

# ANDEX

International



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## PEN PAL NEWS:

### A Visit To My Pen Pal

By Phil Leslie

About six years ago I began a wonderful friendship with a fellow ANDEXer in England, Martin Davies. Our relationship lasted through our high school years and into university. After graduating last spring I had a summer of vacationing ahead of me, so I decided to visit Martin. On July 1 I boarded a plane in Little Rock, Arkansas, and arrived at Gatwick Airport in London eight hours later. After going through customs I felt a peck on my shoulder and looked down to find my 5'9" pen pal smiling up at me. Other than height, he looked like I expected. He said it was a shock to him about my looks, though.

During the two weeks I was there we did a lot of sight-seeing, which included Oxford University, quaint Victorian shops and houses, Bristol, Chedden Both and other historic sites in England's west country. While visiting the 800-year-old Wells Cathedral, we happened upon the arrival of the Queen Mother who was visiting a graduation at a boys' school. I got a decent photo with the help of a kind policeman! That was quite unexpected. I also saw a game of cricket, which Martin loves to play. He's a "bowler," or pitcher.

We visited the University of Surrey (where Martin is in his last year) to take part in the European Amateur Radio Society (EARS) amateur radio contest. The object was to see how many stations (on VHF, not ham) one could contact, and how far away. We set tents up in a field, cranked the generator and pulled out the charcoal. About 30 people were there.

One Sunday we attended the Abbey Baptist Chapel. The service was different and interesting, and the message was of hope and happiness in heaven and that we need to tell others of this gift of love.



Left to right: Phil Leslie and Martin Davies in Martin's home.

We visited Martin's home in Winscombe, Avon. His parents are typical English people. Everything there was "jolly good" to them.

As I left for home the good-byes were hard. Usually I know I'll see the person again, but not this time with Martin, although he does want to visit me next year.

Since my trip I've picked up a new pen pal in Ireland through ANDEX. I've had pen pals in East and West Germany, India, New Zealand, and one in Guyana who later moved to Alberta, Canada! Thanks, ANDEX, for bringing this world closer together. Thank you HCJB not only for superior programming, but for Pen Pals International. You are a blessing in more ways than one.

*Phil Leslie, 23 years old, joined ANDEX in 1976 and is member 2375. He is employed at the Fort Smith, Arkansas Top-40 radio station KZZE-FM as an air personality. He graduated from Arkansas State University with a degree in communications. He's a member of National Religious Broadcasters and the Gospel Music Association and owns more than 200 contemporary Christian record albums. He encourages ANDEX members to write to him at his home address: 215 Riviera Drive, Booneville, AR 72927 U.S.A.*



# ANTENNA CORNER: How Antennas Function

By Don Hastings

**I**n our last issue we described how HCJB's radio signals travel or propagate from our station to you in the form of energy which oscillates back and forth between an electric field (potential energy) and a magnetic field (kinetic energy) as it moves through space at the speed of light. In this article we will see how an antenna is able to generate an electromagnetic wave. However, to fully understand the antenna's function it is necessary to understand the relationship of electricity to electric and magnetic fields.

## A. ELECTRICITY

The tiny atomic particle called the electron, which orbits the nucleus of the atom, is the energy carrier in electrical circuits. There is a corresponding particle called the proton located within the nucleus of the atom. The electron carries a charge which has been designated as negative and the proton a charge designated as positive. An electric field surrounds the electron and the proton because of their charged state. Since their charges are opposite, the fields are also opposite and the electron and proton attract each other. The atom is in its normal state when the charges and fields of the electrons and protons are contained in a balanced state within the atom and their effects cancel at a distance. However, metals like copper and silver have a loosely-held outermost electron in their atoms which is free to drift from one atom to the next when an external field is applied. It is these "free" electrons flowing down conducting wires which perform so many tasks for us in our everyday lives.

