Vol. 2 No. 1, February 1997

Editor: KM5ER

THE LOCAL OSCILLATOR

THE PUBLICATION OF THE PANHANDLE AMATEUR RADIO CLUB

PRESIDENTS MESSAGE

I would like to invite everyone to the Hamfest!

The Hamfest starts at 8AM and will include VE testing, APRS demonstration, ARES/RACES meeting, 3933 Net meeting, Packet Users Meeting, DOOR PRIZES and an indoor flea market. Some special out-of town vendors will also be there.

Also..don't forget the club meeting the first Tuesday of the month!

DON, KC5EZO

CORNER BEAM ANTENNAS

In the overall scheme of things, corner reflectors have a spot in the logical progression of antenna evolution. The ordinary dipole gave way to the Yagi-Uda, which utilized directors and a reflector. The single reflector was turned into a screen for a greater back-side rejection. The screen

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PACKET RADIO ?

What is packet radio?

Packet radio is digital communications via amateur radio. Packet radio takes any digital data stream and sends that via radio to another amateur radio station. Packet radio is so named because it sends the data in small bursts, or packets.

What can I do on packet radio?

Keyboard-to-Keyboard contacts: Like other digital communications modes, packet radio can be used to talk to other amateurs. For those who cannot use HF frequencies, two amateurs can talk to each other from long distances using the packet radio network.

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Texas Panhandle Repeaters

CENTRAL/AMARILLO

AMA 146.94 -600 W5WX 88.5
AMA 146.66 -600 W5WX
AMA 146.92 -600 N5LTZ
AMA 147.32 +600 N5IMO
AMA 147.56 SIMP N5LTZ 88.5 SOUTHWEST LYNX
CANYON 145.35 -600 N5LRH 88.5 CRI
AMA 444.20 +5.0 N5LTZ 88.5 CRI
AMA 443.65 +5.0 WC5Y
AMA 444.475 +5.0 W5WX 114.8 CLOSED
AMA 443.400 +5 RACES CLOSED
AMA 52.650 -1.0 N5SQK 127.3
BORGER 147.06 +600 WA5CSF
FRITCH 147.30 +600 WA5CSF
WHITE DR 147.38 +600 N5MGU 88.5 CRI

EASTERN PANHANDLE/OKLAHOMA

PAMPA 146.90 -600 W5TSV
MIAMA 145.11 -600 KA5KQH 88.5 CRI
CHILDRESS 146.96 -600 N5OX
ALTUS OK 146.79 -600 WB5KRH
ELK CTY OK 146.76 -600 WB5FBU
WODWRD OK 146.73 -600 WA5PLW
ALTUS OK 444.100 +5.0 WD5BBN
WODWRD OK 444.875 +5.0 WN5LUI 88.5

NORTHERN PANHANDLE/OKLAHOMA

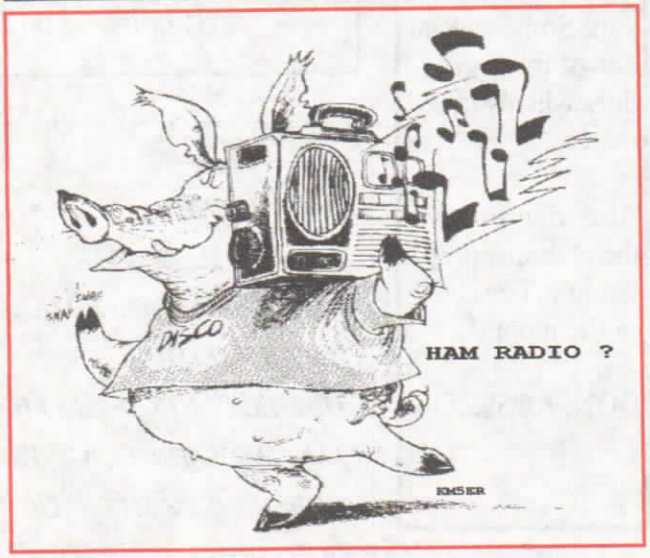
GRUVER 147.150 +600 KY5C 146.2 CRI
GRUVER 442.00 +5.0 KY5C 146.2 CRI
SPEARMON 147.00 +600 CRI
PERRYTON 146.82 -600 CRI
BOS CTY OK 147.35 +600 CRI
GUYMON OK 147.150 +600 KY5C 136.5 CRI
GUYMON OK 444.975 +5.0 KY5C 136.5 CRI
TEXHOMA OK 147.375 +600 W0PFJ
FORGAN OK 147.39 +600 N5AKN

