

Gallagher says the NTIA's Phase 2 study has determined that BPL  
aggregation (ie, total emissions from multiple BPL systems) and  
ionospheric propagation "is not a potential near-term problem." The agency  
predicts that millions of BPL devices can be deployed under the rules the  
FCC is expected to adopt--probably later this year--before ionospheric  
propagation and aggregate BPL emissions become an interference issue.

ARRL CEO David Sumner, K1ZZ, says he's curious to hear the NTIA  
rationalize its "near-term" assertion. "Does this mean it's okay to go  
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ARRL CEO David Sumner, K1ZZ, says he's curious to hear the NTIA rationalize its "near-term" assertion. "Does this mean it's okay to go ahead with a bad idea if the problems it causes are sufficiently far in the future?" he asked.

The Phase 2 study also will evaluate the effectiveness of proposed Part 15 measurement techniques and recommend a "height-correction factor" of 5 dB to BPL measurements made at a height of 1 meter, Gallagher said. The NTIA acknowledges that peak field strength is as much as 20 dB higher--a factor of 100--than the peak measured at a height of 1 meter under current Part 15 rules. Because the peak does not occur consistently at a particular distance from a BPL device along the power line, the NTIA will advise requiring a peak field strength measurement search along the entire power line at a distance of 10 meters and at a height of 1 meter.

The agency has determined that a moderate-to-high probability of interference exists to a fixed station from BPL power lines at a distance of 450 meters--approximately 1480 feet--and to a mobile station at a distance of 55 meters--approximately 180 feet.

To "fulfill special protection requirements," Gallagher said, the NTIA will suggest "minimal" coordination areas--where a specified authority would coordinate all planned BPL deployment--plus excluded bands and exclusion zones. The NTIA recommends "voluntary coordination" with respect to other radio operations plus "mandatory Access BPL power control, frequency agility and shut-off capabilities" to reduce interference risks and to expedite interference mitigation.

The NTIA further proposes that BPL rules provide for "prompt response to complaints of suspected interference," recasting the FCC's Part 15 shutdown requirement as "a last resort."

"Our BPL study of more than 10 million signal samples shows that solutions exist to all identified BPL technical issues," Gallagher concluded.

That's true, Sumner said, "but only if you include shutting a BPL system off and keeping it off as a 'solution.'" During a White House meeting May 20, ARRL officials asked the Bush administration to heed its own NTIA experts and back away from its support of BPL. The League also has called on the FCC to put its BPL proceeding on hold to allow more thorough research of its interference potential.

For additional information, visit the "Broadband Over Power Line (BPL) and Amateur Radio" <<http://www.arrl.org/bpl>> page on the ARRL Web site.

#### FCC EXTENDS REPLY COMMENT DEADLINE IN BPL PROCEEDING

The FCC has extended to June 22 the deadline to file reply comments (comments on filed comments) in its broadband over power line (BPL) Notice of Proposed Rule Making (NPRM), ET Docket 04-37. The FCC acted this week on a request from the National Antenna Consortium and the Amherst Alliance (NAC/Amherst) for a much longer filing deadline extension. The organizations said the June 1 reply comment deadline would not allow stakeholders adequate time to prepare comments that address the full two-part National Telecommunications and Information Administration (NTIA) BPL study. The FCC said the NTIA has indicated it soon will submit comments and a technical appendix that will include key findings of the Phase 2 report, which is due for release later this year.

"We believe that three weeks should provide ample time for review and analysis of this information, and accordingly grant the extension for that period," said FCC Office of Engineering and Technology Chief Edmond J. Thomas, who signed the May 26 Order Granting Extension of Time. NAC/Amherst had sought to have the FCC postpone the filing comment deadline until either September 1 or two months after the public release of the NTIA's Phase 2 study--whichever came later.

Noting that its Part 15 rules already permit Access BPL systems and that its February BPL NPRM places additional requirements on BPL systems over and above current Part 15 requirements, the FCC asserted that any further delay would diminish the Commission's ability to protect licensed users now occupying the HF spectrum. A further extension, the FCC added, also would "needlessly increase regulatory uncertainty" about BPL.

The FCC turned down a request that it reissue in substantially greater detail the provisions of its proposed BPL rules concerning interference prevention and mitigation and the enforcement of standards.

