



# The LongPath

A North Alabama DX Club Publication

## Summertime Propagation

By Thomas Russell, N4KG

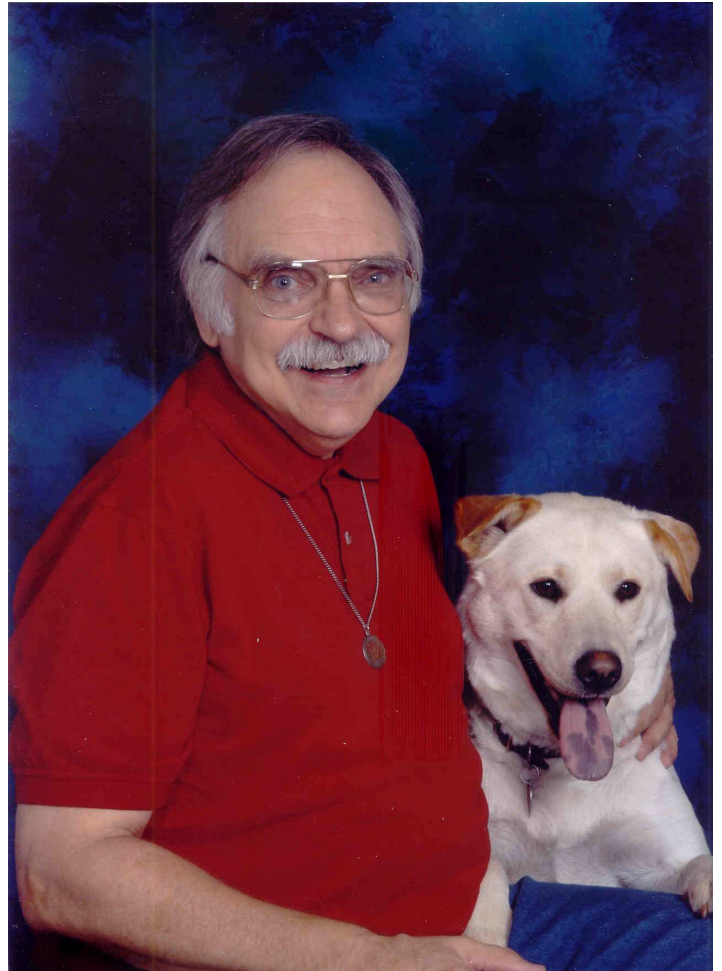
### Special points of interest:

- Summertime Propagation
- May Meeting Minutes
- Short Skip
- Working VU4NR0...
- DX Contestx
- Cluster over Power Lines
- From the President

Radio propagation during the summer months in the Northern Hemisphere is unlike that of any other season. BOTH the Higher Bands and the Lower Bands are impacted negatively by the summer seasonal effects.

The Higher Bands suffer from reduced MUF (Maximum Useable Frequency) due to Solar Heating which causes the ionosphere to rise and therefore expand. This expansion results in lower ion density which translates to lower MUF, typically below 26 MHz to Europe during high sunspot activity and often below 22 MHz during low sunspot activity. Another minor cause of lower MUF is the fact that earth's orbit is slightly elliptical, reaching it's greatest distance from the sun (94.5 million miles) on July 3 (versus 91.5 million miles on December 3).

The Lower Bands suffer from more terrestrial effects. Since the Earth's axis is tilted 23.5 degrees, the top 23.5 degrees of the North Polar region is exposed to the sun all or most of the day during the Summer months. This



*Continued on p. 3*

### How to Join

- \* Come to a club meeting;
- \* or send in an application by mail (form on [www.NADXC.org](http://www.NADXC.org))
- \* or call Vic Holland at (256)721-9106

## DX Trivia Bowl

Program featuring You!

A night of fun and prizes won by showing what you know about DX and amateur radio trivia. It will be a team event. No one will know all the answers. Some of the questions will bring back memories. Do you remember the "Benton Harbor Lunch Box"?



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The May meeting of North Alabama DX Club was called to order at 7:00 PM on May 10, 2005.

