



Bulletin



September 2022

Founded In 1958

Our Next Meeting & Speaker

Date & Time: Thursday, September 15, 2022 @ 7:00 PM

Location: Via Zoom

Topic: *ET3AA -- Ethiopia*
Ken Claerbout (K4ZW)



ET Ethiopia (Club Log #110) has one licensed ham radio station: ET3AA at Addis Ababa University where students study electrical, mechanical, and civil engineering.

Ken (K4ZW) will tell us about the history of ET3AA and about his most recent DXpedition to operate from ET3AA.

From the Prez *(de Chuck Catledge, AE4CW)*



Greetings, fellow DXers, and welcome to the SEDXC September Bulletin!

We are pleased to announce that the **SEDXC DX Elmers** – a service of the Southeastern DX Club – is officially open for business! As we announced in the August Bulletin, Hal Kennedy (N4GG), Mike Greenway (K4PI) and Mac McDonald (NN4K) have volunteered to lead this activity. As the name implies, this talented team is prepared to provide services and support to SEDXC members and to other hams who are interested in learning about DXing.

If you're a ham living in the Southeastern US, the DX Elmers are eager to answer your questions about working DX -- whether about rigs, antennas, QSLing, operating techniques or any other aspect of DXing. We can do this by "mentoring"; we'll assign an experienced DX Elmer to help you over the bumps.



SEDXC members and non-members are both welcome to ask for help from a DX Elmer. To make it especially easy to sign-up for this service, we have a web page that captures all your pertinent information and forwards it to our team. Based on your specific needs, one of our Elmers will contact you. If you would like to see what the sign-up page looks like (or to sign-up right now!) click [Here](#). There is also a link on the SEDXC Club web home page titled “DX Elmers Can Help!” that will open the sign-up page.

One of our key Club goals this year it to introduce DXing to as many clubs in the Atlanta area as we can reach. Bob Hensey (K4VBM), our Activities Manager, is spearheading this with support from the officers. We believe DX Elmers can be a big asset in informing and reaching out to these potential new DXers. And, you, our current members, can be a big help by identifying potential DXers in your sphere of influence and encouraging them to sign-up to DX Elmers [Here](#).

I suspect almost every SEDXC member is aware that the **CQ DX Marathon** is our primary operating activity, both individually and as a Club sport. But, I wonder how many of us know how and when the Marathon came about. A little bit of research revealed that the Marathon came to life in 2006. But, there’s more to the story with the “how” question answered!

I’ve recently had several email exchanges with SEDXC’s “informal historian”, Dave Thompson (K4JRB), and discovered that the roots of the Marathon began much earlier. Dave participated in a study led by W2VU and CQ owner K2MGA called the CQ Blue Book which explored ways to get more hams on the air. Dave shared with the team his personal challenge of working as many countries as possible each year; and he called it the DX Marathon. The CQ team jumped on the idea, but the complexity of the rules and finding someone to administer the rules took several years to resolve. By 2006 those problems were solved and the CQ DX Marathon launched with 87 entries at year end. Total participation had increase to over 18,000 in 2021.

Dave had these comments: **“I am pleased that the SEDXC is entering as a club DX activity. I feel this is ideal for training new DXers”**

It’s never too later to join the SEDXC Marathon team. Every country you’ve already worked (confirmed not required) in 2022 counts as a point. Just keep working the new ones and submit your total score in January as a SEDXC Club entry. Detailed information is [Here](#), or contact Andy Goss (AA5JF).

73 es gud DX,

Chuck, AE4CW

VP's Corner *(de Clark Macaulay, WU4B)*



This Month

We have invited Ken Claerbout (K4ZW), to speak of his recent trips and involvement with ET3AA – Ethiopia. As some of you may know, ET3AA is licensed to the Ethiopian Amateur Radio Society (EARS) located at the Addis Ababa University and is used by the students in their studies and to operate in various contests. All of the equipment has been donated. According to the bio at www.qrz.com, ET3AA is dedicated to keeping Ethiopians on the air through licensing and training activities.

