



ANDEX INTERNATIONAL

Inside:

- New 100 kw transmitter 2
- Roof-top antenna 3
- Profile: XEUW Mexico 4
- Preserving QSLs 5
- Oil in Ecuador (Part 2) 7

Vol. 16, No. 2
April-May 1989

PANAMSAT

Since 1964, satellite communications within Latin America have been via one source—INTELSAT. That was until the recent launching of a second satellite, PANAMSAT.

Six months ago an Ariane spaceship lifted off from French Guyana with its notable cargo, the Pan-American satellite, PANAMSAT. During lift off, Rene "Ray" Anselmo, a North American businessman with Latin American roots, watched as his project took to the air—a project that he had worked hard on for four years and which had cost \$200 million (U.S.) to get off the ground.

For Anselmo, getting PANAMSAT into orbit signified a break in the monopoly previously enjoyed by INTELSAT, a multinationally financed

satellite, controlled by the international telecommunications systems of the Americas.

Since its launching in 1964, all satellite communications had gone through INTELSAT. In fact, when it was introduced the system was a major advance for Latin American communications, especially telephone communications. INTELSAT owns 14 satellites and 767 antennas that connect more than 170 countries and territories. This created a monopoly in the satellite communication market—a monopoly that resulted in INTELSAT officials opposing any change in international communications. The first break in this monopoly came in 1984 when the U.S. government opened up the telecommunications industry to competition.

One of those keen to introduce a different service was Anselmo. INTELSAT proved to be a powerful opponent. Once the U.S. government approved of opening up the market, Anselmo found there were nine firms lobbying against his efforts to introduce a new service, and those firms had high connections. In South America the countries of the Andean Pact—Venezuela, Colombia, Ecuador, Bolivia and Peru—were

ready to put up their own satellite and did not want to align themselves with Anselmo's project. But it appeared that the real reason behind their reluctance to join him was the fact that they were members of INTELSAT, and officials of that organization were pressuring them.

Finally, 14 months after making his application, the Federal Communications Commission gave Anselmo authorization to begin construction of PANAMSAT. But the company was to meet more opposition. Costs rose dramatically and credit was impossible to find. No one wanted to take the risk. Fred Landman, president of PANAMSAT, says the satellite was too big a risk and too uncertain in its completion. The company talked to Wall Street, bankers and to anyone else they could think of who was in a position to lend money. The answer was always the same—no. The space shuttle Challenger's disaster further compounded the problem. Following the explosion, insurance coverage for launching any rockets escalated. Finally, PANAMSAT was able to secure a down payment of \$40 million (U.S.) and the project was underway.

Before becoming involved in PANAMSAT, Anselmo had used the



Rene Anselmo

continued on page 8

Person to Person

Brent Allred
ANDEX Director



Communications have come a long way since the days of jungle drums and smoke signals to today's multi-million dollar satellites. I wonder how we could function as a global community without the communications systems we now have available at our fingertips. Systems such as the recently launched PANAMSAT satellite and FAX machines that can be found in offices and homes throughout the world.

Despite all the advances in human communications, one form of communication remains unchanged. That's the communication between man and God.

Prayer is still the method we have to communicate with God. With prayer there is no problem with overloaded circuits or crowded satellite channels. The line of access to God is always open, always available and absolutely free.

God says, "Call to me and I will answer you" (Jeremiah 33:3). He is there waiting for you to call on Him in your time of need. He is ready to help and give you guidance. He is waiting to listen to you and to respond. Most importantly, He wants you to speak with Him as a friend to a friend.

In this age of technological breakthroughs, let's not forget the greatest communication we can enjoy—the communication that is possible between us and our Creator.

We hope you like the Ecuadorian stamps we have used to mail this bulletin. If you enjoy stamps, make sure you collect all of this year's HCJB QSLs. Our cards this year feature stamps of Ecuador and the series is proving very popular.



this year, and shipment to Ecuador will be in the next few months. Its solid 100 kw of output power and excellent modulation are expected to substantially improve the signal to HCJB's listeners.

