

ANDEX



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DXer OF THE MONTH



Charles C. Letzerich - ANDEX No. 105

This month we have chosen a DXer from Los Angeles, California, as our "DXer of the Month." Charles Letzerich, ANDEX member No. 105, has been DXing for well over 30 years. By profession Charles is a printer, but he is also an electronics technician by trade. He spends much of his time servicing and repairing transmitters and receivers. He also enjoys the hobby of stamp collecting.

Charles started out in radio when he was only eight years of age by repairing a simple crystal set. He has progressed from those days until he now is not only a DXer, but also a ham radio operator and holds a commercial first class radio-telephone operator's license as well. For his listening purposes he uses three receivers: a Heathkit SB-310, a Navy surplus RBC-1 and an Allied R-100A. His antennas include a 100 foot long-wire and a couple of ground planes. He also uses four cassette recorders and a Sony reel-to-reel recorder which are connected to his receiving equipment so that any program can be recorded at a moment's notice if desired.

For his ham radio activities, Charles has purchased and assembled several pieces of Heathkit equipment including transmitter, receiver, speaker, phone

patch and oscilloscope. He has several antennas for use with his amateur radio equipment. He likes to work with his young son, when he has a few minutes free from his radio hobby, and they build model airplanes and plastic cars. Charles is very active in his church where he spends frequent evenings with the young people. He often gets ideas from HCJB programs that help him as he prepares to teach his Sunday School class.

The first time Charles heard HCJB was back in 1958. HCJB is still his favorite, on the top of his list of DX stations. He averages about three to four hours a day in front of his receivers, mostly between 0000 and 0400 GMT. Weekends he is able to listen earlier in the day. Through the years he has been very active in Boy Scouting and has held many responsibilities in this area. He is also a member of the Pasadena Area "C" Civil Defense and operates the control station for this network.

Charles says, "Personally, I can't think of a better hobby for a person to become interested in than radio. It brings more people together at one time around the world than any other hobby." We certainly agree 100 percent with him and wish him many years of continued success in his many activities!

RECEIVER SURVEY

Have you ever wondered about the receivers used by DXers and SWLs? What are the best radios on the market? Which models are most popular with listeners? We can't answer all the questions, but we can tell you, after a survey of hundreds of ANDEX members, which receivers are being used the most. Many factors enter the picture when a listener buys a new radio. These include price, quality, availability, and the features found in a specific model. One set may be very popular in one part of the world while another model sells better elsewhere.

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STEERABLE ANTENNA

Transmitting antennas are among the most important equipment used by radio stations. They can mean the difference between success and failure in getting the programs to the desired areas of the world with the strength needed to serve the listeners. Within two years HCJB should have in operation one of the most unusual and versatile antennas ever built. This is the "Steerable Antenna" designed by the well-known Christian engineer, Carl Smith, of Cleveland, Ohio. Originally designed for the "Voice of America" in the early 1960s, it now appears that another "VOA", "The Voice of the Andes", will be the first to actually build and use one of these interesting antennas. Timed to be ready when the first 500 kilowatt transmitter reaches Quito, the new antenna will help to take full advantage of the new super-power transmitter.

This new antenna has a number of remarkable features. The angle through which the radio beam can be directed will be 120 degrees. This means the single antenna will enable us to beam programs to Japan at one extreme, across North America, to Europe and on to the Middle East at the other extreme. Any area throughout this wide range can be reached as desired. It will also handle transmissions on all major shortwave bands from 16 to 49 meters. Another very interesting advantage is that the one antenna will be able to handle the output from at least six different transmitters simultaneously, operating on different bands and beamed to different areas. The antenna will easily handle the power from 500 kilowatt transmitters!

Basically, the antenna will consist of a large reflecting screen made up of many pieces of aluminum wire. The screen will have a double-curved surface. In the horizontal direction it will have a circular shape and, at the ground, will form a

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semicircle about 550 feet in diameter. In the vertical direction it will be parabolic in shape with the reflecting surface reaching a height of about 250 feet. It might be easier to picture it in the form of a large bandshell which reflects the music out to the listening audience. To get some idea of the size of the proposed reflector, about 18 miles of No. 12 alumoweld wire will go into the construction. Another 2-1/2 miles of wire will be buried for the ground system.

