



The Whitman Amateur Radio Club, Inc.

February 2006

SPECTRUM



The Voice of the Humble Electron

Founded 1962

PRESIDENT'S MESSAGE: This is **The Bruce N1X** and this has been the mildest winter yet. Even so, club members **Bill Hayden N1FRE** and **Paul Moss KB1MTW** were part of the Whitman RACES team that activated the Whitman Emergency Operations Center during a windstorm on January 18th that had 65 mph winds reported in Boston. The Skywarn Observers were very active during the same storm. **Paul Burbine N1VTI** and **Jeff Tracy N1SOM** were active as VE Examiners at local testing sessions in Braintree and Norwood.

In February, several members participated in the monthly MEMA Radiogram training session. In addition there are several Whitman Club members participating in emergency communication training and a Red Cross Shelter Operation Course being held in Taunton. **Jim O'Rourke WG1L** reported in on his visit to **Bob Schillinger KR6EC** in San Diego, California.

At the February meeting **John Coombs WQ1L** brought in the log periodic dipole array he built using his own custom design techniques. This was a great show and tell presentation that was accompanied by handouts produced by **Bill N1FRE** that detailed the critical dimensions.



John Coombs WQ1L explaining how he built his latest antenna at the February meeting

Also at the February meeting, **Jim Kenworthy KB1KFF** brought in several flexible circuit boards for show and tell and gave a fascinating presentation on how flexible circuit boards are made – all top-secret information – don't tell anyone. Also **Al Marshall KB1MJL** showed us photos of his mystery Collins radio. Come to the next meeting and share your radioactive adventures with the other members.

SECRETARY'S NOTES OF THE MEETING OF February 1, 2006 de KB1CYV

OPENING: The members started gathering at the Whitman Public Library, Whitman, MA around 6:15 P.M. **President Bruce N1X** opened the meeting with a roll call at 6:45 P.M.

ATTENDANCE: Twenty-eight members / guests were present, including the four elected officers and two directors. A quorum was present.

N1NTZ	Ed Meehan	KB1CYV	Roy Logan	W1MMM	Bob Sikes
KB1MJL	Al Marshall	N1VTI	Paul Burbine	N1WIG	Sam Webber
N1ZZN	Jeff Lehmann	KB1MTW	Paul Moss	N1JXS	Al Molin
KB1MTX	Cathy Costello	KA1PJX	Don Keene	KC1FZ	George Davis
KB1KVL	Ken Kavaljian	KB1NAX	Joan Smith	KB1KFF	Jim Kenworthy
SWL	Pat Kavaljian	N1PXX	Ron Smith	WQ1L	John Coombs
N1FRE	Bill Hayden	NI1X	Bruce Hayden	KC1ML	Mark Loring
K1XRB	Peter George	N1SOM	Jeff Tracy	KB1LXL	Neal Harrington
KB1BTS	Priscilla Imhoff	WP4US	Carlos Wharton	N1IQI	Loren Pimentel
SWL	Roger Imhoff Jr.				

TREASURER'S REPORT: The treasurer's report for January was read by **Jeff N1SOM**. **Ed N1NTZ** made a motion seconded by **Jeff N1ZZN** that the treasurer's report be accepted as read. The motion was approved.

SECRETARY'S REPORT: A motion was made by **Ed N1NTZ** seconded by **Jim KB1KFF** that the secretary's report be accepted as published in the January Newsletter. The motion was approved.

OLD BUSINESS: **Jeff N1ZZN** reported there have been no developments with the proposed repeater location and that the 440 machine is still being evaluated. **Bruce NI1X** reminded the group that club jackets may be ordered through **Jeff N1SOM** and that other items may be purchased with the club patch directly from Rockland Athletics.

NEW BUSINESS: **Bill N1FRE** invited anyone interested in Radiogram procedures to attend training at the Whitman Fire Station at 7:45 P.M. on the first Monday of the month. The monthly ARES Net will follow this. **Bruce NI1X** reported that the Taunton EOC welcomes club members to participate at 7:00 P.M. on the same evening. **Rick N1MJT** has investigated the value of the recently donated equipment, which will be offered for sale at the upcoming Hosstraders' event. **Roy KB1CYV** advises that Skywarn training will be available at the Walpole Town Hall from 7-10 P.M. on Thursday, May 4th. **John WQ1L** reported that he had visited with **Bruce N1XZD**. **George KC1FZ** has heard from **Jim W5IRW** via email and that all is well.