Parts for the next three HC 100 transmitters now are being fabricated with a target date of sometime late this year for completion of at least two of them.

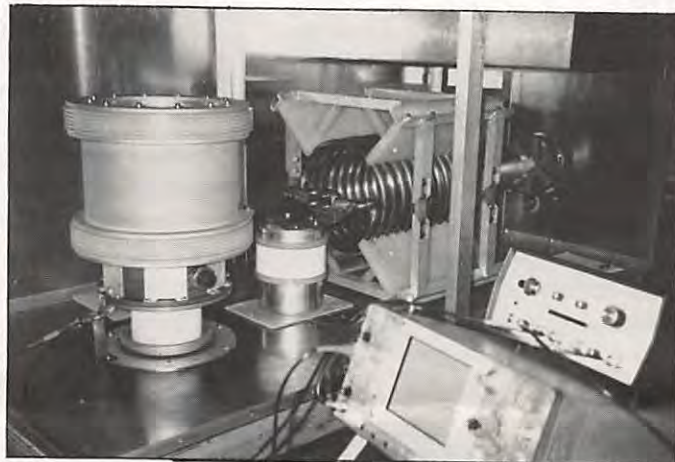
NEW HC-100 TRANSMITTER

By Don Hastings

HCJB is nearing the completion of the design and fabrication of a new shortwave transmitter. The work is being done at HCJB's engineering center at the Crown International plant in Elkhart, Ind., U.S.A.

The HC 100 will provide 100 kw of power at modulation levels up to 125 percent on positive modulation peaks and 100 percent on negative peaks. It will operate in any of the shortwave bands from 13 to 19 meters inclusively. A computer-controlled frequency synthesizer generates the specific frequency to be broadcast. Tuning is fully automatic and uses circuits interchangeable with those in HCJB's HC 500 transmitter (500 kw power capacity) which was designed earlier. The transmitter actually tunes and loads itself rather than simply driving to pre-tuning adjustments. Only 30 seconds will be needed to stop transmissions on one band, tune up to a frequency in a new band, and come up to full power.

The transmitter is of the newest-of-the-art design, providing very high efficiency to reduce the operating cost of AC power. It uses all solid-state devices except for the high-power radio frequency output section. Two transmitting tubes are used there—one driver tube and one power output tube.



Power amplifier tube, tuning capacitor, and tuning coil and inductor of new HC-100.

The modulator is one of the new stepping types which consists of a power supply made of 64 solid-state modules. These modules are switched on and off by computer controls so that the voltage from the power supply follows the audio of modulating signal. During the positive modulation peaks most of the modules are switched on and most are off during the negative part of the cycle.

The main feature of HCJB's modulator, compared to commercial transmitters we know of, is that it uses more modules with smaller step sizes to reduce distortion. In addition, HCJB's modulator uses fast-acting, field-effect power transistors for switching, further improving performance.

Power testing of the transmitter was carried out earlier

ROOF-TOP INVERTED-V ANTENNA

by Harold Sellers, ODXA

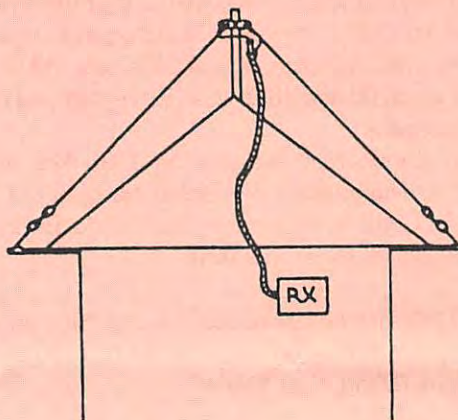
The antenna illustrated at right can be mounted on a house roof-top, as long as the roof is not metal. Asphalt, wood shingle or clay tile roofs would not cause any great loss in signal, even during rain or snow, because of the distance of the roof from the ground.

The antenna is a dipole, meaning that it consists of two equal halves, and is cut to specific dimensions to function best on a particular band. Each half of the antenna is one-quarter wavelength and overall the antenna is half a wavelength. See *Table 1* for dimensions for shortwave broadcast bands. If you wish to make an antenna for a band not shown, use the formula at the conclusion of this article.