Visitors present were John Whitehouse AB4DN. There were 16 members in attendance

Vic K4RVH gave the treasurer's report stating the funds on deposit amounted to \$2983.77.

Minutes of the April 2005 meeting were approved.

No membership apps were received in the previous month.

Members discussed recent DX worked during poor conditions of the past month.

It was announced that Bill Moore NC1L would be in attendance at the Huntsville Hamfest. Tim KU4J reported that he spoke with Bill at the Birmingham hamfest and that Bill was looking forward to coming to Huntsville.

Wes Lamboley W3WL was announced as the the speaker for the DX Banquet during hamfest weekend.

Tom KG4CUY discussed upcoming Field Day planning and that there were still some duties that needed manpower.

Myron W4UR complimented Tom KG4CUY on his efforts of leading the

club and taking over the web page and LongPath temporarily since there was an unexpected need in those areas.

A reminder was given to send pictures of stations to Tim KU4J for preparation of a slide show to run in the club booth at the hamfest.

There is still a need for a more permanent webmaster and LongPath editor although they do not have to be the same person.

Report was given on a kit building session to be held the Friday of Hamfest weekend to attempt to spur some interest in ham radio.

Ron W4VM requested the club purchase a West Mountain Radio PowerGate to put together with a large battery he already had to provide emergency power on the .30 repeater. A motion was carried and Ron was to look for the PowerGate at Dayton.

Ron also was looking for some radio demo ideas or assistance for a licensing class he is currently teaching.

The meeting was closed and followed with a presentation from KU4J Tim titled 'The P5 Special'.

Respectfully submitted,

Vic K4RVH



**Table of Contents**

Summertime Propagation	1
May 10th Meeting Minutes	2
Wanted—Shack Pix	2
This Month's Unusual Program	3
Short Skip	4
This Month in Electrical History	4
Working VU4NRO and VU4RBI from Alabama and Tennessee	5
DX Contests	6
Cluster over Power Lines	6
Did we Miss You?	7
From the President	7

**Wanted—Shack Pix**

By the LongPath Staff

Looking for the perfect excuse to spruce up your shack? Can't find the humor in the "abandon hope all ye who enter here" sign your spouse nailed above the shack door?

Tim Pearson, KU4J, wants your shack pictures for a Hamfest slide show to run

at the NADXC booth. Don't let the club down. Clean up your shack, shine up that mahogany operating table, get the mike and key sparkling, and take a picture—better yet, have someone else take a picture with you in it.

Tim's waiting!

Continued from p. 1

results in mid-range MUF's and high absorption on the Lower Frequencies on paths to Asia and Northern Europe. Summertime Thunderstorms also create a considerable amount of Electrical Noise that extends into the lower HF spectrum.

The reduced ion density during Summer has another subtle but significant impact on propagation that affects ALL bands. MUF's tend to rise more slowly as the sun rises over the horizon. On the Low Bands, this effect can be seen by prolonged openings to the West after sunrise. This is especially beneficial for communication with the Islands in the Pacific. One summer morning I heard FR5DX on 75M SSB Long Path (over the Pacific) 90 minutes after my sunrise. Foolishly I didn't bother to call since I had contacted him many times during contests on the short path. That would have been a record LP QSO for me.

The slow rising MUF delays the openings to Europe on the High Bands (14 through 25 Mhz). The longer days also tend to prolong the High Band openings once they do open, resulting in openings to Europe well into their evening. This delayed and extended peak in MUF also results in High Band openings to Asia during our Morning hours. It is not uncommon to be working JA's in the morning and Europe in the afternoon on 15 meters.

During periods of Low Sunspot Activity, the 40, 30, and 20 Meter Bands are good in the early morning hours, followed by 20, 17, and 15 Meters during the mid-morning hours. Absorption builds during the day, affecting the lower bands up through 20 Meters. MUF's remain fairly high through the early evening hours but the lower bands become more useful after dark as the D-layer absorption goes away. The 17 Meter Band is especially good during the summer months. Trans-equatorial paths to

South Africa, South America, and the South Pacific are usually viable up through 28 MHz.

