

# The Pileup

## Newsletter of the CDXA

### Charlotte Hamfest On Horizon

The Charlotte Hamfest is just over the horizon and we'd like to see you there for the fun. Mark your calendars for the weekend of March 12-13. Bernie McClenny (W3UR), DX column editor for QST, is a featured forum speaker.

CDXA has a great raffle prize this year. We'll be raffling off a Troy-built 900 watt gasoline generator which is perfect for a camping trip or for emergency communications. It will easily drive a small transceiver, a TNC and a laptop computer. Tickets will be \$2.00 each or 3 for \$5.00. Proceeds in excess of the cost of the device will be used to support interests of CDXA, including DXpedition support, spectrum defense, or special interest requests which serve to support amateur radio.

On Saturday Evening, March 12, CDXA will host its annual Hamfest Dinner. We will be meeting at Kaffe' Frappe', the same place we held our Annual Meeting/Christmas Party. This is always a gala event with many out-of-town visitors joining us for an evening of fun and fellowship. The details for this year's event are as follows:

W4VHF	Ted Goldthorpe	President
N4HN	Tom Wright	Vice-Pres.
K4SQR	Jim Miller	Sec.-Treas.
K4MD	Joe Simpkins	Cluster Mgr.
W3GQ	Paul Sturpe	Assoc. Cluster Mgr.
WB4BXW	Wayne Setzer	Webmaster
K8YC	John Scott	Editor

Where: Kaffe' Frappe'  
2839 Selwyn Avenue  
Charlotte, NC 28209 (704) 372-1424

When: Cash bar begins at 6:30 PM (beer and wine)  
Salty snacks provided by CDXA  
Dinner orders taken at 7:15 PM

Dinner choices: Pork chop, lemon chicken, meatloaf, or pasta

Price: \$21.50 inclusive of salad, bread, entrée, coffee/tea/or soda, tax, and tip

Reservations: Notify Tom Wright, N4HN, no later than March 9 with number in your party.

Kaffe' Frappe' is about 5.6 miles from the Charlotte Merchandise Mart. Maps will be available at the Hamfest for our out-of-town visitors. For those familiar with Charlotte, Kaffe' Frappe' about ¾ mile east of Park Road Shopping center (Park and Woodlawn) and about 1/3 mile north of the corner of Woodlawn and Selwyn.

### CDXA PacketCluster & Other Communication Systems

W4DXA (11 mi. NE of Mooresville)	144.93 MHz (1200 bits/second)	441.00 MHz (9600 bits/second)
K4MD Charlotte, NC	144.91 MHz (1200 bits/second)	441.075 MHz (9600 bits/second)
K4MD (AR Cluster via Telnet)	k4md.tzo.com	
CDXA Repeater 147.18 MHz (+600 )	W4DXA, Near Fort Mill, SC (Temporarily under repair)	
World Wide Web Homepage	www.cdxa.org	
Wednesday Luncheon (11:30 AM)	Shoney's, 355 Woodlawn Road, Charlotte, NC (704-525-4395)	

### CWAC 2004, One Last Time

I would like to thank everyone who participated in the 2004 Contest Within A Contest (CWAC).

The results were posted in last month's Pileup. All of the earned prizes have been delivered, either in person or via the Postal Service. If you have not received your reward(s) please let me know.

Thanks again for a great effort. If needed, contact me via email at [sturpe@charter.net](mailto:sturpe@charter.net) or via Snail Mail at 8860 Peninsula Dr., Terrell, NC 28682.

—73, Paul Sturpe, W3GQ

### Dues Countdown

Annual dues are payable in January each year. For some, the annual ritual is to use the Charlotte Hamfest as the time and place to deliver your dues payment. Regardless of your method, if you've not paid your dues as yet, please deliver a CHECK or MONEY ORDER, but NO CASH to Jim Miller, K4SQR, no later than the Hamfest. Treasurer Jim cannot accept cash payments at the Hamfest because of security concerns in holding cash, so bring your checkbook when coming to the Hamfest. Dues are \$30 if a user of the DX spotting network, \$15 otherwise. Jim's address, if remitting via mail, can be found on the back cover of each *Pileup*.