CLUB ANTENNA ANALYZER LOCATION: **Jeff N1ZZN**. Anyone wishing to borrow the analyzer contact **Bruce NI1X**.

NEW MEMBERS: **Bruce NI1X** made motions seconded by **Bob W1MMM** that the following HAMS be accepted as members of the WARC:

Mark Loring KC1ML and **Dick Sproul KB1MBW** as full members.

Joan Smith KB1NAX as a family member with dues waived.

Priscilla Imhoff KB1BTS as a reinstated former member.

All motions were approved. Welcome to the WARC!

SECRETARY'S NOTES OF THE MEETING OF February 1, 2006 de KB1CYV Cont.

TECHNICAL TOPICS: A motion to close was made by **Ed N1NTZ** seconded by **Jeff N1ZZN** and **President Bruce NI1X** closed the business portion of the meeting at 7:00 P.M., followed by a presentation by **John WQ1L** who has completed the log periodic UHF-VHF antenna previewed last month. **Bill N1FRE** distributed copies of the antenna plans. This was followed by **Jim's KB1KFF** segment on flexible circuit boards. Rounding out the evening was **Al KB1MJL** who showed pictures of a Collins TCS-1B HF receiver he is restoring. The many questions these presentations evoked confirmed the group's interest.

NET CONTROLS: 2/5 **Bruce NI1X** 2/12 **Jeff N1SOM** 2/19 **Roy KB1CYV** 2/26 **Bill N1FRE**
Bill N1FRE distributed copies of a revised Net preamble. Experienced Net control operators will gladly assist anyone interested in running a net.

ADJOURNMENT: The meeting ended at 8:00 p.m.

NEW MEMBER: Dick Sproul KB1MBW lives in Stow, Mass with his wife **Linda** and reports that he is lucky enough to have survived four teenagers so far. They are James 18, Matthew 16, Christopher 14 and Ashley 13. **Dick KB1MBW** works at the local Electric Utility in Taunton and can be heard on the local REPEATERS during his commute to and from work.



Dick Sproul KB1MBW

Dick KB1MBW is a Taunton Emergency Management Agency RACES volunteer and participated in the Whittenton Mill Dam Crisis. **Dick KB1MBW** is active in the Colonial Wireless Association in the Concord / Stow area as part of the local Concord Amateur Radio Emergency Team.

NEW MEMBER: Mark Loring KC1ML lives in Plymouth and is a volunteer radio operator for the Kingston Emergency Management Agency. His father is club member **Bob Loring K1REL**.



Mark Loring KC1ML



REINSTATED FORMER MEMBER: She's back - **Priscilla Imhoff KB1BTS** lives in Bridgewater and has had a license for just over 10 years. She is charging up her Radio Shack handheld radio and hopes to get back on the air soon.

Priscilla Imhoff KB1BTS

NEW MEMBER: Joan Smith KB1NAX lives in the Bryantville section of Pembroke where she is a licensed care and respite provider for the mentally challenged. She has been working side by side with her husband **Ron N1PXX** while he provided communication support for the MS bikes and walks as well as walks for hunger. As you can see **Joan KB1NAX** has a fully equipped HAM shack at her disposal – move over **Ron N1PXX**.



Joan Smith KB1NAX

TECHNICAL TOPICS - A MYSTERY COLLINS RADIO - By: Al Marshall KB1MJL

At the January meeting **Al Marshall KB1MJL** brought in photos of a mystery radio that he had acquired that had military appearance on the outside and Collins parts on the inside.

Since the meeting **Al KB1MJL** has determined that the radio is a Navy TCS-12 3-band HF receiver made for Landing craft and shore communications in WW II. As part of the deal **Al KB1MJL** refurbished a beautiful looking and working Hallicrafter S-85 receiver (4 band), that only needed a new cord and the Band Spread Dial restrung and a #44 Dial light for the owner.



