

The LOCAL OSCILLATOR

April 1995

The Publication of the Panhandle Amateur Radio Club

Matt Carpenter-KC5CGT

Guy Pigg-WZ5C

HAVE YOU HUGGED YOUR "SAREX" LATELY?

**Joe Mayfield, KA0YOS, will show video from former SAREX missions
at this months meeting.**

**Keep this in mind. A great thing is going to happen in the next few months.
*SPACE....The Final Frontier.***

Here is a list of frequencies and time for local nets:

P.A.I.N. Net-146.66 Mhz-8:00 pm, Sundays.

Cloud Chases Net (RACES)-146.92 Mhz- 8:00 pm, Mondays.

ARES Net-444.2 Mhz-7:30 pm, Thursdays.

Panhandle Traffic and Emergency Net-3.933 MHz - 00:00 UTC, Daily.

MidWest Section, AMSAT Net-3.94 0MHz -9:00 pm, Tuesdays.

Here are dates and times for activities and meetings in April.

Tuesday, April 4-Regular Meeting, 7:30 T.S.T.C Club Station, Bld. 3500
(VE TESTING @ 6:00 PM)

Sunday, April 9th - Wide Area Fox Hunt, 2 PM at lot N.of Civic Center

Sunday, April 23th - Local Area Fox Hunt, 2 PM at Southwest Park

Tuesday, April 25th - RACES meeting, 7:30 at Old Police Academy..

Events at Club Station for April.

Club Station will now be open on Saturday Mornings from aprox. 10 AM to Noon.

As always, if you wish to play at other times, let Guy-WZ5C know in advance.

Listen to the P.A.I.N. Net for special event times and dates!

President's Letter

Wow, can you believe it is already April? Time to pull out those antenna projects, and clean up this years Hamfest swapping material. I know I have several projects to complete in those areas. While you're working on those projects keep the PARC in mind. The club is working on similar projects and could use your help.

A group of PARC member Hams have taken it upon themselves to completely revamp the 146.94 repeater and return it to being the premier repeater in the Panhandle. There is additional information about this elsewhere in the newsletter, but I want to point a couple things I have noticed from this effort. These folks are EXCITED about what they are doing! And they are having FUN! When was the last time you got EXCITED about Ham radio. See what all the commotion is about talk to some of these people and get involved.

Next month is the Amarillo Hamfest. Work is continuing in preparation for this event. We have some good plans and a good facility lined up. What we need now is YOU. If you can help in any way, shape, or form get in touch with Ronnie, N5ZLU, Guy, WZ5C, or Matt, KC5CGT and let them know. Don't worry about what you can or cannot do. If you have the time they have a job for you!

Finally, don't forget that Field Day is coming up in June and Fox (transmitter) hunts are still being held on a regular basis.

73,
Joe KA0YOS

FROM THE PARC SWAP SHOP

For Sale!
Heathkit HW-100 HF rig with a spare set of 6146B's.
Contact Joe, KA0YOS

P.A.R.C. MEMBERSHIP RATES

Full and Family	\$25.00 per year
Associate (Non-Voting /Newsletter only)	\$8.00 per year

NEWSLETTER SUBMISSIONS

All articles are due by the 20th of the month. You may send them via the following:
Internet: guy.pigg@radio-online.com
BBS: The Lumber Yard (806) 381-8247 (Must be registered user)
By phone: (806) 372-8462 (An answering machine)

OSCAR SKN BEST FIST WINNERS

Many thanks from AMSAT-NA to all who participated in the 23rd annual Straight Key Night on OSCAR this past January 1.

First Prize in the Best Fist derby goes to W6HDO, who received two independent nominations. This is the third year in a row that Cliff has been a Best Fist winner.

We have four other winners as well, all first-timers. They are G3RWL, K4FS, NM1K and VU2TS.

Satellites used for the QSOs which resulted in these nominations included AO-13, FO-20, RS-10, RS-12 and RS-15.

See you next year! 73, Ray, W2RS

(Relay Internet Message Exchange, via Radio Online BBS)

First Class Nine Four

The W5WX 146.94 machine was installed for the P.A.R.C. about 1977. It has been in use now 18 years, serving Amateurs in the Amarillo area.