A total of eight towers will be required to support this huge reflector. The main tower, in the center, will be about 400 feet tall. In a semicircle behind will be seven smaller towers, each 150 feet in height. The antenna will be hung between these towers using 1/4" stranded alumoweld cables. As may be imagined, the operation of the completed antenna will depend to a large degree on the reflector having the correct mathematical shape. This is really the key to success.

Folded dipoles with corner reflectors behind them will be used to feed power to the antenna. At least two of these dipoles, one for the lower frequency bands and a second for the higher bands, will be mounted on semicircular tracks so they can be moved quickly from one area of the reflector to another as the target area is changed. For major target areas fixed dipoles will be mounted permanently. By variations in the dipole construction it will be possible to have either wide or narrow radio beams as required. Depending upon the frequency in use and the direction of transmission, the new antenna will provide a gain varying from about 19 to 24 db., or an effective power increase ranging from 80 to 250 times.

Most of the materials needed for the "Steerable Antenna" have been ordered and the first shipments should be arriving in Ecuador soon. First stage of the construction will be the erection of the eight metal towers. This should be completed before the end of 1975. Following this will be the tedious job of building and raising the complicated reflector screen. Plans call for this to be finished by the summer of 1976. The final stage of construction will be the installation of the feed dipoles. If all goes well, the antenna will be ready for testing by early 1977. The antenna will be tested with our present 100 kilowatt transmitters. It will be used to its full advantage later when the new super-powered 500 kilowatt transmitter arrives in Quito.

MEET THE ENGINEERS



Engineer Don Hastings

In this issue of ANDEX International you will read about the new "Steerable Antenna" which is being built for HCJB transmissions. We'd like you to meet the engineer who has been assigned the job of constructing this unique antenna. Don Hastings has had many years of varied experience with antennas from both the theoretical and practical angles.

Don was born in Lindsay, California, but moved to a farming community in southwestern Missouri when he was only two years of age. His education, through high school, was obtained in this rural area. Following graduation he joined the United States Army and spent nearly three years in the Signal Corps. It was in the army school in New Jersey that he received his first training in electricity, electronics and radar. During his time with the military, Don spent a year and a half in Tokyo, Japan. After leaving the army he began his college training at St. Lawrence University in New York State where he earned a B.S. degree in physics. He continued his studies at the Massachusetts Institute of Technology for another two years and earned a second B.S. degree, this time in electrical engineering.

Before coming to HCJB as an engineer, Don worked for a number of years in antenna design. His first job was with Wheeler Laboratories on Long Island where much of the work was in connection with the missile and space programs. After 16 years with Wheeler Laboratories, Don and his family moved to California where he spent another two and a half years in similar work with Gil Lillan. These years of experience prepared him well for his present position as Antenna Project Engineer with HCJB. Not only is Don working on

the new "Steerable Antenna" but also on several other projects.

The first contact Don had with HCJB was back in his college days when he listened to the station on an old General Electric radio manufactured in 1937. Some years later he found the Lord as his personal Savior through the influence of the young lady who later became his wife. More recently they felt the desire to serve their Lord in full-time work so contacted several Christian organizations concerning possible use of their abilities. The urgent need of a qualified antenna expert led them to the decision to come to Ecuador. After spending six months in language school in Costa Rica, they arrived in Quito during April of 1974, just a little over a year ago. Since his arrival, Don has had his hands busy with a number of projects involving antennas, including the new 49 meter antenna now in use to North America.

In addition to his engineering work, Don enjoys hiking in the mountains that surround Quito. The only problem is to find sufficient time to participate in this hobby. He is also active in the English Fellowship Church in Quito where he teaches a Sunday School class of active sixth graders.