### This Month's Unusual Program

June's "DX Trivia Bowl" program will certainly be out of the ordinary. Rather than the usual presentation followed by a question-and-answer session, we will divide up into teams, each with a good mix of gray-beards and DX newcomers. Teams will field DX questions pulled entirely at random from our own question pool. (VECs take note: we're not raiding your question pools!)

Lavish prizes will be awarded based on our own secret formula. Our vice president assures us no-one will have all the answers. Make sure you don't miss this important event!

## Tower Climber Needed:

**N4KG needs a Tower Climber to help remove 3 tribanders (TH3 at 40 ft, TA32 at 60 ft, and TH6 at 80 ft). Tower is guyed at 4 levels. All necessary tools are on hand including safety harness, safety belt, hard hat, pulleys, ropes, come-alongs, and gin pole.**

### Contact:

**Tom—N4KG at 256-233-1402 or n4kg@aol.com for details**

## For Sale: Your Stuff!

**"Members can have their ads placed in the LongPath by simply emailing the Editor at:**

**duncant1@ds-s.com**

## NADXC Officers

President: **Tom Duncan**, KG4CUY  
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### 2005 Dayton "Pilgrimage" is History . . .

Well, the 2005 Dayton Hamvention has now come and gone. Once again the event drew lots of folks, but even though the weather cooperated for a change it seemed the attendance was noticeably lower than last year. The flea market was much less crowded as were the inside areas. Nevertheless, it was still a huge event and (in my humble opinion) well worth the time and effort to go. NADXC members observed over the weekend included KU4J, K4RVH, N5DF, W4RK, W4TCD, W4WEG, AB4MT, and KD4BJW. As far as major new equipment announcements, the most interesting new items I noticed were Icom's IC-7000 (looking like an enhanced IC-706 with a color display) and SGC's novel "Mini Lini" modular linear amplifier.

### Field Day Nears – Help Still Needed! . . .

Field Day is almost here, and K4BFT will again be making an effort to score big in the event. Tom Duncan has been working very hard to get all the many loose ends pulled together in the face of having to change the operating location. As in past years many NADXC members have played active roles in Field Day, and I know Tom would appreciate as much NADXC support as possi-

ble again this year. A combination of good participation and favorable propagation should make Field Day 2005 another great weekend.

### NADXC Banquet to Feature W3WL . . .

At this year's NADXC Banquet during the Huntsville Hamfest, we'll be treated to a return visit by guest speaker Wes Lambole (W3WL) who will present the story of the recent FT5XO DXpedition to Kerguelen Island. Wes was last with us as a banquet speaker several years ago when he gave a fascinating account of his involvement with the D68C DXpedition to Comoros. I spoke with Wes at the Dayton Hamvention and learned that Huntsville is a favorite destination of his and that he's looking forward to being with us in August.

### Kure Atoll DXpedition Planned . . .

The June issue of CQ included some news about an upcoming DXpedition to Kure Atoll (KH7K) planned for September/October of this year. Kure Atoll ranks in the top ten on several "Most Wanted" DXCC entity lists so let's keep our eyes open for more details on this one as the date nears.

### Give the Kids a Hand . . .

On Saturday, June 18, the ARRL will sponsor another "Kid's Day" to give kids a chance to participate in the amateur radio experience. Kid's Day events have been held since 1994 and have proven to be a big hit with the young folks who participate. This may not be as exciting to us as chasing DX, but it is a great way to invest a little time and effort to cultivate some potential new hams. Details about Kid's Day are described on page 49 of the June issue of QST. The event lasts only six hours, so why not set aside a little time on the 18th to talk to some young folks.

### DXCC Fees to Increase? . . .

In the ARRL's recently released *DXCC Yearbook 2004*, Wayne Mills (N7NG) included some cryptic editorial comments that several issues related to the current DXCC fee structure were being reviewed and that ". . . changes will be announced by mid-2005." No further details were given, but stay tuned!

