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THE BULLSHEET

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The Prez Sez - de Don, KI3L/5

TDXS scored yet another victory at the 1993 Houston Convention. We owe a vote of thanks to **Bob, N5RP** for his successful management of the annual club raffle. The TDXS treasury has been restored to a healthy state. Thanks to the many TDXS members and friends who supported the raffle, and special congratulations to the winning ticket holder **George, NR5M**. Enjoy the TS-50S, George! The hospitality suite, which was arranged and coordinated by **John, K5EC** was well attended, and enjoyed by all as well. Thanks, John.

The Contest/DX Forum, sponsored by TDXS was also well attended and received. Thanks to the presenters: **Dale, KG5U, Jim, N5DC, Dave, K5GN, and Dave WQ5Y**.

A tower (130 feet of Rohn 25G), along with associated guys and accessories, was recently donated to TDXS by a landowner who requested that the tower be dropped and removed from his property. **Galen, KB5FU**, received the initial tip and immediately passed the information to me. A few weeks ago, **Sharp, K5DX, Wes, AC5K, Brent, NT5D, Frank, W5JWM, and Joe, W5ASP** gathered to bring down the tower, but were unable to begin due to bad weather. On Thanksgiving weekend, **Wes, AC5K, Robert, K5PFE, and Jo Anne, KA5PXX** were able to do the job - Wes and Robert on the tower, with Jo Anne helping on the ground! The tower and accessories, which are in excellent condition, will be available for sale, with proceeds going into the club treasury. More details will come later. Thanks to all who contributed toward this effort.

Congratulations to the new TDXS officers - **Bob, N5RP, Kenny, NZ5I, Dave, WB5N, and Mike, KC5CP**. The president elect has some exciting, refreshing ideas that will surely add vitality to the club. Stay tuned - you'll see. I look forward to 1994.

Don't forget the **December 17th TDXS Christmas party/meeting at the KI3L QTH**. Directions can be found below. Don't let the address scare you, it's not too far out of town (less than 20

minutes from the South Loop/Hwy 288 junction). Plan to arrive anytime after 7:00 PM - YLs are welcome.

The program will feature **Dave, K5GN**, and his excellent slide presentation documenting TDXS's worldwide travels and Expeditions. Dave presented this show at the convention DX Forum, which, unfortunately was missed by many members. Here's your chance to see it again. A short videotape of the recent **V31KF** effort will also be shown. See you there. *Merry Christmas and Happy New Year* de Don, KI3L.

Announcements

Meeting Notice - The Texas DX Society meets on the second Friday of each month, except when the date is changed by the Board of Directors. The December meeting will take place on **Friday, December 17, 1993**. The meeting will be held at the home of Don, KI3L, our president-elect. This will be not only a regular meeting for the TDXS, but a social event as well...in observance of the Holiday Season. To get to Don's place, one need only follow the directions as given below. And if you get lost, someone on the repeater will be more than happy to help you out.

Directions to the QTH of Don Butler, KI3L

1. Travel south on 288 from the 610 Loop approximately 8.4 miles to the Pearland Exit (FM 518). McHard Rd. is the preceding exit.
2. Go left underneath the 288 overpass (East) on FM 518 and continue approximately 3.5 miles to FM 1128 (fourth traffic light). This is a "T" intersection with an Exxon Station on the right. A sign "Manvel 7 miles" also marks the intersection.
3. Turn right (South) on 1128 towards Manvel - go approximately 1.3 miles. Just beyond a slightly elevated bridge with low side rails, take the first left turn (East) on CR 844A (Also called Meadow Lane).
4. Continue East on Meadow Lane to the fourth intersection (Bluebird Way). A Dead End sign is adjacent to the marker for Bluebird Way.
5. Turn right (South) on Bluebird Way - continue 0.2 mile. KI3L's QTH, 3410 Bluebird Way, is the first concrete driveway on the right after crossing the first intersection (Bluebird Way/West Lea Lane intersection with a Yield sign on the right).

TDXS Weekly DX and Contest Net - Each Tuesday night at 2100 CST, the Texas DX Society sponsors a **DX and Contest net on 147.96/36 MHz**. The purpose of this net is to exchange information of interest to DXers and contesters. The agenda includes general and club announcements, DX information, contest information, QSL routings, propagation forecasts and various related topics. Participation is not limited to members of the TDXS, but is open to all and everyone is encouraged to join in.

TDXS Raffle Ticket Sales

de Bob, N5RP

Upon first consideration, I would suppose that most of you might believe that the job of selling raffle tickets is right down there with latrine duty. I assure you that nothing could be further from the truth! To have received the overwhelming positive response that we did to our raffle ticket sales requests from our "distant" brothers living in the less civilized realms of "W" land was extremely heart warming.

My thoughts are confirmed that we, as radio amateurs, really are very fortunate to belong to that "elite" organization known as the TDXS. I hope that the membership will agree with me when I take the position that it is not proper to quantify, on an individual basis, the general memberships' response to ticket sales. (Something which I consider to be incumbent upon ourselves, anyway)

I do feel, however, (and, again, I hope that the membership will agree with me) that I should acknowledge those special individuals who demonstrated that they still consider the club to be a part of their amateur radio ties to fellowship and fraternity.