#### The Pileup

Official Newsletter of the Carolina DX Association  
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Published monthly 10 times per year, excluding the months of June and December.

The purpose of the association is to secure for the members the pleasures and benefits of the association of persons having a common interest in Amateur Radio.

Members of the CDXA shall adhere to "The Amateur's Code" as published from time to time in *The ARRL Handbook for Radio Amateurs*, and shall consist of those valid licensed amateur operators having an interest in promoting amateur radio. Long distance communications (DX) is of special interest to members of the association, but said interest is not a requirement of membership.

Dues are \$30 per year for those using the PacketCluster maintained by the Association, \$15 otherwise, payable each January. Dues are payable by check to the Secretary/  
Treasurer: Jim Miller, K4SQR  
11600 Hilda Court  
Charlotte, NC 28226

Address, telephone, and email address changes should be directed to the Secretary/  
Treasurer at the above address or via email at: [k4sqr@juno.com](mailto:k4sqr@juno.com).

### CDXA Shirt Order Deadline Looms

Dick Williams, W3OA, is taking orders for shirts embroidered with the CDXA logo through February 23. You can see the goods by visiting the CDXA website and clicking on the icon which will take you to the order pages. An order blank can be printed from the website, or you can find one in the emailed version of the January 2005 Pileup in the archives on the CDXA website. As you clean out your closet this spring, replace that old worn out shirt with a nice new one bearing the CDXA logo neatly embroidered by Lands End!

### Congratulations to W4WJF!

The youngest member of CDXA, Josh Fisher (W4WJF), recently received his "greetings" letter signifying his admission to Georgia Institute of Technology. Beginning this fall, Josh will become another "Ramblin' Wreck from Georgia Tech" and, as we know, will become a "helluva engineer". Congratulations, Josh. Be sure to bring your radio to Atlanta!

### Contest Results Roundup

In the July, 2004 issue of the *Pileup*, the sights and sounds of **Field Day 2004** were reported shortly after the conclusion of the event. The December 2004 issue of QST reported CDXA's first entry in Field Day in ten or more years as an entrant in the 2E category. CDXA earned a third place finish nationally in 2E with 6,096 points. There were 62 entries from the State of North Carolina in all classes, making it one of the states with the highest number of participating stations. In statewide scoring, Shelby Amateur Radio club finished first under Ron Bailey's callsign, AA4S. CDXA using W4DXA finished sixth in the state. A great showing was made by Bill Tippett, W4ZV, who single-handedly scored within 400 points of CDXA while operating in the 1B category. Hats off to all North Carolina stations for a strong Field Day showing. The ARRL has just released a rules packet for Field Day 2005. It's time to start planning!

AA4ZZ entered the 2004 **ARRL June VHF QSO Party**. The team finished a respectable 7th in the national top ten in the Limited Multioperator class and

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## Roving Report Finds N4HN

The Roving Report went on the prowl again this month to talk to CDXA Vice President Tom Wright, N4HN. Tom lives in Charlotte and is the owner-manager of Thomas Wright Electric, an electrical contracting firm.

**RR:** It is always interesting to find out how our members got started in Amateur Radio. What got you into our hobby, Tom?

**N4HN:** In the 1970s and early 1980s when the Citizen's Band radio craze was going strong, I bought a CB radio. I was always a bit fascinated by the long distance capabilities of radio, but of course, CB regulations expressly prohibit "working skip". I finally decided that I would like to enjoy the added privileges of being a ham, so I took my Novice examination.

**RR:** When was that?

**N4HN:** That was in 1988, just coming into the peak of the last solar cycle. By 1992 I had upgraded to a Technician Class licensee, and I spent much of my time on 10 meters working DX. I earned my DXCC, all on 10 meters, in the early 1990s. In 1995, I upgraded to Advanced—I can't remember being a General, so I must have made a double jump in one exam session. Then in 1996, I made the final upgrade to Extra.

**RR:** Did you remain active all the time since being initially licensed?

**N4HN:** I wasn't extremely active through the mid-nineties, but along the way I bought an Icom-706 and the flexibility of that rig spurred my interest in VHF, since until then I'd never owned a rig for the VHF/UHF bands. Interestingly, I really got caught up in helping the AA4ZZ team when they were up on the mountain contesting. So much so, that I began participating in all of the annual VHF contests. In the past several years, I've worked all of them.