SOUTH PANHANDLE

TULIA 147.36 +600 KF5AO
PLAINVIEW 146.72 -600 W5WV (444.80+ 146.2)
ABERNATH 146.76 -600 WA5BRY 179.9 (444.40+ 118.8)
LITFLD 146.64 -600 WA5BRY 179.9 (444.85+ 162.2)
LUBBOCK 145.19-, 146.94- 179.9, 147.00+ 179.9, 147.2+ 162.2,
147.3+ 88.5, 224.82-, 443.95+, 444.00+ 118.8,
444.5+ 118.8, 444.7+ 67, 444.9+ 118.8,
444.975+ 162.2

WEST PANHANDLE/NM

SIERRA GNDE 146.85 -600 K5LMI
SIERRA GNDE 147.28 +600 WA5IHL 100 MEGALINK
TUCUMNCAR 147.26 +600 WA5IHL 100 MEGALINK
CLOVIS 147.24 +600 W5CSXP
CLOVIS 146.70 -600 K5RKL
CLOVIS 443.750 +5.0 WA5EMA
PORTALES 146.82 -600 N5HXL
ALBQ 145.29 -600 162.2 ZIA LINK



NET SCHEDULE

P.A.I.N
146.94 8:00 PM SUNDAY

CLOUD CHASERS
146.92 8:00 PM MONDAY

PANHANDLE TRAFFIC AND EMERGENCY NET
3933 KHZ LSB 00:00 UTC DAILY

AMSAT
3840 KHZ 9:00PM TUESDAY

S W LYNX NET
146.56 6:00 PM THURSDAY

PAMPA TOP OF TEXAS NET
146.90 8:00 PM WEDNESDAY

FRITCH SIDEWINDERS NET
147.30 8:00 PM TUESDAY

ARES NET
444.2 or 145.35 (T88.5) 8:00 PM THURSDAY

RADCOMM RADIO FROM LUBBOCK WILL BE AT THE HAMFEST!

NEED A NEW ANTENNA? COME TO THE HAMFEST!

HAMFEST DOOR PRIZES: ALINCO DR150T MOBILE, ALINCO DUAL BAND HT, + SURPRISES!

WANTED/FOR SALE/TRADE/INFO NEEDED
Members - your message here!
Contact bcollyer@fia.net

Two hydrogen atoms were walking down the street; One said to the other: "I lost an electron." The other asked: "Are you sure?" The first answered "Im *Positive*."

100s of HAM Radio Files:
Pyromania BBS (806) 355-6604

OSCILLATOR COMMENTS/SUBMITTALS
Feel free to submit questions, comments and articles to: bcollyer@fia.net

ARES/RACES "Hamfest and Panhandle Severe Weather Expo" REGISTRATION FORM

NAME _____ CALL _____

ADDRESS _____

STATE _____ ZIP _____

Registration includes 1 door prize ticket: $5.00 .....($7.00 at door) OR
Preregistration Special...Includes 20 door prize tickets $20.00 (NOT available HAMFEST day)

Hamfest will be held at the Texas National Guard Armory, 2904 TEE Anchor Blvd. Amarillo TX

