

ANDEX



INTERNATIONAL

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CONTEST RESULTS

As predicted, July proved to be very exciting for Sporadic E DXers, and logs submitted to ANDEX show this. July 11, the first day of the contest had enough enticing skip to encourage contesters to further efforts.

Eric Falkenhan, ANDEX No. 2996, in Baltimore, Maryland, USA, heard CJCA in Edmonton, Alberta, Canada, on 97.3 MHz only one hour into the contest period. This was, no doubt, double-hop, Sporadic E and a superb logging, but under the contest rules, didn't count because it was too far away! Eric never equalled this feat again during the contest period, but did catch a respectable lot of FM and TV for third place in Total DX and second place in Best DX with CBW in Winnipeg, Manitoba, Canada, on 98.3 and just within the 2000 km limit.

An hour after Eric's double-hop catch, Rose Alice Akers, ANDEX No. 2749, in Urbana, Indiana, USA, heard Montgomery, Alabama, USA, on the CB band for the first of a long string of CB loggings. Rose really mined the 11 meter skip to come up with the second best score for Total DX. She was actually first in total number of loggings but the frequency multiplier reduced her score since most loggings were on 27 MHz. She also caught some good TV DX.

Less than three hours into the contest, Chuck Adams, ANDEX No. 4051, in Sioux Center, Iowa, USA, hit pay dirt. He writes "The first station I was lucky to get. A station on the same frequency only 90 km away went off the air because of a power failure there. Coming in poorly, three minutes later I heard KVSF-Rapid City. I then went Sporadic E DX-ing and imagine my surprise when an Illinois station came in where another local power outage stricken station had been! After an hour of listening to a terribly weak station on the higher frequency part of the FM band, I identified WRLB, Long Branch, New Jersey! The rest of the night was an anticlimax."

Chuck went on to log a total of 39 TV and FM stations for a total score of 4163.9 points. His top catch was WABC-TV, New York City on Channel 7 for 354.1 points at 1970 km. Considering the upper frequency and distance limits, that was about the highest score possible within the rules of the contest. Chuck is 13 years old.

Speaking of contest rules, several made good suggestions. Richard McVicar, ANDEX No. 1791, of Prescott, Ontario, Canada suggested "the upper limit be 2500 km if you have an upper limit at all. . . on very rare occasions there can be a double-hop on E-skip, doubling the distance to perhaps 4000 km." Richard was Canada's top scorer and several of his best loggings were not counted because they exceeded 2000 km!

The need for positive ID prevented James Hay, ANDEX No. 3977, of Pointe Claire, Quebec, Canada, from scoring some TV catches as they "disappear just at the same time as the station ID."

Thanks to all participants for your interest and suggestions.

TOP SCORES FOR THE SPORADIC-E CONTEST

| BEST DX | | MOST DX | |
|--------------------|-------|-------------------|--------|
| 1. Chuck Adams | 354.1 | 1. Chuck Adams | 4163.9 |
| 2. Eric Falkenhan | 196.6 | 2. Rose Akers | 1640.8 |
| 3. Richard McVicar | 143 | 3. Eric Falkenhan | 1632.1 |

Prizes are being sent to these winners. Congratulations!

RADIO RSA

We received the following letter from Radio RSA. . .

"During the past few weeks we have been receiving enquiries from some of your club members offering to become members of Radio RSA's Monitoring Panel. Mention was made in the June-July, 1982 issue of ANDEX Magazine that Radio RSA was seeking new monitors.

While we appreciate the response generated by this item, we regret that there are no further vacancies for listeners in North America and Europe on the panel, although we do require more monitors in Africa and Latin America.

Nevertheless, reception reports from ANDEX members are always more than welcome at Radio RSA.

We would appreciate it if you would publish this information in your magazine. Thank you for your interest."

FEARLESS FORECAST: MUF

By John Stanley

With this issue of ANDEX, we begin our second year of the Fearless Forecast. My thanks to all of you who have taken time to comment on it and offer suggestions for future issues. We look forward to your letters!

After daily variations, yearly variations are the most important DX factors and so the forecasts from a year ago are still valid, at least in part. So you might want to dig out your old issues as you plan your DXing program. I will try to avoid repeating too much from a year ago as we look at October-November propagation prospects.