**RR:** Do you have an "antenna farm" for VHF/UHF, then?

**N4HN:** I wouldn't call it a "farm". I have a 6 meter antenna, a 2 meter antenna, and an antenna for 432 MHz. I haven't neglected HF, though. I have a tribander for 10-15-20 meters, and a Butternut HF2V for 40m and 80m, but I wouldn't consider 40m and 80m my strong suit.

**RR:** I know you've been active on the VHF bands, because I've heard you working the AA4ZZ gang in the VHF contests, but I've also heard you in the HF contests as well.

**N4HN:** Yes, that contesting bug is catching, isn't it? During the latest CQWW effort, I earned more than a million points for the first time, and felt pretty proud of that effort.

**RR:** I suspect you've also enjoyed contesting for its ability to give you some "new ones". I noticed from looking at the walls of your shack that you like to capture some "wallpaper".

**N4HN:** You already know I earned my DXCC a long time ago. A couple of summers ago, I spent an intense 90 days completing my VUCC on 6 meters. I'm now up to something like 250 grid squares on 6 m. In the early summer of 2004, in a fantastic VHF opening I had a great run on 2m which gave me a bunch of grid squares. That surge of 2m grids gave me a good start, and I now have 95 grids worked with 92 confirmed. The HF contesting has also helped fill out my list of entities worked, although a little more deliberately than my VHF efforts. I'm now at 295 confirmed on DXCC, Mixed. Also, I've just recently had my cards checked for 5BWAS so I should be receiving that certificate soon.

**RR:** Do you spend much time with CW?

**N4HN:** I have never really gotten into CW. There are some many aspects of this hobby, you can get immersed in one part and never explore others. I have just focused on VHF and the HF phone bands.

**RR:** I understand your XYL, Cindy, is also an Amateur Radio Operator.

**N4HN:** Yes, she is. She's licensed as an Advanced Class operator.

**RR:** I've also heard her working the AA4ZZ group during contests. Is she active otherwise? Did you both get licensed for the HF bands with an eye toward doing some offshore boating or some such thing where it would be beneficial for you to both hold HF privileges?

**N4HN:** Cindy is not real active as a ham. When I became licensed, I suggested she also ought to be licensed at least at the Advanced Class level, and she took it

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upon herself to do so. And, no, we aren't planning on putting to sea anytime soon! I grew up here in Charlotte, and I think we'll be staying put for a while longer.

**RR:** One last thing, Tom. I was pleased that you stepped forward to serve as Vice President. What prompted you to do that?

**N4HN:** We needed some officers to replace the retiring slate in the fall of 2003, and I felt that we all must "give back" something to the hobby so I decided to step forward.

**RR:** We're glad you did. We'll be looking for you at the Charlotte Hamfest, and hope others will find you there, too.

### **W4DXA Cluster Notes**

By Paul Sturpe, W3GQ

The computer equipment at Young Mountain (W4DXA) was recently upgraded to run AR-Cluster software. I covered some of the advantages of the upgrade during an earlier communication. Those of you who use W4DXA's node know of the problems that followed the upgrade.

The node at W4DXA uses several different pieces of software to deliver DX spots. During the upgrade we added two new pieces of software along with one of our old standbys. All three pieces of software are advertised to be compatible. It turned out that one of the new software packages is not compatible, at least not in our installation. The incompatible piece of software was free so we are not out any money, just the inconvenience that ensued. I thank everyone for being so patient during the frequent outages.

There is one good thing that came out of this. Two modern computers were donated to CDXA. Thanks to Pat Patterson, N4BH for one computer and thanks to Alan Bumgarner, N4ZTK for the other computer. One of the computers has already been pressed into service at W4DXA. The other one will replace the computer that runs the W3GQ-7 end of the backbone link. Both of the new computers are capable of running Windows 2000 or Windows XP, a great advantage over the Windows 98 computer now in use at W3GQ-7.

Dropping the troublesome piece of software meant that

we are not able to retain the "beaconing" capability that we had sought. Without beaconing capability, no spots are transmitted on two meters unless at least one user is connected to W4DXA on two meters. The same applies to the 70 cm user port.