## B. ELECTRONS PRODUCE ELECTRIC AND MAGNETIC FIELDS

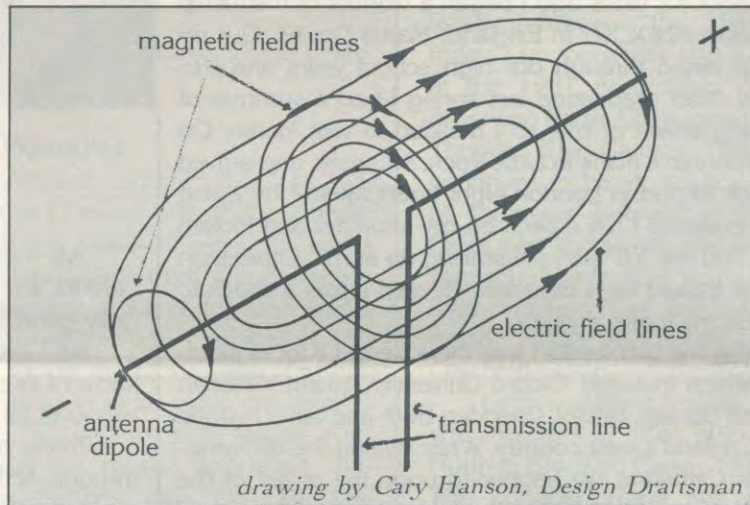
Electric fields are produced by the charged condition of electrons

and protons as stated above. These charges and associated fields are the potential energy carriers in electricity which produces the voltage which is measured in electrical circuits.

Magnetic fields are generated by motion of the charged electrons in conducting wires. The moving charges and associated magnetic fields are the kinetic energy carriers in electricity, which is the current measured in electrical circuits. It is the voltage which drives the current which produces the work in the electrical system. In this way a simple electric current in a wire produces the electric and magnetic field elements of the electromagnetic wave which

form of oscillating electric and magnetic fields, most antennas are driven by voltages and currents which oscillate from positive to negative to positive, etc. in polarity. These oscillating voltages and currents generate oscillating electric and magnetic fields surrounding the antenna wires which in turn excite the propagating electromagnetic wave in space.

The antenna is a completely passive device. It is the transmitter which generates the oscillating or alternating voltages and currents and amplifies them to the desired power level for the program to be broadcast. The voltages and currents from the transmitter are carried over transmission lines (which are designed to prevent radiation) to the antenna. The voltages and currents set up standing waves of current in the antenna wires which produce the corresponding stationary electric and magnetic fields around the antennas. These stationary, oscillating fields couple to and excite the propagating wave. The power supplied by the transmitter ideally is all transferred through these fields into the propagating wave. This



can propagate through space. Also, the electrons in a wire are forced to move if a changing magnetic field passes over the wire. It is this phenomenon which allows an antenna to receive radio waves from space.

## C. THE ANTENNA

The function of the antenna is to provide current-carrying wires in the correct configuration, so that currents in the wires will excite the propagating electromagnetic waves in space. Since these waves take the

power in turn spreads out over a spherical surface as it moves outward from the antenna. The angular size of this spherical surface or wavefront is controlled by the antenna.

Now that we have covered the basic way in which antennas function and radio waves propagate, we have a foundation from which to understand antenna concepts of directivity and gain, of impedance and matching, and of bandwidth and power capacity. Some of these will be covered in future issues.

# FREQUENCY ASSIGNMENT

By Roger Stubbe

**S**election of frequencies for an international broadcasting facility is a dynamic, ever-present challenge. Never do the problems repeat themselves exactly and never does the same solution serve in a second situation.

The International Frequency Registration Board (IFRB) is a group within the International Telecommunications Union (ITU) that coordinates and controls frequency usage. It set up a method for this process in 1960 which was implemented in 1962. Its rules make up two substantial volumes and cover all possible alternatives. Nevertheless, as stated in The Radio Regulations, the whole system depends on the goodwill of the countries which sign the agreement.

Nowhere do the regulations override the sovereignty of the participating countries. Most countries cooperate at least superficially with its rules. But it comes down to the bare fact that if a country wants to abide by the regulations, it will; but if it is in its best interests to not abide by them, it won't. Each broadcaster is subject to the rules of its host country and the interpretation this government gives to them. The Ecuadorian government abides quite strictly by the ITU regulations, and HCJB, in turn, does the same.

The system set up in 1960 has been working fairly well. Problems are encountered when a country adds new equipment. Additional frequency hours must then be found, and sometimes these are found by operating close to the frequency of an established station.