Ken, is an active DXer, and is also the current Vice-President, Secretary, and Director of the **Yasme Foundation** www.yasme.org that financially supports DXpeditions. He was first licensed in 1977 as WD9DEE while attending high school in Cedar Grove, Wisconsin. He later upgraded to Extra class and obtained the call KE9A. In 1984 he moved to Virginia after accepting a position with the Diplomatic Telecommunications Service in both engineering and management roles, supporting the secure, global network of US embassies and facilities around the world. He later spent six years in the private sector at a global telecommunications provider for Sprint, France Telecom, and Deutsche Telecom. He currently works for the Broadcasting Board of Governors in downtown Washington DC. Ken holds a degree in Electrical Engineering and a Master's Degree in Telecommunications (Public Policy and Business) from George Mason University. He is currently licensed as K4ZW and enjoys contesting and chasing DX on the low bands, both from his home station and overseas.

Comin' Up

Our October speaker is Fred (AB1OC), a veteran DXer, who will speak on the many facets of the DXLab suite of programs for the DXer. This topic was suggested in the May SEDXC meeting, and since it has so many features of interest to the DXer, seemed like a good topic for us all, no matter what logging program we are using today. This will be the last technical program of this year with HamJam coming up in November and the club taking a hiatus in December.

Kicking off the new year, in January we have scheduled Dan (W4DKS) to bring us up to date on CY0S Sable Island currently scheduled for March. Of course, we'll all be striving to snag Bouvet 3Y0J also in January. Our February speaker is Tom (N4XP) who

will report on Svalbard JY0A. I have a tentative speaker for March that, when confirmed, should then fill out the 1st quarter.

CQ Marathon

Chuck (AE4CW), will put in a plug in this month's newsletter for a club-wide operating event. With the fall and the winter come better conditions to work DX stations, and there are a few contests where one can easily work 100 countries. If you've been holding back to start your own involvement in DXing for the Marathon, now's your chance to 'start your engines'! There's plenty out there on almost any mode you like. As the quiz shows says, "Come on Down!" and join the fun!

73 es gud DX,

Clark, WU4B

Treasurer's Journal *(de Jeff Cantor, K1ZN)*



Greetings, Fellow DXers! Disbursements to report for last month:

Purpose	Amount
Donation to Wellstar Foundation (In Memory of Bev Lamboley)	75.00
Postage	5.10
Donation to ClubLog	317.16
Purchase of Table at Stone Mt Hamfest	75.00
Donation to the Northern California DX Foundation Beacon Project	300.00
Donation to K5WE for ZL7 Chatham Island DXpedition (Sept 2022)	350.00
Payment to T-Rex Software via Chaz Cone, for SEDXC.org Renewal	27.49
Payment to T-Rex Software via Chaz Cone, for Website Hosting	180.00
TOTAL:	\$1,329.75

Our Account Balance is \$14,101.06 , as of September 6th.

Gud DX & 73,

Jeff, K1ZN

A Reminder About the Svalbard DXpedition!!! *(de Tom Harrell, N4XP)*



Members of the Dateline DX Association will be activating JW0A Svalbard during the period of 09/19/2022 through 09/26/2022. The operators include: N4XP, N4HU, SM5AQD, WB4JTT, W6IZT, W8HC and YV5EED. The operation will be from the JW5E club station. Tom N4XP, Rick N4HU and Gregg W6IZT are SEDXC members! More information here: www.ddxa.net.

73,

Tom, N4XP

Around the Shack *(de Hal Kennedy, N4GG)*

One Way Propagation *(Repeat)*



This month, Hal is busy moving to a new QTH, and was not able to submit an article. As we enter into the Fall, we thought we would be timely to share one of his earlier articles on Propagation. Good Luck on your move, Hal!

Is there one-way propagation? This question comes up a lot and the answer might surprise you. Sticking to a strict definition of the word ‘propagation,’ one-way propagation does not exist.

Meanwhile, we frequently run into situations where we can hear a distant station but that station can’t hear us, or vice versa. Those situations are often the result of differences in station hardware and antennas.

One station may be QRO, the other QRP. Local manmade noise (RFI) may be high at one station (urban QTH) and low at the other (in the country). Station differences account for a lot of what appears to be one-way propagation but isn’t.