TECHNICAL TOPICS – PAUL BURBINE N1VTI AND HIS MOBIL HF SETUP



Paul Burbine N1VTI

Paul N1VTI is using two vertical “Ham Stick” antennas cut for 20 and 17-Meters that are currently mounted on his truck with coax cables that are connected to an antenna selector switch located inside his truck. The antenna selector switch is connected to a LDG Electronics AT-11MP autotuner and the antenna tuner is connected to his YAESU FT-857D HF rig.

Paul N1VTI is now fabricated a 6-Meter vertical with a quick disconnect that can be used in place of one of the other two HAM sticks.



Ant. Sw. & Autotuner & HF Rig

PIER 18 - COFFEE HOUR

Shown at one of the Pier 18 social gatherings are L. to R. **Bruce Weir N1XZD**, **Vic Kairis N1OEH**, **John Coombs WQ1L**, **Kevin Dykes KB1MOC** and **Bruce Hayden N1IX**. It was good to see that **Bruce N1XZD** has fully recovered from a broken hip.

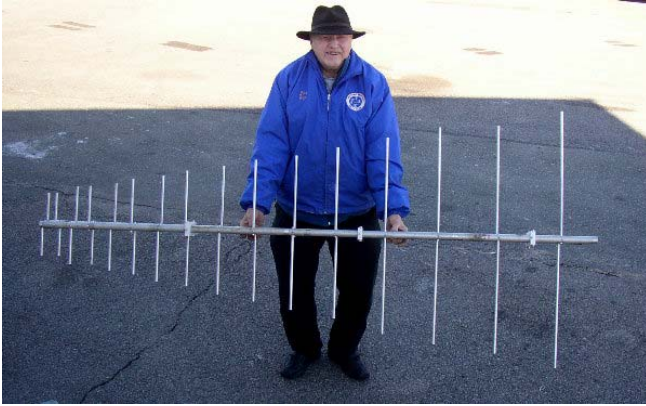
Club members gather for coffee at Pier 18 in E. Bridgewater almost every day at 9:30 a.m. and at 8:30 a.m. on Sunday in order to participate in the WARPSN Net. Stop by – all are welcome.



Pier 18 Social Hour Crew

TECHNICIAN CLASSES: **Carlos Wharton WP4US** will be conducting Technician Classes in Taunton starting February 23rd – Thursday nights – 7:00 to 9:30 p.m. at the DPW on Engell Street – for 9 weeks. Book cost about \$15.00. Sign up with **Peter KB1KXG** at tema2@tmlp.net

TECHNICAL TOPICS - A LOG PERIODIC DIPOLE ARRAY BY John Coombs WQ1L



John Coombs WQ1L and his log periodic antenna

At the February meeting **John Coombs WQ1L** brought his latest project for show and tell. It is a 16 element log periodic dipole array antenna, designed for 140 MHz thru 440 MHz. As you can see in the photo, the two aluminum booms are separated by home made white plastic spacers that have a slot for fine tuning the boom spacing which is critical and effects the antenna impedance. Also seen are some of the 32 separate dipole element sections of varying log periodic lengths. Each dipole set is custom mounted with one element on the lower boom and the other element on the upper boom. Also each dipole set of elements alternate left side - right side down the boom. The antenna can be mounted horizontal for SSB or vertical for FM operation.

The coax cable is inserted in the rear (large element end) of one boom and passed through the boom to the nose (small element end), which acts as a balancing device. The outer braid of the coax line is connected to the boom through which the coax is passed and the center conductor is connected to the other boom. Routing the coax down the inside of one of the booms acts as a balun and helps to match the parallel open line boom design to the 50 ohm coax cable. The antenna has a power gain over a dipole of about 7db.

WHITMAN AMATEUR RADIO PUBLIC SERVICE NET (WARPSN)

The **WARPSN NET** meets every Sunday morning at 8:30 a.m. on the Whitman REPEATER 147.225 MHz PL 67. Come join in and share your amateur radio related activities with the other area HAMS and short-wave listeners as well.

As part of our training, we encourage everyone to practice sending routine RADIOGRAM messages. It could be a birthday greeting to a friend or relative.

