
SIGNALS

Rockwell
Collins **Amateur Radio Club**

Monthly Newsletter of the

Volume 28 Issue 07

Web Site <http://www.collinsclubs.com/rcarc/>

April 2007

RCARC Membership Meeting

Thursday
26 April 2007
1730 in
Rockwell Collins
Cafeteria

Subject: FT-2000 and DMU-2000 Introduction and Demonstration and TS-950 Auction.

Local Club News

Meeting Notice This months program will be dedicated to briefing the membership on the club's new Yaesu FT-2000 transceiver and DMU-2000 (see introductory article in this newsletter), including a demonstration in the radio room. Also, the auction will be conducted for the sale of the TS-950. A description of the TS-950 is in the FOR SALE section of this newsletter.

Club Meeting Talk-In

Each month, we have a Talk-In on the club repeater before the membership meeting on the night of the meeting. The Talk-In is from 1700 to 1730 hours, just prior to the meeting.

Contest Awards Dennis Cobb, WA8ZBT, has received two awards on behalf of the club. The awards were earned as a result of Dennis' operation in

two contests. W5ROK took first place in the North Texas Section of the 2006 ARRL June VHF QSO Party single operator low power contest. Dennis also took third place in the 2006 Texas QSO party, operating from the W5ROK radio club room. The awards will be posted on the club's website.

W5ROK Membership Renewals!

If you have not renewed your membership and need an application form, please contact Joe Wolf, N5UIC, at 972.705.1388.

RCARC New YAESU FT-2000 All Mode HF+6M Transceiver Overview

Summary:

The FT-2000 is the 2nd Generation of the FTdx9000 Series. Featuring extensive DSP filtering, 100 Watts of power output, and a host of outstanding ergonomic and performance features.



Features

160 - 6 Meter Coverage, 100 Watts of Power.

The FT-2000 provides 100 Watts of power output (AM: 25 W) on the 160-6 Meter Amateur bands, and the U.S. version includes a special memory bank containing the five 60-meter channels, as

well. Continuous receiver coverage from 30 kHz to 60 MHz is provided.

Extensive Receiver DSP Filtering.

The power of IF Digital Signal Processing (DSP) is included with the FT-2000. Variable IF Width and IF Shift allow precise interference rejection, and the receiver DSP also includes an Auto-Notch, Manual Notch, Digital Noise Reduction, and a continuously-variable passband Contour control. The WIDTH control has a mode-determined adjustment range of 200 Hz - 4 kHz for SSB, and 25 Hz to 2.4 kHz on CW, and a mode-optimized "Narrow" key provides one-touch narrowing of the bandwidth to a user-determined preset value.

User-Adjustable Variable TX Bandwidth.

With the FT-2000, you have tremendous control over the fidelity and/or "talk power" of your SSB signal, thanks to the variable SSB bandwidth capability in the Menu. The default bandwidth is 2.4 kHz (300 - 2400 Hz @ -6 dB), but you also have selections of 50 - 3000 Hz, 100 - 2900 Hz, 200 - 2800 Hz, and 400 - 2600 Hz, allowing you to select the bandwidth best suiting your operating needs.

3-Band Parametric Microphone Equalizer.

The power of DSP also provides tremendous benefits for transmission, as well as reception. The Three-Band Parametric Microphone Equalizer allows unmatched capability to tailor your speech characteristics: in each of the three bands, you may adjust the center frequency of the equalization, the frequency (Cont. on page 3)

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VE SESSIONS

Dallas tests are held 4th Sat of each month at 10:00. 13350 Floyd Rd. (Old Credit Union) Contact Bob West, WA8YCD (972) 917-6362

Irving tests are held 3rd Sat. of each month at 09:00. 5th and Main St. Contact Bill Revis, KF5BL 252-8015

McKinney VE test sessions are held at the Heard Museum the first Sunday of the month. The address is 1 Nature Place, McKinney TX. The time of the testing is 14:30, ending no later than 16:45. *Note: no tests given on holiday weekends.*

Garland testing is held on the fourth Thursday of each month, excluding November, and begins at 1930 sharp. Location is Freeman Heights Baptist Church, 1120 N Garland Ave, Garland (between W Walnut and Buckingham Rd). Enter via the north driveway. A HUGE parking lot is located behind the church. Both the parking lot and the Fellowship Hall are located on the east side of the church building, with big signs by the entrance door. Contact Bill Reynolds, K8DNE, 972-475-3854.