### **Fred Slipsager, WA4ZZ, now a Silent Key**

*(The following note from fellow member Roy Lincoln, WA4DOU, announced the passing of Fred Slipsager, WA4ZZ, and offers condolences with far deeper meaning than I can. —The Editor)*

It is with sadness that I must report to the membership that my friend and fellow member, Fred Slipsager (WA4ZZ) passed away on Saturday, January 29. Fred had been in declining health for several months. I am proud to have known him as he was a very decent person. Fred approached me about 15 years ago and was interested in ham radio and wanted someone to administer the Novice examination. Roger, K4CLK, and I did so. It was my pleasure to see Fred grab the ball and run with it. Fred quickly moved up on the DXCC totals list to within a couple of entities of being on the Honor Roll. As his Elmer, I was quite pleased to see that he qualified for a number of prestigious awards. Clearly Fred resonated with Amateur Radio....

### **Ten and Twenty Years Ago....**

*(Extracted from the CDXA Newsletters of 10 and 20 years ago—now archived on the CDXA website.)*

#### **Twenty Years Ago:**

A group was going to Desecheo Island in the Caribbean to operate for seven days. . . . Announcement was being made of an upcoming DXpedition to Clipperton Island to occur in April, 1985.

#### **Ten Years ago:**

CDXA was just getting its feet wet in PacketCluster as a spotting network and climbing the steep "learning curve". . . .association members had a contest to see how many countries one could get (all bands, all modes) in a year's operating time. Roger Burt (N4ZC) took the innovative path to include satellite operations and "wowed 'em" all around the world. (Great reading, check out the March 1995 issue.)

## AR-Cluster Operating Refresher

(With both K4MD and W4DXA Cluster nodes now equipped with AR-Cluster software, the time is right for a tutorial on some of the features of this software. You will probably find that you can do things with AR-Cluster that you never knew were possible. –The Editor)

This operating refresher is organized as follows: Configuring your cluster station, log in and log off procedures, sending spots, receiving spots, displaying cluster/user data, and communication with fellow cluster users. The information herein is paraphrased from the AR-Cluster User Manual, available by clicking on the Cluster Icon on the CDXA home web page. In the text which follows, the AR-Cluster commands will be in all capital letters. Data you enter for each command will be written in italics, i.e., *mydata*.

### Configuring Your Cluster Station

Many do not spend the few minutes needed to define your station to the AR-Cluster. Doing so will help the sysop and provide a useful tool to you as well as your fellow users. The SET command is used to perform this setup using several subcommands:

SET/NAME *yourname* This will associate your name with your login callsign.

SET/QTH *city, state or any other defining text*

SET/LOCATION *WW XX N YY ZZ W* Use single blanks only between data where:

*WW*=your latitude in degrees

*XX*=minutes in your latitude

*N*=North Latitude if in USA

*YY*=your longitude in degrees

*ZZ*=minutes in your longitude

*W*=West longitude if in USA

SET/HOMENODE *K4MD/W4DXA* ...choose which is yours.

SET/EMAIL *your\_email\_address* Optional, but it lets the sysop know how to easily reach you if he has to contact you.

SET/PHONE *your\_phone\_number* ..Again, a convenience to the sysop.

SET/HERE If you leave your station connected

SET/NOHERE to the cluster at all times, using

SET/NOHERE when absent from your station will display parentheses around your callsign if others execute a “SHOW/USERS” command. (See SHOW/USERS, elsewhere in this article.)

SET/FILTER (There are numerous filters which can be set for your station in AR-Cluster. See the unabridged user manual for a complete discussion.)

### LOGIN and LOGOFF Procedures

One of the more confusing things for casual packet radio users is that one needs to be aware of whether the terminal is “talking” to the TNC or to the Cluster. When you first power up a TNC, you are generally in the “command” mode of the TNC. All commands entered at the command prompt permit you to affect the TNC operating characteristics. When you type “C K4MD” (or “CONNECT K4MD”) the TNC is commanded to attempt to connect to K4MD (i.e., in our given example) and the TNC will *automatically* switch to the “conversational” mode if the connect sequence is successful. To avoid confusion, you must be aware of whether you are trying to command the Cluster or the TNC! If connected to the Cluster and you wish to change a TNC setting use <Ctrl-C> followed by <Enter>. For most TNCs that will usually result in the letters “CMD:” being displayed on your terminal screen. If in the TNC command mode, entering CONVERSE or CONV will return you to the conversational mode with the Cluster.