The FCC does not routinely grant such time extensions, and it denied earlier petitions, including filings from the ARRL and NAC/Amherst, to extend the initial May 3 comment filing deadline. The League and others had said commenters needed more time to digest the NTIA's Part 1 BPL study, released April 27.

#### ARISS SCHOOL GROUP CONTACT A FIRST FOR ASTRONAUT, EXPEDITION 9

NASA Expedition 9 International Space Station Science Officer and Flight Engineer Mike Fincke, KE5AIT, logged what's believed to be his first-ever Amateur Radio contact May 25 from the spacecraft's NA1SS. The QSO also marked the first Amateur Radio on the International Space Station (ARISS) school group contact for the Expedition 9 crew. The US astronaut and Russian cosmonaut and Expedition 9 Commander Gennady Padalka, RN3DT, arrived aboard the ISS in late April. Fincke advised a dozen youngsters gathered at Erie Planetarium

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#### ARISS SCHOOL GROUP CONTACT A FIRST FOR ASTRONAUT, EXPEDITION 9

<<http://www.eriecountyhistory.org/planetarium.htm>> in Pennsylvania, that the crew must take a space walk in the next few weeks to replace a failed remote power controller module for one of the four ISS control moment gyroscopes, or CMGs.

"I'm really looking forward to it," Fincke told the youngsters, who attend several schools in the Erie area. In addition to the CMG repair EVA, the Expedition 9 crew will carry out two other space walks during their six-month tour. Responding to another question, Fincke said he's really enjoying the weightlessness of space, although he noted, some caution is in order. "I love being weightless," he said. "I can fly around like Superman and pick up very big things." He cautioned, however, that crew members need to "take it nice and easy" in weightlessness to avoid banging into things and injuring themselves.

For fun and recreation, Fincke said, the crew has laptop computers and can watch DVDs--although there's no television aboard. "The whole space station is a little bit fun to play in and do fun things," he said, "but just being aboard the International Space Station is like a dream come true, so it's all fun--every minute of every day is really fun."

In all, the youngsters asked 18 questions of Fincke before the ISS went over the horizon from the telebridge station of Tony Hutchison, VK5ZAI, in South Australia. MCI donated a teleconferencing link to handle the two-way audio between VK5ZAI and the planetarium. Fincke has twice before visited the Erie Planetarium, run by the Erie County Historical Society.

ARISS <<http://www.rac.ca/ariss>> is an international educational outreach program with US participation by ARRL, NASA and AMSAT.

#### AMATEURS AID AS TORNADOS DEVASTATE NEBRASKA COMMUNITIES

From storm spotting through recovery support, Amateur Radio operators were on duty this week, aiding tornado-stricken communities in Nebraska and elsewhere in the Midwest. A May 22 tornado virtually destroyed most structures and was blamed for one death in Hallam, a town of approximately 300 some 20 miles south of Lincoln. ARRL Nebraska Section Emergency Coordinator Reynolds Davis, K0GND, said Lancaster County ARES/SKYWARN spotters activated the evening of May 22 in response to a report of an approaching front. Within a half-hour, W0NWS at the National Weather Service office in Valley already was receiving tornado damage reports via the Lincoln Amateur Radio Club K0KKV repeater.

"When the system moved into Lancaster County shortly after 8:30 PM, it destroyed almost every structure in the town of Hallam," Davis said, leaving the residents homeless. The NWS rated the tornado that struck Hallam as an F-4 on the five-point Fujita Scale--207 to 260 MPH.

The storm also severely damaged the high school in Norris and plucked the tower supporting the K0RPT repeater's south receiver from the ground. The tower remains missing. The tornado went on to destroy additional homes to the northeast, and its path of destruction finally ended south of Bennet, he said.

More than 50 amateurs participated in the SKYWARN net, said Davis, who also serves as Lancaster County Emergency Coordinator. The National Weather Service Omaha office logged dozens of weather and storm-damage reports from radio amateurs in several Nebraska counties on May 22.

Once the SKYWARN Nets closed, the K0RPT VHF repeater was put into service to support Red Cross communications among the tornado scene, the chapter house and a shelter set up in a Lincoln high school for residents displaced by the storm. Two ARES nets activated May 23 to coordinate damage survey and assessment, and reports logged via K0EOC at the Lancaster County Emergency Operations Center.

