

SCOPE

A newsletter by and for the
Palomar Amateur Radio Club
of San Diego, California.



Do you have a mobile installation? Do you want to have a mobile installation, and need some motivation?

We're looking for a few good mobile installations - whether they're completed, on the drawing board, or half-way done and tripping you and your passengers every time you get in and out of the vehicle - to be featured in the Scope. We'd love to show your installation. Tips, narratives, explanations, techniques, problems encountered and solved (or encountered and evaded) are what we're looking for. Send them in!

scope@palomararc.org



Save the Date

Club Meeting
6 April 2011

David Doan KC6YSO
will talk about NVIS
Near Vertical Incidence
Skywave antennas.

Board Meeting
13 April 2011

Palomar Amateur Radio
Club board meeting at
7:00pm

Operating Day
10 April 2011

Operating Day in
Oceanside! NVIS
antenna demonstrated
by David Doan KC6YSO.

Club Membership for April Edition

New Members Joining PARC KI6PTN (Family), K1RVR, KJ6MZQ, AG6BM.

One past member reinstated their membership.

Of course we welcome all members, new and "old", especially "new" old timers.

Please check your SCOPE label for your renewal date. If you are receiving the SCOPE by Web, please remember your renewal date, or drop by the membership table at the meetings to find out your renewal time. As a memory jogger, this is the list of calls of recently expired "SCOPE by WEB" folks (as a reminder). Please - Please renew.

COME ON GUYS and GALS - Look at this list of non or late renewals from members (In Jan and February only). KJ6EDR, KI6WOF, KC6VXY, KI6LKP, W6ALF, and W3LFR. The club cannot exist for the next 70 years if this doesn't improve!! P.O. Box 73 awaits you!

AI
W6GNI

PALOMAR ENGINEERS

Box 462222, Escondido, CA 92046

TOROID CORES

Palomar stocks a wide variety of cores and beads. Our RFI Tip Sheet is free on request.

Our RFI kit keeps RF out of your telephones, TVs, stereo, etc. **Model RFI-4**
\$35 +tax+\$8 to ship.

BALUN KITS

Ferrites slip over coax. Shrink tubing holds them in place. Works from 3.5-60 MHz (Use two kits for 160m).

Model BA-58 (for RG58, RG8X & similar cables up to 1/4" dia.) \$8.50+tax+\$8 S&H/order

Model BA-8 (for RG-8, RG-213, 9913 and similar cables up to 1/2" dia.) \$16.50+tax+\$8 S&H/order.

See catalog at www.Palomar-Engineers.com

Please check our complete ads in **QST**, **CQ**, and **WorldRadio** magazines.

January Issue Fold & Staple
KB6NMK Jo WA5ACE Sonny
W6GNI AI & Kathy
KB6YHZ Art & Janet
The last Fold & Staple for 2010!

Operating Day Update

by Dennis KD6TUJ

An Operating Day is being scheduled for April 10 in Oceanside and will commemorate the work done on the Antenna Structure Ordinance in the City of Oceanside.

Plans are to operate from 9:00 AM to 5:00 PM. The public is invited. This will continue the tradition of Operating Days that started in San Marcos.

The tower trailer will be present with the 10/15/20m yagi. There will also be a wire antenna for 40m. 2m and 440 will also be represented. This is a public demonstration and intended to help new hams, or old, get on HF.

We are inviting Oceanside city representatives in order to show them what we plan to do when we ask for use of the Rancho Del Oro Park at College and Empressa. Please come and enjoy the PARC operating day with us.

Advertisements are free for members

Have items that need to find a new home? Advertise here! Send your ads to scope@palomararc.org



For Sale

Complete Kenwood TS-130S rig including TS-130S with MC-30S handheld microphone, YK-88C 500Hz crystal filter, operator and service manuals; PS-30S DC power supply with operator manual; VF-120 remote VFO with interconnect cable and operator manual (in Japanese); and SP-120 external speaker with operator manual. Known issues: TS-130S needs dial lamps replaced and the S-meter needs to be adjusted; VFO-120 needs dial lamps replaced and dial needs to be recalibrated. \$350. Contact Bob Felton, K7WLX, at 760-598-7459 or k7wlx@arrl.net.