The predictions of Maximum Usable Frequencies (MUFs) for shortwave transmissions are a function of the following factors: geographical location of receiver and transmitter, the time of day, the date and the level of solar activity. If all of the above factors are known, we should be able to predict the MUF. However, the level of solar activity can only be partially predicted and is never very well understood. This is the biggest limitation to predicting MUF.

The other items mentioned can be known exactly, but the formulas that relate them to the behavior of the ionosphere are not known exactly. Thus MUF prediction is a somewhat unexact science.

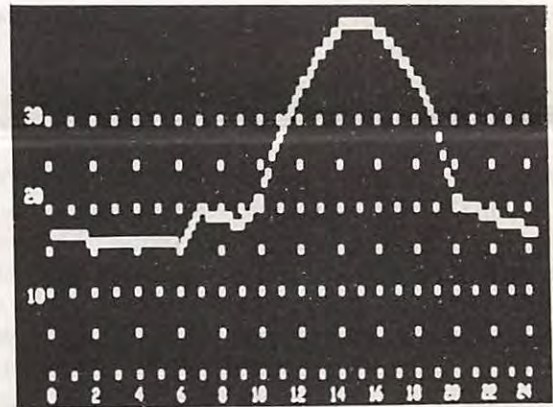
Hourly and daily variation in solar activity can modify the MUF drastically. It is only the average MUF for a month or so that can be predicted with any degree of accuracy. Many users of shortwave (including broadcasters) can and must make their choice of bands based on average conditions so predictions that are correct on the average are useful to them. The DXer is often looking for non-average conditions (i.e. unusual reception) so he will be more interested in short term variations. However, even for the DXer, the average conditions provide a basis for knowing when the unusual is, in fact, occurring.

One attempt to predict MUF which is causing some interest lately is a computer program called MINIMUF and was developed for the United States Navy. The curves included in this Forecast were prepared on my TRS-80 computer using this program. I would be interested in any reports from ANDEX members indicating your evaluation of the accuracy of these curves. Other more complex programs are used here at HCJB for our routine MUF forecasts. They are probably more accurate than MINIMUF, but are limited to certain pre-arranged paths and require expensive and extensive data storage to work. The simplicity and versatility of MINIMUF would make it attractive if its accuracy can be established.

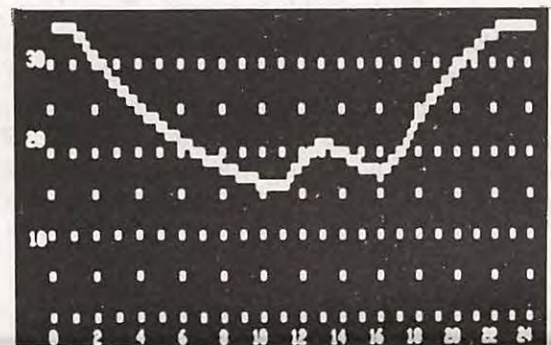
In evaluating the curves, note whenever HCJB can be heard at a time when MINIMUF predicts that we are operating above the MUF. This indicates the predicted MUF is too low. Failure to hear us below the predicted MUF may not mean that the MUF prediction is wrong. Absorption of the signal by daylight may be to blame. Hearing the band "open" or "close" usually means that the MUF (which is constantly

changing) just moved past our operating frequency. This provides the best check of predictions. However, beware of SWFs. (See last ANDEX.) On an all dark path, neither absorption nor SWFs should be a factor. If HCJB is not heard and the channel is clear we must be above the MUF. (Or else a transmitter is broken down!)

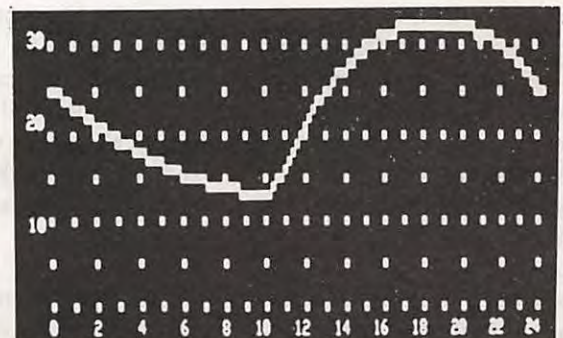
Learning to follow variations in the MUF is probably the most important single skill for a DXer, at least as far as propagation is involved. Many of your best catches will be found lurking just below that elusive Maximum Usable Frequency.