As shown, the antenna is suspended from a short mast placed above the roof peak. This mast can be any height, or it could even be non-existent. To keep the antenna low in visibility, the wires could be laid directly on the roof surface. The angle between the two halves of the antenna should be between 90° and 135° approximately. The two sections form the "V" that gives this type of antenna its name. The wire used for this antenna should be plastic-covered, especially if it touches the roof. Gauge of the wire is not important, except that it be strong enough not to break as the wind blows it.

Insulators should be used at the center and ends of the antenna sections, if they would otherwise contact metal eavestroughing or such. 50-ohm coaxial cable, such as RG-58, is used as the feeder cable, with the center conductor going to one half of the antenna and the braided shield going to the other half. An appropriate connector is used on the coax end at the receiver. The coax could be run up the side of the house or through a vent or chimney space in the roof if possible. Do not run the coax parallel to the antenna halves.

If the overall antenna length is greater than the dimension over the house roof, you could place the centre of the antenna at the front peak of the roof and run the two antenna



sides to the bottom back corners of the roof, thus giving you a diagonal dimension, which would be much greater.

The advantage of this antenna installation is the ease with which you can install it and maintain it.

In *Table 1* the antenna dimension is a half wavelength. Therefore the wire (eg. 48'6" for 31 meters) should be cut exactly in two to achieve the two halves that go on either side of the centre insulator/feedpoint (ie. each half will be 24'3"). The antenna dimension is calculated for the midpoint of the frequency range given.

To calculate your own antenna dimensions, use this formula.

$$\text{Half Wavelength (ft.)} = 468 \text{ divided by Frequency (MHz)}$$

$$\text{Example : } 468 / 4.9 \text{ Mhz} = 95 \text{ ft. } 6 \text{ in.}$$

(This antenna design by Harold Sellers is reprinted from *DX Ontario*, the monthly bulletin of the Ontario DX Association, P.O. Box 161, Station A, Willowdale, Ontario, Canada M2N 5S8.)

Meter Band	Frequency Range (kHz)	Overall Size (ft./m.)
90	3200-3500	139'8.5"/42.51m
60	4700-5100	95'6"/29.10m
49	5900-6200	77'4.5"/23.57m
41	7100-7300	65'0"/19.81m
31	9500-9800	48'6"/14.78m
25	11700-12000	39'6"/12.04m
19	15000-15500	30'8"/9.37m

Table 1

LATIN LOG

ARGENTINA — English from Radio Argentina al Exterior can be heard from 1730-1830 on 15345 kHz. (Direct)

BRAZIL — Radio Cancao Nova is now using three shortwave transmitters. The station has been heard on a new frequency of 9675 kHz with Brazilian pop music past 0030. Other frequencies are 6105 and 4825 kHz. (Ernie Behr, via NASWA Listeners Notebook)

- Radio Continental operates on 1320 kHz MW and 4940 kHz SW. The address is Avenida Marquez del Pumar, Edificio Radio Continental, Barinas 5201, Edo. Barinas. The director is Angel M. Perez. (ODXA)

CLANDESTINE - Radio Liberacion, the anti-Nicaraguan station on 5889 kHz, is now on the air at 0000, 1100 and 1700 UTC. (Pampas DXing, via ODXA)

COSTA RICA - Radio for Peace International has begun broadcasts in the 11 meter band on a variable frequency of 25945 kHz, 1400-1800 and 2100-2400 UTC, in parallel with 21560 kHz. (Hauser via 'Contact' SCDX)

ECUADOR - Radio Antena Libre can be heard on 3240 kHz, 1100-1430 and 2200-0300. The address is Casilla 65, Esmeraldas. (DXPL, WRTH)

MEXICO - XERMX Radio Mexico announces itself as the international station of the Mexican Radio Institute. The station broadcasts in Spanish to the Americas from 1300-1700 on 17765, 11770 and 5985 kHz and 2000-0500 on 15430 and 9705 kHz. (WBI)