The ionosphere is bidirectional.

Perfectly equal stations in identical man-made noise environments (a hypothetical) still sometimes experience the phenomena of only one station hearing the other. That must be one-way propagation, right? No, sorry, it isn’t. For perfectly matched stations with matched local noise, there is still a major factor to account for – atmospheric noise.

There is a way to reliably experience what seems to be one-way propagation nearly every night of the year. It's on 40 meters an hour or so before sundown on the east coast of the US. At that time, it's easy to hear stations in Europe while almost none of them can hear you. Some of them are running approximately the same power and antennas you are, have the same amount of local manmade noise you do, and they can't hear you. I've called European stations on 40 at sundown with 100 watts and they continue CQing as if I wasn't there. Switching on the amp and running 1,500 watts often does not help. They still can't hear me. It must be one-way propagation, yes? Well, no.

The 40-meters-at-sundown case is the perfect example for explaining what's really going on. The cause of what seems to be one-way propagation is the signal-to-noise ratios (SNR) on the opposite ends of the path are very different. The difference is not due to signal strength (propagation) or local noise (RFI), it's due to atmospheric noise.

The cause of the difference in atmospheric noise is due to what is occurring in the D-layer of the ionosphere. Here is a rudimentary explanation of the D-layer for those who may not know of it.

The sun ionizes a layer of the ionosphere called the D-layer. Long range communication on HF (DX) occurs by reflecting signals off the upper reaches of the ionosphere, typically off what's called the E-layer (E-skip), or one or more of several F-layers (particularly on VHF). The D-layer resides below the useful layers and absorbs signals rather than reflecting them. Fortunately, the D-layer dissipates after sundown. Direct sunlight excites the D-layer to the point where it absorbs enough RF to make DXing on 40, 80 and 160 over long distances nearly impossible during the daytime.

At night, the D-layer dissipates to the point where absorption isn't a problem and stations can be worked over great distances on the low bands. A requirement for reliable contacts however is that both stations be in darkness or nearly so.

The D-layer effect is the primary cause of what appears to be one-way propagation on the lower HF bands. Here's what happens on 40 meters at sundown:

The east coast US station has darkness to the east and sunshine to the west. D-layer absorption has eliminated atmospheric noise from the west and depending on the time of year and exact time of day, D-layer absorption may also be reducing atmospheric noise from the north and/or south. The US east coast station has very little atmospheric noise – most of it is being absorbed. The only direction the US station can receive atmospheric noise and signals from is the darkness path; from the east.

Meanwhile, as the sun sets on the east coast of the US, stations in Europe have been in darkness for many hours. They are receiving atmospheric noise from every direction. The signals are making it across the Atlantic equally well in both directions, but the signal-to-noise ratio at the path ends will be different by many dB. The US can hear

Europe; Europe can't hear the US. The difference in atmospheric noise accounts for that.

Figure 1 depicts the scenario on a typical evening. This image is for August 3rd at 0050Z. N4GG is in sunset twilight on the west end of the path and only receiving noise from the east. On the east end of the path, Europe has been in darkness for hours and European stations are receiving noise from all directions.

I'll close with a brief comment about DXing on the grey line. Seasoned DXers know the longest-haul DX on the low bands is possible when the station on one end of the path is experiencing sunrise while the other is experiencing sunset – the “grey line.” There are programs on the web which will calculate and display that condition for your QTH. The two figures in this *Around the Shack* column are from the software program DX Atlas. One of many reasons grey-line DXing is so good is because of the phenomena described above. Both stations are experiencing low atmospheric noise.

There are a few memorable QSOs in one's ham career. One of mine is working XU7ACY on 80 meters at the grey line. XU is in CQ zone 26. For many, a zone 26 QSO on 80 meters is the last contact needed for 5-band WAZ. The contact was completed at 1414Z on December 17, 2010. The sun location for that QSO is shown in Figure 2. It is 22 minutes before sunrise at N4GG and 44 minutes after sunset at XU7ACY. Both stations are experiencing about a half hemisphere of atmospheric noise. N4GG is about to hear no further signals as D-layer absorption sets in. XU7ACY is about to have problems hearing due to receiving atmospheric noise from all directions. During my QSO with XU7ACY signals came up then faded out in about one minute.