These include AA5Y, N5AF, NM5M, AA7VB, K5AAD, K5MA, AA7VB, K5KG, K5NA, W5RK, WQ5Y, N5PJ, K1TU, K5LZO, N5NMX, W5JQ, GM0ECO, K5HKX, WB5YJN, KC5SC.

I surely do hope that I have not forgotten anyone in my listing. If I have, then by all means, bring it to my attention for a public verbal correction at the next meeting and a print correction for the next Bullsheat!

The Ohio/Penn DX Bulletin

Editor Tedd Mirgliotta, KB8NW

Provided by BARF-80 BBS Cleveland, Ohio

Thanks to the Northern Ohio Amateur Radio Society, Northern Ohio DX Association, Ohio/Penn PacketCluster Network, DF4RD, DL7VEE & DXNL, OH2LVG, AA8EU, K6OZL, NH6YK, AB7E, W8QWI, KF8VW, K8YVI and NE8Z for the following DX information.

BV9P, PRATAS ISLAND. The latest word/rumor circulating this week was that the DXpedition would take place December 15th and supposedly, Martti, OH2BH, and others have gotten their permission to join this BV group DXpedition. THIS IS FALSE! From Ron, K6OZL: Per OH2BH/VR2BH on December 4th, the Taiwanese officials have finally reached a decision that foreigners will not be allowed to go to Pratas Island. There is no word on if/when a DXpedition will be attempted because of transportation. The two flights a month to Pratas are filled up and the government is not offering any help at all.

CH3/VE3, CANADIAN ISLANDS. Dr. Rick Dorsch will be active as NE8Z/CH3 or NE8Z/VE3 from various Canadian Islands in Ontario. The QSOs will count for the "Canadian Islands Award" (C.I.S.A), but not for the IOTA award. The various islands have not been announced because the plans are not complete yet. Operating dates are December 13, 14, 17, 19, 20 and 28th. Activity will be between 1400-2300z on the following frequencies: CW - 7025, 14025, 21025, 28025; SSB - 7174, 14260, 21260, 28460. QSL via NE8Z (any CBA) or K8LJG, John C. Kroll, 3528 Craig Dr., Flint, MI 48506 USA.

SPECIAL NOTE: NE8Z will be active (as XE1/NE8Z) between February 9-21, 1994 including the ARRL DX CW Contest. During that time period he will also activate a "NEW IOTA GROUP" in Mexico. More details in mid-January.

KC6, PALAU ISLANDS. Ted, NH6YK, will be operating KC6YK sporadically during the time frame of December 20th to January 2nd. He will be on RS-10, AO-13, 6 and 10 meters. A possibility of low band operation may take place, if Ted can borrow a radio and install some wire antennas. Ted states if you miss him this trip, he will be a back in Palau over the summer.

QSL NOTE "DE CN2AQ". A note from CN2AQ enclosed with a QSL card states that many QSL cards sent direct to him (since 1992) have never arrived or have been opened enroute. He now has a new mailing address (S.J Quast, P.O. Box 82, Asilah, Morocco) and advises NOT to send SASE, but instead send a self-addressed sticker. Also include a note on the rear of the QSL identifying what "Green Stamps or IRCs" were enclosed (if any). He also welcomes QSLs sent via the bureau.

QSL NOTE. Several have been asking, "WHAT IS THE ADDRESS FOR OLLI, OH0XX/W4?". It was announced on the INDEXA net, that Olli's address for his resent 8R1K operation (CQWWCW 93) goes to: Olli Rissanen, 1313 South Military Trail, Deerfield Beach, FLA 33442.

S0, WESTERN SAHARA. S0RASD and S0MZ have been heard active over the past week. S0RASD was active on the 21260 and 21256 kHz around 1730 to 1830z. S0MZ was heard operating by call areas on 14202 kHz around 1930z. QSL both to EA2JG.

XF4, REVILLA GIGEDO ISLANDS. Nellie, XE1CI, has received special permission to lead a DXpedition based on the fact that she will be the first "YL" ever to transmit from XF4-land. Nellie, along with XE1ABA (and possibly others), will use the callsign XF4CI. The Mexican Navy will provide transportation from XE to XF4 on December 15, 16 or 17th. The trip takes approximately 36 hours and the DXpedition will last 2 weeks. The ship will return her to XE on January 2, 3 or 4th. (She may operate as XF4CI/MM enroute.) If you are interested in a "YL" QSO, Nellie will only be using the SSB MODE. Any QSOs on CW/RTTY will be handled by XE1ABA (not a YL!). Nellie will try to operate on/near 3795, 7065/7174, 14195, 21295 and 28395/495/595. Activity will also be on various DX Nets and WARC bands. The team will also be using the Satellites, 2m, 70cm and 6m (Monitor 50.110). QSL via XE1CI, Nellie S. de Lazard, Sierra Chalhuhui 235-502-B, Mexico 11000 D.F., Mexico (for ALL QSOs).