The World Administrative Radio Conference meeting in 1979 (WARC 79) looked at the assignments given to the spectrum as well as how these assignments would be administered. It was decided that the fairest way to distribute the spectrum would be to bring the entire frequency process out of the local government's hands and put it into the hands of the IFRB.

All cooperating administrations were asked to present their broadcasting and coverage requirements to the IFRB in August 1985. This was to give the IFRB an idea of the needs of the world's broadcasters. Concurrent with that, several governments worked on what was to be a "reliable" computer program for predicting propagation and signal strengths. Others did extensive monitoring of signals and compared actual signals with the predictions made by the computer.

The major flaw in the entire process is that it still depends on the goodwill and honesty of the participating governments and their broadcasters. I have talked to several of them and find that all have indicated greater needs than they really expect to use. No one wants to lose anything, so they all ask for more than they require.

At the same time, as proven over the past 25 years, goodwill is not shown equally by all governments. It seems that countries are playing a game by two sets of rules.

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# TSD, A NEW DIVISION AT HCJB

**A**NDEX would like to keep members informed about major changes at HCJB, and we want you to get to know HCJB staff, especially in the technical area since broadcasting depends on technical people.

A far-reaching organizational change was made at HCJB in October 1985 when the former Engineering Department, part of the Communications Division, was made into the Technical Services Division (TSD) and therefore put on the same level as the former Communications Division which is now called the Broadcasting Division. (Whew! Read that slowly and you'll understand it.)

Dr. Eric Moore was chosen to direct this new division. Eric started at HCJB in 1972 as chief power engineer in charge of HCJB's hydroelectric power station in Papallacta, 25 miles beyond Pifo over the rugged Andean continental divide. In 1979 he directed the installation of HCJB's new



4.2-megawatt hydroelectric generator which brought the total power capacity to 6.0 megawatts. To his work as director of TSD, add serving as a professor of electrical engineering at Quito Technical University and consultant to the main power company in Ecuador, INECEL, and you begin to suspect that Eric is a busy man.

Backing him up in these sizable responsibilities is his extensive education: A bachelor's degree in Electrical Engineering (EE) from Queens University in Belfast, Northern Ireland; a master's in EE from Herriot-Watt University in Edinburg, Scotland; and a doctorate in EE from Imperial College, London.

Eric and his wife Anne, a registered nurse, have two children, Philip and Janelle, 14 and 12 years old.

As an illustration of the international nature of HCJB, Eric was born in Northern Ireland, Anne in Scotland, and the children in Ecuador and Northern Ireland.

# SPECIAL DXERS

**R**obert E. Adams was interested in shortwave a long time before he took up the hobby. Once he started on March 1, 1983, he quickly became thoroughly involved in it. He listens to SWR almost every night for three to four hours. Upon joining ANDEX he was made member 4810, and has sent many pictures of himself and his listening post, one of which is printed here.

Robert is 55 years old, has been married for 28 years and has two fine sons ages 20 and 25, and works as a warehouseman at a local shop. His interests other than DXing are fishing and hunting, gardening, and CBing with the call sign KBPC-7201. Besides ANDEX he belongs to AMER SWL Club, AMER Radio Relay League, Speedex, Radio Polonia DX Club, and Radio Belgium DX Club. Robert says he has a "QSL W5RRR Space Center STS-9, and one from Flight of Columbia STS-9/Spacelab-1 W5LFL Owen K. Garriott."

His radio equipment is a portable Phillips and a Kenwood R-2000. His antenna is an Avanti PDL-2 horizontal beam on a 45-foot Rohn tower in his back yard, which is 1100 feet above sea level.

We're proud to feature Robert E. Adams as Special DXer. ANDEX members can join in congratulating him by writing to him at 223 Ash Street, Gardner, Massachusetts 01440 U.S.A.

**A**lan Scorey, our Special DXer from Malta, didn't send the usual type of photo of his equipment, but he did send a copy of his unique QSL card made in celebration of his 10th anniversary of listening to SWR. The logo on the card is the Island of Malta inside an eight-pointed cross, a figure which is associated with this historic country of Malta, the "Island of Sunshine."