Login method depends on whether one is using an RF connection or initiating a telnet session via the Internet.

If an RF connection:

*C your\_homenode* Allows you to connect to your chosen homenode.

If an Internet connection:

TELNET K4MD.TZO.COM will invoke a telnet session and connect you to K4MD, our CDXA node providing telnet sessions via the Internet. You’ll be prompted for your callsign from K4MD if the telnet connection is successful.

Regardless of the mode, if your connection is successful, you will be presented with a “welcome preamble” letting

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you know something about the Cluster node (K4MD or W4DXA) to which you've connected. It is best to allow the full preamble to print before attempting a Cluster command. When complete, you'll see a prompt like this "your\_call de W4DXA 31-January 0216Z arc>". The "arc" at the end of the prompt is a dead giveaway that you are connected to an AR-Cluster node.

If you wish to LOGOFF from a session connected to the Cluster use either of the following:

BYE or QUIT

Using either of these commands, you'll get a goodbye message from the Cluster and your TNC should reset to the command mode because you've exercised a normal termination of a packet session. (Do not enter the TNC command mode and use the "DISCONNECT" command to leave the Cluster. That will leave your session open on the Cluster for an indeterminate time and may prevent your reentering the Cluster until the normal Cluster session timeout sequences are completed.)

### **Sending Spots**

All users of Cluster are encourage to send spots when finding an interesting station, since other Amateur Radio Operators are counting on your ears to inform them of stations they seek. Recording a spot is a simple matter of knowing the station's operating frequency, his call-sign, and any useful comments, such as name, location and whether he's operating split. The format of a spot is:

*DX frequency\_in\_kilohertz callsign comment*

Example: If 3B8CF is operating split, up 2 kHz, on 40 meters CW, the spot might be:

*DX 7006.8 3B8CF QSX 7008.8 Jacky in Mauritius*

### **Receiving Spots**

Spots being input from others on the Cluster will automatically be sent to you once you've logged in. But what if you'd like to find out the following?:

- Has 3B9FR, Robert from Rodriquez Island been on the air?
- Has anyone from West Malaysia been spotted?
- What's been spotted on 15 meters?
- Show me the last 10 spots?

Here's the rundown on "showing" what's been happen-

ing. (Command can be either SHOW or SH with various subcommands):

SHOW/DX <i>callsign</i>	Shows if a specific callsign has been active.
SH/DX <i>prefix</i>	Shows the last 5 spots from an entity.
SHOW/DX/ <i>n prefix</i>	Shows the last <i>n</i> spots for a specific entity. Here, two parameters define the "show".
SH/DX <i>band_in_meters or MHz</i>	Shows last 5 spots for a band.
SH/DX <i>freq_range</i>	Shows spots for a range of frequencies.
SHOW/ZONE <i>CQ_Zone_Number</i>	Shows spots from a CQ zone.
SH/ITU <i>ITU_Zone</i>	Shows spots from an ITU zone.

(Note the difference between SH/DX/7 and SH/DX/ 7. The former shows the last 7 spots on all bands and the latter shows five spots for the 40 meter band. SH/DX/7 7 will show the last seven spots on 40 meters.) You get the idea. If looking for a needed entity, band/mode, or callsign, the SHOW command can let you know when and where its been on the air with a few keystrokes. The power of the SHOW command should be a motivator for you to be a spot originator as well as a spot receiver.

### **Displaying Cluster/User Data**

A lot of data is available from the Cluster. Here are a few things:

(SH and SHOW are interchangeable terms for a "show" command.)

SH/BUC *callsign* (SHOW/BUCKMASTER) Accesses the Buckmaster callsign database and displays information about the callsign.

SH/WWV Shows the Solar Flux Index and the A and K radio propagation factors.

SH/ANN/*n* Shows the last "n" announcements.

SH/USERS Shows the users connected to your homenode

SH/QSL *callsign* Shows QSL routes.

SH/NODES Shows all the nodes connected to your homenode.