QUITO TO PARIS, FRANCE



QUITO TO SYDNEY, AUSTRALIA



QUITO TO KNOXVILLE, TENNESSEE, USA

USING THE MINIMUF PROGRAM FOR NOVEMBER 1

WITH A SUNSPOT NUMBER OF 100

SPECIAL DXer FROM WALES

Our special DXer for this issue wrote to ANDEX that he would like to make people aware of the country of Wales. As he says it is not England as so many people think. Wales has its own language and national anthem and costumes and this month it also has a special DXer!

Paul Dodds of 109 Avondale Cres., Grangetown, Cardiff, South Glamorgan, Wales, United Kingdom, CF1 7DF, is ANDEX No. 4307 having joined only this past April. Paul is 22 years old and is employed as an auto-electrician in Cardiff which is the capital city of Wales.

His interest in shortwave radio began a long time ago when he began listening to his father's radio and his interest in HCJB began when in 1964, Dr. and Mrs. Clarence Jones stayed in the family's home. (Dr. Jones is the co-founder of HCJB.)

Paul now has two receivers of his own. . . a Codar CR 70A made in Sussex, England, and also his most recent addition, a Sony ICF-2001. He also has a Cobra Tx/Rx radio for 11 meters which has been modified to cover 26-27 MHz.

His antennas are a long copper wire and a 11 meter Tx/Rx omni directional which has 7 dB gain.

Besides belonging to ANDEX, Paul is a member of a local DX club for the 11 meter band with a call sign of ZD 27 and of the Radio Society of Great Britain No. RS50422. He likes to collect QSL cards, his favorite being from a dregger in the Persian Gulf.

As for other hobbies, Paul enjoys corresponding with people in many different countries and he enjoys traveling to various countries too. Some of his trips have been to India, the United States and Africa. At other times, one may find him driving his sportscar.

Our congratulations, Paul Dodds, special DXer from Wales!



I think that someone who started DXing in 1934 deserves to be called a special DXer. This issue's special DXer from the USA is Raymond Hunt. Raymond lives at 3301 Buchanan, no. 24, Antioch, California, 94509.

Way back in 1934, Raymond started listening to radio hams located around the world. He enjoyed his hobby, but found that there was little time for it as there was a war on and a living to make. But some little spark of interest remained because in the middle of August in 1981, Raymond bought his Realistic DX302 and put up a 21.5 meter long, 5.8 meter high antenna running north and south. And again Raymond began listening to the world.

Because Raymond and his wife live in a mobile home (caravan or trailer as it is called in other parts of the world), Raymond had to show some ingenuity in finding a good place to put his listening post.

They decided to convert a closet into his DX shack and from the enclosed photo you can see that it works well. It is 600 cm deep, 830 cm wide and 1300 cm high. He installed cork on the walls so he could pin up his QSL cards.

Raymond enjoys collecting QSL cards, but you can also find him in the garden, working with wood or enjoying photography as these are some of his other hobbies. But whatever else he might have lined up for the day, he reserves three or four hours a day to listen to shortwave.

Raymond is ANDEX No. 4112 and is just completing one year with the club. Congratulations, Raymond Hunt. May you have many years of happy listening in your closet!



CHECK OUT THE DOLPHIN

With the exception of the common bat, the bottle-nosed dolphin has the best overall hearing ability of any animal. High-pitched notes that humans cannot hear are readily audible to the dolphin.

The clicks, whistles and barks of the dolphin are unique, but his underwater guidance system is what is really interesting. It's a form of sonar, similar to underwater radar. Sonar is used in the guidance systems of submarines, ocean liners and battleships. Sonar stands for SOund NAVigation Ranging. An underwater sound wave is transmitted from a ship's antenna. If it strikes an object under the water, the wave bounces back to the antenna, and a computer calculates how large and how close the object is, thus avoiding collision.

The dolphin's sonar produces a sputtering, raspy sound and is thought to be produced in the nasal passage below the blow-hole by a complex organ called the "melon." If anything is in the water up ahead, even something as small as a BB shot, the dolphin's signal reflects off the object and back into the receiving portion of the dolphin's melon.

The bottle-nosed dolphin's sonar is so advanced that tests have proven it can distinguish between a genuine and a plastic fish. The sophisticated sonar also receives accurate data as to the size, shape and distance of the object ahead. In fact, a test in an oceanarium revealed that a dolphin's sonar could clearly tell the difference between a six-inch and a twelve-inch fish. The sonar is also able to bounce back information about the species of fish. This is important because the dolphin prefers some fish over others.