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*73 es gud dx . . . de W4UR*

### This Month in Electrical History The LongPath Staff

**1836**—Andre-Marie Ampere dies. He was first to describe the relationship between current in a closed loop and magnetic field strength.

**1875**—Bell hears the first voice on his nascent telephone, eight months before the famous "Mr. Watson, come here, I want you" episode.

**1877**—Edison's work on the embossing telegraph repeater leads him to accidentally record and play back "almost

human" sounds. He would apply for a patent on his talking machine, the phonograph, later that year.

**1928**—English-language publication of H. Yagi and S. Uda's article on parasitic dipole arrays appears in the *Proceedings of the Institute of Radio Engineers*.

**1955**—Dwight Eisenhower's commencement address at West Point becomes the first color television broadcast of a U.S. president.

**1961**—Lee de Forest dies. Admired by some and despised by others, he played a controversial — perhaps pivotal — role in development and commercialization of radio from 1900-1919.

**1995**—John Vincent Atanasoff dies. Co-developer of the Atanasoff-Berry computer at Iowa State University in 1939, was declared the developer of the digital computer in a celebrated 1973 patent infringement case.

## Working VU4NRO and VU4RBI from Alabama and Tennessee

By Thomas Russell, N4KG

The activation of the Andaman and Nicobar Islands last December (2004) as VU4NRO and VU4RBI broke a 17 year absence from the airways. Unfortunately for those of us on the exact opposite side of the world (HSV is 179.5 degrees of longitude removed from VU4), high band propagation proved to be problematical to marginal at best. DXers needed to note that propagation to VU4 would bear more similarity with propagation to Thailand (HS) and Myanmar (Burma - XZ) than to India (VU).

The MUF between VU4 and those of us near the 86-87th West Meridians was limited by the fact that there was NO Mutual Daylight, but 90 minutes of overlapping darkness, both morning and evening. Low Sunspot Activity didn't help either, with the Solar Flux Level being in the 90's for most of the operation.

Interestingly, W6ELProp showed the Short Path MUF from ALA to VU4 to exceed 14 MHz from 1430 to 2030 GMT and several spots from NA were noted during the day. The morning Long Path opening was simply NOT there most days on 20 Meters, frustrating many local DXers. Likewise, the Short Path evening opening was not there from ALA.

W6ELProp did show that there should

be a very good and long opening on 30 Meter Short Path from 1300 to 2100 GMT. It is likely that the Long Path on 30M was also quite good. In fact, 30 Meters was likely the BEST Band from W4 to VU4 during this period. It is unfortunate that the operators chose not to operate this band.

Interestingly, W6ELProp also showed two Short Path openings on 40M between 1000 and 1500 GMT and 2030 to 0130 GMT. Two different stations from HS were being spotted from W4 on 40M Long Path almost daily throughout the VU4 operation. This LP opening is VERY Reliable throughout the winter and notably more reliable than 20M.

Apparently VU4NRO did activate 40M at the end on the operation (Dec 23 and 25). K8EJ managed to work them from East TN around his sunrise, along with 20M CW and SSB contacts in the same timeframe. From a propagation standpoint, perhaps K8EJ's most interesting contact was with VU4RBI on 20M SSB at 2030 GMT. Who would have thought to look at that time?

There are (unconfirmed) reports of some ALA stations working either VU4NRO or VU4RBI on 20M. N4KG worked VU4RBI on 20M SSB in an unusual Long Path opening at 0100 GMT on December 19, after our sunset, when the band was peaking to

W5/7. VU4RBI was weak (33) but workable with not many callers. Fortunately, she was beaming LP at that time. VU4NRO was also spotted at the same time but NOT audible, either LP or SP. I can only surmise that VU4NRO was not beaming LP to NA. It was reported that they had to rotate their antennas manually making it difficult for NA stations since some areas favored LP while other areas favored SP.