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**SH/CONFIGURATION** Shows all other nodes connected to your homenode as well as the stations connected to those nodes. This information is useful if you wish to send a message to another station on the Cluster as it allows you to “route” your message. (See “Communicating with Fellow Cluster Users”, below.)

**SH/CONFIGURATION *other\_node*** Shows who is connected to a specific node other than your homenode.

**SH/HOMENODE *callsign*** Allows you to find the homenode for a specific callsign.

**SH/STATION *callsign*** Shows pertinent data about another Cluster user. (See the SET commands discussed above to see how to populate your own station data. If everyone fills out their station data, it is to everyone’s mutual benefit.)

**SH/LOCATION *callsign*** Provides distance and heading to the named station if that station has “SET” his location.

**SH/TALK/*n*** Shows last “*n*” talk messages directed to your station.

### Communication with Fellow Cluster Users

There are two ways to communicate with other stations. One is “instant messaging”, and the other is “electronic mail”. (And you thought these were new capabilities brought to you by the Internet!) The “TALK” function is the Cluster’s form of instant messaging. The “SEND” function allows you to send a message to a station whether it is connected or not. Here’s how both commands work:

The TALK command can be spelled out in full or abbreviated to the letter “T”.

**T *callsign text*** Sends a line of text to another active station.

**T *callsign >nodename text*** Sends a line of text to a station via its homenode. This allows you to send text to a station other than those on your own homenode. (Use the SH/HOMENODE *callsign* command to learn a station’s homenode.) (Success with this command may depend on the configuration of the foreign node and whether it is running AR-Cluster software.)

The five functions you need to know for sending/receiv-

ing messages via the Cluster are: listing, sending, receiving, replying, and deleting.

If new mail is sent to you, you’ll be given an announcement if you’re online at the time, otherwise, you’ll see a message on logon advising you of new mail. (This is one reason to wait for the whole preamble to be printed when signing on.) On AR-Cluster the directory command (DIR) replaces the LIST command used on the older Pavillion PacketCluster.

**DIR** Shows the latest 5 messages.

**DIR/*n*** Shows the latest *n* messages.

**DIR/NEW** Shows only new messages.

**DIR/OWN** Shows only messages directed to you.

Each message listed using the commands above will have a message number. Make note of the message numbers you want to read, since that is how you access the message. To read the message, use the READ (or R) command as follows:

**R *message\_number*** Prints the message identified by *message\_number* to your screen.

If you wish to reply to a specific message after reading it, use the following:

**REPLY *message\_number*** Permits replying to *message\_number* using the same subject line.

Don’t forget to clean up after yourself. If the message you’ve read is directed to you alone, please delete it by typing:

**KILL *message\_number* or DELETE *message\_number***

If you want to initiate a message, use the SEND command. Here’s the various forms:

**SEND *callsign*** Directs a message to a specific callsign.

**SEND/PRIVATE *callsign*** Makes the message private.

**SEND/PRIVATE/RR *callsign*** Private with return receipt.

**SEND/ALL** Sends your message to all nodes. It is an “all points bulletin”. Be careful with this one.

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**SEND/LOCAL** Sends message to all stations on your homenode.

**SEND/FORSALE** Sends a “For Sale” message to all nodes.

**SEND/WANTED** Sends a “Wanted” message to all nodes.

When you initiate a SEND command, you’ll be prompted for a subject of the message. You have about 25 characters available, but don’t worry, you’ll be told if you’re too wordy! After the subject line has been entered, you’ll be prompted for your text. You can enter all the text you want, line by line, and when done, use “/EXIT” to complete the message and send it.

There, you have it. Give it a try. If you want to become a guru of the Cluster, be sure to look over the full manual linked from the CDXA website.