Plano testing is on the third Saturday of each month, 1300 hrs at Williams High School, 1717 17th St. East Plano. Check Repeater 147.180+ for announcements.

Greenville testing is on the Saturday after 3rd Thursday, 1000 hrs at site TBA, contact N5KA, 903.364.5306. Sponsor is Sabine Valley ARA. Repeater 146.780(-) with 118.8 tone.

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President's Message

Needless to say that one of the big news items is the arrival of the new transceiver. The FT-2000 and companion Data Management Unit (DMU) 2000 have been installed and now are operational. One of the items on the agenda for our meeting on the 26th is to tour the station and let all of the members present take a look at the new equipment. Also the club received two computers along with monitors, keyboards, etc. from the pool of equipment taken out of service in the company.

The eBoard met on Thursday to discuss the issue of the potential move of the club radio room to make room for new secure engineering labs. Let me emphasize that at present there are a number of options so there has been no decision about the potential move of the radio room at the time of this article. The RCARC put forward a position to leave the radio room in the current location. That position has been included in the engineering planning documents. On another related front, the appeal to leave the radio room in its current location has also gone to Kit Miller for his consideration and input into the final plan. This will certainly be a discussion item for the meeting.

As reported to the members at the last meeting, once the new Yaesu FT-2000 radio and DMU were purchased and in place the club's excess TS-950 Radio would be offered for sale AS-IS at the highest bid to RCARC club members. The minimum bid is \$500. The TS-950 will be offered at the April meeting. For additional details see the For Sale section in this newsletter.

Note that the Telecom Corridor ARC is not having a meeting until June. As such the eBoard determined that we would have a RCARC meeting of Thursday the 26th of April.

See you there.

Do you know someone that you work with that is an amateur radio operator or has expressed an interest in amateur radio? If so I hope that you will take a moment and let them know about the RCARC. Invite them to a meeting, take them down to the station and show them our web site. With the *(Cont. on page 4)*

RCARC New YAESU FT-2000 All Mode HF+6M Transceiver Overview

(Cont. from page 1) spread over which the equalization is applied, and the amplitude (peaking or nulling) within that equalization range.

Outstanding Strong-Signal-Handling Capabilities Derived from the FTDX9000.

Following in the path of the FTDX9000, the FT-2000 is crafted with a comprehensive design view that accounts for all aspects of the strong signal environment, and especially with optimization of weak-signal in a multiple-strong-signal environment. The receiver of the FT-2000 is a triple-conversion type, utilizing great care in the gain distribution through all IF stages. The first mixer is a GaAs FET Doubly-Balanced Mixer type, fed by a four-VCO PLL synthesizer (30 kHz – 10.5 MHz, 10.5 MHz – 24 MHz, 24 MHz – 39 MHz, and 39 MHz – 56 MHz). The resulting first IF is at 69.450 MHz, utilizing an up-conversion technique that yields excellent image rejection.

FTDX9000-Lineage Triple Roofing Filter System for Crowded Bands (Main Band VFO)

The first IF of the FT-2000 features three roofing filters, bandwidths of 15 kHz, 6 kHz, and 3 kHz, optimized by mode for best performance on today's crowded bands. Especially useful during busy contest weekends, the Roofing Filters are positioned right after the first mixer, improving IP3 (3rd-Order Intercept Point) performance for all stages that follow.

The Ultimate Low-Band DXer RF Pre-selection Filter: YAESU's Exclusive μ -Tuning.