PERU - Radio Estrella is a new station in Huanuco. It operates on 5147 kHz, but announces 5175. Sign-off is around 0300 UTC. (Aboe Nawan Thaliep, SCDX)

SURINAM - Radio Surinam International now uses 17765 kHz for the 1700-1745 broadcast via Radiobras in Dutch and English. (Klein, SCDX)

VENEZUELA - A station that plans to begin shortwave operation is Radio Elorza, 4900 kHz with 1 kw. The address is Av. Aeropuerto, Esquina Calle 9, Elorza, Edo. Apure. The director is Luis H. Borjas. (Radio News, Venezuela, via ODXA)

STATION PROFILE: XEÜW-LA Ú DE VERACRUZ

La Ú de Veracruz (XEÜ & XEÜW) is one of the oldest radio stations in Mexico. It was inaugurated by the station's director, Ingeniero Baltazar Pazos de la Torre, on March 12, 1930.

The station is one of five that comes under the grouping of Radio Nucleo Oro. Rather than being a network of stations, it is simply a group of stations. The stations share programs or news information and a building, but they are owned by separate companies. This type of grouping is typical of stations in Mexico.

La Ú de Veracruz transmits daily from 1130 to 0600 UTC on two frequencies: 930 kHz medium wave (XEÜ) and 6020 kHz shortwave (XEÜW). Pazos de la Torre is an engineer and a keen radio amateur. The reason why the station has a shortwave outlet is apparently because it is his hobby. He built the station's first shortwave transmitter, a 250-watt unit. The current transmitter has an output of 5 kw and is fed into a half-wave dipole antenna.

Programming from La Ú de Veracruz consists of news, weather, information and entertainment. One particular program that the station is proud of is a live concert program which has been broadcast for the past 40 years. The program is broadcast from a small soundproof theater on the premises, with several different programs each week.

XEÜ gives the following ID every 30 minutes: "Sintoniza Usted con XEÜ onda larga 930 kHz y XEÜW onda corta 6020 kHz banda internacional de 49 metros, transmitiendo desde el puerto de Veracruz, República de México."

A recent verification from La Ú de Veracruz was in the form of a full-detail letter signed by Baltazar Pazos de la Torre. It was received in 43 days together with a station pennant. Return postage in the form of mint stamps is recommended, and the report should be in Spanish. The address of the station is Ocampo 119, 91700 Veracruz, Veracruz, Mexico.



(Station information from Radio Nuevo Mundo.)



COMMITTEE TO PRESERVE RADIO VERIFICATIONS

A committee of the Association of North American Radio Clubs

REGISTERED COLLECTIONS PROGRAM

The Committee to Preserve Radio Verifications was formed in 1986 in order to save from loss or destruction QSL cards and letters belonging to radio hobbyists who have become inactive or passed away. Many such collections have been lost due to the absence of anyone to care for them. The committee feels that QSLs are an important aspect of the history of radio and the radio listening hobby. In addition, the preservation of their QSLs is a fitting memorial to the radio hobbyists of the past.

The search for QSL collections continues to be one of the committee's main activities. But today's active collections may become tomorrow's discards. So the Registered Collections program has been established for hobbyists who are concerned about the future of their QSLs. The purpose of the program is to help insure that, in the event a hobbyist becomes unable to enjoy his or her QSLs, they will be donated to the committee.

Under the Registered Collections program, you send the CPRV a registration form and they send you a supply of adhesive backed stickers to affix to your QSL albums. The stickers are 9.5 x 7.3 cm in size (illustration at right is reduced). The message on the sticker requests that your QSLs be donated to the committee when you are no longer able to enjoy them. The cost of registering with the Registered Collections Program is 50 cents or two IRCs per sticker, which is used to cover the cost of printing and handling and to support the committee's work.


Registering your collections does not constitute a legal or final donation to the committee. Rather, it is an expression of your wishes, which, hopefully, your family will follow when the time comes. (You can change your mind at any time by removing the stickers.)