### **The Toolbox**

By Don Daso, K4ZA

*(Don Daso is the former editor of the Pileup. In fact, if you go back to the archives of the Pileup, you’ll find that Don edited the newsletter on two separate occasions for a period in excess of 8 years! Besides CDXA, Don is a member and Past President of Potomac Valley Radio Club. Those who read the PVRC newsletter will know that Don authors a regular article for the PVRC newsletter called The Toolbox. With permission of Don and Pete Smith (N4ZR), Editor of the PVRC newsletter, we’ll be reprinting a number of The Toolbox articles so that we might all learn something from Don’s years of experience in antenna raising projects. —The Pileup Editor)*

So, I’m talking to one of the locals, who’s telling me about his plans to “refurbish” some 25G tower sections—he’s planning to sand and paint them before installing same—when the conversation veers toward air tools. He’s very proud of his air tools, which he intends to use to sand the tower, although he admits it’s not as fast as he’d like. I ask to see his setup, as I’m afraid he’s wasted some money, but is about to waste some time.

Home shop compressors vary widely. Most stores are not staffed by sales folk who can truly tell you what you NEED, based on the work you intend to do. So, here’s

a sort of “Compressors For Dummies” introduction. Consumer compressors consist of a motor, a pump, a tank, an unloading valve, a pressure relief valve, and a pressure switch. Ancillary items can include: a pressure regulator, a tank drain, and a tank stop/shutoff valve. There are basically two designs for these—horizontal or vertical tank, with the pump/motor mounted on top of the tank. Vertical systems take up less floor space, and are intended to be left in place. Horizontal systems can be rolled around more easily.

Oil-less compressor pumps are connected directly to the motor. They’re usually noisy, and not very efficient. But they are cheap, and are often a first choice where high duty cycles and lifespan are not major considerations to the buyer. As their name implies, no lubrication is required. Incoming air passes a simple filter, but the crank assembly and the bottoms of the pistons and cylinders are exposed, so whatever dust/dirt is in your shop’s air will eventually deteriorate the pump or seals. It’s usually cheaper to replace than fix such compressors.

Belt-driven compressors have a separate motor driving a reciprocating compressor, usually through a V-belt. These are quieter and more efficient, and the crankcase is sealed. The vulnerable part of any compressor is the valves, so a valve and gasket replacement kit is a good investment. If a belt-driven compressor fails, replacement parts are not only cheaper than replacing the whole unit, it’s usually easy to work on.

The pressure relief valve (sometimes called a “pop-off” valve) is designed to open if tank pressure exceeds a safe working level. Compressed air should be treated like a potential bomb, so exercise the pop-off valve at least once a year.

The unloading valve works to prevent the compressor from having to start working against tank pressure on startup. That’s the *PSSSSSSsssssstttt* sound you hear once your compressor shuts down—the unloading valve is “unloading.”

A popular misconception is that a large air tank (the reservoir for air) will offset an undersized compressor. Another error in thinking is that you really don’t have to drain the tank (the valve is usually hard to reach, after all). But you should do this after every use. Otherwise, water will collect and rust, and eventually the tank will

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develop pinhole leaks, which can, of course, be dangerous.

Tool choice and use should dictate your selection. Most any small oil-less compressor will work for a nailer, or to pump up your tires, or to sandblast rusted parts. But move to spray guns or rotary tools, the simple, homeshop compressor fails to meet your needs.

It's just this simple: EVERY rotary tool is incredibly inefficient. Typically, they require 5 HP of compressor power to generate  $\frac{3}{4}$  HP of tool power. If a sander says it requires 5-6 CFM @ 90 PSI, you should count on 9-11 CFM of actual air consumption. Traditional wisdom says your compressor should be twice your largest air demand, so you're now talking about an 18 CFM compressor to run that sander. Around the 3 HP compressor point is where thermo-dynamic efficiency kicks in, and two stage compressors are more economical. But be careful—a two-cylinder compressor may not be a two-stage compressor (the cylinders may be in a V configuration or side-by-side). Again, the simpler shop compressor, run continuously, will fail, usually earlier than you think.

So, what's this mean for the average shop? The Sears oil-less two stage compressor will not adequately power rotary tools. Yes, it's a true two-stage compressor; yes, it will pump up to 175 PSI. But once you put that rotary sander under load, the compressor cannot keep up. What my friend really needs is something like the 5 HP Ingersoll Rand compressor (two stage, with a 60 gallon tank), on sale at Home Depot for \$899. A far cry from the \$299 unit he's got in his garage.

And of course, the simpler truth is that sanding the tower is probably not a good idea. A simpler and less labor-intensive approach would be to use a paint designed to "convert" the rust (none of which is structural in nature, anyway), and then paint the sections with a quality topcoat of paint. I've had excellent results with Rustoleum's rusty metal primer, for instance, followed by their topcoat paint.