On the lower Amateur bands, the signal voltages impinging on a receiver can create noise and Intermodulation effects that can cover up weak signals you're trying to pull through. So YAESU's engineers developed the μ (Mu) Tuning system for the FTDX9000, and it's available as an option for the FT-2000. Three modules are available (MTU-160, MTU-80/40, MTU-30/20), and these modules may be connected externally with no internal modification required! When μ -Tuning is engaged, the standard VRF (Variable RF Preselector) system is bypassed, but the fixed Bandpass Filters are still in the re-

ceived signal path. The μ -Tuning filters utilize a stack of large 1.1" (28 mm) Ni-Zn Ferrite cores, driven through a silver-plated coil assembly by a precision stepper motor. The resulting high Q (typically over 300) provides a very steep resonance peak near your operating frequency. The peak may be adjusted away from your frequency, for even greater protection from a specific station, and a graphical depiction of the μ -Tune filter alignment appears on the front panel of the transceiver.

Unique Receiver Configuration Display

The FT-2000's unique "Receiver Configuration Display" calls out status for each step in the receiver's RF and IF, and the fluorescent display also provides both graphical and numerical depiction of the bandwidth and the alignment of the various interference-rejection filters. And the high-resolution analog multi-meter allows you to monitor PO/COMP/SWR/ID/VDD/ALC.

Dual Receive Capability for Effortless Split Operation

During Split operation, Dual Receive may be engaged so that you may listen to both sides of the pile-up (or watch a particular frequency on the same band for activity). One push of the appropriate [TX] or [RX] indicator will engage or disengage the receiver or transmitter on the Main or Sub VFO, and the [TXW] (TX Watch) button also lets you listen to your transmit frequency during casual Split operation. The Sub Receiver also has a slot for an optional Collins® Mechanical CW filter, if desired: the YF-122C (500 Hz) or the YF-122CN (300 Hz). The Sub Receiver is an analog type, with no DSP filters.

Enhance Operation using External Display (DMU)

A wide array of informative and useful displays, identical to those available on the FTDX9000D, can be obtained by adding the optional DMU-2000 Data Management Unit and an after-market display (not supplied). You get an Audio Scope (plus "Waterfall") and Oscilloscope, Logging Page, Band Scope, World Clock with Sunrise/Sunset Terminator Display, Swept-frequency SWR display, Memory Channel listing, Rotator Control display with Great Circle Map, and a comprehensive Menu listing.

Five-Group, 99-Channel memory with 5-Channel Quick Memory Bank (QMB)

The 99 memories may be organized into up to five memory groups (up to 20 channels each), and with the addition of the optional DMU-2000 Data Management Unit, you can connect your keyboard (not supplied) and add memory labels (names), edit data, and perform backup and other functions, as well, using an external computer monitor (not supplied). In addition, the one-touch Store (STO) and Recall (RCL) keys allow you instant access to a five-channel Quick Memory Bank that gives you access to five frequencies on a first-in, first-out running basis.

A Host of Features for the CW Enthusiast!

The front and rear panels have their own key jacks, which may be set up independently for connection of a keyer paddle (for use with the internal keyer), a straight key or bug, or a computer-driven keying interface for use with contest logging software, etc. With the FT-2000, you can use both your ears and your eyes to zero in on another CW station. The CW SPOT switch engages a spotting tone that matches the offset of your transmitted signal (as set by the CW Pitch selection), allowing you to match that pitch to that of an incoming signal perfectly. And the CW Tuning Indicator provides a graphical depiction of the tuning process, with a marker lighting up when the incoming signal is precisely aligned with yours.

Five-Channel Digital Voice Memory and 15-Second Digital RX Recorder

For storage and playback of repetitive messages you have to transmit in a contest, the four-channel Digital Voice Recorder (5 channels when using the optional FH-2 Keypad) will quickly let you store CQ, Contest Number, and "QRZ" messages. On receive, a running 15-second loop recorder lets you stop the recording and play back the just-received audio, so you can confirm a callsign, for example.

Huge Precision Main Tuning Dial!

The front panel's oversized 2.67" (68 mm) Main Tuning Knob is crafted using a brass JISC3604R alloy, for easy flywheel-effect frequency excursions or precision tuning of weak digital signals. The torque

of the tuning knob shaft may be adjusted for just the amount of drag you prefer.

