



WELL-KNOWN DXer IN QUITO



Don Jensen checks out HCJB antenna switcher

Don Jensen is well-known in DXing circles. He has been an active member of several large DX clubs. Currently he is Chairman of the Country List Committee of the North American Short Wave Association. He is also well-known by many young shortwave enthusiasts as the Communications Editor of *Communications World*, an annual publication for shortwave hobbyists, and for his column which appears six times each year in *Elementary Electronics Magazine*. We can highly recommend these publications to all who are interested in DXing.

April 17, 1947, was an important day in the life of Don Jensen who was born and grew up in Racine, Wisconsin, in the midwestern section of the United States. It was on that day that Don's father was tuning around on a new Midwest console-model radio. Don was fascinated when they tuned in HCJB in Quito, Ecuador. This was the first shortwave station Don had ever heard and it sparked a tremendous interest and excitement in the eleven-year-old boy. This thrill with shortwave radio has never left him. Don still has the QSL card which he received for that first reception of HCJB.

During the intervening years, Don has heard and verified stations in nearly 220 countries. New countries are now rare and far between! Since there aren't many more left to look for, Don now spends more time listening to specific stations in which he has a special interest rather than looking for new ones.

Don and his family now live in Kenosha, Wisconsin, where Don works as a legal reporter for the *Kenosha News*. This newspaper has a circulation of about 30,000. He is the fortunate owner of a Racial RA-17 receiver. This is an excellent tube-type receiver manufactured in Britain. His location does not permit the erection of any elaborate antennas, but he makes up for this by using antenna tuners and a preselector. He is in the market for a second receiver and is considering the new Drake R-7.

During the early days of February, 1980, Don and his wife, Arlene, spent a few days of vacation in Ecuador. Naturally, one of their first desires was to visit HCJB, the first shortwave station Don had heard years ago. HCJB has changed greatly during the passing years but Don was impressed with the broadcasting facilities as well as the many activities being carried on in Ecuador by HCJB. They enjoyed a trip to Pifo to see the transmitter and antenna installations. They made their visit to HCJB the same day that an HCJB tour had arrived from the United States so they had the unusual opportunity to attend a concert presented by the HCJB musical staff for the tour members.

HCJB was highly honored by the visit of this distinguished DXer and his wife. We're glad they enjoyed their time in Ecuador and hope they will be able to return.

PROPAGATION PREDICTING

By John Stanley

A large shortwave station, such as HCJB, uses many different frequencies to broadcast its programs. Deciding which frequency to use for a specific transmission can be an interesting and challenging task.

International broadcasting takes place in eight shortwave bands: 49, 41, 31, 25, 19, 16, 13, and 11 meters. None of these bands is usable at all times to any particular target area. Usually two or three bands are usable to a target area at any given time. However, there are times when no frequency will reach some distant parts of the globe.

Trying to determine which bands will propagate to a given area at a given time is the purpose of "Propagation Predictions," which form the basis of our program schedules as they are revised four times yearly.

Radio propagation, like the weather, is subject to daily, seasonal, and geographic variations. The day to night effects are the most pronounced. At night, 11 and 13 meters are useless while 49 and 31 meters are limited in range during the day. Also very important are variations in solar activity which are associated with the sunspot count. High solar activity, which means lots of sunspots, improves higher-frequency reception. Low sunspot activity improves the lower frequencies while making the higher frequencies useless. We are now in a period of unusually-high solar activity which is giving excellent long-distance reception on most shortwave bands.

ANDEX International—

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HCJB



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Calculation of signal strength expected on the various bands available is a very complicated process. Fortunately, an HP-9815 calculator has been programmed to accept the geographical coordinates of receiver and transmitter, sunspot number, date, and time of day. After several minutes of number crunching, the calculator comes up with the desired information: distance and direction to the target, the number of hops the signal must make between the earth and ionosphere, and finally, the received signal strength for the various meter bands. HCJB engineers then seek to put programs on the frequencies that will give the best reception. The HP-9815 program, which was written by HCJB staff, is being constantly refined. In the future our calculations should be even better and help provide improved reception for all our listeners.

ANTENNA CONTEST

Antennas are used by radio stations to radiate the electromagnetic energy into space. Now, here is a contest for ANDEX members. Taking the letters of the word, ANTENNAS, see how many other words you can form. The rules are as follows:

1. Entries will be accepted only from active ANDEX members.
2. All words formed must have at least two letters.
3. All words formed must be in good English usage.
4. Letters can be used only as many times as they appear in the word, ANTENNAS.
5. No proper names will be accepted.
6. Plurals formed by adding an "S" or "ES" will not be accepted as separate words.
7. The list of words you submit must be arranged in alphabetical order.
8. To qualify as a winner, your entry must be received by May 31, 1980.
9. Prizes will be awarded to the three top winners.
10. The decision of our judges will be final.

Those are the rules for our antenna contest. Get right to work! Send your list of words to ANDEX, Box 691, Quito, Ecuador, S.A. We hope many of our ANDEX members will get involved in this interesting contest. Good luck to each one.

DXer OF THE MONTH



John enjoying his Panasonic DR-22

Shortwave radio appeals to people of all kinds. Some are old and some are young. This month we want you to meet one of our youngest ANDEX members. John Havránek was only ten years old when he joined our club about nine months ago. At that time he had been involved in the hobby for less than a year. He is ANDEX member No. 3343.