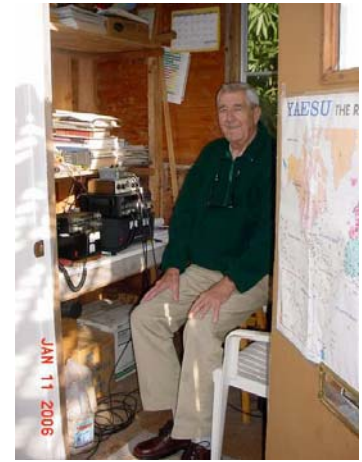
In January we had five (5) sessions with an average of 10 area HAMS checking in each week and 5 messages were sent.



**Checking with
WA1NPO**

FRAMINGHAM FLEA MARKET: March 26th at the Walsh Middle School in Framingham. Admission is \$5.00 at 9 a.m.

A VISIT WITH BOB SCHILLINGER IN SAN DIEGO, CALIFORNIA



Bob Schillinger KR6EC taking us on a tour of the "KR6EC Radio Shack".

Jim O'Rourke WG1L and his wife Joan had driven out to California with their new slide-in camper to stay the winter with their youngest son in Bonita, California on the south side of San Diego. They are shown socializing with Bob Schillinger KR6EC and his wife Ethel at the Schillinger's home QTH that is located on the north side of San Diego.

Bob KR6EC writes:

We settled in San Diego in March of 2000 in the home that we bought in 1959. My son - in - law refurbished it and it sure needed it after being rented for 35 years while we lived in Massachusetts.

I joined the North Shore Amateur Radio Club and wound up as Vice President under pressure from the President to fill the vacancy created by the resignation of the former V.P. A year later the President upped to move to Oregon, we couldn't fill his shoes so the position is vacant and I try to run the show as Vice President.

We have a small membership of older HAMS that manage to hold on. California is not as radioactive as New England. Although 10-Meters is at it's minimum I get a contact into the Pacific once in a while. Field Day is a good exercise here. We don't have rain on Field Day in California. I am the cook on Field Day and we enjoy a hearty lunch and supper.

Ethel and I enjoy California but we sure miss our friends, relatives, children and grandchildren back in Massachusetts.

73 From: Bob Schillinger KR6EC (ex KA1PGU)



Bob KR6EC & Ethel
Joan & Jim WG1L

VOLUNTEER EXAMINER (VE) TESTING SESSIONS

Paul Burbine N1VTI reported that he helped out as a volunteer examiner (VE) at the January testing session in Braintree. The next VE testing session in Braintree will be held on the 2nd Saturday in March at St. Claire's Church. That will be Saturday March 11, 2006.

AMATEUR RADIO EMERGENCY SERVICES (ARES) Update

EMERGENCY COMMUNICATION TRAINING AT TAUNTON



First night training session



Third night Training Session

Shown at the first training session are, back row, L. to R. **George Pereira KB1KZV**, **Rick Ferreira KB1KWF**, **Rob Macedo KD1CY**, **Peter Ferreira KB1LXG**, **Neal Harrington KB1LXL**, **Rudy Burer KB1LXI**, **David Souza SWL**, and **Joe Soares KB1KZU**. Seated L. to R. **Bruce Hayden NI1X**, **Don Burke KB1LXH**, **Carlos Wharton WP4US** and **Bob Barbour K1BAR**. Seven are Whitman Club members.

Shown at the third training session are, back row, L. to R. **George Pereira KB1KZV**, **Gil Follett W1GMF**, **Neal Harrington KB1LXL**, **Peter Ferreira KB1LXG**, **Mike Neilson W1MPN**, **Rob Macedo KD1CY**, **Mike Cote KB1KZY**, **John Miller N1UMJ** and **David Souza SWL**. Seated L. to R. **Joe Soares KB1KZU**, **Jim Ward N1LKJ**, **Carlos Wharton WP4US**, **Don Burke KB1LXH** and **Carl Aveni N1FY**. Five are Whitman Club members.