For Sale

Tower, Includes:

- TRI-EX tower, Model W 51, Free Standing, Trust Bearing, 6 ft. Mast, Motor driven, Up and Down
- Hy-Gain 7 El 10-15- 20 Ant, Model TH7DX
- Rotor Hy-Gain, Model HAM 4

Cushcraft Ringo Ranger, Model ARX1, Vertical 2M

YAESU FT-1000 Transceiver

Kenwood TS-950 S, 10-160 M Transceiver

Heathkit Dummy RF Load C Antenna

Simpson Analog Multimeter, Model 260

B & W Low Pass Filter Model 423

Heathkit Phone Patch, Model HD 15

Remote Motor driven, 6 Pos Coax SW with Control Box

YAESU FT 2500 M, with Astro PS 12 A

Kenwood TR-7330 2 M, with Astro PS7A

Ten-Tec Centurion amp 1kw with spare 3-500 tubes

Ten-Tec Titan amp 1kw, 10 to 160 M

SHURE Microphone Push to talk Model 444

6 Tubes EIMAC 3-500

BEST OFFER

\$30.00

\$2,000.00

\$2,000.00

\$15.00

\$60.00

\$25.00

\$30.00

\$100.00

\$300.00

\$150.00

\$1,500.00

\$2,500.00

\$25.00

\$100.00 ea.

Contact: R. F. Krist, W6KTE, (760) 724-2786

For Free

Fifty foot galvanized steel tower. Triangular, 28 inches wide at base.

Recipient must remove and must have liability insurance.

May be seen at 1175 La Moree Road, San Marcos, in the RV Parking Lot.

Call Fred Brown, W6HPH, 760-740-8501 or 760-742-1328, or

w6hph@yahoo.es

EchoLink now Available on 447.000

By Bernie Lafreniere, N6FN

EchoLink capability is now available on the PARC 447.000 repeater. Over the last several months a link transceiver and computer system has been installed and tested that provides the repeater with connectivity to the worldwide EchoLink network. While the 447 repeater is still located on Mt. Palomar, the link transceiver and computer are located in Escondido, where it is connected to the Internet via COX Cable.

PARC members can now use their DTMF equipped mobile and HT transceivers to access EchoLink, providing the ability to make QSO's to distant EchoLink equipped repeaters and computer users. It also provides the ability for distant stations located anywhere in the world to make contacts with stations within range of our 447 repeater. EchoLink is also a valuable resource for emergency communications.

If you are new to EchoLink, the current and three prior issues of the SCOPE provide background information for understanding and utilizing the EchoLink network. The current issue provides information for making contacts using your DTMF equipped transceivers. If you missed the prior issues, they are available on the Newsletter link found on the PARC web page:

<http://www.palomararc.org/>

In addition to the information provided in the current and prior issues of the SCOPE, here is the frequency and node information required for using EchoLink on our 447.000 repeater.

Repeater Frequency	447.000 output 442.000 input
CTCSS access tone	107.2
EchoLink node no.	546528
(the node's call sign is N6FN)	

Art, KC6UQH, generously updated the repeater controller, optimizing it for EchoLink node operation. One of these changes modifies the CTCSS tone output of the repeater so that it only outputs the squelch tone while a signal is being received by the repeater. It no longer outputs the tone for repeater generated ID's or courtesy tones. This is to satisfy an EchoLink requirement for preventing repeater ID and courtesy tones from being transmitted over the VoIP network.

Important: Since the repeater's courtesy tone and ID no longer have a CTCSS tone present, to be able to hear them you need to make sure your transceiver does not have CTCSS squelch enabled on receive. This may be different than how your radio is currently programmed. Most modern transceivers have the capability of separately enabling CTCSS on transmission (which you want) and for enabling CTCSS squelch on receive (which you don't want).

All PARC members are encouraged to make use of this new capability.

HAM RADIO

Jose XE2SJB
Jerry N5MCJ
Joe N6SIX

H
R
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Astron,
AEA,
OUTBACKER
Larsen Antennas
TEN-TEC
Hy-gain, Tri-EX,
Cushcraft And Others
too
Numerous to
Mention!

Drop in to see our display of working equipment. Find out about Pkt location determining equipment (APRS). Check our complete line of magazines, ARRL books, license manuals, and Bulletin Board with all sorts of Goodies listed.

Directions: On 163, take **Clairemont Mesa Blvd.** off ramp to East. Stay in right-hand lane. Turn right at stoplight. As you are turning right you can see our beams in this shopping center. Travel 100 yds. On Kearny Villa Rd. and U-turn back to shopping area and HRO sign. Be sure to see our equipment in action on **real** antennas!

Oceanside Passes Tower Ordinance

by Dennis KD6TUJ

Work for amateur radio needs and against the proposed Article 39 as presented started as a result of an email received on May 27, 2010. The City of Oceanside created a Telecommunications Committee to revise their wireless antenna ordinances. We still do not know what the given direction was, but the committee wrapped ALL communications antennas outside of government use into this new ordinance. Flares did not go off, rockets and bombs did.