Built-in 100-Memory Automatic Antenna Tuner

The 100 memories of matching-point data allow you to tune around the bands without the need to re-tune as you go. The special antenna tuner memories ensure efficient operation, as well as lightning-fast matching at new operating frequencies, as needed. The Automatic Antenna Tuner has a matching range of 16.7 to 150 Ohms (50 MHz: 25 - 100 Ohms).

Additional Features

Flexible Connection Points for RTTY, SSTV, PSK31, JT65 (EME) and other Digital Modes; VOX (Automatic voice-operated TX/RX control); All mode Squelch; FM Mode: 50-Tone CTCSS Encode/Decode System; Band-Specific Repeater Shifts for 29/50 MHz FM; Wide/Narrow modes for AM and FM; Flexible, easy-to-use VFO/Memory command selections: A>B, A=B, V/M, M>A, A>M; Memory Channel Offset Tuning (MT); Versatile Scanning Capability; Versatile Menu Mode for customization of setup and features; Transverter Jack; Constant-level rear-panel sound recording jack; Comprehensive external RS-232C computer control (CAT) protocol; Optional FH-2 Keypad provides ease of control for CW or Voice Messages and Receiver Loop recording

President's Message

(Cont. from page 2) influx of new employees this should be an opportunity for us to grow the active employee membership base of the RCARC.

ARRL membership up for renewal or new application? See information elsewhere in this edition to get more information on how your membership application can be made through the club. Your club receives a commission for all renewals or new memberships that we process.

Well it is time to say 73s.

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Bill Swan,
K5MWC, President

Secretary's Report

Bill Swan, K5MWC, opened the meeting

at 1735 (03-22-07), in the RCI Cafeteria. Present at the meeting were:

Don Aragona	KD7WXH
Bob Ashby	K5JHR
Dennis Cobb	WA8ZBT
Jim Gaston	KD5GYD
Dave Jaksa	W0VX
Bob Kirby	K3NT
John McFadden	K5TIP
Steve Phillips	K6JT
Jim Skinner	WB0UNI
Bill Swan	K5MWC
Charles Williams	WD5IRX
Joe Wolf	N5UIC

The club welcomes Charles Williams, WD5IRX and Dan Aragona KD7WXH who have recently joined Rockwell Collins.

The following business was conducted:

1. Officer Reports

- Treasurer's report: Jim Skinner, WB0UNI, circulated the February and March Treasurer's reports. (There was no meeting in February).
- Steve Phillips, K6JT, the Repeater Trustee, reported that the repeater is working fine. There has been no news concerning the club's FCC FRN ID, which is incorrectly registered to the company (Rockwell Collins) and not the club (Rockwell Collins Amateur Radio Club).
- Joe Wolf, N5UIC, explained the new membership application form.

2. Old Business

- Replacement for the TS950 Transceiver
 - Bill Swan, K5MWC, recapped the club's decision to replace the TS-950 transceiver. At the last E-Board meeting the Radio Selection Committee recommended that the club purchase the Yaesu FT-2000 with the DMU-200 option. After careful consideration and discussion by the E-Board, the E-Board decided to recommend that the club purchase the FT-2000 without the DMU-200 for around \$2500.
 - A motion was raised and seconded that the E-Board's rec-

ommendation be amended to purchase the DMU-200 with the FT-2000. This option provides a variety of features that are very useful during contesting (logging, and band monitoring). The FT-2000 with DMU-200 would cost ~\$3400.