For a registration form for the program, or for more information on the CPRV, write to:

CPRV Registered Collections Program
John C. Herkimer, Program Coordinator
P.O. Box 54
Caledonia, NY 14423, U.S.A.

Below are some examples of the many thousands of QSLs that have been donated to the CPRV and that are now held on file at the Boston headquarters of Christian Science Monitor shortwave station WCSN.



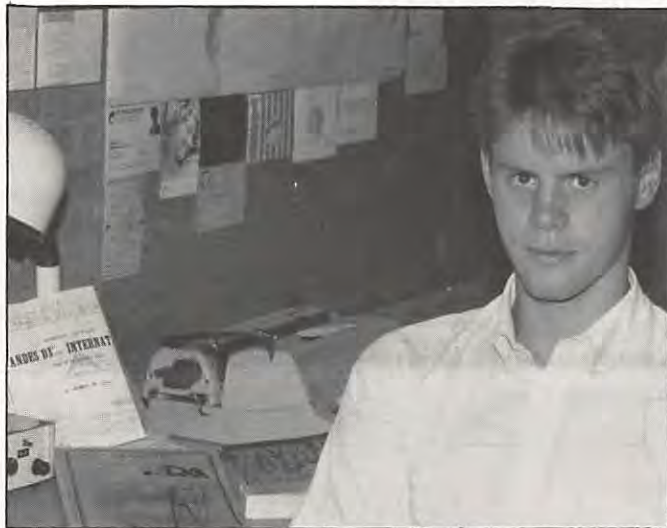


COMMITTEE TO PRESERVE RADIO VERIFICATIONS

My QSL collection is very important to me. It is my wish that, when I am no longer able to enjoy my QSLs, my family will donate them to the Association of North American Radio Clubs "Committee to Preserve Radio Verifications," Box 54, Caledonia, NY 14423, so that my QSLs will be preserved for the enjoyment of other radio hobbyists.

Signature
Date

Special DXers



Herman Boel

Our first Special DXer in this issue is from Belgium. We will let him tell his own story:

"I am Herman Boel, ANDEX 6425, a 17-year-old student in my last year of highschool. My subjects include mathematics, Dutch, Latin, English, French, German, history, physics, geography and gymnastics.

"I joined ANDEX a few months ago after sending a reception report to HCJB. I live in Aalst, a city of 80,000 inhabitants, 30 km (20 miles) from Brussels. In Belgium it is a city famous for its carnival.

"Besides DXing I enjoy languages (except for romance languages such as French and Spanish) corresponding and music. I am also a monitor in a youth movement called the Catholic Students Action. You might compare it to the Boy Scouts in America.

"I was introduced to DXing around May 1987 when I heard a German program on Radio Sweden. They sent me a folder, "Introduction to DXing." Radio Sweden was also the first station that I verified. So far I have verified 50 countries and 67 stations. I have done this with a Philips D-2935 with longwire and preselector.

"ANDEX is the second DX club that I have joined. I joined it because the bulletin is not so technical with logs, antennas, etc., but looks more at the people behind DXing and at international friendship. The latter interests me very much.

"The other DX club I joined is DX Antwerp, the organizer of the 1988 EDXC conference in Antwerp. I am one of the editors, and I write on pirate shortwave stations in Western Europe.

"DXing is a fantastic hobby. I love the international character of it. It gives me a bizarre feeling knowing that people on the other side of the world are interested in you.

Bill M. Wolverton

A listener from California is our special DXer from the United States—Bill M. Wolverton, ANDEX 4772, who lives at 15209 S. Prairie Ave. Apt. 29, Lawndale, CA 90260, U.S.A.

Bill has been a member of ANDEX since 1983. He still uses his Sony ICF-2010 receiver and an Ameco preamp in conjunction with it. He is currently using an indoor dipole antenna cut close to 7MHz. He says he is now living next close to some high-tension power lines next to his apartment building. At times the interference is so strong he can hear the buzzing when standing next to the pole. He can see blue-white sparks jumping across the big insulators.

