

ANDEX

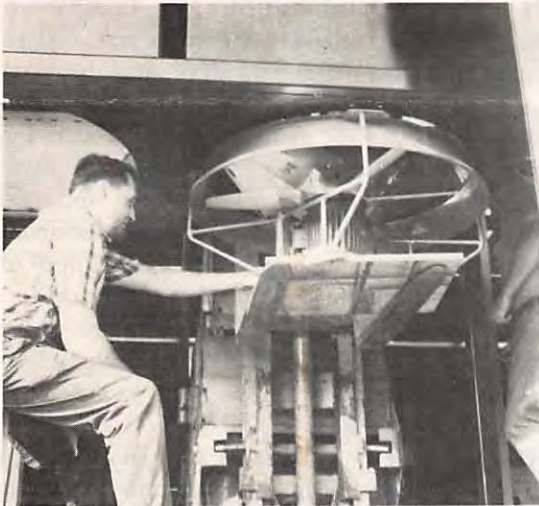


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MEET THE ENGINEERS



Art Johnston checks a cooling fan

It is always amazing to see how God works in the hearts of men. The story of how Art Johnston became involved in HCJB's Project 500 is just one example of the way God works in his amazing and winning ways to lead his children. We'll let Art tell most of the story in his own words.

"I was working as an electronics technician for Geotech, a Teledyne company, in 1965. I was out in the field as a research technician when the company sent a letter saying there was a drastic shortage of machinists in the East Texas area. Being mechanically inclined, I had always dreamed of operating machinery. I inquired and found I met all the requirements. I applied for a position in a machinist apprenticeship program at a drastic reduction in salary. That's just how badly I wanted to be a machinist. I continued with this company for a year, receiving training. After that, I continued in machine work. I worked at a number of small machine shops in order to gain as varied experience as I could. This paid off. My experience was spread out in all phases of metal work.

"While we were still in Texas, I felt the call to mission work. I attempted to go back to college but the doors were shut. So we took a service station in Texas. I thought it would be an opportunity to witness to people who came to the station, and it was a time of learning. However, the Lord showed us that this was not where he wanted us to remain. The service station went into bankruptcy. I sold our car to meet some of our debts. We became convinced that we were to leave Texas. Both my wife, Dolores, and I were praying much about it. After a time of prayer, Dolores said she thought we should move to Alpena, Michigan, which was my home town. We had not lived there for eleven years. We started packing even though we had no money, owed everybody, and had no vehicle in which to travel! I rented the largest trailer I could find. I was convinced the Lord wanted us to go!

"The very next day my brother gave me a 1950 Studebaker pickup truck. This was in 1970. The truck had no brakes, no seats, and no windows. I fixed it up and got it going. Then we loaded all our worldly possessions. My tool box was the last thing to go in. We told the Lord we would go as long as the truck held up. Wherever he stopped it we would stay. We made it all the way to Alpena with only one problem while travelling through Tennessee. The truck wouldn't make it to the top of a steep hill, and there were more hills to come. A fellow stopped to help us. He was a truck driver and a Baptist evangelist. He pulled us to the top, then advised us of a better route with fewer hills to maneuver. We were on our way again. When we finally got to Alpena we were within one block of my grandfather's house when the old pickup truck stopped. We coasted to the house but the old truck never ran again! It had served its purpose. We stayed with grandfather for a few days. Jobs were scarce and my relatives told me I'd never be able to find work. That was a Thursday

night. Before noon on Friday I had been offered two jobs. I took the better one.

"It was while I was employed as a machinist in Alpena that I first heard about Radio Station HCJB. We were attending the First Baptist Church. Don Spragg, now project manager of Project 500, held a meeting in our church and told of this missionary radio outreach. We had been searching for a place to serve the Lord, so felt we should apply to HCJB. After our application had been processed, I was asked if I would take a short-term assignment with Project 500 and help with the construction of the 500,000-watt short-wave transmitter. We took this as an answer to prayer and accepted."

It was after Art came to Elkhart and became involved in Project 500 that he began to realize the magnitude of the job to be done. He found a portion of Scripture in his daily Bible reading that impressed and inspired him. This portion is found in II Chronicles 2, 3, and 4. King Solomon was building the Temple in Jerusalem. The Temple would be great and marvelous. There was need for the finest of craftsmen. Art expressed his feelings like this, "If God could inspire a man and bless him with such skill to do his work back then, I'm trusting him to do it now through me." The building of the 500,000-watt shortwave transmitter is requiring much skill and wisdom. It will be a great and marvelous instrument to carry God's voice to many lands and people. God is using dedicated men like Art Johnston to bring this new transmitter to completion. We thank God for Art Johnston and the excellent work he is doing at Project 500!