The founder of the machine that is now the 146.94 repeater (it was at one time on 146.67, I'm told) was Jim Wilhite, W5RXC. Jim made his living at that time in the commercial radio business, associated with Motorola. Over a period of time he was able to get enough materials donated to install an antenna at the Channel 7 KVII transmitter site. Jim negotiated with the Staff at KVII and was allowed to install the antenna as a public service. KVII has graciously allowed the Club this privilege for many years now.

Jim today heads the Telecommunications Department at T.S.T.C. and is faculty advisor for the P.A.R.C. Jim was instrumental in P.A.R.C.'s obtaining permission to use the facilities at T.S.T.C. David Railsback, of Tower Services Company, installed the antenna and feed line at no cost to the Club.

Recently Jim W5RXC; Dale N5WGR; and myself N5SQK visited the repeater site to do some testing. Jim related the history of the machine, while traveling, to the site. The antenna is on the East leg of the tower at 350 feet. The antenna is a DB products Commercial antenna fed by 1-1/4 inch HELIAX. Many say, the elements are aligned for a Northern pattern, but we could not confirm it due to visibility. Maybe a telescope would have helped.

I recently used the machine on a return trip from Dumas and it worked quite well. However, there are many places in South Amarillo where it is difficult to use the machine from a 40 watt mobile. This is particularly true, on South Loop 335 and between Amarillo and Canyon. Jim W5RXC, tells me that when first installed, the machine was usable to the town of Happy with a reasonably powered mobile unit.

It's time the Club improved the 94 coverage to better include South Amarillo and Canyon. This would be a completely volunteer effort not requiring Club funds. I know many Club Member's would like to see us make the repeater a first class operation, and don't mind paying for it. Think about this:

REPLACE THE ANTENNA

The Antenna has been in service for 18 years, I'm sure the harness and elements have taken some damage and corrosion after being 350 feet, in the air, for this long. The weather spotters can vouch for the fact that the tower has had, at least a few, lightning strikes. When we replace the antenna we can make sure the elements are aligned for OMNI pattern, for better City coverage to the SOUTH.

INSTALL an AUXILIARY RECEIVER

If antenna changes don't improve the coverage to the South adequately, then install an Auxiliary receiver between Amarillo and Canyon and vote the signal back into 94 with a UHF link. A Club member has already volunteered a site for an auxiliary receiver, on the hill, above Buffalo Bowl. With a little luck, we could have coverage into Canyon.

UPGRADE THE CONTROLLER AND AUTOPATCH

Once machine performance is adequate, replace the Controller for voice announcement capability and install an integrated AutoPatch. The AutoPatch could allow individual access codes. Autopatch would then be restricted to Club members and/or those donating to the improvements.

STANDARDS

With the upgrades we need to set some standards so that we can readily build and keep spares on hand. Another consideration is to set standards to improve all Club repeaters to. It is just a matter of time before we have to do some major work to our 66 machine. When we do, we should have 94 ready to go and a standard set to upgrade 66 to.

A replacement antenna and installation will cost approximately \$1000. An auxiliary receiver will cost about \$750. Upgrading the Controller and AutoPatch will cost \$750 to \$1000 depending on how fancy we want to get.

HOW CAN WE AFFORD IT

Well we know it's not sitting in the Club treasury. Let's make it a volunteer effort from those who want to use the machine. Organize private individual contributions.

Let's face it, we all spend money on our hobby. I propose we solicit donations for repairing the machine with the proviso that the money will be ear-marked for only 94 upgrades. Those that donate will be made full control operators of the upgraded machine.

We can raise money first to fix the antenna. Call it Phase I, when we have \$1000.00 we will spend it to fix the antenna. If something happens and we don't raise the cash in a reasonable time and we can't replace the antenna, then we can return the money. The guarantee is this: If you donate to Phase I, that's where the money will go or you get it back.

When the antenna is repaired, we can go to the next Phase of either upgrading the controller, or installing an auxiliary receiver depending on how the new antenna improves the coverage to the South. And we will make the same deal, if we don't get enough to move on we will give the donation's back.

We can publish the complete list of donator's for each phase in the Oscillator every month, until we are done, to recognize those who support the upgrade effort.

One reminder: The Club Technical Committee is the responsible party for carrying out the details of the upgrade. However I think you will find that the donator's will be heard. We can organize meetings of the donator's with the Technical committee to discuss details.

