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THE BULLSHEET

Official News Bulletin of the
Texas DX Society

An ARRL Affiliated Club

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The Texas DX Society, P.O. Box 54291, Houston, Texas 77254-0291

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ANNOUNCEMENTS

MEETING NOTICE - The Texas DX Society meets the second Friday of each month except when changed by the Board of Directors. The September TDXS meeting will be held Friday, September 13th, at the Bellaire Hospital Professional Building, 6550 Mapleridge at 7:30 p.m.

CONVENTION DX & CONTEST FORUM - This year the Convention Forum will again be sponsored by the TDXS. The scheduled activities include:

10A	Desecheo KP5
11A	Get'em confirmed. KB5FU
11:30 A	County Huntree and Hunter. WOAYL and K5RC
1P	Clipperton. W6OAT
2P	DXing from a city lot. KC5M
2:30 P	Fundamentals of low band signal propogation. N3BB
3:30 P	Optimizing multipliers. K5GN

The convention takes place the weekend of September 20-22. The TDXS hospitality suite will be in full swing again this year with plenty of "je ne sais quoi" for all. Be there or be square.

WEEKLY DX & CONTEST NET - Just a reminder that each Tuesday night at 9:00 p.m. the Club sponsors a net on 147.96/.36. Participation by non-members as well as members is welcomed. The purpose of the net is to facilitate the exchange of DX, contest, and Club information within the amateur community. Your active support of this activity is encouraged.

BULLSHEET MAILING LIST - It is the club's desire to provide the Bullsheet free for all amateurs in the area with an interest in DXing and/or contesting. If you would like to receive our newsletter, simply send your name, call, and mailing address to the Texas DX Society, P.O. Box 540291, Houston, Texas, 77254-0291. Visitors at the regular club meeting can request the monthly newsletter by providing their mailing address on the sign-in sheet. Articles or other newsworthy items from club members and other interested amateurs are hereby solicited by your editor.

ROSTER TO BE UPDATED - If your info on the club roster (printed in last month's issue) is incorrect please contact Jim, N5DC, who will correct the master. Your attention to this little detail will assure that you receive all club mailings.

The President's Corner (de K2TNO)

Howdy gang - I trust that you've all completed your summer activities and will now turn your attentions to more serious matters, such as ham radio. There are a number of items I'd like to bring up here, and there will be a quiz on this text at the next meeting.

First off the bat is your duty to vote on the proposed new members. All four were passed enthusiastically by the Board, and each is fully qualified. I have felt strongly all year that we need an effort in the club to broaden its base of membership, and suggest that each of you give careful thought to this issue as well. Several of our regulars have become less-than-fully-active of late, and perhaps an infusion of new talent would be just the ticket to re-kindle enthusiasm in the old fogeys as well.

The second issue is the upcoming contest season. Several club stations have fallen into disrepair (I forget whether it's the antennas or the station that falls, but it's one of the two!). Time to get up some work parties before the last minute to try a few salvage jobs. So, to help that process along I'm proposing to add a new segment to the club's Tuesday night net - to be called the "Help Wanted" section. I hope we can get both sides of the fence to cooperate on this; right now there are a lot of antennas out there in need of fixing before the fall.

The third topic concerns contesting and DXing via repeater - again. I sense a lot of good DX going unreported. That's fine in high-spot years when it's there for the easy picking, but it surely would help us all if the word went out more. So how about it? Are you QRV on the machine from your shack?

Finally, the Houston Ham Convention is nearly upon us. I've volunteered my back yard, close to the Stouffer's Hotel, as the site for a TDXS barbecue. But I'll also be running the suite along with N5EA. So I need a volunteer to arrange and oversee the barbecue ("BAR-B-Q" here in Texas, Bill...ed.). Any takers? No help - no barbecue. P.S., we have a pool, so you're welcome to swim. I hope all TDXS'ers will be out in force for the convention - we're counting on the club to keep the action going in the suite. Have you bought your raffle tickets yet?