On December 18 at 2310 GMT, OH1XX spotted VU4NRO on 3504 KHz. Sure enough, there he was with an excellent 559 signal working European after European. FINALLY, around 2345 W5UN managed to break through the EU pileup with the aid of his grayline enhancement. Thankfully, the operator at VU4NRO recognized this opportunity and called for North America only. Remembering how K8EJ had beaten the massive pileup to VU4GDG in 1987 by calling away from the pile, I set my VFO just below most of the NA callers and heard "KG 559" through the long on-frequency caller and frequency police. Skeptics claimed this must have been a pirate but I heard my confirmation and a copy of the QSL is included to prove that it was for real. After being unable to break through the VU4GDG 80M pileup 17 years ago, it feels GREAT to finally have VU4 confirmed as #327 for N4KG on 80M.

**VU4NRO**

**VU4RBI**

**VU4NRO**

**VU4RBI**

Confirming QSO With: N4KG				
Date	Time	Mhz	2-Way	RST
18-12-04	2348	3	CW	559

Confirming QSO With: N4KG				
Date	Time	Mhz	2-Way	RST
19-12-04	0100	14	SSB	55

Grid Location : NK61IP Lat : 11°38'30 N Long : 92°43'47 E 73 PSE / TNX QSL Direct Via VU2NRO

## DX Contests

By Chuck Lewis, N4NM

DX CONTESTS for the coming month include:

### ANARTS WW RTTY/Digital Contest, (RTTY), 80-10 meters

Jun 11, 0000Z to Jun 12, 2400Z  
Exchange: RST, CQ Zone and time (UTC). See page 93, June QST

### All Asian DX Contest (CW), 160-10M

June 18, 0000Z to June 19, 2400Z  
Exchange: RST plus age; YLs send 00  
See page 93, June QST

### IARU HF World Championships (SSB/CW), 160-10M

July 9, 1200Z to July 10, 1200Z  
Exchange: RS(T) plus ITU zone; IARU HQ stns send HQ abbrev.

See <http://www.arl.org/contests/rules/2005/iaru.html>

Other contests in June and July:

### WW South America Contest, (CW),

1500Z June 11 - 1500Z June 12

### Asia-Pacific Sprint (SSB)

1100Z - 1300Z June 11

### Portugal Day Contest, (SSB)

0000Z - 2400Z June 11

### Spanish Islands Contest (CW/SSB/RTTY)

0600Z-1200Z June 19

### RSGB 80m Club Championship, (SSB)

2000Z-2130Z, Jun 23

### ARCI Milliwatt Field Day

1800Z, Jun 25 to 2100Z, Jun 26

### Marconi Memorial HF Contest (CW),

1400Z June 25 - 2100Z (?) June 26

### His Majesty King of Spain Contest (SSB),

1800Z, Jun 25 - 1800Z, Jun 26

### Venezuelan Independence Day Contest, (SSB/CW),

0000Z, Jul 2 - 2359Z, Jul 3

### DARC 10-Meter Digital Contest

1100Z-1700Z, Jul 3



### RSGB 80m Club Championship, CW

2000Z-2130Z, Jul 4

### VK/Trans-Tasman 160m Contest, Phone

0800Z-1400Z, Jul 9

### RSGB 80m Club Championship, SSB

2000Z-2130Z, Jul 13

Dates & times often change or are misprinted in the journals; beware.

Chuck, N4NM

## Cluster over Power Lines

By John Stensby, N5DF

The DX cluster is a great tool for the time-constrained DXer. Over the years, it has helped me to increase greatly my country totals. Until recently, however, I have not used fully the information provided by the cluster.

Recently, my ability to use cluster information took a giant leap forward when I started using RXCLUS, a software package for users of DX clusters. I will not attempt to describe all of the many, useful features that RXCLUS has to offer (check it out for yourself at <http://rchalmas.users.ch/rxclus>). Instead, this short article describes my

use of the *DX Alert* feature found in RXCLUS.