Alan is ANDEX 4745, 27 years old, works as a sales manager, and lives at 202D Marina Street, Pieta, Republic of Malta. He started out with an old box-type receiver called "Sudfunk," then went to a Phillips valve system receiver on which he heard ships entering harbors and stations such as the BBC and VOA. When he later bought his Sony CRF 220 he was able to get many more stations and soon found HCJB. Next he purchased a National Panasonic RF3000 which gives a more accurate frequency readout. His antenna is a homemade radial 15 feet high in his back yard with a 60-foot coaxial wire feeding the receivers.

Alan has long been a monitor for WYFR in Oakland, California. He has a computer which helps him keep records of stations, reception details, type of receiver being used and program details. He not only collects QSLs but enjoys learning about other cultures and people. His hobbies include computing, gardening, indoor plants, tropical fish and photography. He hopes to become an amateur radio operator.

The ANDEX membership joins in extending congratulations to an enthusiastic DXer, Alan Scorey.

## Robert Adams



## Alan Scorey



**10**  
**years**  
**of**  
**Shortwave**  
**Listening**

**QSL**  
  
**1975**  
**1985**

# INDEXING

**NEW RENEWAL PROCEDURES FOR ANDEX:** Last year I subscribed to a magazine for one year. I had been enjoying it for a few months when to my surprise and a little dismay I received a notice which said "First Notice - your subscription expires in ..." My thought was "But I just subscribed!" This is exactly how some of you felt when you found your first notice renewal slip for *ANDEX International* in this mailing.

**FROM NOW ON EVERYONE WILL RECEIVE A FIRST AND SECOND RENEWAL NOTICE AND A NOTICE OF YOUR LAST ISSUE.**

We are doing this for a number of reasons: When only one notice is sent it is more likely you will forget to renew; sending notices earlier will encourage you to renew before the last minute or before your subscription expires; late renewals take more time for us to handle; those not renewing were receiving seven to eight issues for the price of six—we cannot afford this.

**THANK YOU TO ALL** those who sent Christmas greetings to the ANDEX staff. We enjoyed reading your notes and greetings.

**HCJB'S CHINESE LANGUAGE SERVICE** director, Charles Chan, sends his thanks to ANDEXers who sent reception reports on the Chinese releases. Keep the reports coming, folks.

**THE ANDEX QUESTIONNAIRES** are being processed. We need to be patient—it's a big job! As soon as possible we'll begin to print the results in *ANDEX International*.

**NEW 100 KW TRANSMITTER SERVICE DELAYED:** HCJB's new Harris 100 kw transmitter did not go on the air by Christmas as we announced in the October-November issue of *ANDEX International*. When power was applied to the transmitter, some problems arose including defective components in the high voltage circuit and a defective RF isolation transformer.

Various problems continue to arise, and we cannot estimate when the transmitter will be ready for service. We hope we can have more definite news in the next issue of *ANDEX International*.

Continued from page 3

Everyone insists that all must abide by the rules, but some just do what they want, with no regard for either the rules or the rest of the broadcasters. This will not change by moving the frequency selection to a central location. It will worsen as this central selection board could be a political

## DX PARTY LINE TO CELEBRATE 25 YEARS

**MAY 19 MARKS DX PARTYLINE'S 25th ANNIVERSARY BROADCAST.** This will be a call-in program featuring some of the former DX PARTYLINE program hosts live in the studio, some via telephone and some with greetings via tape recording.

Former hosts are Hardy Hayes, Jim Roberson, Bill Ridgeway, Al Hatch, Roger Stubbe, and Clayton Howard. The present host is John Beck.

ANDEX members are encouraged to phone during the call-in program or send greetings by letter, which will be read on the program May 19.

**HCJB'S OPEN-LINE INTERNATIONAL CALL-IN MUSICAL MAILBAG PROGRAM** will be April 24.

## ADDRESSES

**SOME ADDRESSES** that have been read on DX PARTYLINE lately:

DX Stamp Service  
7661 Roder Parkway  
Ontario, NY 14519 U.S.A.  
(SASE or SAE with 1 IRC for price list. Mint stamps for QSLing.)