Davis said that by the time both damage survey nets shut down, 41 operators had driven nearly 2200 miles and surveyed 100 square miles. Gov Mike Johanns declared a state of emergency after more than a dozen tornados swept several southern Nebraska counties.

In Missouri, Grundy County EC Glen Briggs, KB0RPJ, reports that Amateur Radio groups in the northern part of the state relayed severe weather reports to the National Weather Service and to local emergency management and law enforcement officials May 22. Hardest hit areas were near Chillicothe and Brookfield. After one repeater was knocked off the air, amateurs switched to backup repeaters and simplex. Some 18 operators in nine Missouri counties participated, he said.

#### EXPERIENCED HAMS MUST NURTURE NEWCOMERS, HAYNIE TELLS FORUM

It's up to today's Amateur Radio veterans to cultivate the younger generation, ARRL President Jim Haynie, W5JBP, told the ARRL Forum at Dayton Hamvention 2004 May 15. Calling the statistic "shocking," Haynie cited ARRL survey data showing that more than one-fifth of new amateur licensees never get on the air. He suggested that too few experienced amateurs take new licensees under their wing to help them get started.

"One of the things that we need to do is open up our hearts and open up our minds a little bit about the new generation coming along," he said. The addition of another half-dozen ARRL Education and Technology Program (ETP) <<http://www.arrl.org/FandES/tbp/>> pilot schools has raised the total to 81, Haynie pointed out. While its primary goal is using Amateur Radio to educate youngsters about wireless technology, the ETP has resulted in thousands

- Meeting called to order by the President
- Pledge of Allegiance - Charlie Snoke
- Visitors - Frank Piper District Coordinator KI8GW
  - John Tucker
  - Wes Tucker
  - Lenard Shults W8DDG
  - Matt Keith Deputy Director E.M.A.
- Applications - David Harkington W8EZE
  - Donald Jefferies KC8WWMF
  - 2nd Time Bob Hughes voted in
- Secretary's Report -Bob motion to accept, Tom seconded None opposed
- Treasurer's Report - Read by President, Tom Made the motion, Bob bickel seconded
- Trustee's Report (Not Present)
- Vice President (Tom Moore) Dayton Hamfest Friday, Saturday, Sunday all.
- Activities Manager (Connie Snoke)
- Station Engineer (John Hilliard) - 3 repeaters
- Antenna was bought by the club and put up on one of the waterworks hill tower. 10-13 years ago, we had to take our equipment out of the building. Antenna and side mount were downed and returned here. Could be put back up on the clubhouse. - 703 Repeater power amp burnt up a week ago, and we managed to put in a spare. Back on the air. Will last about five or six years. 703 building belongs to the county, and the county engineer has some stuff in there, building is only seven foot wide by ten foot needs a coat of paint. We need some people to paint. Sometime in June would be alright. Jon, Bob and Charlie all are talking about going up to do it. Should be ordering the stuff soon. Will end up at the E.M.A. office.
- VE Testing - 7 candidates, 3 techs, four generals. One detail needs to be fixed up.
- Net Newslines needed some work done
- Ragchewer Next Thursday night
- Emergency Coordinator - Not present
- Safety - Scott Snoke (nothing)
- Flower fund (Not present)
- Fundraising (N8VYB won, not present) Kay Snoke
- Old Buisness - Field Day - Looks like it will be cancelled
- Need 8 people, for the exercise at Bremen. Meet at the schoolhouse in Breman at 8 Am. Sat May 22.
- Thanks to those who helped at the MS Walk.
- New Buisness Charlie, Are we going to help park on the Fourth of July. Looks like we need people.
- House needs cleaned a little bit. John made the motion, Gary Snider Seconded. Ewing Steam cleaning.
- Working the fourth of July parade, Mark mentioned having something setup on his flatbed trailers. Possibly- have a float. Motion to table
- E.M.A. Director Free Junk.
- Frank, Background worked down at diamond power, ARES coordinator till last year. District Coordinator currently. Make club meetings in counties. Two weekend ago ARES confrence took place, lot of local areas are putting money into hospitals. Nine hospitals. Monthly check on the antennas, giving a signal report. Hospitals used to HAM radio credentials. Creates a presence. New plan for national traffical plan, based on digital. Internet communications could be destroyed. Develop a digital plan in case the internet goes down. winlink.org. Emergency plan on that. Huge presentation at Dayton. Disaster dosent stop at one boundary. Recognition needs to be there, and electrical matienance likes to move the stuff. ID cards would be good.
- Closing
  - Bob makes a motion to close, Tom seconded
  - Gary snider will provide refrshments for next meeting.