The 80 meter antennas at N4GG are modest at best. A lot of DXing is about knowing when and where to show up. Hint: Show up when atmospheric noise is low! Consider reading or rereading the *Around the Shack* column “*DX is for the Deserving.*”

73,

Hal, N4GG

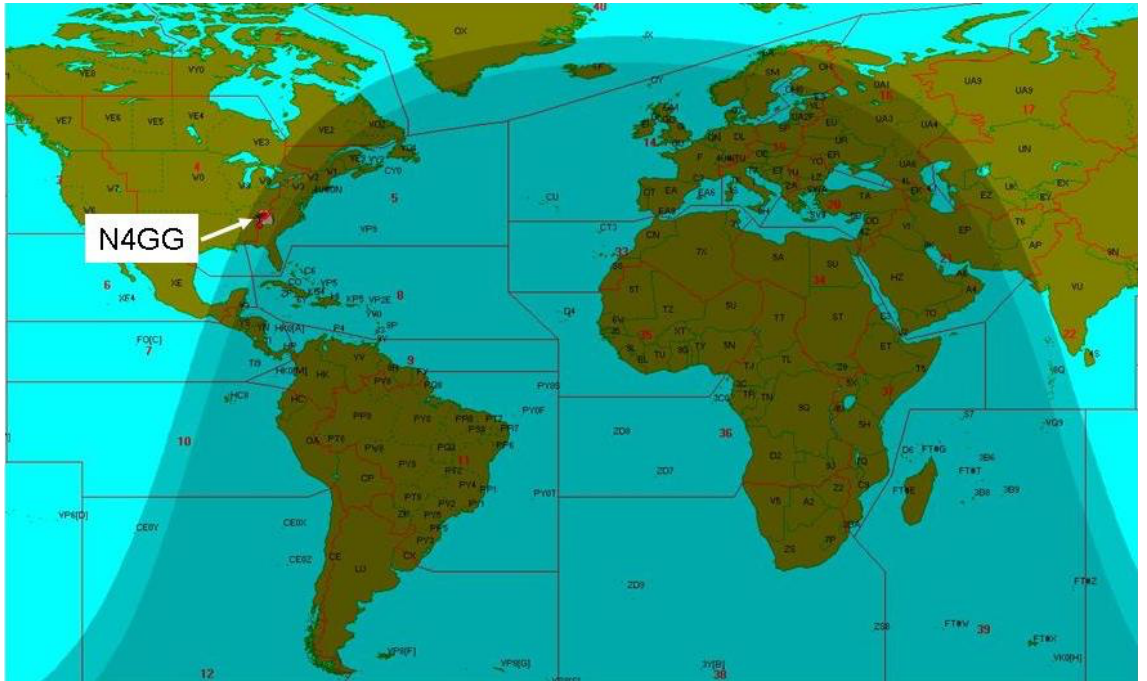


Figure 1. Sunset on the US east coast

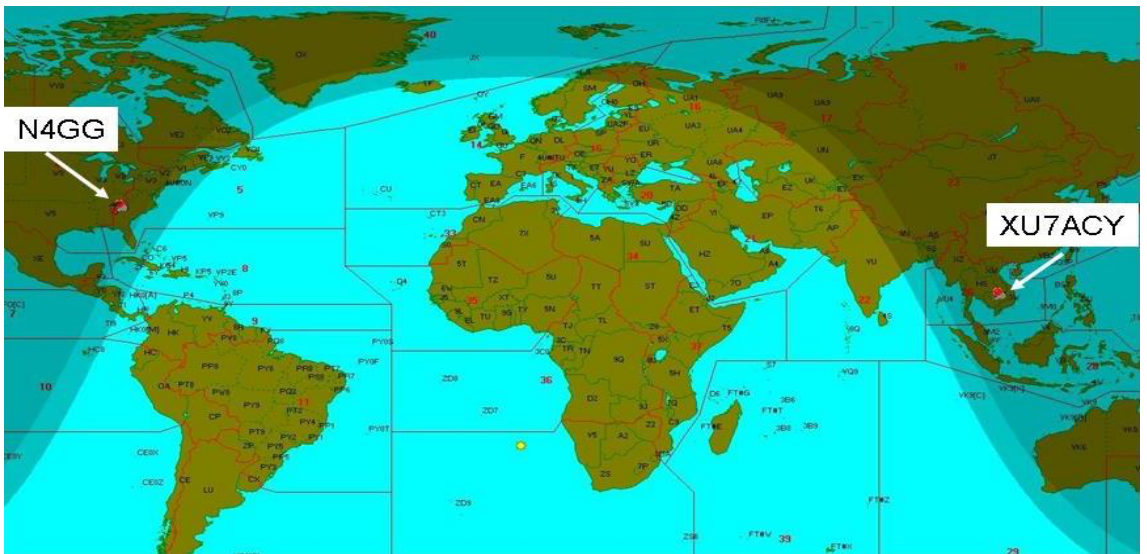
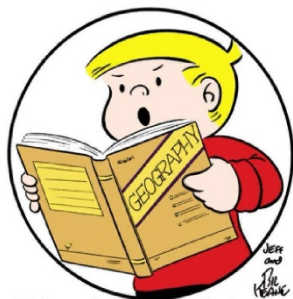


Figure 2. The grey line QSO between N4GG and XU7ACY

25 Years Ago... (de Bob Sarnecki, NF7D)



"If it wasn't for ham radio, I would have never even heard of Kyrgyzstan, Brunei, Kiribati, Djibouti, Malta, Nauru, Azerbaijan, or Burkina Faso!