I would encourage non-member's to donate that wish to use the machine. I know there are some non-members who would like to be a part of fixing 94 and using the machine.

How much should I donate? Whatever you can, but I'm suggesting \$50.00 or \$100.00 so that the time to raise the funds is not prolonged. Also we have Club members who don't use the repeater's, we should expect those of us that do to foot the bill. If most of us admit it, we spend much more, each year, on our hobby.

It's time to fix 94 and do it right. We have waited too long. NINE FOUR should be technically a first class machine and a source of pride for the P.A.R.C.

I'd put up the first \$100.00, but Coleman WA4NXI, beat me to it. Jerold N5MGU pledged \$250, then Reddy KC5JIF donated \$250.00. We nearly have half of the antenna money already, so dig deep, and let's get the job done. When we are done we'll make a plaque with everyone's Call, who helped with 94 Rebuild in 95, for the Club Station.

BRET SIMS- N5SQK

		THE W5WX REPEATER SYSTEM UPGRADE	
		146.34/94 PROJECT, PHASE ONE	
		CONTRIBUTIONS AND PLEDGES AS OF MARCH 24, 1995	
		CONTRIBUTION	PLEDGE
• WA4NXI	COLEMAN WINGATE	\$100.00	
• N5SQK	BRETT SIMS	\$100.00	
• N5MGU	JEROLD McCOWAN	\$250.00	
• KC5JIF	REDDY BIGGS	\$250.00	
• KC5CGT	MATT CARPENTER		\$50.00
• WZ5C	GUY PIGG		\$100.00

FOX HUNTING

Joe, KA0YOS

(Ed Note-Due to space, this is part one of two. I hope.)

As promised here is the first installment of some fox hunting gear you can build with locally available parts. The system is simple to use, but very effective. Depending on your junk box you can spend anything from \$20.00 to \$0 building this unit. A workable unit of all new parts can be built for around \$10.00. So, Let's get started.

Theory of Operation

I built my circuit on perf board, and used point to point wiring. If there is enough interest in this project I could probably be talked into producing circuit boards or maybe even kits. Figure #1 shows the schematic of entire circuit. The IC (U1) is our old friend the 555 timer. The TLC version is CMOS so it uses less power prolonging the life of our battery. This timer produces a square wave that we will use to switch back and forth between our two antennas. The square wave turns the diodes 'on and off' connecting your radio to each antenna one at a time continually switching back and forth. When one of the antennas is closer to the signal source than the other antenna (see figure #2) the two signals will be out of phase. This phase change will produce an audible tone in the speaker of your radio. The frequency of this tone is controlled by how fast the antennas are switching. Our circuit allows this frequency to be adjusted to make listening easier. When the antennas are rotated to a position making them same distance from the signal source the signals will be in phase and the tone will 'vanish' from the received signal. Actually we like to say we have 'nulled' the tone.