- Meeting called to order by the President
- Pledge of Allegiance - Charlie Snoke
- Visitors - none
- Applications - Last two from last month KC8WMF Donald Jefferies & Leonard Schultz W8DDG
- Voting David Harrington - voted in. Donald Jeffries - voted in.
- Secretary's Report Jon read the report. -Harry motioned, Jim Gaffney seconded
- Treasurer's Report Ed Campbell read the report. Motion to accept Harry, Bob seconded the report.
- Trustee's Report (Not Present) - Could be travelling, later this summer.
- Vice President (Tom Moore) No report, other than not going to have a fun day, rather than a field day. On the 26th and the 27th. Air conditioner fixed, freon added.
- Activities Manager (Connie Snoke) - No report
- Station Engineer (John Hillard) - No report (vacation)
- VE Testing - 1 code pass, but the last test here, 3rd Sunday right here.
- Net - No report, gone first two weeks of July.
- Ragchewer - Next Thursday
- Emergency Coordinator
- Thanks for the EMA. Pictures taken. Antenna equipment has pretty much arrived. Hospital antenna has been put up. 14/15 antennas have pretty much arrived, 2000 ft of coax. Crimp connectors for one end have arrived. Duplexors and control circuitry.
- Ed will be gone most of June. Parade is on the third.
- Safety - Scott Snoke (Not present)
- Flower fund (Not present)
- Fundraising (Kay) - KB8OWK not present Charlie Kenser.
- Old Buisness - Mark Urbine's with the fourth to do the parade. May not do the float
- New Buisness - Alan sellers has been wanting to have a swap fest in the parking lot. On saturday Oct 9th. Saturday before the fair. Bring in stuff, and more or less swap whatever you want. Clubhouse open for some refreshments. We will have it. He will organize it.
- Mark Urbine - Going back on the road. Fox hunting on frequency Mark Urbine, anyone who finds him, and E-mails him will receive hats or something. Some cheap prizes.
- Carpet cleaning, will be taking place soon.
- Fred, rotor problem. We need to take a look at. Rotor might be dead, we may want to purchase a new one. Some Thursday night, we will take a look at it.
- Closing
  - Next meeting is before the fourth of July.
  - Jim Gaffney voted his wife to bring food for next meeting.
  - Tom close, mark seconded.

### **FOX HUNT**

KC8TUW Mark is trucking out west and  
 Wants to see if anyone can make contact  
 With him on 20 & 10 meters. If you have  
 HF Equipment and you hear him or make  
 Contact with him e-mail n8ute@greenapple.com  
 And let me know, we may give out an award to  
 The first person to hear him or make a contact  
 With him.73 and happy fox hunting.

The Lancaster  
and Fairfield County  
Amateur Radio Club

# Public Service Communications



Edward Campbell, WD8PGO  
Fairfield Co. EC

2002/2003  
Officers:

President:  
Charles Snoke  
N8KZN

Vice President:  
Tom Moore  
KB8USK

Treasurer:  
Ed Campbell Sr.,  
WD8PGO

Secretary:  
Jon Larabee  
KC8RUI

Activities:  
Connie Snoke  
KC8LPN

Station Engineer:  
John Hilliard,  
W8OF

Trustee:  
Richard A. Schleiffer,  
W9ZZX

Flower Fund:  
Marie Moore, KB8VOL  
653-9092

Editor:  
Bob Bickel  
N8UTE

4<sup>TH</sup> of July Parade  
July 3 Need Help With The Parade  
And Parking Vehicles For The Fire Works  
You get to see the fire works show for free.  
Charge your HT's And Volunteer to help out

### June Birthdays

N8MUL Thomas Boch	KB8NRS Jacob Campbell
KC8NPP Woody Draper	KC8HCD Garry Hanna
W8BVH Ralph Howes	KB8USK Tom Moore
W8ZZZ Larry Pontious	WA8WFL Raymond Shetrone
WD8IXO Scott Snoke	AB8GE Phortia Stevens