Recently a test was conducted to determine the effectiveness of the dolphin's sonar at night. A maze of 36 poles were strategically located throughout the oceanarium. It was pitch dark, and the dolphin was sent through the tricky obstacle course at a fairly high rate of speed, but he never touched one of the poles.

For the next experiment the marine biologist recorded the sounds of the dolphin's sonar. Next, they sent the mighty flipper through the obstacle course, this time trying to jam the dolphin's sonar by playing the recorded sonar and beaming it amidst the 36 poles. This didn't even phase the bottle-nosed dolphin. He made it through the tricky network again without striking one pole.

Just think of it . . . the dolphin can calculate instantly what an object is made of, its size and distance, whether it is dead or alive, and even what species of fish it is. All without any transistors, tubes, waveguides or batteries.

What a designer the dolphin must have had! His name is the Lord Jesus Christ "in whom are hid all the treasures of wisdom and knowledge." (Colossians 2:3) Think on HIM today.

FOR BEGINNING DXERS

In the February-March issue of ANDEX, I asked some of you "old-timers" in the DXing business to write out some advice for the beginning DXer. James W. Bruce, ANDEX No. 990, 38 Coppins Road, Clacton-on-the-Sea, Essex, England, CO15 3JG, was the first person I heard from and here are some of his hints:

"My advice to any young person wanting to take up the hobby is to join their local radio club. If there isn't one, the next best thing to do is to listen to one over the air like HCJB's DX PARTY LINE or to one of the many others on the air.

To do that they must have a radio and a piece of long wire for an antenna. Forget about an expensive DX set. That will come in time when they really get the bug and have a bit more money to spare. There are many good, old valve (tube) sets to be had cheap.

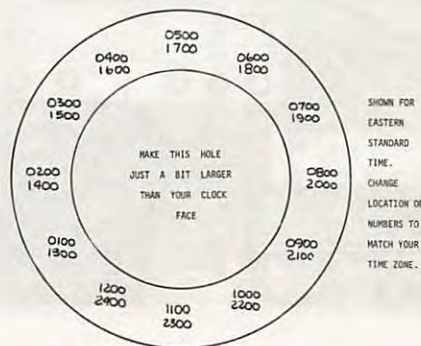
Most radio stations will send you a program schedule and it's always good manners to send return postage in the form of an International Reply Coupon.

A tape recorder will come in handy for taking down details of the programs listened to and the address of the station. It is no good just saying I heard you on such and such a day. The more program details you write, the better your chance of getting a QSL card.

As you progress on to a better class of receiver, the WORLD RADIO TELEVISION HANDBOOK comes in very handy. Also, a map of the world on the wall in a frame looks very nice and you can get flags of the world like postage stamps and stick them onto a piece of cardboard with a pin through it. Then when you hear a station or get a card from them you can put your flag on the map.

A 24 hour clock comes in handy, but you can make your own with an ordinary alarm clock. Cut out a piece of plywood with a hole in it to just fit over the case and label as shown below. Then you can rotate the piece of plywood to correspond with the time in GMT in whatever part of the world you are listening to. Most stations require, or at least prefer, receiving reception reports listed in GMT."

And that is the advice from England. Our thanks to Mr. Bruce for writing.



CHANGING YOUR ICF - 2001

A very popular receiver, the Sony-2001 can be justly called revolutionary. Like many revolutions, it is not without its problems. The solutions to some of the faults must await a "second-generation" computerized receiver, but others are solvable by those not afraid to take a screwdriver to their prized set.

A major problem quite easily solved is that of short battery life. Having run my old ICF-5900 six months on a set of alkaline batteries, I was shocked to find my ICF-2001 run down in only ten hours. With standard D cells you hardly have two hours of operation, virtually destroying any portability the radio might otherwise have.

A very satisfactory solution is to install rechargeable batteries. Three D-Nicads could be used, but a better approach is to install two size "D" Gates lead-acid cells. These two volt cells actually put out 2.2 volts each when at full charge and the ICF-2001 works well down to 4.0 volts . . . the discharge value of a pair of the above cells. Also, the AC power supply that comes with the Sony has enough reserve to charge the batteries while operating the radio. About ten hours of use will discharge the Gates cells and they will recharge overnight.