That's all, folks - see you at the September meeting, where I will reveal the soon-to-be-famous Tuna Octopus. (Something smells fishy to me...ed.)

CONTEST CORRAL (de K5LZO)

CONTEST RUMORS AND LIES

ALL ASIAN CW

K2TNO, N5EA, N5JJ, and W5ASP operated NR5M to a nice 730+ qso's defeating the K5LZO, N5M5, NT5D, and KA5SBS group who had 642 qso's. Some high points where 9M2 and BV1 calling NR5M on 40 meters and BY calling K5LZO on 20 meters. Also, it was great to work fellow TDXS member and world traveler George, K5KG, from JY8KG on 40 and 20. 40 was good with NR5M group working some 400 JA's. A few JA's were worked on 15 and one JA was worked on 160.

WAE CW

Brent, NT5D, teamed up with Squirt, KA5SBS, and paddled to a 200 qso total working mostly Sunday afternoon.

N5EA (while not trying very hard) out-totaled K5LZ0 (also not trying) 95 qso's to 88 qso's. (Maybe I beat him on mults).

CONTEST RESULTS

JUNE VHF CONTEST

Barbara WB5RUS (myl of K5LZ0) won South Texas section. This contest is an exercise in patience. The rate varies from 50 qso's per hour to 2 hours per qso.

FROM THE TRENCHES (or under) (de K5LZ0)

Humbling is the word for the North American Sprint Contest. It's that way for everyone the first time they enter. It's a contester's contest. Everything ever learned is used during the contest. You must be able to answer others as well as seizing a frequency and CQ-ing.

The contest is scored by the number of contacts multiplied by the number of states, VE Provinces, and North American countries worked. Information exchanged includes a sequential number, name, and state, Province, or country. During the contest if you CQ on a frequency and work another station you must move at least 5 Khz. up or down before CQ-ing again or move at least 1 Khz. before answering another station. Most operators are rolling along about 35 or 40 WPM on CW which is plenty fast for most of us. It requires considerable skill to read another operator's procedure should you be in need of that multiplier. You must decide if the new multiplier station has initiated the CQ or responded. If you guess he initiated the contact, your best bet is to slide up or down 1 Khz. and CQ in the hopes he will find you. However, if you guess he is answering then be prepared to nail him as soon as he finishes his Q.

20, 40 and 80 meters are used during the 4 hour contest. During the low sunspot cycle 20 is only good for about 1 hour with 40 and 80 splitting the rest of the time. It is, however, important to work all bands as evenly as possible since you can work each station once on each band. Some strategy involves moving back to 20 after your first move was made to 40. By this time maybe the skip has changed and you may pick up KL7 or VE6.

Your hardware should include a programmable keyer, preferably one that has a sequential number. A tape recorder is also handy so you can go back after the contest and pick up some information you may have failed to copy even though the station was S9. This tape is great to use just before the next Sprint to get your timing down before the contest starts instead of 30 minutes into it. Also, remember to keep your antennas turning to work stations from both coasts. But remember to work the East Coast first, as 20 may close to that coast shortly after the start of the contest.

Be sure and get the other stations information because the penalties are heavy. Each log is crossed checked against the others to be certain that all information is correctly copied.

Last but not least, if you are on a preregistered team don't let your team members down by not showing up or by not turning in a log. This has cost our Club at least one championship. Check your log over carefully to avoid being disqualified, also at the expense of the team effort.

We have some very good stations locally and good operators, although conditions have helped us somewhat of late. Some have attributed improved scores in comparison to the rest of the country solely to conditions. DON'T YOU BELIEVE IT! Look at our stations compared to 3 years ago. While conditions have helped us, the aluminum and our improved operating expertise has played an important part in the high score. Give us some credit. K5ZD hasn't improved as much as us down here. Maybe that's because being number 1 is hard to improve upon. But by using his scores as a reference point, our guys have truly come a long way. Let's keep up the trend.

NR 73 Chuck Texas

SQUELCH TALE (de N5JJ)

IN AND ABOUT THE CLUB...IT IS RUMORED THAT...