YI0BIF QSL CARDS. DIYA, YI1DZ, would like to inform everyone that the cards for YI0BIF operation back in October will be delayed because of printing problems. So please be patient, they will do the best they can to process the cards.

ZB2X, CONTEST STATION. Jorma, OK2KI, would like to thank everyone for contacting him in the CQWW CW Contest. He had a total of over 4800 QSOs as ZB2X. Jorma now has accumulated more than 35,000 ZB2X QSOs in his databank (since 1989). Anyone who has not yet sent for a QSL, cards will arrive via the bureau system. Anyone wishing a quicker response can QSL via OH2KI, Jorma Saloranta, Karhutie 39, 00800 Helsinki, Finland.

Due Dates

(Contest Logs must be postmarked (or received *) by the dates listed...Get Your Logs In and marked TDXS!)

- December 22.....ARRL Sweepstakes (CW & SSB)
- January 05.....ARRL 160-Meter Contest
- January 12.....ARRL 10-Meter Contest
- January 15.....CQ WW DX CW Contest

Propagation

de Roy, AD5Q

(The following article is taken from the *Northwest ARS Newsletter* for December 1993..ed)

The fall contests have given us an opportunity to get a reading on DX conditions in the face of rapidly declining solar activity. Such a difference a year makes! Earlier in the fall there were still days when Europeans were easily workable on 10. As we approach winter, northern latitude paths on the high bands will be increasingly difficult. At the top of the cycle, this meant we couldn't work the central-asiatic Russians on 10. This winter, openings to anywhere in Europe or Asia will be few and marginal.

In the CQWW CW contest, most of the US failed to get an opening to Europe (including New England!). We should not expect improvement in 10 Meter conditions next spring, and fall 1994 does not hold any promise either. DX activity on 10 through the recent sunspot peak was spectacular, and now it's history. Wait about 4 years.

Activity has moved down to 15, but conditions on this band will eventually succumb to declining solar fluxes. For now, the band will still open regularly to Europe in the morning, but through the winter the northernmost paths will be closed. Signals from Russia and Scandinavia will usually not be heard. Solar flux levels at the bottom of the cycle are in the mid-60's, so further deterioration over the next two years is inevitable.

Shortly after dark, all activity moves to the low bands. 40 Meters is in great shape, with DX openings to every corner of the world. A lot depends on antennas, and horizons are substantially broadened for those with the right hardware. During the CQWW CW, several stations on the east coast made over 1000 contacts on 40, and well equipped stations further west did well into Japan. Nearly 100% of my own experience on 40 is with delta loops, which aren't very effective in the face of serious competition. On 80 Meters, a vertically polarized delta loop is very competitive in pileups (but not very good on receiving.)

With DX activity primarily on 15 during the day and on 40 at night, 20 is becoming difficult to read. In the morning we often get a grey line opening to Europe. On some days this opening is excellent and lasts half the morning. Toward noon the band opens up to the northwest. We are still getting some long path to the southwest around sunrise, but only because it is late spring in the southern hemisphere (where nighttime MUFs are seasonally high enough to keep the band open.) In the afternoon and early evening look for openings to Africa, and across South America to the Antarctic and Asia via long path. These southerly signals will be identifiable by their echo, but the loud ones will be South Americans.

Quote-of-the-Month

- "Life's too short for QRP." - N6TU

Upcoming Events

- December 17.....TDXS Christmas Party
- December 25.....MERRY CHRISTMAS
- January 01.....HAPPY NEW YEAR
- January 08.....North American CW QSO Party
- January 14.....TDXS Monthly Meeting
- January 15.....North American SSB QSO Party

Contest Scores

Results

1993 160-Meter DX Contest - CW

- K5DX 329 Q x 53 W/VE x 16 DX = 58,930
- W5ASP 359 Q x 53 W/VE x 12 DX = 53,300
- KI3L 106 Q x 37 W/VE x 5 DX = 10,206
- K5NA 1066 Q x 57 W/VE x 56 DX = 364,086 (M/O) #5 World

1993 160-Meter DX Contest - SSB

- K5DX 437 Q x 53 W/VE x 6 DX = 58,056
- W5ASP 325 Q x 51 W/VE x 4 DX = 38,060
- KI3L 154 Q x 45 W/VE x 5 DX = 18,350
- K5NA/2 176 Q X 30 W/VE x 4 DX = 14,280 (MO)

Claimed

ARRL SS CW

- K5GA 1557 Q x 77 S #2
- K5GN 1462 Q x 77 S #4
- KI3L 1237 Q x 77 S
- W5ASP 1000 Q x 76 S
- K5EC 63 Q x 33 S
- AC5K 923 Q x 76 S (Low Pwr)

ARRL SS SSB

- KI3I 1557 Q x 77 S
- W5ASP 1111 Q x 77 S
- K5EC 660 Q x 75 S

CQ WW DX CW Contest

- V31KF 5913 Q x 145 Z x 454 C = 8.4 M M/S (w/KI3L,K5GA,K5WA,N5DU,W5ASP)
- K5GN 2176 Q x 160 Z x 433 C = 3.5 M SO/AB
- K5DX 514 Q X 104 Z x 219 C = 443,156 SO/LP
- K5EC 389 Q x 92 Z x 197 C = 275,706 SO/AB