**HAPPY BIRTHDAY TO ALL**



**Drop in and see us on Radio Night,  
Thursday evenings at 6:30 PM.**

Check out our Club Web Site at: [www.qsl.net/k8qik](http://www.qsl.net/k8qik)

### **CENTRAL OHIO CW LEARNING NET**

The CW Learning Net is Every Friday night at 8:00 P.M. on the W8CMH repeater 145.490 (-). Portion of 2 hour net is devoted to letter learning and the balance to QSO designed to promote speed development. Carl, AA8YY is Net Control.

### **SLOW SCAN TV NET**

The COSSTV (Central Ohio Slow Scan TV), <http://www.qsl.net/n8tut/sstv>, Net is the first Sunday of every Month at 7:00 PM. The group meets on the W8CMH repeater 145.490(-). All you need is a 2m radio, a computer with a sound card, and the W95SSTV software. The Software is available on the internet at <http://www.siliconpixels.com/W95SSTV/W95dload.htm>.

# UNIVERSAL RADIO TOP 80 ITEMS: Prices & Specials

## ▶ ALINCO

Order	Model	Regular	Comment	Price	Pg.
#4238	DJ-196T	\$139.95		\$139.95	67
#1596	DJ-596T	219.95		219.95	67
#3610	DJ-X10T	329.95		329.95	21
#2020	DJ-X2000T	769.95		499.95	21
#1980	DR-135T	169.95		169.95	62
#4236	DR-135TP	269.95		269.95	62
#3621	DR-605TQ	339.95		339.95	
#0620	DR-620T	369.95		338.95	62

## ▶ AOR

AOR promotion ends 06/30/04.

Order	Model	Regular	Comment	Price	Pg.
#3705	AR5000A+3B	2499.95		2499.95	22
#0083	AR8200Mk3B	589.95	Free SWL book #2984	589.95	23
#1860	AR8600Mk2B	889.95	Free SWL book #2984	889.95	22

## ▶ DRAKE

Drake promotion ends 06/30/04.

Order	Model	Regular	Comment	Price	Pg.
#0082	R8B	\$1469.95	Free Cal. & Book	\$1469.95	16

## ▶ GRUNDIG

Grundig promotion ends 06/30/04.

Order	Model	Regular	Comment	Price	Pg.
#0800	Satellit 800	\$499.95	Free G1000A #1010	\$499.95	6
#3500	S350	99.95	Free SWL book #2984	99.95	6
#0300	YB-300PE	79.95	Free SWL book #2984	79.95	
#0400	YB-400PE	149.95	Free G1000A #1010	149.95	6
#0550	YB-550PE	99.95		99.95	7

## ▶ ICOM

ICOM promotion ends 06/30/04.

Order	Model	Regular	Comment	Price	Pg.
#0208	208H	\$319.95	Sale! Free DT830D DVM	\$309.99	61
#0703	703 Plus-15	729.95	\$40 Coupon+Hat	689.95	58
#2703	703-18	689.97	\$140 Coupon+Hat	549.97	58
#3450	706Mk2-G	769.95	Free RMK706	769.95	58
#0718	718	619.95	Free UT106	619.95	58
#0074	746 Pro	1649.99	\$200 Cpn.+Hat +PS125	1499.99	58
#1756	756 Pro II		\$200 Cpn.+Hat +PS125	2349.99	58
#1910	910H	1289.95	Free Icom Hat	1289.95	61
#2100	2100H-25N	179.95	Sale!	164.98	61
#0102	2200H	229.95	New!	229.95	61
#0272	2720H	379.95	Free DT830D DVM	379.95	61
#0041	7800	10599.90	Free Jacket & Hat	10599.90	57
#1002	PCR1000-02BON	369.95	Free SWL book #2984	369.95	17
#3333	R 3-26	369.95	Spectrum Chart	369.95	18
#0005	R 5-06	199.95	Spectrum Chart	199.95	18
#3550	R10-05	299.95	Spectrum Chart	299.95	19
#0020	R20-06	499.95	Spectrum Chart Expect 06/19	499.95	19
#0175	R75	549.95	Free UT106 + Book #2984	549.95	11
#1850	R8500-02	1489.95	Free book #2984 +Hat	1489.95	17
#4429	T2H Sport	99.95	Free Metal Flashlight	99.95	64
#3052	T7H	189.95	Free Metal Flashlight	189.95	64
#0690	T90A	259.95	Free Metal Flashlight	259.95	64
#0088	V8	139.95	Free Metal Flashlight	139.95	64
#4080	V8000	189.95		189.95	61
#0838	W32A	269.95	Free Metal Flashlight	269.95	64

## ▶ JAPAN RADIO CO.

JRC promotion ends 07/31/04.