John lives in Glen Waverly, a suburb of Melbourne, in the state of Victoria. This is in the southeastern corner of Australia. Glen Waverly is also the home of Robert Lowe, an active representative of HCJB in Australia. It is a delightful town in which to live and a good location for DXing. A recent letter from John indicates that he and his family are planning a trip to South America. We look forward to the possibility of meeting them in person and can assure them of a royal welcome when they arrive in Quito. Visitors are always greeted warmly at the HCJB studios.

As a student, John finds his time filled with many activities. He enjoys sports, particularly tennis and soccer. Collecting stamps and coins takes some of his time. However, he still manages to spend an hour or more each day with his Panasonic DR-22 receiver. This is an excellent radio for either a beginner or veteran DXer. It is small and portable, but at the same time is very sensitive and has accurate frequency readout. In some countries this model is sold as the RF-2200. John depends entirely on the built-in whip antenna. One of the many stations he enjoys listening to is HCJB. The first time he tuned to HCJB was on

October 6th, 1978.

John finds both the DXing and shortwave listening aspects of the hobby to be fascinating. He likes to correspond with other DXers so as to exchange information and ideas with them. Contests of all kinds appeal to him as well.

John has gotten an early start in the shortwave hobby. This means he should have many years ahead to travel the world by radio. We trust every one of them will be enjoyable and filled with pleasure. We are happy to have him as a member of ANDEX and want to congratulate him for being chosen DXer of the Month for March, 1980.

HISTORY OF RADIO

By Kenneth Vito Zichi

Part 5

In this installment we will begin to consider the history of shortwave radio. In the early days, shortwave was not seen as a practical region of the electromagnetic spectrum, especially when long-distance communication was the desired product. After all, the longer the wavelength the longer the transmission path. It was with this reasoning that the first broadcasts were made. Fessenden's voice transmissions in 1906 were on a frequency of 50 kHz and Marconi's first efforts were also on what we now call VLF, very low frequencies.

The shortwaves were considered so useless that the entire lump of frequencies below 200 meters (1400 kHz and up, as we would say today) was given to the radio amateurs when the radio spectrum was first divided up in the 1920s. The general attitude was that they wouldn't be able to get out of their back yards anyway on those wavelengths. However, the amateurs proved that they could not only get out of their back yards, but could also span the continents on these frequencies. Furthermore, they could do it in broad daylight. This was considered to be slightly less than a miracle at that time.

Needless to say, as the potential of shortwave was seen, commercial and point-to-point stations began to move down to the area. This fact created an interesting anomaly in radio terminology. Before stations began moving to what we now call shortwave, the medium-wave frequencies were called "shortwave." You may even see some 1920 vin-

tage radios covering up to 1600 kHz which are marked as shortwave receivers. The words "up" and "down" also make for a problem since frequencies and wavelengths are inversely proportional to each other. My system is to refer to lower numbers as "down" and define the direction with that word. If I am tuned to 5,995 kHz, I would go "down" to 13 meters, but "up" to 21 MHz.

Even though the potentials of this new broadcast medium were well established, very little was done to develop it commercially. This was because medium-wave seemed so much more practical for the sponsor who was interested primarily in a local audience. As a consequence, there was only a handful of stations broadcasting for the general public on shortwave in the early days. Contrary to the situation today, most of these stations were located in the United States. Less than a dozen countries were represented on the shortwave dial in the late 1930s, before the outbreak of what was to become World War II. Not too surprisingly, these were the more developed nations. The BBC Empire Service began in 1932 with programs only in English. Broadcasts from Italy and Germany began slightly earlier. France was among the first to initiate a shortwave service with sporadic programming as early as 1913.

Most of the present shortwave stations began transmitting during World War II. It was from this time that shortwave radio started to play an important role in international communications. In 1939, for example, 27 countries were transmitting on shortwave. By 1945 the number had increased to 55 nations. The figures for the United States are the most astounding to today's DXer. In 1943 there were 14 commercial high-frequency stations, 13 international broadcasters, 302 broadcast relays directed mainly to Latin America, and 2 experimental stations. Compare that with the few stations in the United States today. It can be seen that, even though the Voice of America wasn't around until after the attack on Pearl Harbor, North America tended to dominate the airwaves in terms of numbers much as Latin America does today.

World War II marks the turning point for international broadcasting simply because it provided the impetus for governments to spend money to influence the thinking of foreign nationals. It also

marked the beginning of propaganda broadcasts which have become a very prevalent aspect of worldwide shortwave transmissions today.

It may be hard for us to picture today the clandestine SWL of World War II as he sat in a dark room hunched over a makeshift receiver. He was trying to listen to the BBC or Germany's Lord Haw-Haw without being detected by the government authorities. However, this was the period of most rapid development in the shortwave medium.

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To be continued

SIMPLE PRINCIPLES

By Ron Cline

It was a very simple principle: "It is not what we read, but what we remember that makes us learned."

As I read it, I began to think of other areas where the same principle was true. "It is not what we eat, but what we digest that makes us strong." "It is not what we say, but what we mean . . ." Do you see the principle?

It is like building a radio receiver. Some of us can spend our whole life talking about what we are going to do, but until we do it, it has no value. We can say, "Sure I ate!" But what did I eat? We can say, "Sure I read it!" But what happened then?

DO IT!

Jesus said, "If you know these things, happy are you if you do them!" It is not enough saying we did something, the thing that counts is what we did. "It is not what we gain, but what we save that makes us rich." Same thought. Do it! Don't just say it.

ONE MORE!

"It is not what we profess, but what we practice that makes us Christians." Can you think of some other areas where this principle applies? Think about it if you say you are a Christian.

SHOW IT!