Members of the Oceanside Amateur Community started to get involved in the process. We found out how to get on the meeting notice list. Fred Atchley AE6IC started to take the lead to form the Calvary. The best you could say for the proposed Article 41 was a disaster in formation. We started to get notices about the meetings, but when we read them, they were the prior minutes and not the agendas. More calls to the city and the notice process started to work for the telecommunication committee. In July the Article was renumbered to 39. Fred started a list for concerned hams to keep everyone caught up. Marty Woll joined us early on the email list and sent comments for a workable ordinance and the Costa Mesa city ordinance as it relates to Amateur Radio. This became our best reference as Costa Mesa has a very liberal ordinance due to their understanding of amateur radio needs. (It helps that Gordon West resides in the city.

The City Council first heard the proposed Ordinance 39 at the October 20, 2010 meeting. Through the organizing of our local hams there were presented two distinct views presented to the Council. That of the anti- cell tower group, led by a group who were not happy that a charter school building owner was to allow a cell provider access use of his structure, and the pro amateur radio group. You should have heard the horrors of what radio waves could do to you, the public. The Article 39 was adopted as presented with a condition from Councilman Jerry Kern, that the city representatives work with the amateur community and bring back a breakout ordinance for hams. This revision was to be brought back to Council in January 2011.

November 23, 2010 Jerry Hittleman of the City of Oceanside sent out the revised Article 39A for review. All that appeared to be done was that the Article was re-written for only reference to amateur radio and excluded the language for cell towers. NO real change. Fred set up a "breakfast' meeting at Carrow's and manages to contact Councilman Kern, who offered to come along with recently elected but yet seated Councilman Felien. A great bonus for the December 4, 2010 meeting. Several of us started gathering more information to present to the Councilmen.

Next was a scheduled Telecommunications Committee on December 3, 2010 at Council Chambers. The Agenda had the Article 39A revision as item 6. Several hams went. They found that item 6 was pulled off the agenda. The Telecommunications committee did not have any knowledge of what was happening. They were very unhappy and expressed it.

At the Saturday December 3 meeting among the items presented, I provided a table of licensed operators in Oceanside as of November 2010 (total 577, 375 active, 202 inactive per FCC website) and tower information from US Tower showing the engineering and requirements that are set and drawn to national standards. (There is a disclaimer to check to make sure soils are equal to design.) Fred brought info from the California QSO Party. His graphs showed 85% of contacts made were on 20/40/80 meters with the corresponding time uses. The Costa Mesa Ordinance was also presented and explained. These and other information presented enlightened them. When asked by Councilman Kern how much input was provided by amateurs. He was surprised to hear NONE! Also asked were questions of emergency coordination with the city and capabilities. Of those present all had some emergency power and set up ability. We could not ask for a better response than this.

Public Hearing notices were sent out for January 5, 2011 (This will be the same day as the Palomar Amateur Radio Club meeting.) with no changes to Article 39A. Councilman Kern was not happy. He had his aide Ben Sullivan send a message to Mr. Hittleman asking about the public participation in drafting a revision. His response was the same non response he sent to the amateur community and ignored the questions presented. On December 16, 2010 Ben Sullivan called Fred. He requested a panel of at least 3 hams to represent citywide hams and gave suggested dates for a meeting. A date was set for 29 December, 2010 attended by representatives Tim McGovern, Jim Keller, Dennis Baca, and Fred Atchley. A pre-meeting meeting was set for the Saturday before at Carrow's to strategize our presentation to the city. Our meeting on December 29, 2010 consisted of Councilman Jerry Kern, Mr. Buell, Ms. Hamilton, Mr. Kramer by speaker phone, Mr. Baca, Mr. McGowan, Mr. Keller and Mr. Atchley. Mr. Hittleman was not available.

continued on page 14

Minutes - Palomar Amateur Radio Club

Board of Directors Meeting

February 9, 2011

The meeting was called to order by President Dennis Baca KD6TUI at 7:08pm at the home of Paul Williamson KB5MU. In attendance were:

President	Dennis Baca KD6TUI
Secretary	Paul Williamson, KB5MU
Director #1	Don Johnson, WD6FWE
Membership Chairman	Al Donlevy W6GNI
SCOPE Editor	Michelle Thompson W5NYV

Secretary's Report

Secretary KB5MU distributed copies of the January Board meeting minutes. Motion by Al Donlevy W6GNI to approve the minutes as published. Seconded by Michelle Thompson W5NYV. Motion passed unanimously.

Upcoming General Meeting

KD6TUI reported that Bob Blumberg K4RB is scheduled to speak at the March meeting on his overseas adventures.