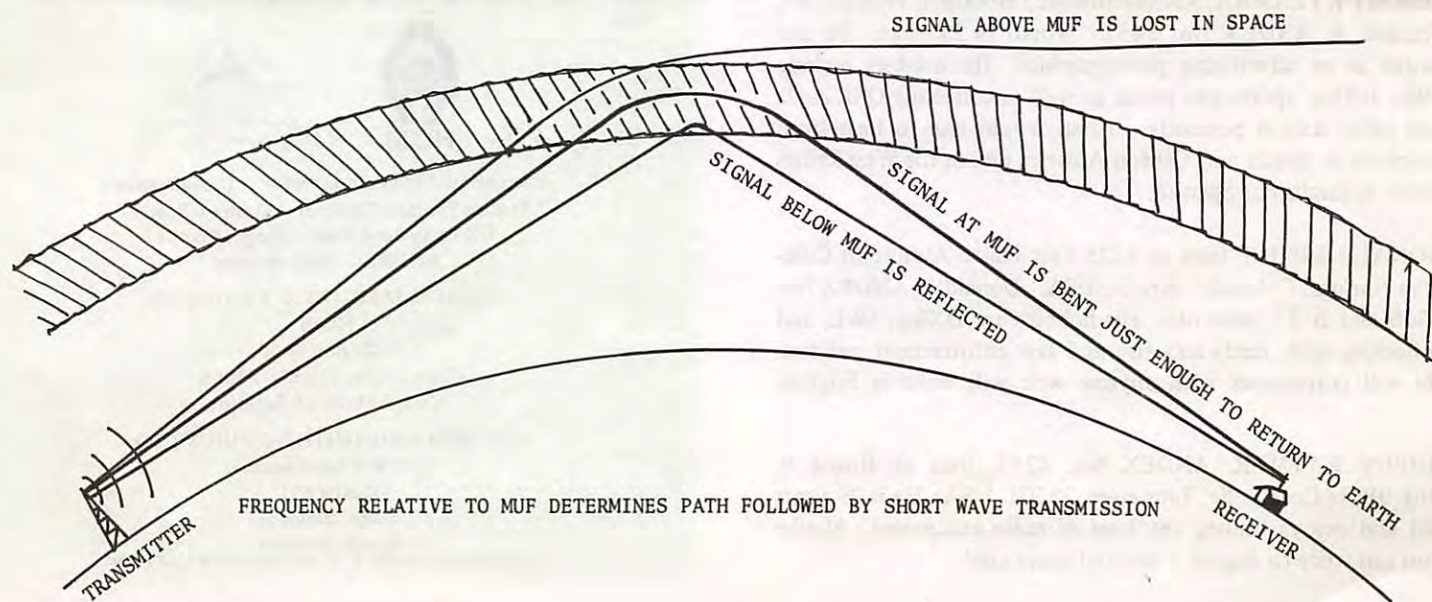
To install, open your ICF-2001 by taking out six Phillips screws (one under the type AA cells), and carefully separate front and back of the plastic case. Locate the 1000mfd, 6.3v electrolytic capacitor located between the speaker and the power-earphone-tape output jack panel. Carefully bring a small wire from each side of the capacitor to the battery compartment. Observe polarity, connecting the lead from the positive side of the capacitor to the positive battery terminal and the negative lead to the negative terminal of the other battery. Then join the two free battery terminals together. Use push-on connectors or solder to the battery terminals. (Caution: The Gates cells have a high short-circuit current. Do NOT short the terminals and do use small hook-up wire. This will act as a fuse in case of shorts. Better yet, put a 1 amp fuse in the positive lead.) Push the cells into the battery holder and fill up the empty space with foam rubber.



The Gates cells are totally sealed. They will not leak and damage the set. They are superior to Nicads in all respects but one. That disadvantage is that when FULLY discharged (Radio left on accidentally for two or more days.), they will take weeks to recharge. To avoid this I normally use the sleep timer to turn on my ICF-2001. Then if I forget to turn it off, it runs only for 90 minutes maximum.

Gates cells cost about \$5 (US dollars) each and are available from electronic parts distributors. The catalog number is 0810-0004. In Europe they are called Gates-Cloride.