... AASY has a new VCO MOD on his FT980. Now his dahs won't sound like dots...There is a New 204BA up at AK5B and KE5TF thanks to help from N5DU..and a new 402CD at N5DU thanks to AK5B...No one says K2TNO operates too much 2 meters, but when his HT was in for repair guess what part it needed? That's it, a press-to-talk switch...K5AAD has a new mosley 4 element 20...between trips to VS6 and JY, K5KG came to visit Houston for a few days. Obviously China is not so rare any longer. George worked 16 different BY stations from VS6 land...watch out. K5RC has new theft resistant seats in his Fiero...Deed restrictions may keep K5TU from having a tower, but not a new garage...KB5FU is getting close to having all counties. Wow, what a paperwork job. I have trouble just keeping up with the countries...KE5FI is making progress with the tower project. Concrete has now been poured...Ask KG5U for tourist information regarding new Braunfels...N5AF has a shiny new station. Actually the old one has been uncovered...N5WW's oldest harmonic has a quick way to lower a crank up, it's called a pull the stop and stand back. Wes may be the only Houston Club member with hurricane damage...NM5L has a new bachelor pad...NM5M must have had a lot of fun in Europe. Eric came back with a different girlfriend...Remember, if you see a new piece of equipment at NR5M the official story is "Honey, I just borrowed this for the contest"...N5DU must be doing well. Who else can buy a new Buick Electra every 6 months?...K5DX helped whip W5DOZ's 204BA back into shape...Y'all come prepared to spend money at the next club meeting. The club needs a new repeater antenna. The old hustler G7-144 was vaporized by a lightning stroke along with leaving a hole in the roof of the equipment room.

73, N5JJ

DX REPORT (de KC5CP)

KERGUELEN IS. - FT8XB - Michell has been on 14197 between 0400-0600Z and also 14201 at 1100Z.

MALI - TZ6FE worked on 14227 at 2150Z with the Family Hour. He has also been on 14236 at 2330Z with the INDEXA Group. Worked in Houston September 1 about 2000Z on 14220.

SAO TOME - S92LB has been showing up around 14183 at 2200-2300Z. Rumors about a planned DXpedition by two Brazilian hams in November for two weeks is possible.

EAST CAROLINES- KC6IN has been active around 3800 at 1130Z.

KERMADEC IS. - ZL80Y beginning mid September until October 1st when his call changes to ZM80Y.

PITCAIRN IS - VR6JR Jim found at 14206 at 0300Z, or 3796 at 0630-0700Z. VR6TC - Tom on 21349 at 2300Z on Tuesday & Friday. VR6YL - Betty may be more active in mid November when Jim VR6JR leaves.

GUINEA BISSAU - J5WAD has been found on 14170 at 2100Z, and CW on request.

BAHRAIN - A92EM operates 14040 at 2100Z.

W. MALAYSIA - 9M2HB has been with the Family Hour at 1530Z.

CHATHAM IS. - ZL7AA has been on 3795 at 1000Z.

UGANDA - 5X5GK has been worked on 14185 at 2100Z.

CHINA - BY1QH - Tom has been on 14206 at 0300Z. BY1SK - Wang on 14024 at 1245Z.

MACAO - XX9SP expected operation September 22-28 by KS7P on 20 CW only. (14025)

DJIBOUTI - J28EI on 7003 at 2300Z then 7026 at 0200Z.

MOZAMBIQUE - AB4Y/C9 Chuck has been active on 14205 or 14227. SM0DQE/C9 heard on 7075 at 0100Z. SM7DZ2/C9 on 14035 at 2000Z. Still no word on official licences for any of them!

JORDAN - Special prefix JY50 November 7-21.

GREECE - Special prefix SW3 November to December 31.

PROPAGATION FORECAST From KH6BZF - Best HF possibilities are expected September 8-9, 13-14, 20-21. Thanks to QRZ DX and the Long Island DX Bulletin.