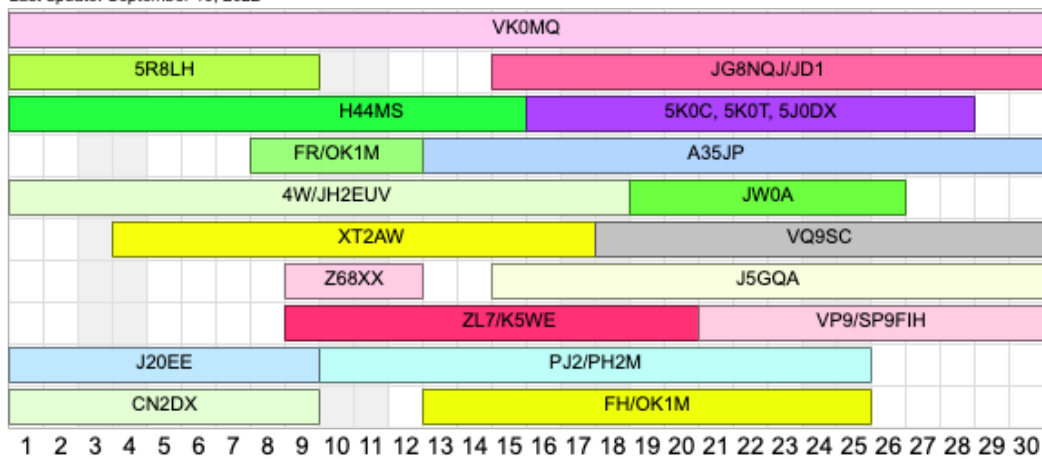
The September, 1997 Newsletter is attached for your entertainment. This month will bring a smile to your face; President Paul Hansen (W6XA) was busy on getting some great presentations lined up (Thank You, Clark!) and putting together a survey to understand what the members expected out of their Club (Thank You, Chuck!). Part of the intrigue 25 years ago were big changes to the DXCC Award, which included new categories, changes in handling deleted entries, etc. Vice President's Ernie Zingleman's (KS4Q, SK) comment was as timely than as it is today: "...turn on your rig and work some DX"!