Rob Macedo KD1CY is shown thanking **Rick Ferreira KB1KWF**, Director of the Taunton Emergency Management Agency and **Peter Ferreira KB1LXG**, the Assistant Director, for participating in and providing the location for an emergency communications workshop for the local Taunton RACES HAMS at the Taunton EOC



Rick Ferreira KB1KWF
Rob Macedo KD1CY
Peter Ferreira KB1LXG

The workshop was planned for 6 weeks and **Rob Macedo KD1CY** started off by introducing the participants to Amateur Radio Emergency Services (ARES) in Eastern Massachusetts, followed by a review of the modes of communication, especially Voice over Internet Protocol (VoIP) such as Echolink and the Internet Radio Linking Project (IRLP) and explained how the New England Network linking project works. The training also focused on proper net control and documentation procedures. A presentation was made on the National Traffic System (NTS) by **Gil Follett W1GMF** and **Jim Ward N1LKJ**. One session was devoted to a presentation on PACKET radio by **Gil Follett W1GMF**.

ARES consists of licensed amateurs who have voluntarily registered their qualifications and equipment for communication duty in public service when disaster strikes. The ARES leadership in this area consists of **Mike Neilson W1MPN** the Eastern Mass Section Manager, **Rob Macedo KD1CY** the Eastern Mass. Section Emergency Coordinator and SKYWARN Coordinator, **Carl Aveni N1FY** the Eastern Mass. South Shore District Emergency Coordinator and who is also **Mike's W1MPN** Chief of Staff.

ARES / MEMA is pushing Incident Command System (ICS) training for all RACES volunteers.

TECHNICAL TOPICS - FLEXIBLE CIRCUIT BOARDS By: Jim Kenworthy KB1KFF

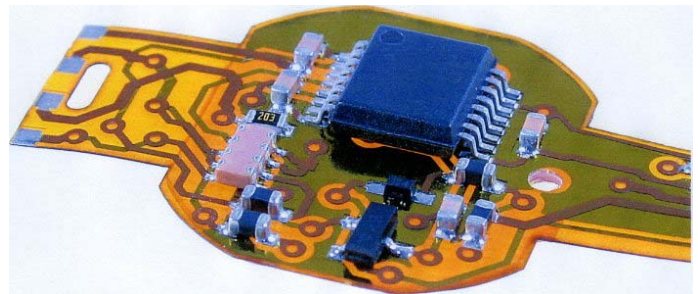
At the January meeting **Jim Kenworthy KB1KFF** told a fascinating story about the flexible circuit boards that he helped develop during his career as Manager of Research and Development at Tech-Etch in Plymouth.

Jim KB1KFF is shown holding a piece of “Kapton” in his right hand that is an amber colored flexible “polyimide” insulating film. In his left hand is a sheet of Kapton that has a sheet of copper laminated to it and the copper sheet has a photo resist circuit image imprinted on it.



Jim Kenworthy KB1KFF

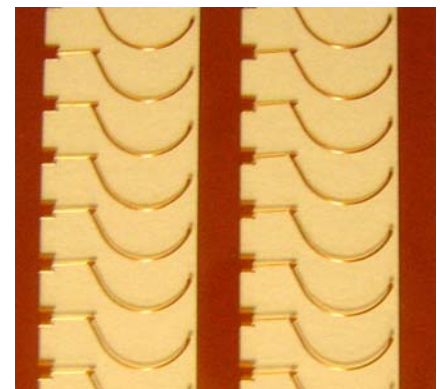
As I understand it (1) A sheet of copper is laminated on one or both sides of the Kapton. (2) A photo resist mask is placed on the copper and laminated under heat and pressure. (3) a high contrast black and white film, with the desired pattern in the clear area is placed on the copper and photo resist mask and the panel is exposed to ultraviolet light. (4) The photo resist under the clear area hardens and the photo resist under the black pattern is then washed away exposing the underlying copper. (5) the panel is put in an etching machine and all excess copper, that was covered by the black pattern on the mask, is washed away. (6) Then after etching, the photo resist material is removed leaving the final copper circuit pattern.



Flexible Circuit Board

In a follow up operation, another Kapton film is layered over the surface and also laminated under heat and pressure which puts the circuit between two layers of insulating material. Then the outline and holes are etched into the Kapton and excess Kapton is removed leaving the finished product.