- The amendment to add the DMU-200 to the E-Board's recommendation to purchase the FT-2000 passed.
 - The E-Board's recommendation to purchase the FT-2000, with the DMU-200 amendment, passed unanimously
 - The FT-2000 and DMU-200 will be purchased through Dave Jaksa, W0VX.
 - Once the new transceiver is installed the TS950 will be offered for sale to club members
- 30S-1 kW Linear Amplifier. Bill Swan, K5MWC, recapped the clubs plan to sell the 30S-1. At the last E-Board meeting Jim Skinner, WB0UNI, reported that the average selling price is around \$1,500 (based on condition).
 - Computers for the Club Shack. Bill Swan, K5MWC, reported that we will be able to receive 2 PC's from the company later this week. These machines will have USB ports and come with DOS and Windows XP.
- ### 3. New Business
- T2X Rotor. Dennis Cobb, WA8ZBT, reported that our T2X rotor needs a new potentiometer. There will be some cost associated with this repair (~\$40.00). A new rotor would cost ~\$300.00 or more.
 - Recent Contesting. Dennis Cobb, WA8ZBT, Activities Chairmen, reported that W5ROK took 1st and 3rd place in recent contents.
 - Banking. Jim Skinner, WB0UNI, made a motion to close the clubs savings account and move all funds into the checking account. This would

allow the club to avoid a monthly fee. The motion was seconded and passed.

Bill Swan, K5MWC, closed the business meeting at 1829 and began a presentation on the order of the Wouff Hong and the importance of Good Operating Practices.

eBoard Report

Bill Swan, K5MWC, opened the meeting at 1737 (4-12-07), in the RCI Cafeteria. Present at the meeting were:

Dennis Cobb	WA8ZBT
Jim Gaston	KD5GYD
Bob Kirby	K3NT
Jim Skinner	WB0UNI
Bill Swan	K5MWC
Joe Wolf	N5UIC

1. Meeting Overview. Bill Swan, K5MWC, briefly reviewed the agenda.
2. Potential Move Discussion.
 - a. Bill Swan, K5MWC, reviewed the company's plan to rearrange engineering labs and the potential impact on the club's HAM shack. At this point in time it is unclear whether or not the shack will need to be relocated. The changes will begin no earlier than June but the club should be considering alternative locations.
 - b. There was some discussion of moving the club into a trailer (zoning restrictions could be a problem) or possibly a small building outside the main building (cost and maintenance issues). Another alternative might be the penthouse on top of the building (liability and possible access restrictions).
 - c. The E-Boards preference is 1) don't move the shack 2) relocated on the ground-floor directly below the antenna feeds 3) relocate to one of the penthouses. However other options may be considered.
 - d. The club needs to put contingency plans in place to facilitate options. Bill Swan, K5MWC, will make a case for alternative 1 and 2. Dennis Cobb, WA8ZBT, and Joe Wolfe, N5UIC, agreed to develop the Pros and Cons for alternative 3.

3. New Transceiver and DMU-200 Status. Due to time constraints this item was dropped from the agenda but Bill Swan, K5MWC, noted that the TS-2000 and DMU-200 system are now installed and working.
4. Replacement Computers Status. Dennis Cobb, WA8ZBT, reported that RCI's IT department is working on supplying the 2 PCs that have been committed.
5. TS950 Description Report and Discussion
 - a. Bob Kirby, K3NT, presented a possible description that could be used for selling the TS950. The description of the unit's technical problems was reviewed. The description was accepted with only a few minor modifications.
 - b. If the TS950 does not sell to a club member it could be offered on eBay or during local HAM events.
 - c. The eBoard decided that if the Telecom Corridor has an April meeting then we will offer the unit to club members until the end of May. If there is not a Telecom Corridor meeting in April then we will offer it to club-members at the April RCARC meeting.

The meeting adjourned at 1920. The next general membership meeting will be on April 26th if there is no Telecom Corridor Meeting.

Upcoming Events and Public Service Ops

8-9 June 2007: Ham-Comm 2007
Make plans now to attend Ham-Com 2007, June 8-9, at the Plano Centre in Plano, TX. Online admission sales began January 1 on the redesigned web site, www.hamcom.org. The web site features a new format that enables users to quickly find what they need.

Here Is What's New For Ham-Com 2007:

- ALL parking is on-site and FREE! Up-to-date event information will be broadcast on 87.9 FM (via your car radio at the site).
- Registration is online (\$7.00) or at event door (\$10.00). No mail or FAX registrations, please!