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was then formed into a right angle (or a 60" or a 45" angle) to improve the front-to-back ratio, which created the corner reflector. If the reflector is rotated in a full circle around the single driven element you get a parabolic dish antenna. Building a parabolic dish at VHF frequencies can be a tricky maneuver. Due to wavelength dimensions, however, a high gain 2 m or 70 cm antenna is most effectively built using corner reflector methods. So what does a corner reflector have that a plain old Yagi-Uda doesn't? First, it's much shorter. A standard beam antenna with the same 10 dB gain as the Corner Beam would have to be 10 feet long. The Corner Beam's longest element is four feet long, making it ideal for mounting and rotating in a smaller space. Second, the directivity is the same or better than a Yagi-Uda with the same gain. Third, the 40 dB front-to-back ratio makes it ideal for nulling out interference from other stations, or for concentrating all of the signal from a transmitter toward a given geographic area. And fourth, a corner reflector has a much wider bandwidth than a beam. As an example, a typical standard beam will have a 2 to 4 MHz bandwidth with an SWR of less than 2: 1. The Corner Beam lets you operate across the entire ham band with an SWR of less than 1.2:1-virtually flat.

What are some of the applications for an antenna of this type?

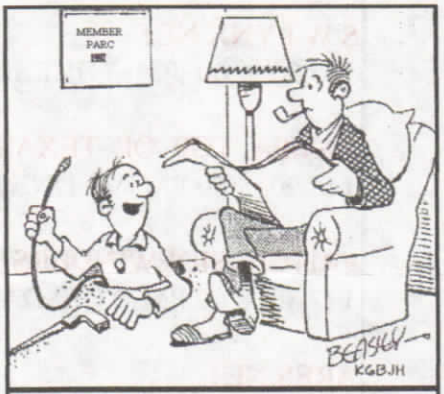
It's very space-efficient antenna that still gives you the gain of the big beams. If you have a small amount of antenna space the Corner Beam might be just the ticket--mounted on a rotating mast, on a lower leg, to the side of your house, or even tucked in the attic. The great front-to-back ratio of the antenna makes it useful for a lot more than simple home station applications however. You might have a repeater that needs to cover a fixed area. Perhaps the only hill in your area is way north of town, and you have no interest in covering anything to the north of the hill. Why not concentrate all your power back toward town, instead of spreading signal where it isn't needed. Most repeater groups probably have another repeater on your frequency
in the next state that gives you trouble now and again. Why not use the Corner Beam (or two) to null out the interference from the other site?

Corner beams would make excellent antennas for use with passive repeaters - two back-to-back antennas, used to dribble some signal into areas otherwise unreachable by the main repeater. Fixed data or packet application may be well served by a corner reflector. How about a VHF/UHF crosspeater, using only one antenna?

The antenna is constructed of aircraft aluminum with stainless hardware. It is available in 2 meters, 220 MHz, 70 cm and dual 146/435 band models. The maximum wind load for any model is 3 sq. feet. Assembly should take about an hour.

Additional information concerning this antenna can be found by contacting: Antennas West, Box 50062, Provo UT 84605 (800-926-7373) .

(Source: 4/96 73 Amateur Radio Today and Antennas West Advertisement)



Hi, I'm the Ham from downstairs....mind if I run my coax through here to the roof?

E-MAIL REQUEST

I would like to list club members (and nonmember HAMs) e-mail address in an upcoming edition of the Oscillator.

If you DO NOT mind your e-mail address and call sign being listed please e-mail it to bcollyer@fia.net.