DXWorld.net Dxpediton Timeline



DX WORLD.net FEATURED DXPEDITIONS TIMELINE

Last update: September 10, 2022



Edited by MM0NDX

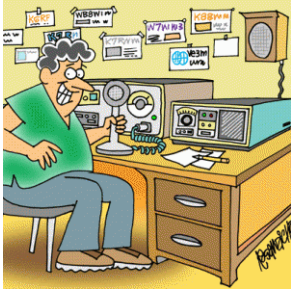
SEPTEMBER

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The *DX World* Calendar features a timeline of all DXpeditions anticipated for the current month and is a great way to plan your chase for the next, All-Time New One (ATNO). The Calendar is updated regularly; use this link to see the latest version:

http://www.hamradiotimeline.com/timeline/dxw_timeline_1_1.php

SEDXC Officers & Positions



SEDXC Officers:

Chuck Catledge, AE4CW – President – c.catledge@gmail.com
Clark Macaulay, WU4B – Vice-President – macaulay@gmail.com
Joel Levine, WA4HNL – Secretary – jlevine@bellsouth.net
Jeffrey Cantor, K1ZN – Treasury – jacantor9@gmail.com
Bob Hensey, K4VBM – Activities Manager – ptcorners@gmail.com

SEDXC Appointed Positions:

Chaz Cone, W4GKF – Webmaster – w4gkf@chazcone.com
Bob Sarnecki, NF7D – *SEDXC Bulletin* Editor – bob.sarnecki@gmail.com



SOUTHEASTERN DX CLUB W4NT

*THE
SOUTH'S
PREMIER
DX CLUB*

September 1997

NEXT MEETING TIME & LOCATION

Tuesday, Sept 16th, 7:30 PM, Old Hickory House in the Days Inn, Roswell Rd., just inside I-285.

PRESIDENTIAL RAMBLINGS

-Paul Hansen, W6XA, President

I'm really behind schedule so I may not even get this note into the newsletter. If it makes I will be surprised. There is so much to do and so little time, I need as much help as I can get. Please, please volunteer to pick up a committee. I am looking for someone to make monthly presentations of upcoming DX-peditions and contests to keep the members informed. I am also hoping some expert out there will jump in with a kind of hints and kinks corner regarding stations, antennas, qsling, or just about anything of interest.

Last month, the members present suggested we survey present and past members about what they want to see in the club. The survey is still in the formative stages and I can't say exactly when that will be finished. More to follow.

At the October meeting I propose we have an AUCTION NIGHT. Haul out some good and not so good stuff to bring to the meeting to auction off. Don't clean out the shack, you have Lawrenceville for that. Just a couple of items that you would like to get rid of and might not be sure what price to ask.

The rules will be simple; Items submitted may have a minimum bid established. Items not sold above the minimum will be returned. All items will be otherwise sold to the highest bidder. Funds can be any coin of the realm except plastic. The only catch is that the SEDXC will extract a small donation from the buyer based on the selling price. I think 5% would be adequate. Bring anything from junk to jewels, boatanchors would be especially welcome but don't forget the stairs!

That's all for now. We will talk again on the 16th. CU there, Paul, W6XA

VP THOUGHTS

-Ernie Zingleman, KS4Q, VP

For those of you who missed the August club meeting, you missed a great one. A program on electrical safety was done by linemen from Georgia Power. I, who thought I already knew everything about electricity, still managed to learn a few things!

We also had a lively discussion regarding the decline both in club membership and in club participation. It was decided that before we do anything rash, a mail-in survey of all club members, both current and former would be in order. A committee has been formed to draw up a list of survey questions concerning meeting location, focus of the club, problems, programs, and new ideas. We, the club officers, need to hear from you, the club membership. If you wish to remain anonymous in your responses, then so be it! Look for the survey to arrive with your next club newsletter. Please be thoughtful and deliberate in your responses.

This month I am pleased to announce that we will have Gary, K9AY, an antenna design patent holder and local SEDXC member, speaking to us at the meeting about his "terminated loop antenna" design for low band reception. Before then, you might consider rereading Gary's intriguing article which appeared in September '97 QST on page 43. If you don't have room for a beverage, come near about this new design and bring your questions. It fits in a 30 foot circle!

Lastly, you may have heard some discussion about DXCC 2000 and how the ARRL DX Advisory Committee has proposed changing the DXCC award program. If you have not heard the details, I will be handing out copies of the latest report on the DX Advisory Committee's activities at the meeting. Until then, turn on your rig and work some DX. The solar flux has already hit 96!