- The tailgate market will be closer to the Plano Centre west entrance.
- There is a three (3) table limit for the indoor flea market. This will allow more people to offer items for sale.

Here Are Some Important Dates To Remember:

- January 1: Admission sales begin
- February 1: Flea Market registration begins
- February 15: Commercial exhibitor packets due!
- February 28: Registration and grand prize announcement
- March 1: Lone Star DX Association program announcement
- April 1: Program listing available online
- May 1: Ham-Com Flyer Event Edition online

Ham-Com 2007 will feature a full schedule of speakers, workshops and special-interest group meetings. We will continue to place more emphasis on youth education and club activities.

Please visit our web site at www.hamcom.org and get all of the details!

9-11 June 2007: ARRL June VHF QSO Party The object of this event is to work as many amateur stations in as many different 2 degrees by 1 degree grid squares as possible using authorized frequencies above 50 MHz. Foreign stations work W/VE amateurs only. The event is on the second full weekend in June. Begins 1800 UTC Saturday, ends 0300 UTC Monday (**June 9-11, 2007**). More info at <http://www.arrl.org/contests/rules/2007/june-vhf.html>

23-24 June 2007: ARRL Field Day Field Day is open to all amateurs in the areas covered by the ARRL/RAC Field Organizations and countries within IARU Region 2. DX stations residing in other regions may be contacted for credit, but are not eligible to work as many stations as possible on any and all amateur bands (excluding the 60, 30, 17, and 12-meter bands) and in doing so to learn to operate in abnormal situations in less than optimal conditions. A premium is placed on developing skills to meet the challenges of emergency preparedness as well as to acquaint the general public with the

capabilities of Amateur Radio. The event is always the fourth full weekend of June, beginning at 1800 UTC Saturday and ending at 2100 UTC Sunday. More info at <http://www.arrl.org/contests/rules/2007/fd.html>

For Sale

RCARC TS-950 AS-IS to RCARC Members—Minimum Bid \$500

Known Issues: This radio has had intermittent receive and transmit issues. The receive issues may be an aging and failing synthesizer with some parts no longer made. Besides intermittent transmitter power levels at times, transmitter issues result in distortion and spurs. When these conditions appear, the operator would only be aware if the transmit signal was being locally monitored. Radio also has an internal antenna tuner issue. With additional age, this could soon lead to other capacitor/coil failures. We understand the internal antenna tuner unit is no longer available. The radio has a fair front panel. There are some dings and scratches on the case. One of the feet is broken. Again, the radio is being sold AS-IS to the highest bidder. Bids are due at the April 2007 RCARC meeting.

They Walk Among Us!

I walked into a Blimpie's with a buy-one-get-one-free coupon for a sandwich. I handed it to the girl and she looked over at a little chalkboard that said "buy one-get one free." "They're already buy-one-get-one-free," she said, so I guess they're both free." She handed me my free sandwiches and I walked out the door. *They walk among us and many work retail!*

A friend of mine bought a new fridge for his house. To get rid of his old fridge, he put it in his front yard and hung a sign on it saying: "Free to good home. You want it, you take it." For three days the fridge sat there without even one person looking twice at it. My friend decided that people were too untrusting of this deal. It looked too good to be true, so he changed the sign to read: "Fridge for sale \$50." The

next day someone stole it. *They walk among us!*

One day I was walking down the beach with some friends when one of them shouted, "Look at that dead bird!" Someone looked up at the sky and said, "Where?" *They Walk among us!*

While looking at a house, my brother asked the real estate agent which direction was north because, he explained, he didn't want the sun waking him up every morning. She asked, "Does the sun rise in the North?" When my brother explained that the sun rises in the east, and has for some time, she shook her head and said, "Oh, I don't keep up with that stuff. *They Walk Among Us!!*

I used to work in technical support for a 24/7 call center. One day I got a call from an individual who asked what hours the call center was open. I told him, "The number you dialed is open 24 hours a day, 7 days a week." He responded, "Is that Eastern or Pacific time?" Wanting to end the call quickly, I said, "Uh, Pacific." *They Walk Among Us!*