In addition to 22 meter FM, he also operates on the 10 meter band with a Ranger AR-3500 10-meter rig. "So far, with a dipole lying on the apartment roof, I have worked the islands of Fiji and Grand Cayman in the Caribbean," he says.

Bill recently wrote from De Vry Institute of Technology in Phoenix, Arizona, but he has since graduated and is working as an avionics electronics technician for Continental Airlines. He is currently working on the generator control units for the Boeing 727 and DC-10 aircrafts.

Lawndale, the community where Bill lives, is seven miles southeast of Los Angeles and close to his work. His concern is that there might be someone to minister to the young people in his neighborhood to help them become better citizens and good Christians.

Congratulations, Bill, on being chosen as a Special DXer. We encourage ANDEXers to write and congratulate him on this event.



Whether you are a technical DXer or a shortwave listener you feel friendship among all those people and their quest for peace and happiness. The hobby creates friendship among many different races, which is a fundamental step for universal peace."

Congratulations are in order for Herman Boel of Vrijheidstraat 31, 9300 Aalst, BELGIUM. Do write and tell him so!

ECUADOR'S BLACK GOLD

*Second of a two-part feature
by Ralph Kurtenbach*

After two March 5, 1987 earthquakes, the twisted wreckage of miles of the Trans-Ecuadorian pipeline represented a broken link in the petroleum facilities that drive Ecuador's economy.

The pipeline and other facilities were constructed during a growth spurt in Ecuador's petroleum industry during the last two decades. Initial plans for the pipeline, proposed by the Texaco and Gulf oil firms, were approved by the government in 1964. Three years later the firms said the jungle region contained enough oil to warrant pipeline transport, and requested permission to begin construction. The firms contracted with Williams Brothers Co., which began work in late 1970. As a parade of heavy equipment and tubing headed toward the jungle, Ecuadorians involved themselves in one of their nation's most important projects, according to a brochure by the state oil company, CEPE.

That parade of tubing must have been a sight, as the project's statistics are impressive. The pipeline includes nearly 40,000 tubes at 12 meters by 66 cms each. Total weight of the line is 90,000 tonnes. With much of the line underground, the transport system traverses Ecuador's high Andes landscape at 4,000 meters. It is likely the world's highest pipeline.

The line begins at Lago Agrio, with storage capacity of 1.5 million barrels, and concludes at a 2.9 million barrel petroleum storage port called Balao, near Esmeraldas. In transport, the crude oil passes through a total of nine stations—five that pump the oil as the pipe ascends the Andes, and four that reduce pressure as the oil makes its descent.

In 1972, 308,000 barrels of pipeline-transported oil was pumped onto the ship, Texaco Ana Cortez. The line has cost \$120 million to construct. Its expansion later cost another \$16.5 million. Ships can now receive 50 to 80 thousand barrels of oil per hour from the line.

In the 1980's the pipeline became the Ecuadorian government's property, and provides the government profits of 30 cents per barrel of oil, or \$30-million annually for the 100 million barrels of oil that is pumped through the pipe. CEPE maintains the line.

Low oil prices and the five-month halt of petroleum exports due to the pipeline damage have combined to cause Ecuador about \$3 billion in lost revenues in the past three years. CEPE received \$1.5 million for pipeline damages, but recently demanded \$33.5 million from the company that insured the line when the earthquake occurred. CEPE is also reserving the right to involve Texaco in the suit for not pushing harder for damage payments from the insurance firm.