Just like DX Is! - Sunspots Are!

73' Ernie KS4Q

BEEPS DE K2UFT

-Dick Bentley, K2UFT, Activities Director

As I write the NUMBERS are 96 - 4 - 2 - Could it be that we're emerging from the doldrums? There's a feeling of fall in the air, nobody wants to bother with the pool anymore, including the chief cleaner, me. Been fooling with MiniProp in preparation for weekend skeds with our furthest flung member, Dale, M0AOP. The English hams are observing a four hour period of silence on Saturday in remembrance of Princess Diana, so we need to work around that as well as the sunspots.

Things come and things go - Rick, NQ4I is putting up a Christmas tree, 2 on 80, 3 on 40, 5 over 5 on 20 and a 6 element propagation maker for 10 meters at 135 feet - should be an awesome array. Tad, WA4CUG's taking his tower down and taking a hiatus from DXing in favor of marriage this month with Karen Rutschow and probably his and her Harley, s eve'tually. Bon Voyage, Tad and Karen - you could find a way to mount a TS50 on your Harley!

The bands are changing, seasons are changing and hams are changing their focus. Last month's meeting saw the introduction of a constitutional change that would eliminate the requirement that you hold DXCC before you can vote in club proceedings. I'm in favor of that - I think we are missing quite a few potential members, members with great ideas about station setup, antenna configuration, top-notch operators who probably have the equivalent of honor roll status but for political or other reasons, don't want to be involved in the DXCC program. and beginners who might be intimidated by 150 foot towers and 6 element beams. There was another change proposed I don't agree with it- its proposed that a potential member have a sponsor and wait a month before approval by the membership. That's amounts to perking up their interest by dropping the DXCC requirement and then throwing cold water in their face since we require that you be sponsored and we need a month to think over whether or not we want you to join.

There was supposed to be some sort of survey to elicit the opinions of members not present on the above matters, followed by some sort of action at the coming meeting. If you feel strongly, one way or the other, voice your opinion by returning the survey - better yet, show up in person to present your views - they need to be heard.

73 Dick K2UFT Activities Manager

TREASURER'S REPORT

-Nancy Draheim, NK4U

Balance 7/31/97 (Checkbook)	\$3066.39
Income:	\$362.00
Expenses:	
Door Prizes	\$33.44
Officer Plaques	\$163.24
Post Office	\$4.95
July Newsletter	\$104.26
August Newsletter	\$88.11

Balance Checking 8/31/97 \$3034.39*

August 31, 1997 balance: \$3034.39 **

** Of this balance, \$905.15 is from the packet fund and \$920 is reserved for the CQWW 160 plaques. That leaves \$1209.24 for actually club expenditures.

Well, the antenna is still not up... but it's together. Thank goodness we didn't take the bent one entirely apart when it was brought down. Antenna manufacturers leave a lot to be desired when they write their directions. First you read the directions, then run around the corner and look at the old one, then run back and read the directions again and then finally connect another piece. I did put up a dipole, but it's obvious that I need all the help I can get, the SWR is 5:1. Not good. Well.. maybe by next month.

73, Nancy NK4U, Treasurer

The SEDXC Newsletter is published monthly by the Southeastern DX Club . All opinions expressed by the contributors do not necessarily reflect those of the editor, officers, or club. We welcome your opinion.

SEDXC MINUTES 7/97

-Rick Glisson, N4XMX, Sec.

Paul Hansen, President called the meeting to order at 7:37 PM. Paul welcomed everybody and everyone introduced themselves.

Paul then called for committee reports. Activities: Dick, K2UFT, had no report. Membership: Paul, K4UJ suggested handing out info at other club meetings, especially after watching (continued on p3)

(continued from p2) Bob, K4UEE, do a program on Heard Island the Atlanta Radio Club. Treasurer: Nancy, NK4U reported that there were only 43 renewals. Nancy also indicated the need for members to encourage others to renew. A general discussion developed that ended with Nancy agreeing to send out letters to past members.