My colleague and I were eating our lunch in our cafeteria, when we overheard one of the administrative assistants talking about the sunburn she got on her weekend drive to the shore. She drove down in a convertible, but "didn't think she'd get sunburned because the car was moving. *They Walk Among Us!*

My sister has a lifesaving tool in her car designed to cut through seat belt if she gets trapped. She keeps it in the trunk. *They Walk Among Us!*

My friends and I were on a beer run and noticed that the cases were discounted 10%. Since it was a big party, we bought 2 cases. The cashier multiplied 2 times 10% and gave us a 20% discount. *They Walk Among Us!*

I was hanging out with a friend when we saw a woman with a nose ring attached to an earring by a chain. My friend said, "Wouldn't the chain rip out every time she turned her head?" I explained that a person's nose and ear remain the same distance apart no matter which way the head is turned. *They Walk Among Us!*

I couldn't find my luggage at the airport baggage area, so I went to the lost luggage

office and told the woman there that my bags never showed up. She smiled and told me not to worry because she was a trained professional and I was in good hands. "Now," she asked me, "has your plane arrived yet?" *They Walk Among Us!*

While working at a pizza parlor I observed a man ordering a small pizza to go. He appeared to be alone and the cook asked him if he would like it cut into 4 pieces or 6. He thought about it for some time before responding. Just cut it into 4 pieces; I don't think I'm hungry Enough to eat 6 pieces." *Yep, They Walk Among Us! AND they reproduce!!!*

Good Ones by Famous People

Sometimes, when I look at my children, I say to myself, "Lillian, you should have remained a virgin." *Lillian Carter, mother of Jimmy Carter*

The secret of a good sermon is to have a good beginning and a good ending; and to have the two as close together as possible. *George Burns*

Be careful about reading health books. You may die of a misprint. *Mark Twain*

I was married by a judge. I should have asked for a jury. *Groucho Marx*

My wife has a slight impediment in her speech. Every now and then she stops to breathe. *Jimmy Durante*

Until I was thirteen, I thought my name was SHUT UP. *Joe Namath*

I have never hated a man enough to give his diamonds back. *Zsa Gabor*

Santa Claus has the right idea. Visit people only once a year. *Victor Borge*

I never drink water because of the disgusting things fish do in it. *W.C. Fields*

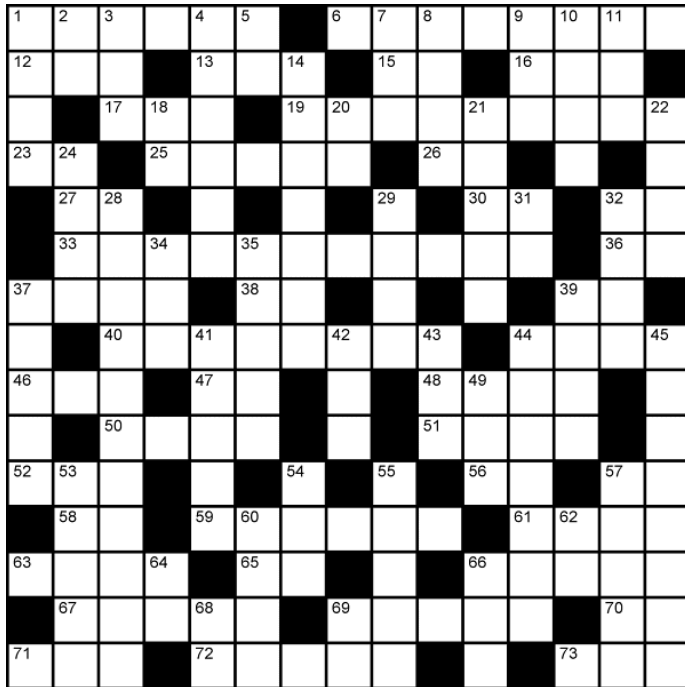
We could certainly slow the aging process down if it had to work its way through Congress. *Will Rogers*

Don't worry about avoiding temptation. As you grow older, it will avoid you. *Winston Churchill*

I don't feel old. I don't feel anything until noon. Then it's time for my nap. *Bob Hope*

The cardiologist's diet: If it tastes good, spit it out.