SUNSPOTS - PART I - KESFI

Sunspots were evidently discovered thousands of years ago by the Chinese. They probably saw large spots on foggy days when the sun could be viewed directly. Galileo saw black spots on the Sun's face through his telescope three hundred years ago, but got into big trouble with the church when he reported his findings. After his retraction speech made to placate the church hierarchy, he reportedly muttered "But I did see them!"

I can remember sunspots getting a lot of bad press in the 1950's when they were widely blamed for radio blackouts. While this was partially true, the other side of the coin is that we need sunspots for good propagation on the higher HF frequencies.

THE SUNSPOT NUMBER

Scientists began counting sunspots manually (eyeballically) using telescopes hundreds of years ago. The most common counting method results in the "Wolf Sunspot Number." Groups of spots are weighted ten times as heavily as individual spots. A constant is included to allow for different telescope and operator characteristics. The Wolf number is probably too heavily weighted toward groups. Hundreds of years of data on sunspots collected by this method however is available for comparison. The U.S. Government Space Environment Services Center (SESC) still collects data from six observatories based on the Wolf Number and issues a daily official SESC sunspot number.

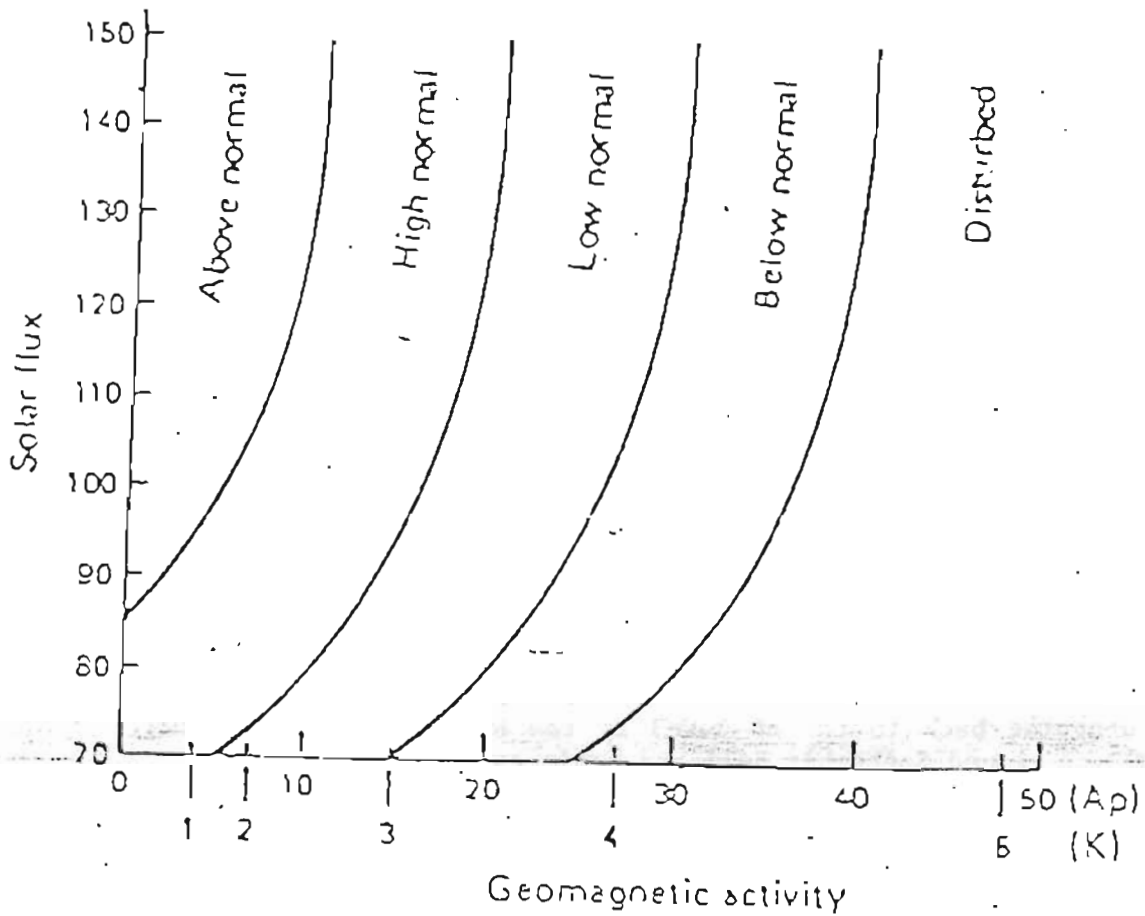
SOLAR FLUX

What is probably a much more accurate measurement of solar activity is called the "solar flux" or "radio flux." The flux is obtained by pointing an antenna which feeds a 2800 mhz receiver at the Sun and recording the solar noise level. 2800 mhz seems to correspond well with the sunspot number and with ionization densities in the F layers of the ionosphere which are our principal DX reflecting layers on HF.

Solar flux readings can vary from a low of 66 which corresponds to no sunspots to a high of 300 or more which corresponds roughly to a sunspot number of 250. Flux levels of 78 may produce openings on 15 meters and levels of 80 or more are usually required for openings on 10 meters. The sunspot number is a much less accurate measure of solar activity than the flux. I believe its chief value in the future will be based upon its monthly averages which can be compared with prior solar behavior over hundreds of years to give indications of long term trends. The flux measurement provides accurate day to day readings of solar behavior useful for short and long term comparisons.