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From the information given on the application forms of ANDEX members we have been able to determine that the leading models being used are the following, in order of popularity.

1. Realistic DX-150 (A & B)
2. Realistic DX-160
3. Allied SX-190
4. Heathkit SW-717
5. TRIO 9R-59 DS
6. Sony ICF-5800
7. Drake SPR-4
8. Grundig Satellit 2000
9. Lafayette HA-600
10. Hallicrafters S-38

Top honors obviously go to the Radio Shack, distributors of the first three on the list! All the receivers listed above, as well as many other models used by ANDEX members, have one thing in common. They make it possible for the user to tune in to the myriad electro-magnetic waves in the atmosphere around him. From the jumble of broadcasting stations of many kinds -- commercial,

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RADIO CENIT - BAHIA



Radio Cenit Control Room

In the town of Bahía de Caráquez, on the Ecuadorian Pacific coast, there are two shortwave radio stations. In the September, 1974, issue of ANDEX International we featured one of these stations, La Voz de Los Caras. In this issue we are happy to tell you about the other one, Radio Cenit. Radio Cenit is operated by the Empresa Radial Cenit which has its principal office in the city of Guayaquil. Another station operated by the same company was described in the August, 1974, issue.

Radio Cenit operates only in the 90 meter band, using a frequency of 3.355 MHz. They have one small control room adjoining a small studio with a larger room available for audience participation. A low-powered public address type amplifier is used to mix the two simple turntables, tape recorders and microphones. The power output of the locally constructed transmitter is about 500 watts which is fed to a simple half-wave dipole antenna.

Programming from Radio Cenit, or HCDR-4, is entirely in the Spanish language, starts at 7:30 A.M. local time and continues throughout the day until 12:00 midnight. The GMT equivalent is a daily schedule running from 1230 until 0500. Programs are almost entirely of a commercial nature with a few cultural ones included in the schedule. The primary purpose is to provide service to those living in the Province of Manabí, but they can be frequently heard in Quito and have been reported by DXers in many parts of the world.

Plans for Radio Cenit include operation in the medium wave band. They are listed in the World Radio and TV Handbook as operating on the frequency of 1340 kHz. This frequency has not been

used in recent years but may be reactivated at some indefinite time in the future.

The manager of the station indicates that they are happy to receive reception reports from listeners outside of Ecuador. They request that these be sent in Spanish if at all possible, but they will accept English reports as well. They will do their best to respond to all reception reports with a letter of confirmation. They do not require that DXers send return postage in order to obtain a verification. Address all reception reports to: Radio Cenit, Bolívar 902, Bahía de Caráquez, Manabí, Ecuador. We wish you the best of success as you try to log this station, HCDR-4!

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amateur, television, police, FM - he can choose the one he wants. Most of the countries of the world are helping to fill the ether with news, music, commentaries and cultural information. It is all there for the listener to choose as he desires. No one can force him to listen to something that doesn't interest him. What he listens to and how he uses his radio receiver is entirely up to him.

Did it ever occur to you that the situation is very similar in the spiritual realm? There are many voices calling each of us. Our spirits are much like radios, and we can tune in the voice we want to hear and tune out the others. It is entirely up to us which voice we listen to. Among these voices is God's voice. He is calling us, but we won't hear him unless we are in tune with him. When we are in tune with God, we will find that there is never any interference, static or fading. The signal is always strong and clear. Throughout the year, day or night, God is always there when we are in tune with him.

But how is it possible to be in tune with God? Perhaps you have found that there is a great deal of interference that separates you from God and you find it impossible to tune in to him. The Bible says, "The trouble is that your sins have cut you off from God" (Isaiah 59:2). However, the Bible also says, "The blood of Jesus his Son cleanses us from every sin" (I John 1:7). As soon as we ask the Lord to forgive our sin and put our trust in him as our personal Savior, the interference is gone and we are in tune with God. God has promised, "Call unto me and I will answer you, and show you great and mighty things, which you know not" (Jeremiah 33:3).