The Amateur Radio Crossword Puzzler



Across

- 1. Unwanted signals
- 6. Descriptions of where the power goes
- 12. 3 to 30 kHz
- 13. Transmitter output measurement
- 15. Where US hams aim for Scarborough Reef on the short path
- 16. Circuit that keeps FM signals tuned in
- 17. Logic gates made from resistors and transistors
- 19. Term for power given off by antennas
- 23. Ninety degrees from 15 Across
- 25. Most popular family of directional antennas
- 26. Abbreviation for numeric information
- 27. What you have to do on the air every 10 minutes
- 30. System of operating models wirelessly (abbr)
- 32. Just above 12 Across
- 33. An antenna with a preferred direction
- 36. CW abbreviation for male operator
- 37. Prefix meaning "near"
- 38. Male pronoun
- 39. Optimum frequency (symbol)
- 40. Built in or encased
- 44. The highest mountains in Europe
- 46. Another acronym for Zulu or GMT
- 47. Prefix for Peruvian stations
- 48. Synonym for "lid"
- 50. Electrically switches antenna sections

in 56 Across

- 65. Where the antenna in 59 Across radiates best if oriented EW
- 66. Opposite of sit
- 67. Short sections of transmission line used for tuning
- 69. Make two impedances equal
- 70. CW for "from"
- 71. Change frequency
- 72. Abbreviation for "reduce in strength"
- 73. Acronym for static pulse

Down

- 1. Communication through high-angle skywave
- 2. Abbreviation for too much received signal
- 3. Flying an airplane by instruments only (abbr)
- 4. Companion to H-Plane
- 5. Same as 15 Across, but long path
- 7. CW meaning of ES
- 8. Duplicate
- 9. Consume
- 10. Implanted or tagged chips used for identification (acronym)
- 11. An oscillator controlled with digital data (acronym)
- 14. What the "P" in "PCB" stands for
- 18. Prefix of Benin
- 20. CW for "stand by"
- 21. An antenna with multiple elements

in and out

- 51. Slender, flexible antenna
- 52. With respect to isotropic
- 56. Suffix of a station at sea
- 57. A bipolar transistor's turn-on voltage is measured between these two terminals
- 58. Mobile platform
- 59. Most common and oldest type of antenna
- 61. Mountain range that divides Europe and Asia
- 63. Method of movement by a station described

- 22. Most popular voice mode for hams (acronym)
- 24. Opposite of narrow
- 28. Measurement of an antenna's ability to direct or reject signals
- 29. Region of radiation
- 31. CW for "closing station"
- 32. Antenna made of continuous conductors
- 34. Edge or lip
- 35. Inexpensive
- 37. 2.2 of these in a kilogram
- 39. An antenna design that doesn't work
- 41. Prototypes go with this kind of bread
- 42. With respect to 1 milliwatt
- 43. With respect to 1 watt
- 44. Horizontal direction
- 45. Electrically enclosed to reject incoming signals
- 49. Unit of resistance
- 53. Corrosion-resistant metal used in marine antennas
- 54. Satellite location system
- 55. Remove dirt and oxidation
- 57. Frequency ranges
- 60. Abbreviation for measuring device
- 62. Suffix of ARRL propagation bulletin author's call
- 64. Prefix for Argentina
- 66. Unidirectional thyristor
- 68. Type of college degree
- 69. Number one

Solution to this month's Puzzler



Rockwell-Collins

Amateur Radio Club

Mail Station 461-290

P.O. Box 833807

Richardson, TX 75083-3807

TO:



CLUB STATIONS

(972) 705-1349

W5ROK REPEATER

441.875 MHz +5 MHz Input

131.8 Hz PL - RX and TX

W5ROK-1 PACKET BBS ROK Node

145.01 MHz

MEETING

Thursday 26 April 2007

17:30

Rockwell Collins Cafeteria

NEXT SIGNALS DEADLINE:

14 May 2007