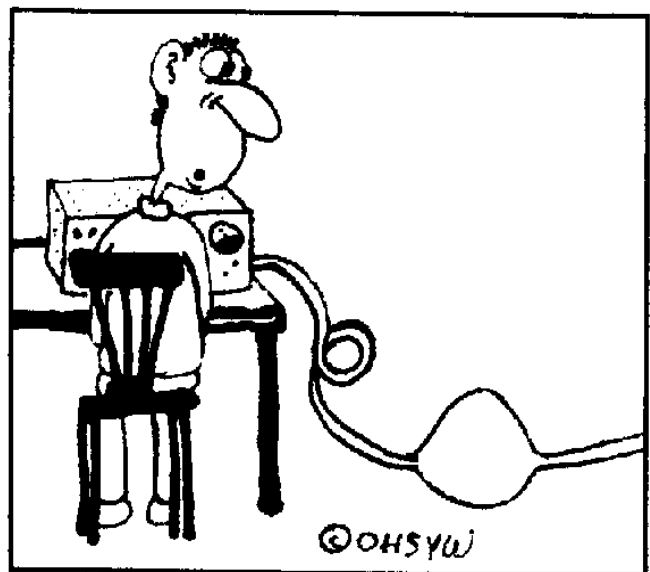
What's in your toolbox?? —K4ZA

(Continued from page 2)

third in the Southeast Region in the same class. Band conditions weren't the best last June, but, as they say, wait'll this year!

By the time you're reading this issue of the *Pileup*, you will probably have received the March, 2005 issue of QST. There you'll find the AA4ZZ mountaintoppers grabbing some ink for their national 4th place finish in the Limited Multioperator category for the **2004 ARRL September VHF QSO Party**.

AA4ZZ also placed in second place in the same contest for the Southeast Region for Limited Multioperator stations right behind W4IY, who just happened to be the very same station ahead of them in the national scoring. Competition in the Southeast Region was especially keen in the contest with four stations from the Southeast finishing in the top ten of the national rankings. Operators at AA4ZZ included: AA4ZZ, AA4S, K2SD, K4DXA, K8YC, W4GRW, W4MW, W4WJF, and W4WNT.



*Yes, there could be something wrong in my antenna...*

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## The Back Page

The **Pileup** has a planned publishing date of the Wednesday *after* next month's Hamfest (March 16) to enable us to include reports on the happenings at the event. So, don't count on it being a reminder for the Hamfest!

The **Charlotte Hamfest** will feature the usual dinner on Saturday evening. Plan on attending the forum with Bernie McClenny, QST's "How's DX" column editor. Also come by the booth and buy your raffle ticket for a chance at a neat, compact 900 watt emergency generator perfect for your 1A, low power Field Day effort. Details of the raffle and dinner are on Page 1. Additional details are available by clicking on the Hamfest icon on the CDXA webpage.

A **new feature** for this and following months will be reprints of Don Daso's "The Toolbox" articles reprinted with permission from the Potomac Valley Radio Club's newsletter. See Page 8.

February 23 is the final date to submit your order for a **CDXA Embroidered shirt**. Dick Williams (W3OA) is the man to talk to! More information on Page 2.

### Upcoming Contests:

Date(s)	Contest	Comments
Feb. 12-14	North American Sprint-CW	See P. 103, February 2005 QST
Feb. 12-14	CQWW RTTY WPX Contest	See P. 103, February 2005 QST
Feb. 19-20	ARRL Int'l DX Contest -CW	See P. 104, December2004 QST
Feb. 26-28	CQWW 160-meter SSB Contest	See P. 102, January 2005 QST
February 27	North Carolina QSO Party	See P. 103, February 2005 QST or <a href="http://www.w4nc.com">www.w4nc.com</a>
Mar. 5-6	ARRL Int'l DX Contest - Phone	See P. 104, December, 2004 QST

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**Jim Miller, K4SQR**  
**11600 Hilda Court**  
**Charlotte, NC 28226**

**[k4sqr@juno.com](mailto:k4sqr@juno.com)**

**First Class Mail**

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