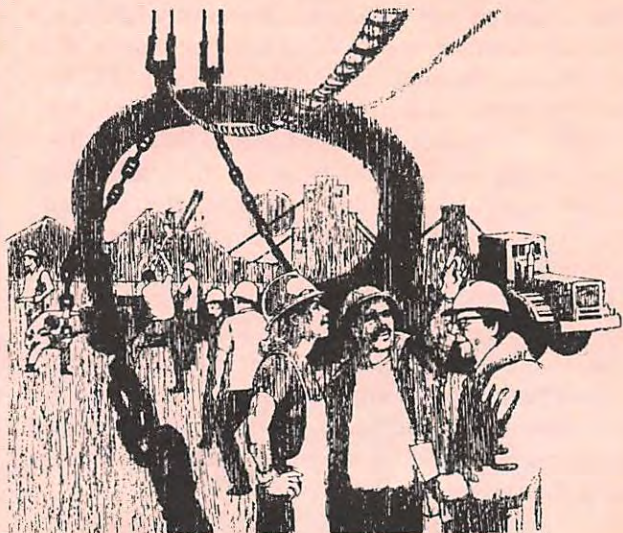
Like the pipeline, Ecuador's state refinery at Esmeraldas initially cost \$120 million and eventually required expansion. It began operating in May, 1977 and its facility expansion to increase capacity from 55,600 to 90,000 barrels a day was in response to growth in consumer demand for oil prod-

ucts. With potential capacity of 145,000 barrels daily, it can easily meet the 105,000 barrel daily consumer demand. CEPE considers the refinery, after a \$114 million expansion, to be a new national resource to help build a dynamic national economy.

The Esmeraldas facility's refined products include gasoline (30%), diesel fuel (25%), fuel oil (30%) and various other derivatives like liquid gas, turbo fuels and asphalts. Refining petroleum also yields a broad spectrum of other derivatives, from medicinal oils to solvents, soap and insecticides.

The passing of the era of high oil export prices spells trouble for Ecuador and other Latin American nations facing huge debts. Ecuador, Venezuela and Mexico are particularly hard hit because their main income source is oil, according to the World Bank. The unexpected twists of volatile oil prices make budgeting difficult for Ecuador's leaders. That volatility is attributed to a world oil glut and the inability of the Organization of Petroleum Exporting Countries (OPEC) to enforce production quotas it has set for member nations. An organization of Latin American nations has been formed to review prices that OPEC sets for the region's oil exports.

Optimism exists among the struggles of Ecuador's oil industry. Predicting a long-term presence in the country, Conoco Oil donated funds for reconstruction of 428 homes destroyed or damaged in the 1987 earthquakes. With support from oil firms and CEPE, a training program was established to provide Ecuadorians the expertise to enter the industry. And President Rodrigo Borja has pledged that his nation will repay its \$11 billion foreign debt.



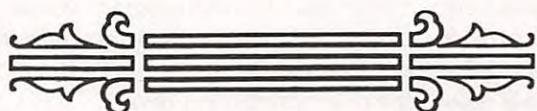
Pen Pals

INGEMAR DECHAU - Groenauer Baum 22, D-2400 Lubek 1, WEST GERMANY - ANDEX 4719 - A 22-year-old student with special interests in experimental theater, literature, film, philosophy and psychology - Would like pen pals for discussion and exchange of thought from anywhere, but mostly from Eastern Europe, Latin America, the Arab speaking nations and Oceania - Can write in German, English and a little Russian.

EDWARD BEVENS - 44 Malley Ave., Avon, MA 02322, U.S.A. - ANDEX 6432 - A 23 - year-old salesperson with hobbies of DXing, CB, electronics and music - Interested in corresponding with fellow ANDEX members in the U.K., but will answer all who write.

CHRIS FRYE - 820 13th Ave., Lewiston, ID 53801, U.S.A. - ANDEX 6629 - Is a mystery fan and would like a pen pal interested in mystery and detective stories - Other interests are hockey, soccer, collecting postcards and matchbooks, backpacking and horseback riding - Would like pen pals from anywhere.

IVAN PENEV - P.O. Box 47, Complex "Lenin", Sofia 111, BULGARIA - ANDEX 6535 - Would like to exchange stamps from Bulgaria for IRCs - Other hobbies include DXing, SWL, traveling, movies and playing bridge.



PANAMSAT

continued from page 1

services of INTELSAT extensively. However, his firm had become frustrated with the system. It had very little space available for television and its costs were astronomical. In the United States the cost of using INTELSAT was \$175 for the first 10 minutes. In Latin America, the same 10 minutes cost \$1000. In Ecuador, Colombia and El Salvador, the price was a little lower—\$750. However, these prices were prohibitive and hindered the development of telecommunications in Latin America. As a result, many important news and sports events were not transmitted.