If Gates cells are unavailable, you can still get automatic recharge and about three hours portable use with size D Nicads. Insulate the positive battery terminal so it doesn't touch the positive terminal of the set and wire as shown. If you are timid about opening your set, get six Nicads and a charger, and charge one set while using the others. Then swap them. With three hour life, this will soon wear out you and your battery compartment lid. However, any of the above solutions will get you out of the dilemma that the Sony-2001 presents. It is portable only if you don't mind heading for the poorhouse after buying all those batteries!



PEN PALS INTERNATIONAL

First is UWE ALBERTI, Hermann-Duncker-Strasse 9, DDR-5320 Apolda, German Democratic Republic. Uwe is a very recent member, ANDEX No. 4323. He is 21 years old and says he will correspond with DXers from all over the world. He repairs radio and TV sets as an occupation and his hobbies, besides DX-ing, are music and photography.

Next is BENGT HJELLE, P.O. Box 8, N-6230 Sykkylven, Norway. Bengt is ANDEX No. 3936 and is a student, age 17. His hobbies include DXing, telegraphy reception, foreign folk music, station recordings and electronics.

REX D. WHETZEL of Route 2, Wolcottville, Indiana, 46795, USA, is interested in "tapesponding" with people from Canada and Central and South America. "Tapesponding" is corresponding by cassette tape. Rex is 31 years old, but would like to hear from people of all ages and trade material about SWL. He is ANDEX No. 2753.

Another fellow on our list is WILLIAM MELLON. William is ANDEX No. 4018 and his address is P.O. Box 32, Fork Union, Virginia, 23055, USA. William is 15 years old and likes to SWL, DX, MW and trade stickers from different radio stations. He would especially like to correspond with members in Europe.

ROBERT KNOWLES of 262 KingFisher Road, Saint John, Canada, E2J 3W8 is an engineer who is 26 years old. He is ANDEX No. 3971 and is interested in photography and collecting stamps. He also says that he is interested in women so maybe some of you female ANDEX members should write some letters.

Next on the list is one of our female members. MICHELLE SHUTE lives at 3360 Queen Anne Lane, Jacksonville, Florida, 32217, USA. She is 16 years old and enjoys listening to music, collecting QSL cards and beer steins and she likes to receive letters. Michelle is ANDEX No. 4353.

TORSTI KYLÄMAA, Kivimäentie 42, SF-00670 Helsinki 67, Finland, is ANDEX No. 3455. Torsti is 29 years old and works as an advertising photographer. His hobbies include SWL, DXing, sports and music as well as collecting QSL cards and radio station pennants. Torsti would like to hear from members in South and Central America and in the West Indies either in English or Spanish.

DONALD BISHOP lives at 1225 East Platte Avenue in Colorado Springs, Colorado, 80909, USA. Donald is ANDEX No. 3866 and is 32 years old. His hobbies are DXing, SWL, and collecting QSL cards and fire and law enforcement patches. He will correspond with anyone who will write in English.

BOBBY RAYMER, ANDEX No. 4255, lives at Route 9, Box 98, in Cookeville, Tennessee, 38501, USA. He is 29 years old and enjoys trading any kind of radio equipment. Maybe you can write to suggest a swap of some kind.

CHUCK ADAMS, our Sporadic-E contest winner, also wants to be listed in this column. Chuck lives at 1218 6th Street, N.E., Sioux Center, Iowa, 51250, USA. He is ANDEX No. 4051 and 13 years old. He is interested in DXing, electronics, politics, QSLs, stamps and computers. He would like to hear from members interested in politics and from somebody who would teach him French.

Last on our long list this time is R. SHREEDHAR, 12 Sarojini Street, T. Nagar, Madras, 600017, India. He is ANDEX No. 544, having joined way back in 1974. He is interested in chess, astrology and card swapping.

The answer to the ELECTRONI-CROSTIC in the last issue of ANDEX is as follows:

- A. Transistor B. Toggle C. Induced D. Transformer
E. Rheostat F. Antenna G. Electrode H. Circuit Chip

A RECTIFIER CHANGES ALTERNATING CURRENT INTO DIRECT CURRENT.

NEW QSL CARD

The English Program Service of Radio HCJB is offering a new QSL card for any reports on NEW frequencies sent by cable. Cables should be sent to Andrew Steele, VOZANDES, QUITO, ECUADOR. Since a new schedule went into effect on November 7, pay close attention to see what new frequencies are being used...then, rush and send that cable!

ANDEX International —

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