ARRL 160-Meter Contest

- K5DX 376 Q x 70 M = 52,000
- AA5NK 255 Q x 63 M = 34,452
- W5ASP 237 Q x 48 M = 23,184

V31KF - 1993 CQWW CW Contest..

de Don, KI3L

In August of this year Joe, W5ASP invited me to again join the TDXS group for a Multi Single CQ World Wide CW Contest effort from Ambergris Caye, Belize. I had been involved in the ZF8AA phone effort in 1992, so was eager for another adventure. I did some negotiating with my YL, Lynn. She gave me her blessing, despite the conflict with Thanksgiving, and I immediately began making plans.

Joe had been in contact with the guys who own and operate V31DX, and had made arrangements to use their station. This group has an excellent contest record, having fared very, very well in the past several years. We considered ourselves very fortunate for the unique opportunity to use their facility.

The station is located at a relatively new beach front condominium complex, complete with the following antennas: (1) a 70 foot Hy-Gain Crankup Tower with a TH7 at about 80 feet, a 2 Element Cushcraft 40M Yagi at 72 feet, and a Cushcraft A3 tribander at 40 feet fixed toward the US; (2) A rooftop tower with a rotatable Cushcraft A4 tribander at approximately 50 feet; (3) two Butternut verticals mounted directly into the salt water with the aid of a partially submerged barge hull that had washed ashore during a storm years ago. The verticals were phased for use as the 80M array, and one was setup for 160M.

December 1993

The team consisted of Joe, W5ASP, Billy, K5GA, Rich, K5WA, Bob, N5DU, and Don, KI3L. The group (except for N5DU) left Houston on Wednesday, November 24. Bob, after completion of his Thanksgiving holiday obligations, was to join us on Friday. We departed Houston Intercontinental Airport with an enormous amount of luggage, which included two TS440Ss, an Icom 730, three amplifiers (two SB200s and a Denron Clipperton), three notebook computers, power supplies, keyers, paddles, filters, meters, headsets, coax jumpers, coax switches, packet TNC, tools, tape, solder, fuses, connectors, rope, etc., etc. The flight to Belize City was uneventful. Going through Customs was not.

We transferred to Tropic Airlines at Belize City. Tropic runs a 20 minute flight to Ambergris Caye every hour. Due to space limitations three of us took the first plane with what we could carry, while Billy followed on another flight with some more of our stuff. It took a third flight (a larger plane) in order to get the remainder of the gear over to San Pedro, on Ambergris Caye.

In San Pedro, we went directly to the Belize Yacht Club, which houses the station. We checked into two condo units, one of which was adjacent to the towers. We then met Eddie Halliday, the Building and Grounds Supervisor at the Yacht Club. Eddie was clearly the key to the success of the entire operation. He quickly described the layout, took us to the towers, and then led us to the cache of Butternut verticals, coax, rotor cable, control boxes, etc. In short, Eddie knew exactly what had to be done to get the station on the air, and he directed and helped us until the job was complete.

We arose early on Thanksgiving day to begin setting up the station. Billy and Joe started on the towers - checked the antennas, reconnected coax, rotor cable, and control boxes, and carefully raised the crankup tower (we were uneasy about the corrosion on one of the crankup cables). Rich and I assembled, mounted and tuned the Butternuts. Tuning was easy with my new MFJ-259 SWR Analyzer. All coax runs, phasing assembly, and rotor cables had been neatly coiled, labeled, and stowed, so our job went quickly and easily. By midday, all the antennas were ready for the contest.

The living room of the "station condo" was then transformed into operating headquarters. Furniture was moved and stacked aside. Eddie provided two large 9' tables which were aligned along a 20 foot wall. Under Billy's direction, four operating positions were assembled on the tables - three with HF transceiver, amplifier, computer, etc., and the fourth with a transceiver, computer and TNC for HF packet operation. A coax switching network was engineered to provide access to each antenna from any of the three operating positions. Filters were installed to reduce interstation interference. We planned to have running capability from any of the three positions, and use the remaining two positions as multiplier/search stations, allowing us to use any two of three bands at any given time. The packet station was tuned to 10.135 MHz to search for multiplier spots. We were on the air by early Thursday afternoon, and leisurely spent the remainder of the percented period running pileups, testing, rearranging, checking, etc.

Friday as contest time approached, we confidently "felt loud" on all bands, but we still missing Bob and his computer. Bob had recently added a second Com port to his Compaq notebook computer, and it had been designated to serve as the hub for our 3 computer network. In addition the ICOM had gone deaf the evening before, and we had arranged by phone for him to bring the TS-140 being held in reserve in Houston for the packet receiver. There were a few anxious moments prior to Bob's arrival (15 minutes before contest time), but he

made it, and the computer was promptly connected to the network, the packet station was fired up, and we were ready with 3 minutes to spare. Whew!