Packet BBS operations:
Many cities have one or more packet Bulletin Board System (BBS) available on the local packet network. Amateurs can check into the BBSes and read messages from other packet users on almost any topic. BBSes are networked together over the packet network to allow messages to reach a broader audience than just your local BBS users. Private messages may also be sent to other packet operators, either locally or who use other BBSes. BBSes have the latest ARRL, AMSAT, and propagation bulletins. Many BBSes have a file section containing various text files full of information on amateur radio in general.
DX Packet Cluster:
The use of packet radio for DX spotting. HF operators connect to the local DX Packet Cluster for the latest reports on DX. Often a user will 'spot' some hot DX and distribute the DX report real time.
File Transfer:
With special software, amateurs can pass any binary files to other amateurs. Currently, this is done with TCP/IP communications, YAPP, and other specialized protocols.
Satellite Communications:
Many of the amateur radio satellites contain microcomputer systems that can provide special information to amateurs. Some satellites contain CCD cameras on board and you can download images of the earth and the stars. Others provide store and forward packet mailboxes to allow rapid message transfers over long distances. Some satellites use AX.25, some use special packet protocols developed for satellite communications. A few transmit AX.25 packets over FM transmitters, but most use SSB transmissions.
Why packet over other digital modes?
Packet has three great advantages over other digital modes: transparency, error correction, and automatic control.
The operation of a packet station is transparent to the end user; connect to the other station, type in your message, and it is sent automatically. The Terminal Node Controller (TNC) automatically divides the message into packets, keys the transmitter and sends the packets. While receiving packets, the TNC automatically decodes, checks for errors, and displays the received messages. In addition, any packet TNC can be used as a packet relay station, sometimes called a digipeater. This allows for greater range by stringing several packet stations together. Packet radio provides error free communications because of built in error detection schemes. If a packet is received, it is checked for errors and will be displayed only if it is correct. With VHF/UHF packet, many countries allow packet operators to operate in automatic control mode. This means that you can leave your packet station on constantly. Other users can connect to you at any time they wish to see if you are home. Some TNC's even have Personal BBSes (sometimes called mailboxes) so other amateurs can leave you messages if you are not at home. Another advantage of packet over other modes is the ability for many users to be able to use the same frequency channel simultaneously.
What elements make up a packet station?
TNC (Terminal Node Controller): A TNC contains a modem, a CPU, and the associated circuitry required to convert between RS-232 and the packet radio protocol in use. It assembles a packet from some of the data on the serial line, computing an error check (CRC) for the packet, modulates it into audio frequencies, and puts out appropriate signals to transmit that packet over the connected radio. It also reverses the process, translating the audio that the connected radio receives into a byte stream on the RS-232 port. Most TNC's currently use 1200 BPS (bits per second) for local VHF and UHF packet, and 300 BPS for longer distance, lower bandwidth HF communication. Higher speeds are available for use in the VHF, UHF, and especially microwave region.
Computer or Terminal: This is the user interface. A computer running a terminal emulator program, a packet-specific program, or just a dumb terminal can be used. For computers, almost any phone modem communications program can be adapted for packet use, but there are also customized packet radio programs available.
A radio: For 1200 BPS UHF/VHF packet, commonly available narrow band FM voice radios are used. For HF packet, 300 BPS data is used over single side band modulation. High speed packet (anything greater than 1200 BPS) is becoming more common place.
Interested ?:...some local frequencies are 145.01, 145.05 and 145.09. Feel free to contact W5UGQ on the air or internet (msproul@arn.net). (KM5ER)

PARC
PO BOX 10221
AMARILLO TX
79116

Mailing
Address
Goes
Here

In This Issue...	Corner Beam Antennas, Packet Radio, Net Information and more!

RECENT LOCAL & CLUB NEWS

The January Club meeting was smaller than normal due to the poor weather conditions. Those that were brave enough to attend included KC5EZO (Don Bristow-Club President), KC5HKT (Lalon Savage -Club Secretary), KC5DKQ (Robert McKee-Club Treasurer), N5AE, KB5VLV, KB5WIO, N5TG, KB5FS, KC5UUZ, N5LRH, N5SOW and N1CSD.

KC5DKQ reported that the Tech Fund had a balance of $671.31, General Fund; $409.01 with a bank total of $1080.32 as of 1/7/97.

A motion was carried by the general membership to sale or sale via bid the old 146.94 repeater controller which was recently upgraded.

A motion was carried by the general membership not to renew the insurance and to consider the sell of the club radio equipment and antenna.

KB5VLV donated a new repeater for 146.66, a new controller is needed to make the station complete. KB5VLV also needs assistance to tune and clean the repeater.

It was also discussed if the currently closed 444.475 repeater should be open to the general membership....your input is needed!

Changes to the membership dues structure were also discussed....attend the next meeting and find out more!

NEW!
A NEW HAM GETS FULL MEMBERSHIP FOR THE FIRST YEAR AT A REDUCED RATE: $10