*DX Alert* notifies you of important DX information. RXCLUS keeps your "DX needs" in several data bases that can be user-updated. The program knows the countries, band countries, specific station calls, etc. that you need to work. When RXCLUS "hears" one of your "DX needs", it beeps out a *DX Alert* using CW sent as audio through the computer speaker (you can adjust the speed to make the CW easy to copy). Also, the screen entry is highlighted or set to a different color. As CW audio, the pro-

gram sends out country prefix, band and mode information. Remember, you tell RXCLUS what to listen for, and the program raises a *DX Alert* when it hears what you need.

The *DX Alert* feature works in both the *connected* and *unconnected* modes of RXCLUS. In the *connected* mode, your TNC is connected to the sysop computer, and you have the ability to send and receive information (like you are used to). In the *unconnected* mode, your TNC is not connected to anything

*Continued on p. 7*

(it just **listens** to channel activity), but you get a computer screen that is similar to what you get when connected (however, you cannot transmit to the cluster). Audio *DX Alerts* are beeped out in both modes.

So far, *DX Alert* has been extremely useful and fun (except when it “chimes up” while you are in the shower, using the restroom, etc.). A couple of key strokes can turn off *DX Alert* audio when you need to “run silent” (i.e., when family members start complaining about “that squawking computer”). One problem did surface rather early. When I was out of the shack, I often missed the CW audio alerts sent out by *DX Alert*. For example, the alert would be missed while I worked in the garage, on the deck or on the screened-in porch. Also, I cannot hear the computer speaker audio from some rooms in our house (too much rock-and-roll

when I was a kid!). What’s a poor DXer to do?

Put computer speaker audio on the house wiring. Electronic stores (Radio Shack, Best Buy, etc.) sell home intercoms that use the house wiring as the communication channel (input audio is FM modulated on a 200Khz carrier that is sent over the house wiring). A couple of these intercoms have solved the above-mentioned problem.

Figure 1 below illustrates the computer/shack side of the system (think of



the acoustic-coupler modem from 30 years ago). Yes, that black thing is a speaker that is wired to replace the computer speaker. The white thing is the intercom, and it is set to VOX operation. Over the house wiring, the intercom only transmits when a *DX Alert* occurs and the intercom VOX trips.

Plugged into an AC outlet, I have similar intercoms in places where I want to hear *DX Alert* information. I get good audio out in the garage or out on the screened-in porch, for example. While not fancy or sophisticated, the system works and provides cluster information over house power lines!

Radio Shack sells battery-operated, wireless home intercoms that transmit at S-band (2.4Ghz). A pair of these should allow me to receive *DX Alerts* in additional places (on the lawn tractor, out in the yard, etc)!



### Did We Miss You? By the LongPath Staff

Did you miss familiar faces at the last NADXC meeting? If so, how about giving those members calls to let them know they are indeed missed.

Were you absent from last month’s meeting? If so, you missed a great program recounting the adventure of a huge antenna built with one QSO in

mind.

Don’t miss next month. At NADXC meetings, the more who attend, the merrier.



### From the President By Tom Duncan, KG4CUY

As this is published, we have only two week remaining until Field Day 2005, this year’s opportunity for the Amateur Radio community to display our collective emergency communications capability. Throughout the country, unused fields will sprout temporary towers, and wire antennas will be strung in trees. The bands will be buzzing with hundreds of thousands of short QSOs, proving we can indeed cover the entire country.

It is a great chance to get in front of many non-hams. The news media may

cover your field day, and if so, try to ensure they go away with the facts. Remind them hams have been the first communications link in many a disaster, and don’t fail to point out the Andaman & Nicobar DXpedition’s role after the Christmas tsunami.

Youngsters in your family or neighborhood may be impressed to see a collection of towers, trailers, generators, tents, and yes, operators which apparently sprouted overnight for this ethereal conclave. They are the future of our hobby: you may use this opportu-

nity to plant seeds.

Those who appreciate aerial art will be impressed by the heft of a high-gain directional antenna from a bottom-of-the-tower view (W4WB’s 40m hexbeam will certainly get my attention!), and the elegance of cross-country communications via a nearly-invisible wire.

Have a safe, fun, and productive Field Day. Bring your stories to the July 12th meeting.

73, Tom KG4CUY