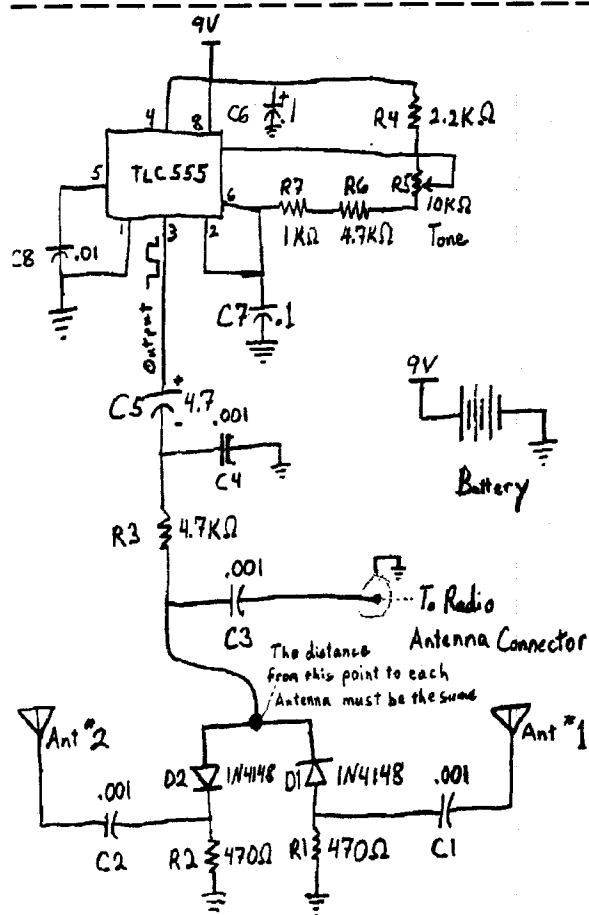


Figure #1 Do NOT Transmit into this Circuit

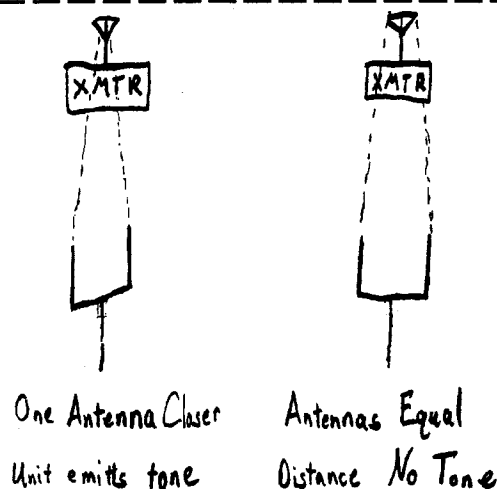


Figure #2

Albuquerque, New Mexico Swapfest April 29, 1995
 Albuquerque, New Mexico, 0700 (Sunrise) to noon MST
 Talk-in: 147.06 MHz (100 Hz pl)
 Sponsors: Albuquerque & Caravan Club ARC
 Free admission & vendor access
 Place: St. Paul's United Methodist Church
 9500 Constitution NE
 Albuquerque, NM (The Parking Lot). Contact: KC5GA,
 Chuck @ 505-858-0306 for details (No collect calls) US Mail:
 AARC, PO Box 11853, Albuquerque, NM 87192, or check in on
 the 3,939 KHz (LSB) NM Roadrunner Net, 6 PM MST. (Don't
 exit off of I-40 on to Eubank, because we have a City that
 believes in long protracted road construction, to give local
 drivers a challenge, in offensive driving.)

Operating a Packet Station

North East Digital Association-1994 Annual
NEDA-POB 563 Manchester, NH 03105

At present there are several different brands of packet controllers and many kinds of software, both in the packet controllers themselves and that will run on personal computers. This article can not attempt to cover all forms of packet software and hardware combinations. Instead I'm going to address the specific software that the Tucson Amateur Packet Radio club produced. This software is identical to that which PacComm and MFJ ship although both of those companies offer enhanced versions. AEA and Kantronics use a similar (but not exact) software in their simpler packet controllers. Please consult your owner's manual for the details.

Hook up the packet station. You'll need a 2m radio and antenna. To find a frequency to operate on you should consult the packet maps, ask somebody or if all else fails dial your radio around in the range of 144.91 through 145.09. If you can get a S9 or better signal on one of those frequencies you are probably all right. Figure out what frequency you want to try first and note it. Well get back to the radio in a few inches.

If you can get the call sign of somebody that is within range and the frequency they'll be on, that would be advisable.

You'll need a cable to plug your TNC into your radio. For your first attempt it is advisable to connect the TNC to the earphone/external speaker jack on the radio, as well as to the microphone connection. Some radios have audio available on the microphone jack and others have it on an accessory jack on the back of the radio. The reason that you'll want to start with the earphone/external speaker jack is because you definitely have volume control of that audio and it is definitely going to have the range (both loud and quiet) that you'll need. Most TNCs come with enough information to make that cable. You will also need the pin-out of the microphone connector on your radio. If you don't have the documentation for the radio you may have to take the microphone apart to figure it out. The connections in the mike connector you'll need are PrT (ground = active), Microphone audio, and Ground. Most TNCs have a receive squelch signal input but you won't be using that now. Make sure you have ground connected to the earphone plug as well as to the microphone plug.

Plug the TNC into power with the TNC to radio cable disconnected on both ends. Dial the radio to a known quiet frequency or disconnect the antenna. Turn off the radio. Turn on the TNC. The TNC should power up and indicate so via its LEDs. The PacComm Tiny 2 and MFJ 1270B will light up three lights as soon as the power switch is pushed in. Within 5 seconds two of the

three lights will simultaneously go off. This means that the TNC is working. Now turn on the radio. Since the radio is not hearing anything the S meter should read zero. Open the squelch so that you hear the FM rushing noise.