Membership Report

Membership chairman Al Donlevy W6GNI reported that Club membership is 287, down 1 from last month. The club took in \$530 in dues at the February meeting, including some long-lapsed members and people who had forgotten that they'd ever been members before.

Repeater Technical Report

KD6TUI briefly summarized the Repeater Technical report sent by email by Repeater Technical Chairman Conrad Lara KG6JEI. The 447 MHz repeater was replaced with a unit modified for EchoLink operation. The old cavities may need replating. The 147.13 MHz repeater has squelch issues. The 52.68 MHz repeater is off the hill for repair. The 145.05 MHz packet node appears to be locked up and will need to be reset.

KD6TUI relayed an email report from Bernie LaFreniere N6FN about the interference problem on the 447 MHz repeater. Observations confirm KD6TUI's theory that the commercial repeater 21.4 MHz (twice the standard 10.7 MHz IF frequency) above our input might be involved. John at Palomar Communications is the technical contact for that repeater and will check for problems on their end.

Paypal Requested

KD6TUI relayed an email request from Dennis Vernacchia N6KI that the club provide for membership renewal by Paypal.

SANDARC Meeting

KD6TUI reported that he and KG6JEI attended the January meeting of the San Diego Amateur Radio Council (SANDARC). SANDARC will again participate in the San Diego County Fair. There is now a Lakeside Amateur Radio Club. SANDARC proposes to obtain its own container storage unit, in parallel to the El Cajon club's container they had been using. Do the member clubs approve the expense for a new container storage unit? The consensus of the Board was negative.

Upcoming Licensing Classes and Training

KD6TUI reported that Steve Early AD6VI has scheduled classes for Technician licensing at Palomar Mountain on February 13 and at the Carlsbad Safety Center on February 19, plus a class for General licensing at the Carls-

bad Safety Center on February 26. A “get on the air” session is also scheduled from noon to 3:30pm following the regularly scheduled VE testing session on March 12 at the Carlsbad Safety Center.

Summary Treasurer’s Report

KD6TUI received a TXT message from Treasurer Georgia Smith KI6LAV: “No report tonight, but nothing unusual.” Motion by W5NYV to approve the Treasurer’s Report as submitted. Seconded by Don Johnson WD-6FWE. Motion passed.

News Coverage of 75th Anniversary

KD6TUI said he would write stories for CQ, QST, WorldRadio, and QCWA about the 75th anniversary meeting of the Club.

Locations for Club Events

KD6TUI stated that he and Greg Gibbs KI6RXX were still looking at locations in Oceanside for Field Day and an April 10 Operating Day, and hoping to get the fees reduced with the help of Councilman Kern.

Oceanside CERT Net

WD6FWE reported that he has listened to the Sunday Oceanside CERT net and suggests that they be sent the Club’s usual preamble and postamble texts.

SCOPE Deadline

SCOPE Editor W5NYV reported that she will be on the Curaçao YL DXpedition around the usual SCOPE deadline in March, so the April issue will be wrapped up by March 13. Articles must be submitted early.

Next Board Meeting Location

It was agreed that the next Board meeting would be held at the home of W6GNI at 7pm on March 9, 2011.
Adjournment

The meeting was adjourned at 8:22 pm.

Respectfully submitted,
Paul Williamson KB5MU
Secretary



Above four photos, visitors at the March 2011 club meeting.

PARC's March 2011 meeting was packed with activities and announcements. Photos by KB5MU.



Below left, Fred AE6IC explains that we "got this close" to having a very unpleasant outcome in Oceanside with respect to antenna ordinances. See page 5 for a detailed article.



Below, Oceanside CERT is announced and explained.

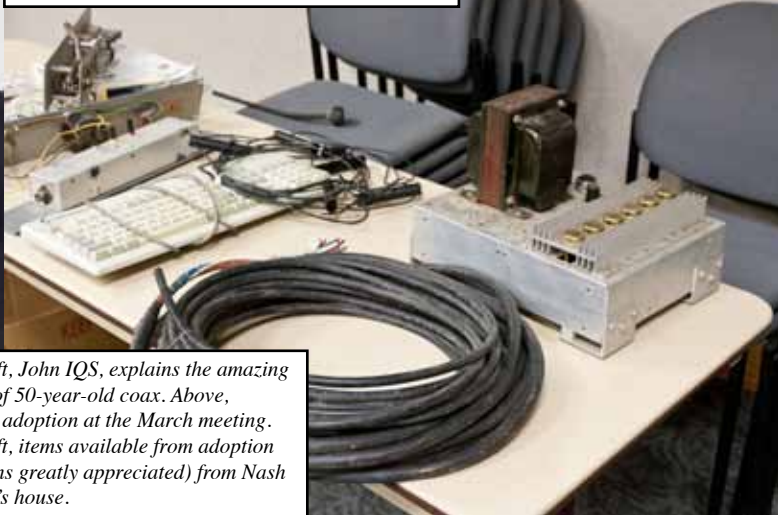


Below, Fred AE6IC's efforts to organize a civic response to the Oceanside antenna ordinance are applauded.

membership
with
cements.