Order	Model	Regular	Comment	Price	Pg.
#1545	NRD-545DSP	1799.95	Free JRC ST-3	\$1799.95	12

## ▶ KENWOOD

Kenwood promotion ends 06/30/04

Order	Model	Regular	Comment	Price	Pg.
#4211	TH-D7Ag	\$349.95	\$25 Coupon	\$324.95	63
#2222	TH-K2AT	149.95	\$20 Coupon	129.95	63
#3496	TH-K2AT K2	109.95	New Version!	109.95	63
#0066	TH-F6A	329.95	\$20 Coupon	309.95	63
#3699	TH-G71A[H]	239.95	\$20 Coupon	219.95	60
#0271	TM-271A	179.95	\$20 Coupon	159.95	60
#4116	TM-D700A	499.95	\$25 Coupon	474.95	60
#1621	TM-G707A	279.95		279.95	60
#3565	TM-V7A	399.95	\$50 Coupon	349.95	60
#0480	TS-480SAT	1199.95	\$250 Coupon	949.95	54
#2480	TS-480HX	1299.95	\$250 Coupon	1049.95	54
#0570	TS-570D[G]	964.95	\$50 Coupon +Logbook	914.95	54
#2519	TS-570S[G]	1124.95	\$50 Coupon +Logbook	1074.95	54
#1978	TS-2000	1749.95	\$200 Coupon +Mousepad	1549.95	54
#2797	TS-2000X	2249.95	\$300 Coupon +Mousepad	1949.95	54
#1937	TS-B2000	1549.95	\$200 Coupon +Mousepad	1349.95	54

## ▶ SANGEAN

Sangean promotion ends 06/30/04.

Order	Model	Regular	Comment	Price	Pg.
#3505	ATS-505P	\$119.95	Free Propo book #0027	\$119.95	8
#1069	ATS-818ACS	199.95	Free SWL book #2984	199.95	8
#1909	ATS-909	239.95	Free SR25V AM/FM/TV	239.95	8
#1080	PT-80	159.95	Free SWL book #2984	159.95	8

## ▶ TEN-TEC

Ten-Tec promotion ends 06/30/04.

Order	Model	Regular	Comment	Price	Pg.
#0321	RX-320D	\$328.95	Free SWL book #2984	\$328.95	13
#0340	RX-340	3950.00	Free 2004 Passport	3950.00	15
#0350	RX-350	1199.00	Free 2004 Passport	1199.00	14

## ▶ YAESU

Yaesu promotion ends 06/30/04.

Order	Model	Regular	Comment	Price	Pg.
#2786	FRG-100B	\$599.95	Free SWL book #2984	\$599.95	13
#1817	FT-817ND	629.95	New version +RefCard	629.95	56
#2319	FT-840	599.95		599.95	56
#1467	FT-847	1799.95		1799.95	56
#1857	FT-857D	779.95	New version	779.95	56
#1897	FT-897D	889.95	New version	889.95	56
#2360	FT-1000MPv	2089.99	Free Yaesu Hat	2089.99	56
#2633	FT-1000Field	1799.95	Free Yaesu Hat	1799.95	56
#2800	FT-2800M	179.95		179.95	62
#3780	FT-7800R	279.95		279.95	62
#0080	FT-8800R	369.95		369.95	62
#0890	FT-8900R	429.95		429.95	62
#3120	VR-120D	199.95		199.95	20
#0500	VR-500	299.95		299.95	20
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- ◆ *Activities*
- ◆ *Upcoming Exams*
- ◆ *Public Service Communications*
- ◆ *Repeater/Net News*
- ◆ *Up coming Events*
- ◆ *And More.....*