Turn the volume all the way down while leaving the squelch open. Now plug the TNC cable into the TNC and into the earphone jack of the radio. At this point only one LED should be lit on the TNC (more LED on the PK232, KAM, PK88). Adjust the volume on the radio upwards until the DCD LED lights up. That means your Receive Audio and Ground leads are correctly connected. Adjust the volume such that it is right at the point where the DCD LED just turns on. It should either be flickering or solid on. There are some radios where this procedure does not work, the Midland 13-500 and 13-509 are two that I've had this problem with. If that is the case you'll have to guess at the volume setting. It's lower than it would seem to need to be. The volume and DCD flicker alignment procedure is actually the best we can do without an oscilloscope and taking

apart the TNC. You don't have to be that picky.

Now close the squelch until the DCD light goes off. You'll want the squelch open enough that you can definitely copy the station you'll be talking to. In general the only station you need to be able to talk to directly is the packet node you'll be accessing the network with. In some cases, however, you'll want the squelch fairly loose so get used to setting it right at the point where the DCD light goes off.

Now hook up the radio's antenna and set the frequency to where you'll be communicating. Your RF side is now ready.

Hook up the computer or dumb terminal to the TNC. With PacComm TNCs the default baud rate is 1200 bauds. The MFJ 1270B is set with dip switches on the back. Be careful moving the dip switches, it's pretty easy to rip the switch from the PC board, it's only soldered down and is not attached to the case. Hold it with one finger while moving the switches with a pen or small tool. One safe way is to put the face of the TNC on your knee and hold just the switch with one finger, then make adjustments. It's not that it is really that touchy but it's a real bear to replace or even to spot that that's the problem. *Note: If you have an aging MFJ TNC that seems to work on the RF side but doesn't talk to your CRT terminal, check the switch. They break.*

So, set your terminal program or CRT terminal to 1200 bauds or what you have the TNC preset for. Now power the TNC off and back on. Just as the two lights on the front panel wink off, the TNC should send your screen about five lines of text indicating the revision of TNC

software and the manufacturer.

Type a single carriage return. The TNC should echo with a cmd:. If you type another carriage return you should get another cmd: on the next line. If an extra line is used or if the cmd: is on the same line as the previous one then you'll want to play around with your CR terminal or terminal program on your computer.

Now type **my KA2DEW** (use your own call!) and then a carriage return. The TNC should come back with some kind of acknowledgment like: **was NOCALL** or something like that. You should have another cmd: prompt. Now type **M** and a return. The TNC will come back with **MONITOR is OFF** or **MONITOR is ON**. Monitor is a feature by which you can see what is happening on the frequency you have selected. You'll want to read up on monitor in your TNC manual. If you type **DISP M** and a return the TNC will tell you the status of all of the monitor options. **MH** is another useful command. Try it. If it displays a list of callsigns then you have selected a busy frequency. Each time you see a new callsign on the screen it should be added to the **MH** (mheard) list.

Now we're going to try connecting to the station of your choice. If you have a friend that is within range, and can get on packet while on the phone with you then call them now.

The command to start a conversation is **C CALLSIGN** where **CALLSIGN** is the call of the friend or of another station you can hear. Let's assume that you are within range of a station whose callsign is **KA2EIA**. We'll have a conversation with him and then go back to monitoring the channel.

cmd:m n <return> This turns off monitor mode. n means no.

MONITOR was ON

cmd:my <return> Just to be sure we did this before

MYCALL is KA2DEW Good. It's correct.

cmd:c ka2eia <return> Here's where we start the connect sequence.

*** Connected to KA2EIA

Great. That means that you can have a conversation with **KA2EIA**. What *Connected* means is that your packet station now has **KA2EIA**'s callsign in memory. Let me back up a short way and give you some more basics.

The TNC has several *modes* of operation. Some of the modes are independent of others. I'll list them here and try to explain what they mean.

Command mode

In Command mode when you type something and follow it with a return the TNC will inspect what you typed and try to interpret it as a command. **M**, **MH**, **MY**, **C** are all commands, meaning Monitor, MHeard, MYcall and Connect. Each time you type a return while in command mode the TNC will respond with a cmd: and sometimes a message in answer to your command. The only exception to this is when you use a command to go to another mode.