Radio Polonia  
P.O. Box 46  
00-950 Warsaw, Poland

Radio RSA  
P.O. Box 4559  
Johannesburg 2000  
Rep. of S. Africa  
Minnesota DX Club  
5212 Drew Ave. South  
Minneapolis, MN 55410  
U. S. A.

## REJOICE!

Rejoice, ye Christians, everywhere!  
From that dark tomb so sad  
Christ is risen; He's not there!  
Rejoice and be ye glad!

The Easter message we would give  
To all for whom He died;  
Trust Him today and you will live  
Forever at His side!

This glorious message we'll proclaim  
To each and every nation,  
Till all have heard His precious name  
And of His great salvation!

Used by permission of Back to the Bible Publishers. —Clifford Lewis

"plum" to be manipulated for the benefit of the governments which might be able to "pack" it with their own people.

When I asked a knowledgeable person in a major broadcasting organization his opinion about this, he replied, "No, I don't think it will work, but we have to give it our best try." I wonder how good the results will be from the "best try."

*Roger Stubbe is Broadcast Director at HCJB*

# LARRY LUNDBERG

The following is a news release from the Minnesota DX Club. Larry is ANDEX 251 and was featured by ANDEX International in September 1974 as DXer of the Month.

(Brooklyn Center, Minnesota)  
Larry Lundberg of Brooklyn Center (a suburb of Minneapolis), Minnesota has been selected 1985 North American DXer of the Year by the Association of North American Radio Clubs. The announcement was made at the Association of North American Radio Club's convention in Milwaukee, Wisconsin on July 20th. This award honors one individual each year for outstanding service in the promoting of shortwave listening, as voted by the 17 member clubs of this organization

(some of these clubs have memberships of more than one-thousand).

Lundberg's interest in radio listening dates back to 1923, at the age of 10, when he tuned in an AM broadcast station on crystal radio. In 1932, Lundberg's interest turned to international shortwave monitoring. During this decade, Larry became an active contributor to many shortwave publications. In addition, he also originated the World Wide Hobby Club in 1938 with a circulation in 80 countries.

After World War II, Larry left the

hobby of shortwave listening until the late 1960's. Soon afterwards, he became a monitor and monthly shortwave news reporter for Radio Canada and a founding member and first secretary of the Minnesota DX



Club (which has been holding monthly meetings since 1973). In addition, throughout the years, Larry has reported his reception of international shortwave stations to various international broadcast magazines along with articles comparing radio listening between the 1930's and today. Lundberg was also a speaker at the 1981 Association of North American Radio Clubs convention in Thunder Bay, Canada. Today, Larry continues to be an active promoter of shortwave listening in the Twin Cities area and an official monitor for Deutsche Welle (the Voice of Germany in Koln, West Germany), NHK Radio Japan and Radio Prague, Czechoslovakia.

Larry Lundberg resides with his wife Margaret at 3824 56th Avenue North in Brooklyn Center, Minnesota. The Lundbergs have two children, Gloria and Marian.

## Pen Pals



MARTIN ZUERN - Im Kessel 8, 2153 NeuWulmstorf 1, West Germany - ANDEX 5048 - 26 years old - hobbies are SWL, geography, and ham radio - wants to correspond with anyone in French.

PAUL SCOUNOS - P. O. Box 207, Prospect, S. Australia 5082 - ANDEX 5421 - Paul wants some pen pals to write to him.

JOSEPH F. RICHARDS - 603-C Star Linda Ct., Arlington, Texas 76012 U.S.A. - ANDEX 5306 - 23 years old - wants to get in contact with other

SWL/DXers in and around the Dallas/Fort Worth area.

MICHAEL C. BYRNE - P.O. Box 265, Charters Towers, Qld. 4820, Australia - ANDEX 2808 - 39 years old - wants correspondents from any countries, of any age, male or female - wants to exchange audio cassettes of folk and ethnic music, recordings of FM, AM and SW radio, video cassettes in PAL "B" system, VHS format - interests are music, languages, cultures, the arts, yoga, SWL and DX, and many more.

### ANDEX International



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DX Party Line Host — John Beck

ANDEX Director - Doris Hastings

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ADDRESS MAIL (NO funds) to: ANDEX International, Casilla 691, Quito, Ecuador

Write for a list of ANDEX offices in other countries for your payment convenience.

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