Left, above, and right, Bob Blumberg K4RB, gave the presentation at our March membership meeting. He spoke about operating from many different countries, with a special focus on Indonesia. This program was excellent! Thank you Bob for taking the time to talk with us.



Below left, John IQS, explains the amazing benefits of 50-year-old coax. Above, items for adoption at the March meeting. Below left, items available from adoption (donations greatly appreciated) from Nash Rambler's house.



Accessing EchoLink With Your Radio

by Bernie Lafreniere, N6FN

In the last several issues of the SCOPE we explored how the EchoLink system allows you to make contacts using simplex links, repeaters and computers as gateways to the EchoLink VoIP network. In February we covered how to install EchoLink software installed on a computer and validating your call sign for accessing the network. This month we explore using DTMF equipped transceivers for making contacts over the EchoLink network.

It is important to realize that you do not need to install software on your computer or have your call sign validated to be able to use EchoLink from DTMF equipped transceivers. However, you do need to have at least a basic understanding of how EchoLink contacts are made over the EchoLink network. Like any other aspect of ham radio there are conventions and procedures that are used to ensure a pleasant operating experience for everyone.

DTMF Keypad Commands

Providing you are within range of either an EchoLink equipped simplex link or repeater, you can use your DTMF equipped VHF/UHF transceiver to connect to: individual users, repeaters and conference servers. Using your radio's DTMF keypad to enter commands, you can check the status, bring-up and close connections to distant EchoLink nodes. (The differences between types of EchoLink nodes were covered in an article appearing in the January SCOPE.)

DTMF Code	Command	Description
*	Play ID	Plays a brief identification message
#	Disconnect	Terminates current connection
06+num	Query by Node Number	Looks up a station by Node Number and reports back its call sign and status.
08	Status	Determines if the node is already connected. Reports call signs of connected stations.
09	Reconnect	Reconnects to the station that was most recently disconnected.
Number	Connect by Node Number	Connects to an Internet station by specifying the node number, either 4,5 or 6 digits.
9999	Test Server	Connects to the Echo Test Server

Sysops that control RF simplex and repeater links can either accept EchoLink's default DTMF commands, or create their own DTMF commands. Most nodes, however, use the default commands shown in the table below.

Note: For terminating a connection, some Sysops have selected to use 73 instead of EchoLink's default # symbol.

Initiating a QSO with a Radio

To initiate a QSO via radio, you first need to locate an RF simplex or repeater link to use as a gateway for accessing the EchoLink network. Besides the recently installed EchoLink node on the PARC 447.000 repeater, links for other areas you might be interested in can be found using the Internet resources listed below.

- The searchable by location EchoLink Directory found at <http://www.brenet.com/Echolink.htm> Searchable by station / node type, state and frequency band.
- The searchable by lat / lon, grid square, city, state or country EchoLink Node Status directory located at <http://www.echolink.org/links.jsp> Results sorted by distance.

Once the RF link's frequency, offset (if any) and access tone have been determined they should be programmed into your transceiver's memory as usual. This frequency will be used as your gateway for gaining access to the EchoLink network.

Secondly you will need the call signs and node numbers for any individual users, repeaters or conference servers that you wish to connect to. These

can be looked up using the two web pages mentioned above, or by searching the station list in the EchoLink software if you have installed that on your computer. When using a DTMF keypad, it's simpler to use the station's node number rather than its call sign. If you don't remember how to activate DTMF tones on your transceiver, you may need to consult your radio's user

manual or its Nifty Guide. Unless your transceiver's DTMF capability has been turned off, or set to autodial from DTMF memories, the typical procedure for sending DTMF tones is to hold PTT down while pressing the desired DTMF keys.

Once you have your radio set up and know the node number of a station you wish to call, the following example outlines the steps to be followed to initiate a contact. If this is your first EchoLink experience, you may want to first connect to EchoLink's test server. It is accessed in the same manner as any other node and provides a convenient method for testing EchoLink and for hearing how your own voice will sound over the network.

Example – Establishing EchoLink Connections to Other Stations

While this example establishes a connection to the Test Server, the procedure will work for any node you wish to connect to. In step 4, use the node number of the station you wish to contact, instead of 9999 for the Test Server.