The program was given by Georgia Power on electrical safety and high voltage lines. Perry and Mike gave a lively and informative demonstration including a video presentation and live 10kv tabletop model. They apologized that their video was not quite as lively as the brief one that preceded them! Discussion followed and handouts were available.

After the break, plaques were handed out to past officers: Steve, K4WA (pres), Paul, K4UJ (VP), Dick, K2UFT (activities), Nancy, NK4U (tres), Randy, K4ODL (sec), and Rick, N4XMX (newsletter editor).

Paul, W6XA, then opened discussions on the proposed changes to the SEDXC constitution. Various reasons for loss of membership ranged from low sunspots, lack of DXCC and therefore voting privileges, to meeting location. Many present including NK4U, K4ODL, W6XA, K4UJ, KE4LDJ, W4EA, and N4XMX joined in the discussion. K2UFT moved to table the motion two months until a survey could be sent out and evaluated. This was seconded. Don, W4EA, made a motion to have a committee to compile and analyze the surveys. This was seconded and Don, W4EA and Paul, K4UJ will be the committee.

The meeting adjourned at 9:35PM and shortly afterwards, the power went out...

PART 3 of a Series (continued from last month)
My Thoughts on Propagation de W/7 (Alias W0MHS)

Lots, you tune the band and DED DED DED (especially on 20M!!!!), yet you go to 15M and the world is alive and well? The ECOF is above 20M on that path, and it is a lot of the time, the E-layer is the bad guy and if you have high ECOF between you and DX, forget trying to workum, the E-layer is a super efficient layer and will chop you down fast when you are at freqs near ECOF (I call these "grazing" freqs) the E-layer looks and works and sounds more like a foggy cloud that sometimes lets a QSO thru for 22 seconds or mebbe a tad longer 10-15 minutes. But, the MAIN POINT IS: You gotta KNOW what the EVIL LAYER is doing! and what to look for! DX IS

ALWAYS THERE TO BE WORKED! Sunspots are only icing on the cake making signals a bit nicer to copy!

SEDX boys have condx (at the bottom of the cycle even!!!!) that us BBP folk would drooillll over whatta buncha sissys not chasin' DX at solar bottom ... it is the absolute best trainin' time for dx operatin' you kin git!

I have used EMP (Early version of MP - what shows the ECOF!) for years and tons and tons of DX. Take any path you want that's open at a lower signal level with a SS# around 10 or so, about DED by most folks standards, and then rerun the thing with SS# of 200 and see what happens to the signal level — most often it takes tonza SS# to drive it up even 10 db (1.6 Sunits!) — so SS are NOT THE CAUSE of the DECLINE in DX, it's the LAZY DXer that is the cause — truth has been Spoken, Dr. DB! Lack of Dxpeditions? NO WAY!: VK0IR, BS7H, etc. etc. etc. ... those folks are out thar on dem ocean rocks hollarin' atcha! Answer back! All at solar bottom!

EMP (using Smoothed SS#) is the secret. Big time DXers around here (all 1.6348 of them!) sed I was crazy, no way you can run 48 EU in an hour out here, until I showed them the log, then called them to LISTEN UP the next time I ran ... BLEW THEIR SOCKS OFF!

Study the band and paths using EMP, it will teach you marvelous things. Lotsa folks say the MP don't work ... wrong! If you put in garbage data, you get garbage results. WWV F-#'s are the input garbage...unless the number is one that happens to correspond to the long term smooth SS#. For the next few months, use a sunspot number of 12. That will give you what's happening pretty well. If you want better condx, up the SS# in EMP and find out what changes ... notta lot unless the SS# jump is HUGE! Where u get SS#? I take mine data from Sky & Telescope, the last issue sez AAVSO mean for December was 12! Good enuff for April too! You can use Zurich SS# too, I usually get HB9#s for a comparison to AAVSO (American Assoc. of Variable Star — including da Sun - Observers!)

Take EMP or MP newer versions (fancier interface) and run the paths/openings and LEARN what's there all the time each year and then call CQ! Enuff ... de W/7 Huntsville, UT up hi in da mountains!

-The End