The contest began with Billy at the run station on 40 meters, Joe at the multiplier station on 20, and Rich looking over the situation on 80. There were 130 QSOs logged the first hour, and the rates never let up. There were a couple of casualties the first night - tube failure in one SB200 (retired), fan failure and shutdown in the second SB200 (promptly repaired by Billy the next day), and rotor failure on the A4 tower. Corroded rotor cable was freshened and resoldered at first light Saturday morning to place the A4 back in service.

Each of the three positions had an operator the majority of the time, except for the early AM hours when two positions were usually active. We did have a hard time keeping the station fully staffed Sunday morning when we discovered two topless female sunbathers outside near the pool. Each of us made at least a couple trips in the pool's direction for one reason or another. Bob became quite distracted and made some discreet inquiries, eventually learning that the girls were from a South African yacht anchored offshore. Unfortunately, the sun didn't come out on Monday, so we didn't see them again.

We all managed to get enough sleep. The air conditioned condos were great for those 2, 3, or 4 hour naps. Rich and Bob went diving Sunday afternoon. We enjoyed several good meals (including turkey and dressing on Thanksgiving) at a nice little restaurant just a short walk down the beach. There was also time to walk through the sandy streets of San Pedro.

Bob's computer crashed early Sunday morning - the memory had not been configured to handle the QSO volume. The screen went blank and the network came crashing down, but fortunately it didn't affect the rate. We were re-networked and running again within 20 minutes, with only minor discrepancies in the logs. (That's why CT has the MERGE feature..ed)

The contest rolled on. Our best "clock" hour netted 188 QSOs (15 meters at 2000 GMT Saturday), the lowest was 85 QSOs (80 meters at 0300 Sunday). Short term rates peaked at about 300 Qs/hr. The overall rate was 126/hr. Forty meters was the best band (1751 QSOs, 4332 QSO points and 129 mults), with 15 close behind (1716 QSOs, 4037 QSO points, and 122 mults). Twenty meters was the best multiplier band (1449 QSOs, 3600 QSO points, and 151 mults). Ten was not productive - we never got a European opening, and suspect that our competitors in the Eastern Caribbean (nearly 30 degrees to the east..ed) fared much better on that band. The final tally: 5913 QSOs (6028 contacts logged), 145 Zones and 454 Countries for 8,445,301 points.

Two hours after the contest, the our equipment was packed and ready for the return trip. All the "big stuff" was sent to Belize City on an early Monday flight to get it aboard our return flight to Houston.

Monday morning was spent securing the antennas - cables were disconnected, coiled, labeled and stowed, the Butternuts disassembled, tower nested, etc. As guests of the station owners, we were careful to leave things exactly as we found them. Bob kept a watchful eye toward the pool, but there was no sun, and no sunbathers.

Needless to say, we all enjoyed the experience and were very pleased with the results. Our thanks goes out to the V31DX crew: John, N6YRU, Bill, WA9L and Victor, KI6IM for allowing us to use such a great station. We'll not forget Eddie and the other fine folks at the Belize Yacht Club.

Audio Digital Signal Processing

(This first article on DSP appeared in the May 1993 *Sierra Inermountain Emergency RA "Siera" ..ed*)

Audio DSP Kit de George, WW7E

"DSP" stands for "digital signal processor." What can a beast with a name like that do for you? A DSP can modify a signal, by digital means, to remove unwanted parts of the signal. A DSP "filter" can modify the audio signal between your rig and the speaker or headphones. Why do that?

On the HF bands, noise can be a problem, as can heterodyne tones from AM broadcast stations, CW signals other than the one you are trying to copy, etc. You already use RF and audio filters to restrict the bandwidth, one way to reduce QRM. And most rigs have noise blankers to help you copy through impulse noise.

A DSP unit first converts the audio from your receiver into digital form. Next its special DSP computer chip processes the digital data to remove undesired signals, using mathematical means. It then converts the modified digital data stream back to audio.

I recently visited a friend who demonstrated the DSP kit described on page 43 of the September 1992 QST. (The QST article was written by Dave Hershberger, W9GR..ed) I hadn't taken much notice of the article at the time, but my friend's demonstration impressed me, so I ordered the kit. That's when I learned demand for the kit was so great delivery might take months.

Well, they did better than their estimate and delivered the "multi-program chip" version for \$125. The \$90 version has only one mode-controlling program, whereas the one I bought has ten.

The Program 1, included with both kits, allows a choice between a noise filter and an automatic notch filter that attacks heterodynes. Here is what the other programs that come with the multi-program kit can do:

Program 2 is a simultaneous auto-notch and denoiser. The front panel mode switch selects FILTER IN/OUT. The threshold

for the automatic notch is higher than it is in Programs 1 and 4, but even with that compromise, the mode is nice when you experience impulse noise and an offending carrier simultaneously.

Program 3 is an optimized denoiser only, and its denoising function is more effective than the combined function in Program 1. Program 4 is an optimized automatic noise filter only. It is optimized in the sense that it distorts some voice signals less than the auto-notch function in Program 1.

Programs 5-9 are CW filters, as follows:

5: 400-Hz centered, linear-phase filter with 200-Hz bandwidth.