1. First listen to make sure the local RF simplex link or repeater frequency you intend to use as your gateway is not already in use.
2. To verify that EchoLink is running on the link you are using as a gateway, use your DTMF keypad and send the 08 command. If EchoLink is up and running, the response should be "Not Connected" or "Connected to XXXXX" where XXXXX is the call sign of any station that may already be connected.
3. If a station is connected, announce your presence and see if you get a response. If not connected, announce your intention to access EchoLink, saying something like: "N6XXX accessing EchoLink". Wait a moment to see if any stations respond before proceeding with entering DTMF commands.

4. To establish a connection, enter the Test Server's node number: 9999. After a short delay, you should hear EchoLink responding with "Connecting to Conference E C H O T E S T", followed a little later by "Connected" if you were successful. If the specified node is not currently on-line, you will hear "Not Found". Wait until you hear the Connected response before transmitting your call. If you hear a Disconnected right after trying to connect, the node

may have a firewall or Internet problem. You will have to try a different node.

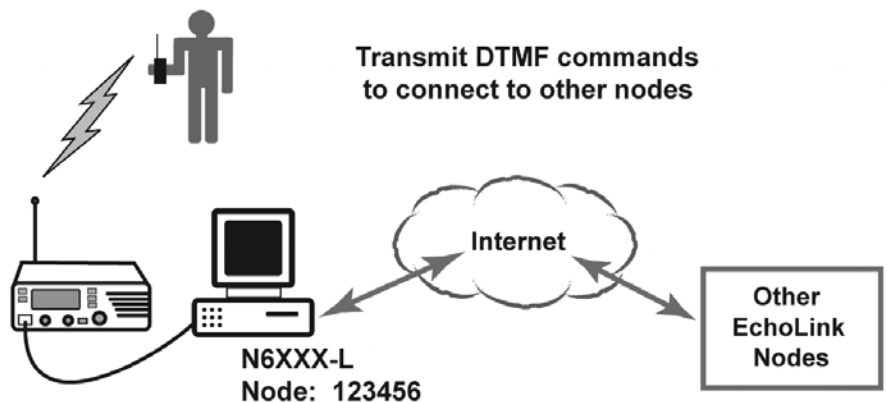
5. After a few seconds you should hear the Test Server's greeting: "Welcome to the EchoLink Test Server ...". For other nodes, you may or may not get a greeting.

6. In the case of the Test Server, if you make a voice transmission, after a short delay it should be echoed back to you. For other contacts, first listen to make sure that there is not a QSO in progress. When clear, you can make your call on the connected node. Remember to pause an extra amount of time between transmissions and to ID as you usually would when working through a repeater.

7. To terminate the connection, press #. You should then hear EchoLink respond with "Conference E C H O T E S T Disconnected". (Many nodes use 73 instead of #.)

Important: It's your responsibility to terminate any connections that you might establish. When operating mobile and approaching the fringe area of the simplex node or repeater you are using to access EchoLink, make sure you terminate the connection before you are out of range. (As a side note, if necessary anyone can terminate a connection by transmitting the DTMF # code, or if applicable 73.)

In addition to EchoLink articles that appeared in the last December, January and February issues of the SCOPE, further information can be obtained by visiting <http://www.echolink.org/> I have recently authored a book for EchoLink titled Nifty E-Z Guide to EchoLink Operation, which you might find helpful and that will soon be available from most ham radio retail outlets and is currently available from the www.niftyaccessories.com web page.



Simplex Link Gateway Operation

A Very Early SSB Exciter

by Ron K2RP

In the late 40s, the dominant modes of transmission were CW and AM. CW today isn't much different now than it was then—a carrier being turned on and off by a key (or a keyer or a computer!).

The problem with the growing popularity of AM phone was one of overcrowding of bands. The phone bands were much narrower then than now, and 40 meters had no phone allocation at all!

Compounding the problem was that "full" AM had a carrier and two sidebands. Not only did such a signal occupy twice the bandwidth of our present day SSB gear, but if a two carriers fell within a receiver's passband, and "heterodyne" was created that manifested itself as a loud whistle at a pitch equal to the difference between the two carrier frequencies. If one station, for example, was on 3908 and another was on 3909.5, a 1500HZ tone was heard in the receiver. The phone bands became a cacophony of whistles!

Several solutions to this problem underwent experimentation and use, including Phase Modulation and Narrow Band Frequency Modulation (PM and NBFM). These modes never became popular, and SSB became the dominant phone system on HF. Not only was the problem of heterodynes solved, but the fact that only one sideband was transmitted instantly doubled the number of stations that could be accommodated on a given band.