A solar flux reading is made at 1700 UTC each day in Ottawa, Canada. This reading is relayed to the Space Environment Services Center in Boulder, Colorado where it is announced on WWV at 18 minutes past the hour beginning at 1818 UTC each day.

Chart for interpreting Quality of Propagation
 as predicted by Radio WTV, broadcasts. Every
 hour at 18 Minutes past 2 $\frac{1}{2}$, 5, 10, 15 etc. MHz



--Intersection of given values of solar flux
 and geo-magnetic activity determine expected h.f.
 ionospheric propagation conditions. (Example: S.f.
 -80, Ap -25; expect Below Normal conditions.)

COURTESY OF AL MARKWARDT W5PXH,
 RICHARDSON, TEXAS.

GEOMAGNETIC ACTIVITY

Another reading transmitted over WWV and updated daily at the same time as the flux is the "A index." The A index is a daily average estimate prepared by the SESC of the Earth's geomagnetic activity. High levels of geomagnetic activity are associated with high noise levels on the lower HF bands and aurora which increases absorption of radio signals in the polar regions. This includes the great circle paths to most of Europe and Asia. The index can vary from 0 to 400. Any value over 30 indicates a geomagnetic storm.

Of perhaps more importance to the DX'er and contester is the third number of those transmitted by WWV, the "K index." This index also measures geomagnetic activity and is reported on a scale of 0 to 9. A reading of 4 or higher indicates active geomagnetic conditions. Since this index is updated every three hours beginning at 0000 UTC, it gives you a good current indicator of the earth's geomagnetic condition. The K index transmitted by WWV is measured at Boulder, Colorado, but it can be assumed that similar or higher readings will result in the higher latitudes where aurora absorption takes place.

WWV FREQUENCIES

WWV transmits on 2.5, 5, 10, 15 and 20 mhz from Ft. Collins, Colorado. Time announcements on WWV are made with a male voice. WWVH transmits on 2.5, 5, 10, 15 mhz from Hawaii with a female time announcement. WWVH does not transmit the propagation bulletin. Stepping between WWV frequencies can provide a rough indication of current propagation conditions.

NEXT MONTH

Next month I will use the charts of past sunspot numbers to demonstrate their cyclic behavior. This allows us to predict the level of solar activity in the future. Meanwhile, watch for the flux level to start rising around the 14th of September. The flux will peak about the 22nd or 23rd with readings in the 72 to 74 range dropping back to the 66 level by the 6th of October. Beware of high A index readings around September 8-11 and again on the 24th.