Now that PANAMSAT is functioning, Anselmo hopes that will all change. Three countries—Chile, Ecuador and Venezuela—are now planning to begin using PANAMSAT to transmit both national and international news. And Anselmo is planning for the future. He hopes to put another satellite into orbit to meet the increased demand he anticipates for the service.

(Adapted from Vistazo magazine)

FEES FOR ANDEX MEMBERSHIP MAY BE PAID IN THE CURRENCY OF THE COUNTRIES BELOW BY SENDING TO THE ADDRESS GIVEN:

AUSTRALIA	A \$6.50	HCJB—ANDEX, GPO Box 691, Melbourne, Vic 3001, Australia
CANADA	C \$6.50	HCJB—ANDEX, 2110 Argenta Rd., Mississauga, Ontario, Canada L5N 2K7
FINLAND	FIM 25 to the bank	Send fee to: Radio HCJB, Helsingin Sp/Helsingfors Sb, 405506-09630716. Send application form to: Radio HCJB, PL-101, 15111 Lahti, Finland
ITALY	L 7.000	HCJB—ANDEX, Via Cavallotti, 16, 41043 Formigine (Modena), Italy
JAMAICA	J \$25	HCJB—ANDEX, Jamaica Office, P.O. Box 31, Kingston 6, Jamaica
NEW ZEALAND	NZ \$10	HCJB—ANDEX, P.O. Box 82-296, Highland Park, Auckland, New Zealand
SWEDEN	Equivalent of \$5.00 USA dollars	Fees to: Postgiro 68 06 80-6 OR to bank giro 332-4407. Send application form to: Radio HCJB, Box 110, 54201 Mariestad. Check the current exchange at your bank to determine the fee.
SWITZERLAND	Sfr. 10	Send Fees through the postal system to: Radio HCJB-Schweizer Arbeitszweig, Mannedorf, P.C. Glarus 87-3468. Send application form to: Radio HCJB-Schweizer Arbeitszweig, Postf. 119, 8708 Mannedorf
UNITED KINGDOM	3 pounds 75 pence	HCJB—ANDEX, 131 Grattan Rd., Bradford, West Yorkshire, England, BD 1 2HS OR send to Post Office giro account 625 2311 by using a transfer form from a members Girabank account or using the "Transcash" service available at all post offices in the U.K.
U.S.A.	US \$5.00	HCJB—ANDEX, P.O. Box 553000, Opa Locka (Miami), Florida 33055-0401
WEST GERMANY	DM 12	Margot Stegmiller, Hebelstr. 32, D-6908 Wiesloch, Federal Republic of Germany Account Nr. 2074 15-675 Postgiro Ludwigshafen

EUROPEAN COUNTRIES WHERE THERE IS NOT A LOCAL OFFICE:

Applicants may use the United Kingdom post office giro account by sending the equivalent of three pounds and 75 pence.

IF YOU LIVE ANYWHERE ELSE, REMIT \$5.00 (U.S.A. dollars) to: HCJB-ANDEX, P.O. Box 553000, Opa Locka (Miami), Florida 33055-0401.

APPLICANTS WHO HAVE DIFFICULTY PAYING THE MEMBERSHIP FEE MAY APPLY FOR OUR SPONSORSHIP PROGRAM.

THE AMOUNTS LISTED ARE THE FEES FOR A FULL YEAR OF AIRMAIL SERVICE. MAKE CHECKS/MONEY ORDERS PAYABLE TO HCJB-ANDEX. INTERNATIONAL REPLY COUPONS MAY BE USED TO PAY THE FEE. WE REQUIRE TEN (10) IRCs PER MEMBERSHIP. UNUSED POSTAGE STAMPS ARE NOT ACCEPTED AS PAYMENT.



ANDEX International



is the official bi-monthly publication of Andes DXers International, a DX Club operated in conjunction with DX Partyline broadcast over Radio Station HCJB and sponsored by the World Radio Missionary Fellowship, Inc.

ANDEX Director/Editor - Brent Allred

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