6: 600-Hz centered, linear-phase filter with 200-Hz bandwidth.

7: 720-Hz centered, linear-phase filter with 200-Hz bandwidth.

8: 1000-Hz centered, linear-phase filter with 200-Hz bandwidth.

9: 750-Hz centered, linear-phase ultra-narrow filter (30 Hz bandwidth) useful for extremely weak signals, such as moon-bounce produces, and for machine copying of CW signals.

Program 10 is an HF packet (1600/1800 Hz) or RTTY (2125/2295 Hz) bandpass filter. The front panel mode switch selects either the packet tones or RTTY range.

The kit does not include a case, a pilot light, or connectors. It requires a 12 Volt DC power source, from which the low-cost model draws about 400 mA vs. 175 mA for the "multi-program chip" model.

Assembling instructions are clear but the first paragraph does give a warning. ...This IS NOT a kit for beginners! ...the 10-segment LED bargraph display (which shows either the incoming audio level or which of the 10 programs is selected) requires cutting a rectangular hole in the front panel. Radio Shack has cases and connectors appropriate for the project.

Although I haven't needed all the filter modes, I'm pleased with my DSP unit. I wouldn't go on the air without it now.

Where to buy the kit: QUANTICS, Box 2163, Nevada City, CA 95959-2163.

(This next article on the W9GR DSP appeared in the *Frankford Radio Club Newsletter* of January, 1993..ed)

W9GR's Digital Signal Processor de Van, K3CP

The DSP kit by Dave Hershberger, W9GR (QST and QEX, Sept. 1992) is generating a lot of interest. Some of you already have one and more of you are awaiting delivery. It is a kit and comes in 2 different models having one or ten programs. The single program version may be vendor software configured for the combination noise/notcher or one of the five CW filters. It uses the TMS320C10 and 2 bipolar PROMs. The ten program version model uses the TMS320P15 CPU which has its own internal programmable memory making the PROMs unnecessary. It has the following filters.

1. Either noise filter or notch filter. (Switch selected)
2. Simultaneous noise filter and notch filter.
3. Optimized QRN reducer.
4. Optimized notch filter.
5. CW filter. 200 Hz bandwidth, 400 Hz center frequency.
6. CW filter. 200 Hz bandwidth, 600 Hz center frequency.
7. CW filter. 200 Hz bandwidth, 750 Hz center frequency.
8. CW filter. 200 Hz bandwidth, 1000 Hz center frequency.
9. CW filter. 30 Hz bandwidth, 750 Hz center frequency.
10. HF Packet (1600/1800 Hz) or RTTY (2125/2295 Hz) filters

I built the ten program version and believe it is well worth the additional cost. The kit is easy to put together and includes an excellent double-sided solder-masked board, all parts, sockets for all chips and everything else except the cabinet, power source and connecting cables. The power needed is 8 to 16 volts at 0.2 amperes. (The single mode version takes 0.5 amps due to the use of two additional EPROMs). The cabinet work requires some metal cutting for the volume control, LED bargraph, headphone socket and switches. It took me about 15 hours to complete, but I worked slowly. It worked at once.

It is connected between the AF output of your rig and phone or speaker, and contains its own AF amplifier. It works only on receive, but it really does the job. I highly recommend it. It works on electric fence noise, rain static and line noise. It works on multiple heterodynes and notches them very quickly. It does not diminish the signal or degrade it in any way. Some hams have said that it doesn't work all that great. To that I can only say that they probably didn't try it under adverse conditions. Like a crystal filter on a dead band, it doesn't so much good. It does little good under ideal conditions when there is no noise or heterodyne present.

I would like to see it switch functions faster. It switches in sequence and goes back to number one on each reset. It takes about 1 second between programs or 10 seconds to go from 1 to 10. This is a minor complaint because it is not necessary to change functions that often. Also, I would like to see a 1.8 of 2.0 kHz option for SSB.

The one program model costs \$90.00 plus \$7.00 shipping in the USA and Canada. Foreign orders are \$20.00 for shipping. The ten program model costs \$125.00 plus shipping. It is available from Quantics, OP. O. Box 2163, Nevada City, CA 95959-2163.

Dave, W9GR has done us a great favor. I think it's the greatest thing since CT.

(The November/December 1993 issue of The DX Magazine contains another article on DSP by Rick Glisson, N4XMX. Rick's comments on the W9GR kit follow closely the articles above. However, he does present a comparison of the W9GR unit and another commercially available DSP system offered by JPS Communications Inc., P. O. Box 97757, Raleigh, NC 27624. The JPS NIR-10 Noise/Interference Reduction Unit features a higher clock speed and 14 bit (versus 8 bit) A/D conversion. According to Rick performance was comparable between the two units with minor advantages found in both. The assembled NIR-10 is priced at \$349.95. j.COM, 793 Canning Parkway, Victor, NY 14564, offers the W9GR unit assembled for \$299.95. Closer to home, Kirby, K7WOC has built several of the W9GR kits and is willing to pass on some construction tips and user information to those who might care to take up this project. But before purchasing anything it would be well worth the effort to read the original article in QST. It is very complete and informative ..ed)

DX Report

de Jim, N5DC

VK9X, Christmas Island - Bob, W5KNE operating as VK9XN/VI9XN has been reported on the air workable long path in the mornings here. Not much signal probably due to band conditions.