Prior to World War 2, there was some experimentation with SSB, (or SSSC, as it was then called, for Single Sideband Suppressed Carrier.) In the late 40s, a group of experimenters did the first work on what was to become present day SSB. Not only were the transmitters fairly complex, but the receivers of the day were not up to the task of optimizing these signals. Typically, AGC was not available with BFO in use, as it has to be to

detect SSB, so a hand had to be ready on the RF gain when in round tables. Strong signals would overload the receivers of the day as well. QST, at this time, began a column named "On the Air with Single Sideband," with news of who was on the air and describing experimental transmitters. There was even speculation on when the first SSB WAC would be accomplished!

One of the first manufacturers to enter the field of commercial SSB transmitting equipment was Central Electronics. From the beginning, 9 MHz became the standard frequency for generating an SSB signal. That signal was mixed with a local oscillator, VFO or crystal, to create an output in the amateur bands. The local oscillator, if run



on 5 to 5.5 MHz, produced an output from the mixer at 4 to 3.5 MHz (difference frequency) for 80 meters, and 14 to 14.5 MHz for 20 meters. (The upper limit of 20 meters was 14,400 at that time; the top 50 KHz was "traded" for 15 meters when that became available.)

For 40 meters, (when that band was opened for voice privileges) and higher bands, other crystal or VFO frequencies were required. This explains why the majority of early SSB work was on 80 and 20 meters.

In the fall of 1952, Central Electronics introduced their "Multiphase" 10A exciter. It's job was to produce a sideband signal on amateur frequencies

that could be fed to an external amplifier. Frequency was controlled by a crystal or external VFO, and output was only a few watts, but that output could be either sideband, CW, AM, or PM. One big drawback was the use of plug in coils. There was no bandswitch; when changing bands, the cover was raised and two coils were replaced. This was soon followed with the 10B, which was similar. These units are relatively rare today, and finding one with a full coil set is even rarer.

The first real commercial success in SSB transmitters was the 20A, introduced about 1954, priced at \$250 for the wired version, and a bit less for the kit. The plug in coils were replaced with a bandswitch covering 160 through 10 meters, and instead of 1 6AG7 final, there were now 2, for about 15 watts of output. The earlier versions required some type of output meter for tuning and sideband phasing, so the 20A included a "magic eye" tube to monitor those functions. Like the earlier models, a built in VOX circuit was provided, with provisions for an optional "anti-trip" module. There was still no internal VFO, and it was common to use a converted BC458 "Command set" transmitter for a VFO. Central Electronics even produced a VFO, which was a modified and repackaged surplus transmitter! They also produced a popular "sideband slicer" for receivers of the day, which served to narrow the bandwidth and allow only the desired sideband to be heard. Later, in the late 50s, the company was acquired by Zentih Electronics, which produced the 100V and 200V transmitters. Because of the high price, not many were sold, but a great number have survived, and were considered well engineered, excellent units, even including a monitor scope on the panels.

These units are not rare, and on the regional "Vintage SSB Roundtable," (Tuesday evenings at 8 PM on 3830) there are at least one or two represented on a given evening.

Many of the AM transmitters

of the era included an SSB position on the mode switch. Without a sideband exciter or generator, however, these transmitters by themselves could not produce a sideband signal. Several companies, including Heathkit, Johnson, and B&W produced such adapters, but except for the Heathkit SB10, they are rarely seen.

I generally use my CE 20A with a Viking Valiant. There is a coax socket on the rear apron of the Valiant for a sideband signal to be introduced, and when the switch is in the SSB position, the signal is routed directly to the driver and 3 6146 finals. The transmitter has to be adjusted so no grid current is drawn while transmitting SSB, and excellent reports are received.

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N6JO JOE MAKES COMMENTS



EVERYONE AT THE TABLE



DENNIS AND TOM



COUNCIL MEMBER KERN



BEN SULLIVAN, JERRY KERN, GARY FELIEN

Amateurs in Oceanside are to be thanked for their participation of calls, letters, emails, and showing up for the Council meetings. More thanks are to be sent to the community who supported us with the same support of the city residents. More thanks to those who assisted through emails, including some legal comments and suggesting the Costa Mesa Ordinance. I do believe this helped a lot to see another city that has Amateur Radio as a friend and recognizes their needs.
Dennis KD6TUI

continued from page 5

We hams gave a well-received presentation of the prior material and added information on ground effect, Emergency Communication and Public Service, FCC rules 97.1a and commented on the city's lack of organized EOC communications through RACES. The city Fire Department is starting up a CERT program, and it was explained that they will still need more than handhelds and mobiles to properly support emergencies in this terrain. I felt good as Mr. Kramer commented on the presentation and suggested that the only question remaining was what the arbitrary height number would be. December 30, 2010 Mr. Aaron Burgin asked Fred for an interview for the Union Tribune. He seems unbiased and maybe even favorable to our concerns, especially about possible fees associated as first presented.