Converse mode

In Converse mode what you type is intended to go to another station. You can get into Converse mode from command mode by typing **conv return** at the cmd: prompt. Most TNCs also let you type **k return**. To get back to command mode from Converse mode you can type control C (also written as ^C) which means that you hold down your Control key on your keyboard and type a C. It's almost the same as shift C but it's control C.

Monitor mode

Monitor mode means that you have Monitor turned on in your TNC. Monitoring can be done in both Converse and Command. There are other TNC commands that control whether monitoring is done when connected..

In addition to these 'modes' there is also a *Connect status*. You can either be Connected or Disconnected or in the process of getting connected or getting disconnected.

Connected

This means that you are connected to another station. If you go into Converse mode while connected anything you type on the keyboard, followed by a return, will be sent to the connected station. The connected station is expected to acknowledge a connected mode packet. If no acknowledgment is sent then your TNC will retry.

Disconnected

When disconnected if you go into converse mode and type something it will be sent out over the radio, just as in connected mode. The difference is that the TNC does not expect an acknowledgment for each transmitted packet. The callsign used for disconnected or 'Unprotocalled' transmissions is set by the **UNPROTO** command.

Back to where we were. Since we got the ***** Connected** that means we are now connected to **KA2EIA**. We are also now in Converse mode. When we type text in converse mode while connected it will be sent to

KA2EIA. We can temporarily go back to Command mode, even while connected, by typing a control C. To disconnect from KA2EIA we must go to Command mode and then use a D command. D means Disconnect. Using a C command with no callsign will ask the TNC what the current connect status is. The answer may be Connected to KA2EIA, Disconnected, Connect in progress, Disconnect in progress.

So, from where we left off:

*** Connected to KA2EIA

Hi Tadd, I'm talking to Fred on the 220 repeater
OK Steve. I'll type, you can read when you're free. I just got home from work and found the antenna on my front porch. I looked through the junk and can only find 4 of the boom to element clamps. I think I'm missing the one for the driven element. Was that part of the package?

OK, I'm clear on 220. The driven element clamp is part of the T-match assembly. That's part of the mess that is in the paper bag. Did you get that or did your St. Bernard get that? hi

Ah. Paper bag. Under the pulley and rope?

Yep. You got it.

Here it is. What a mess.

Yep. Last year at field day it got away from us. It might have been wise to remove the coax before tipping the tower over eh?

Sure thing. I'll get to work on it.

Brp at you later.

73.

^C

cmd: D

***Disconnected

Notice how at the end of the conversation we did a control C and then a D for disconnect? That's the normal way of breaking communications.

Now let me give you an example of a bad connection under noisy conditions.

cmd: c ka2hcl

***Connected to KA2HCL

Hello Ken?

***Retry Count Exceeded.

^C

cmd:

What happened here is that we got the connect to KA2HCL but never got an acknowledgment for the "Hello Ken" text. What Ken probably saw was a *** Connected to KA2DEW and then nothing after that. If Ken typed

anything back eventually he also would get *** Retry Count Exceeded.

By watching the LEDs on your TNC you can make a pretty good guess as to how communications is going. The STA LED is lit when you have typed something and it hasn't gotten acknowledged yet. If this is the case it doesn't do any good to type anything more. Your TNC will buffer everything you send but only while you are connected. If you send a long diatribe at the station you are talking to and you get disconnected only after typing a lot you may have wasted words. This can be disappointing.

In the sections on servers and use of the network we'll explore other things that we can do with packet. Key words: Don't get frustrated. Call somebody and talk about it. If you learn something that you think is critical to the newcomer experience but that isn't in this book, write it down. By all means talk to the editor and see that it gets in here. 73 and see you on packet!

-Tadd, KA2DEW

Next month-Beginners Guide to Understanding Servers.

(For more information on North East Digital Association, write to the address at the beginning of this article. -Guy, WZ5C.)

FCC CALL SIGN UPDATE

The following is a list of the FCC's most recently issued call signs as of March 1.