Of special interest was **Jim’s KB1KFF** story about the development of the little “Haptic” curved springs that are bonded to the perimeter of replacement eye lens and used to center the replacement lens in a cataract operation. The Kapton spring is about 8 / 1000 of an inch in diameter and replaced the 1970’s era platinum wire loops of Russian design. For more info see www.tech-etch.com



Haptic curved springs

VOLUNTEER EXAMINER (VE) TESTING SESSIONS

Jeff Tracy N1SOM reported that he helped out as a volunteer examiner (VE) at the January testing session in Norwood. The March VE testing session in Norwood will be held on March 16th That is the 3rd Thursday of the month at 7:30 p.m. at the Canton EMA EOC Training room, 99 Revere St. Canton, located in the Canton Fire Station.

SKYWARN CHECK IN FROM FLORIDA

The **Bruce NI1X** checked into the local Bridgewater REPEATER 147.180 MHz SKYWARN Net on January 28th from sunny Florida via Echolink from the winter QTH of his friend **Carl Johngren K1CKK**. The Skywarn NET operates every Saturday night at 8:00 p.m. and all are welcome to join in.

Carl K1CKK and his wife **Maureen** are spending the winter months in Dunedin, Florida and invited **The Bruce NI1X** and his sister **Jean** over for coffee and some of **Carl's K1CKK** home made cake (at least that's what he said).



Bruce NI1X & Carl K1CKK

Carl K1CKK maintains contact with the HAMS on Cape Cod via packet radio. His shack has a stealth 2-Meter antenna located inside, on the window. He makes connect, via 2-Meters, with a local HAM in Florida who has an internet connection to club member **Phil McNamara N1XTB** in Middleboro, Mass. **Phil N1XTB** has a TELNET node and **Phil's N1XTB** equipment connects **Carl K1CKK** via 2-Meters (145.090 MHz) to the Cape Cod Packet system. **Carl K1CKK** is using the WinPack packet program.

MEMA RADIOGRAM TRAINING - FIRST MONDAY OF THE MONTH

Shown at the Taunton Emergency operations Center in February are L. to R. **George Pereira KB1KZV**, who was Net Control for the night, **Bruce Hayden NI1X**, **Neil Harrington KB1LXL**, **Dick Sproul KB1MBW**, **Bob Barbour K1BAR**, **Carlos Wharton WP4US** and **Don Burke KB1LXH**. Six are Whitman Club members. Four messages were copied.



The Taunton RACES volunteer crew

Shown at the Whitman Emergency Operations Center in February are L. to R. **Bill Hayden N1FRE**, **Paul Moss KB1MTW**, **Erika LaFlamme KB1MTV**, **Cathy Costello KB1MTX**, who was Net Control for the night and **Jeff Tracy N1SOM**. Four are Whitman Club members. Taking the picture was **Bob Schmitt KB1MTY**, the Director of the Whitman Emergency Management Agency



The Whitman RACES volunteer crew

After the MEMA Radiogram training NET **The Bruce NI1X** checked into the ARES NET at 8:30 p.m. that was run by club member **Jeff Lehmann N1ZZN** (Net Control) and heard club member **Phil McNamara N1XTB**, **Gil Follett W1GMF** and **Don Burke KB1LXH** check in.



WHITMAN AMATEUR RADIO CLUB, INC.

A Non-Profit Corporation Serving the Public in Time of Emergency



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Telephone: (781) 447-1655
ARRL Club #0082
Club Call Sign: WAINPO

CLUB OFFICERS

MEETING SCHEDULE

Meetings are held on the first
Wednesday of each month

The next meeting will be held at the
Whitman Public Library, which is
located at 100 Webster Street
in Whitman, Mass.

Next Meeting

Wednesday, Mar. 1st at 6:30 PM
Whitman Public Library

President	Bruce	N1IX
V. President	Bill	N1FRE
Secretary	Roy	KB1CYV
Treasurer	Jeff	N1SOM
Director	Steve	W1WSN
Director	George	KC1FZ
Director	Paul	N1VTI

Editor	Bruce	N1IX
E-mail articles to:	ni1x@arrl.net	

Web Master	Jeff	N1ZZN
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Web Site: <http://www.wa1npo.org>

Club Repeater Station:	147.225 MHz (CTSS 67 Hz)	449.875 MHz (CTSS 88.5 Hz)
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*Whitman Amateur Radio Club, Inc.
P.O. Box 48
Whitman, Ma 02382*