EP, Iran - 9D2UU has been reported and worked here by several of the gang, including AK5B. QSL LZ2UU, Jordan Radkov Yankov, Box 196, 7200 Razgrad, Bulgaria. WFWL !

ST0, South Sudan (or Sudan?) - ST0K has been reported on 18070 kHz at 1330 UTC, and 21007 kHz at 1400 UTC. The operator says to QSL via Box 617, Khartoum. DL5EBE says he is NOT South Sudan. It looks like club stations in The Sudan will sign ST0, so how do we tell the South end from the North end?

North Cyprus - 1B1NCC has been active. QSL to G0ITX. (See my DXAC report on this possible "new" one).

TY8, Benin - Ken, WA4OBO has no plans to operate CW, but if asked will QSY to CW via straight key (what a "straight" key? Maybe it doesn't like other "boy" keys!)

VP5, Turks & Caicos - KB4JRS and KN4UG will be active through 10 Dec. QSL home CBA.

ZF, Cayman Islands - NK7Y will be active till 12 Dec., all bands on SSB only. QSL NK7Y's CBA.

That's about it. Pickins are kinda slim. Thanks for a good DX year. I hope 1994 will be a great one for you with all your Honor Roll needs coming your way. My thanks to KI3L for letting me spread a little "Cheer" in the Bull Sheet. 73 and see you in the pileups!

DXAC News

de Jim, N5DC

Lots of paper flowing around recently about **North Cyprus**. Frankly, I have not had time to fully digest the 50+ pages of correspondence I have received from the League. However, the presentation sure looks impressive. I have no feel for the situation yet, but given the opportunity, I would certainly suggest working any station operating from there.

I have not yet heard when we will be voting on the new **effectivity date for DXCC CW**. Meanwhile, I have had plenty of input from both sides of this issue. I suspect that by the time the next TDXS meeting rolls around the vote will have been announced.

Our "friend" Monk Apollo, continues to make quite a fuss. It appears that there will be a vote to delete **Mt. Athos** from the DXCC countries list. I am dead set against deleting it, but I will abide by the majority opinion from you guys when the time comes to cast my ballot. No date has been announced for the vote, so hold your fire until I hear more.

That's about it from here. Merry Christmas and Happy New Year. I certainly hope Santa can deliver a late QSL for Peter I for those of you that need it!

PacketCluster Do's and Don'ts for the Contester

de Mike, K9EC

(The following is taken from an article by Mike Zeug, K9EC, a PacketCluster Sysop. It appeared in the Nov-Dec '93 issue of *The Black Hole, the Official Journal of the Society of Midwest Contesters*. While not everyone may agree with all of these, they are worth considering..ed)

DO: call in the DX you hear! This will help others in their goals.

DON'T: call in DX you hear answering other stations' CQs. (*) However, if you want a big pileup on your run frequency, call in DX that calls you.

DO: include QSL route information if the DX station is handing it out.

DON'T: try to use the Hamcall or QSL database during the contest. (wait until the dust settles to look up or add QSL routes).

DO: make sure your connection to the node is solid BEFORE the contest starts.

DON'T: assume all problems are at the node.

DO: read your Users Manual.

DO: use the set/filter command to filter out unwanted DX spots.

DON'T: use talk, announce and mail functions during the contest (they are likely to be turned off by the Sysop anyway).

DO: use the User commands to filter out unwanted messages.

DO: test run your software/hardware configuration before the contest. Fix the bugs before the contest starts.

DON'T: be surprised if the network crashes several time during the contest, or if it takes considerable time for DX spots from distant nodes to arrive. Contest activities are very hard on the network.

DO: remember that this is "only a hobby" and that your Sysop is doing this out of love for the hobby (Give Him a Break!)

The TDXS Bullsheat

China Ham News

Edited by Rick Niu, TUARC

China Ham News is released first and third Saturdays every month from BY1QH, operated by the Tsinghua University Amateur Radio Club in Beijing, and is available for unlimited distribution.

YES, CHINA ON OSCAR. TUARC has just borrowed a whole set of satellite equipment from the Chinese Radio Sports Association (CRSA) which we may keep for half a year. The rigs include a FT-726 dual-band transceiver, a 70cm amplifier, a preamplifier and a crossed Yagi antenna for 2m and 70cm with both elevation and azimuth rotor systems attached.

Walter OE2CAL and Dieter DJ7BU are scheduled to join the engineering students at Tsinghua University in hooking everything up by the end of December. We'd like to get this news blurted out earlier because BY is so rare on the OSCAR bands that many amateurs would feel interested in trying China via the birds! Please read the next issue of China Ham News for our progress and further info.

FIRST BY6. BY6SRA, the ARS of Hubei Shashi Radio Sports Association, is currently the first and only Region 6 station in China. Equipped with an IC-726 into a 5 element monobander, the club is only permitted to operate on 21MHz. One of their OMs Liu told Rick that their shack is located in the local Education Commission. As for QSL, send your card to P.O. Box 9201, Shashi City, Hubei Province 434000, China.