District	Group A Extra	Group B Advanced	Group C Tech/Gen	Group D Novice
0	AA0WM	KG0UD	++	KB0RFW
1	AA1MK	KD1ZZ	N1UKU	KB1BOC
2	AA2WK	KG2BJ	++	KB2TTD
3	AA3KJ	KE3RS	N3UPB	KB3BGN
4	AE4EC	KS4QB	++	KE4WEV
5	AC5AZ	KK5LJ	++	KC5MXP
6	AC6KX	KO6QY	++	KE6RKO
7	AB7IK	KJ7KR	++	KC7JFS
8	AA8SN	KG8PM	++	KB8YBA
9	AA9OA	KG9AS	++	KB9JLU
N. Mariana	KH0Q	++	KH0DT	++
Guam	WH2L	AH2CZ	KH2NC	++
Midway	++	AH4AA	KH4AG	WH4AAH
Hawaii	++	AH6NY	++	WH6CSX
Amer. Samoa	AH8M	AH8AH	KH8CG	WH8ABB
Alaska	++	AL7PY	++	WL7CLA
Virgin	WP2Q	KP2CD	NP2IA	WP2AHV
Puerto Rico	++	KP4YW	++	WP4MWU

++All call signs in this group have been issued in this area.

Vanity call schedule

The Federal Communications Commission form necessary for Applying for an Amateur Radio vanity call sign—Form 610-V—will not be available until after May 1. Amateurs who call the FCC to request the form before then will not have their names recorded and it will be necessary for them to request the form again, when it is available. Applications for amateur vanity call signs will not be accepted until after the forms are available, i.e., until sometime after May 1. The FCC will make a public announcement of the date of opening of the first "gate" for vanity call sign applications. Beginning May 1, 1995, FCC Form 610-V may be requested by calling the FCC Forms Distribution Center at 800-418-3636. Or, send an SASE to ARRL-VEC anytime, for a form 610-V by return mail as soon as they are available after May 1. Write "Form 610-V request" on the outer envelope.

(From Relay Internet Message Exchange, via Radio Online BBS)

Emergency service sought

The ARRL has filed comments on FCC notices of proposed rule making concerning a proposed new Emergency Alert System (EAS) in FO Dockets 91-302 and 91-171.

The EAS proposal signals, the League said, the Commission's intention to integrate broadcast alerting concepts into local and regional emergency response plans, and said that the Amateur Service is a logical partner in providing emergency information to the public.

The League said that Amateur Radio has a history of providing emergency communication, through the Radio Amateur Civil Emergency Service (RACES) and the Amateur Radio Emergency Service (ARES). The ARRL said that while the Commission in its proposal had cited amateurs as an "auxiliary" entity in emergency communication operations, in fact the Amateur Service is a "principal" provider of communication during disaster relief and other emergencies.

The League said that Amateur Radio should be considered an available resource at all levels of EAS organization—local and state. The League, the ARRL said, has for some time had memoranda of understanding with the American National Red Cross, the Salvation Army, the Federal Emergency Management Agency (FEMA), the National Communications System (NCS/DOD), the Associated Public Safety Communications Officers Inc (APCO), and the National Weather Service.

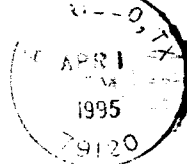
The League suggested that EAS participants should be a part of overall emergency planning, not just emergency communication planning, and urged integration of Amateur Radio (as well as other radio services) into that planning.

(From Relay Internet Message Exchange, via Radio Online BBS)

SO WHAT DO YOU THINK?

Matt and I would like to hear from you about our efforts with the newsletter. How are we really doing, and what more can we do to appease all interest in Amateur Radio? I've heard some suggestions on articles, but what we need most is how are the articles we have been bringing you? Would you like to see more on packet? How about some construction articles like Joe has brought us? And what about you RACES and ARES folks? For that matter, what's keeping all you DXers in the closet? What about ham radio in general? Fed up with K1MAN? Fed up with me? There is an idea about expanding the pages of our newsletter with cost being a factor. So as long as you keep us in ideas, we will fill the pages. Write us in care of the Panhandle Amateur Radio Club, P.O. Box 10221, Amarillo, Texas 79116. And by the way, be nice! 73, Guy-WZ5C

PANHANDLE AMATEUR RADIO CLUB
PO BOX 10221
AMARILLO TX 79116



03/03/96 - Individual
CARL JEANS N5YXN
6112 CALUMET
AMARILLO.TX 79106

**AMATEUR RADIO.....IT'S NOT JUST A
HOBBY, IT'S HEARING VOICES THAT
SOUND LIKE DONLALD DUCK OUT OF THE
SPEAKER!!!**