January 3, 2011 City of Oceanside forwards revised Article 39A resulting from our meeting with city representatives. For amateurs, an outstanding improvement. The next day came a retraction. The city did not fully vet the revision, and is pulling the agenda item from the Council Meeting for January 5, 2011. The article made rounds and had many comments added for minor corrections. Preparation continued for the Council Meeting, to be sure there were no changes in presentation plans and if true to thank the staff for their efforts on our behalves. Amateurs arrived at the Council Meeting and confirmed that the item had been pulled and that there would be no comments accepted towards it. Our comments were received and forwarded to staff so they could prepare them for a February 23, 2011 meeting.

Barbara Hamilton followed on January 25, 2011 with a request for another meeting to review the reworked Article 39A giving a choice of dates and times. Monday January 31 at 10:00 A.M. was chosen. The revision was sent out for review on the 27th of January. Not what we wanted, but not bad either. The 75 foot elevation for antenna structures as written was deleted.

Saturday January 29, 2011 brought another meeting to figure a strategy to continue onward to a best resolution. Few items needed covering. It was decided to go after the main points noted, but let them explain the changes first. At the meeting on Monday there was a request for more tower information. The city appeared concerned about tower specifications. Tim gave them 4 main tower manufacturers' websites to reference.

During our process in Oceanside, disastrous news came from Palmdale in regards to their ordinance running through the Court of Appeals. In a three part decision amateurs lost substantially in the City of Palmdale. Antenna support structures and was not clearly defined for elevation or size of their "active element or array" and therefore declared unconstitutional. The second concerns Radio Frequency Interference. The Court found that only the Federal Government could regulate RFI and that all state and local law was preempted. The third concerned reasonable accommodation. The city required an Amateur to take down his permitted tower but allowed him to keep a VHF/UHF vertical on his roof. The court deemed this reasonable as he was able to be active in some part of amateur radio. The process has continued, the height settled by the city is 51 feet. There were continuing discussions about existing structures and how they would be handled. Tim offered to form a checklist for the permit process. Mr. Hittleman responded to our questions of existing structures by stating that according to the new Article 39A anything less than 51 feet, if approved, but would need a building permit.

The final copy of Article 39A to be presented to the Council was sent to us on February 15, 2011. Included are height limit of 51 feet without a Conditional Use Permit. Over 51 feet requires an Administrative Conditional Use permit. The permit is to be reduced to \$500 from the over \$4000 current fee and would require a 300 foot surrounding notice instead of 1500 feet. Guy anchors and ground radials may be placed in the set back area. (This is an area from 6 to 10 feet from the property line where structures cannot infringe.)

On Wednesday February 23, 2011 at 6:00 P. M. in the city of Oceanside Council Chambers the new revised Article 39A was brought up. Council members had their comments, and then it was open to the public. Many Amateurs of the Oceanside community spoke with thanks to the city staff who listened to our information and educational explanation of what and why our needs are for the operation of great and good communications. The final ordinance was a night and day difference for the better of hams. This was approved 4-0 with the Mayor absent due to illness. It appears a job well done by Fred and his helpers. THANKS FRED, TIM, JIM AND, DENNIS for your efforts.

There was a meeting of the Telecommunications Committee Friday March 11, 2011. On the agenda was item 6 Review of an addition to the zoning ordinance, Article 39A. At the time of this writing, we have not heard back what this will cover. It looked like the revision for the notice and fee change. Item 12 is curious. Understanding Radio Frequency, to include open discussion. For information, no action required. And the near last item 19. The Telecommunication committee may be consolidated with the planning committee? Or be eliminated.

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Scope (USPS #076530) is published monthly by the Palomar Amateur Radio Club 1651 Mesa Verde Drive, Vista, CA 92084. POSTMASTER: Send address changes to SCOPE, P.O. Box 73, Vista, CA 92085. Periodicals postage paid at Vista, CA 92084. Dues are \$20 per year or \$35 per year for a family. Dues include a subscription to Scope.

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Featured Program:

At 7:30pm on the 6th of April 2011, Palomar Amateur Radio Club will have a program presented by David Doan KC6YSO. He will talk about NVIS - Near Vertical Incidence Skywave antennas. Followup demonstration and construction will happen at our operating day on the 10th of April in Oceanside. See page 2 for details.

Arrive at 7:00pm to socialize. We look forward to seeing you at the Carlsbad Safety Center, 2560 Orion Way, Carlsbad, CA.