THE BG'S. The National Amateur Radio Short Wave Listening Contest of China '93 ended its first phase October 31 with a lot of newly licensed Fourth Class (BG) licensees taking part. Starting August 1 this year, the contest has single/multi-band categories but both below 30MHz. Many BA, BY and BZ stations were very active during the competition period, giving many contenders good opportunities to try spotting DX signals thru their receiving facilities. Two typical Chinese SWL call signs are BG1-1-123 and BG9-8-765.

THE BY1 LIST. By July 5, 1993, the following 9 stations (shown alphabetically) have been registered in Region 1: BY1BH - PO Box 1656, Beijing 100009; BY1BJ - PO Box 6111, Beijing 100061; BY1BY - Box 207, Dept. of Radio Engineering Beijing Institute of Post and Telecommunication, Beijing 100088; BY1CIE - PO Box 3933, Beijing 100039; BY1CKJ - PO Box 6207, Beijing 100062; BY1PK - PO Box 6106, Beijing 100061; BY1QH - PO Box 2654, Beijing 100084; BY1SK - PO Box 2916, Beijing 100053; BY1WXD PO Box 1506, Beijing 100005.

WHO'S WHO AT BY1QH John, Chinese name Jiang Kai, was on top of the world getting back from the October foxhunt event after obtaining his personal call sign BZ1JK over there and, more impressively, winning a gold medal in the orienteering contest!

The 21-year-old Fluid Mechanics and Engineering student was born in Tsintao, hometown of a world-famous beer brand, and was brought up, as he says, with the influence of both Chinese Confucius and Western culture. Acting as one of the chief TUARC members, John believes the impetus that drives the radio group to go healthily is teamwork plus individuality under the Amateur's Code. Step by step, the boy is developing in himself a passion toward the technical aspect of our hobby, not to mention the upcoming OSCAR operation. Soccer and swimming are another two fields where John turns out to be a pro. 'Amateur Radio is challenge and patience, failure and courage, tragedy and comedy, grace and strength, eagerness and joy. Amateur Radio is emotion.'

TUARC can be reached via: Packet - BY1QH @ JA5TX.JPN.AS Internet - Contact Bob, gateway_request@arasmith.com for more info. Airmail - Rick Niu, Public Relations Manager TUARC, Room 316 Building 25, Tsinghua University, Beijing 100084, People's Republic of China

DX PacketClusters -

The TDXS Contest and DX PacketCluster operates on 144.950 MHz with the call **K5DX**. This cluster node is operated by Rich, K5WA from his home in southwest Houston, and is sponsored by the Texas DX Society. It is regularly linked to the Texas PacketCluster DX network. K5DX may be accessed directly, or using the TDXS95 packet node by first connecting to the TDXS95 node, and then connecting to K5DX, i.e. C TDXS95, then C K5DX, all running on 144.950 MHz. The TDXS95 node has been upgraded and will now handle 26 users. It will not function as a digi.

The Brazos Valley Contest and DX PacketCluster Bulletin Board is located in Hempstead, Texas and operates on 144.990 MHz with the call **KE5IV**. This node is accessible either directly or by connecting through any of several local packet nodes. The **MAGBPQ** node on 144.990 near Magnolia provides access to users on the north side of Houston. The KE5IV node provides a wealth of information and features of interest to DXers.

The Galveston County DX PacketCluster, located in La Marque, is active under the call **KC5SC** and operates on 144.930 MHz. It is usually connected with K5DX and KE5IV via the 446.100 MHz backbone link.

Outgoing QSL Cards

The ARRL provides a service to its members which allows them to send DX QSL cards to foreign countries at minimum cost and effort. TDXS members can take advantage of this service by getting their cards to **KG5U**, who will in turn forward them to the ARRL Outgoing QSL Service. TDXS pays the nominal service fee of \$2 per pound as well as the postage.

Those wishing to use this route for their cards must sort their DX QSL cards alphabetically by country as shown on the current ARRL DXCC Country List.

The new Yugoslavian countries are now separate, i.e. **9A**, **S5**, **T9**, **Z3**. Sort the CIS, i.e. the "Russian Commonwealth", cards according to the individual Republics as per the DXCC List. Also, remember that most QSLs for DXpedition operations usually go the home country of the operator, e.g. D2CW via DK7PE, etc.

Many foreign stations have stateside QSL managers. These cards may be included with the "Ks". Most Caribbean stations turn out to be nonresidents, so send such QSLs to the operator's home country.

There are number of DXCC countries not served, e.g. many U.S. territories (KH0, KH4, KH9, etc.) and countries such as Qatar, Montserrat, Nepal, etc. A complete list currently appears in the current ARRL DXCC Country List, along with additional information about the ARRL Outgoing QSL Service.

Finally, each TDXS member must include a current QST address label with each group of cards he wants sent to the bureau. Contact Dale, **KG5U** if you have any questions (before you drop the cards on him!).