A MAN FOR THE AGES

Many outstanding men have lived in this world throughout the ages of recorded history. However, one stands out above all the others. Here are some of the reasons. This Man was born nearly two-thousand years ago. He lived in poverty and was reared in obscurity. He did not travel extensively. Only once did he cross the boundary of the country where he lived. That was during his exile in childhood. He possessed neither wealth nor influence. His relatives were inconspicuous and had neither training nor formal education.

In infancy this Man startled a king; in childhood he puzzled the religious leaders; in manhood he ruled the course of nature, walked upon the waves as if they were pavements, and hushed the sea to sleep. He healed the multitudes without medicine and made no charge for his services. He never wrote a book, yet the libraries of the world are filled with the books that have been written about him. He never wrote a song, yet he has furnished the theme for more songs than all the songwriters combined. He never founded a college, but all the schools put together cannot boast of having as many students.

This Man never marshalled an army, nor drafted a soldier; yet no leader ever had more volunteers who have, under his orders, made more rebels give up and surrender. He never practiced psychiatry, yet he has healed more broken hearts than all the doctors far or near. Once each week the wheels of commerce cease their turning and multitudes wend their way to worshiping assemblies to pay homage and respect to him!

The names of the past proud statesmen of Greece and Rome have come and gone. The names of the past scientists, philosophers, and theologians have come and gone; but the name of this Man abounds more and more. Though time has spread nearly two-thousand years between the people of this generation and the scene of his crucifixion, yet he still lives. King Herod could not destroy him and the grave could not hold him. He stands forth upon the highest pinnacle of heavenly glory, proclaimed of God, acknowledged by angels, adored by saints, and feared by devils, as the living Christ, who can be our Lord and Savior.

We are either going to be forever with him, or forever without him. It was the incomparable Christ

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HCJB



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who said, "Look! I have been standing at the door and I am constantly knocking. If anyone hears me calling him and opens the door, I will come in and fellowship with him and he with me" (Revelation 3:20). "I am the Way—yes, and the Truth and the Life. No one can get to the Father except by means of me" (John 14:6).

"There is one God, and one mediator between God and men, the man Christ Jesus" (1 Timothy 2:5). Therefore, "Believe on the Lord Jesus and you will be saved, and your entire household" (Acts 16:31).

DXer OF THE MONTH



Kelly Janis with her portable radio

This month we take you to Brookfield, a small town just a few miles west of Milwaukee, Wisconsin, to meet a very unusual young DXer. Her name is Miss Kelly Janis, one of our few feminine members. She is also an amateur radio operator. We'll let Kelly tell you more about herself in her own words.

"I am a sixteen-year-old high school junior and have been interested in radio for quite some time, even though there are not too many other girls interested in the hobby. When I was twelve years old I obtained my novice-class ham license and received the call WN9PED. When this license expired I obtained my general-class ticket and presently hold the call WB9YEA. I like to use CW when operating my Heathkit DX-60 rig.

"Last summer I was especially bitten by the DX bug. I had heard HCJB before that time, but I really became interested in shortwave listening

when I once more began tuning to HCJB. The first time I heard HCJB was about four years ago. All my shortwave listening is done on a Japanese-made Crowncoorder three-band portable radio with a built-in whip antenna. Although my radio is small, I believe it does a fine job of pulling in some of those faraway stations. I have already logged more than thirty different countries with this simple radio. Some of my favorite stations include HCJB, Spanish Foreign Radio, the Voice of Turkey, and Radio Vilnius. During the summer months I spend about four hours a day listening to shortwave stations. During the school year I am forced to spend less time. Most of my listening is done between the hours of 1700 and 2100 GMT.

"Since I began listening to shortwave radio many new doors have opened to me. That is what I have found so appealing about this hobby. For instance, one can gain much from stations such as HCJB, spreading the Good News of the Lord, or one can enjoy true African music from a station situated in Africa, or one can try their tongue at learning a foreign language while, at the same time, learning a bit about the culture of a different people. The opportunities for learning from this priceless hobby are endless! When not learning from my radio, I have to be content to learn in school. My favorite subject is Spanish and I am just starting my fourth year of study in this language. I also enjoy courses in math and English."

We are proud to have Kelly Janis as a member of ANDEX. She joined the club about a year ago and is member No. 2626. We congratulate Kelly on all her achievements in the field of radio.

ANTENNA HELPS

How often do you wonder about your antenna and receiver combination? Do you feel you are getting the best reception possible? Would an antenna tuner or a preselector help? In a recent issue of SPEEDX, John Kolb had these comments which should be of help to every ANDEX member.

An antenna tuner (AT) and a preselector (PS) try to do the same thing — deliver a stronger signal to your receiver — but are very different inside. An AT is very simple, consisting of three or four parts, and requiring no external power for operation. It works by matching the antenna impedance to that of the receiver input. Maximum

power will flow when the output impedance of the source, or antenna, equals that of the load, or receiver. Antenna tuners are usually explained by saying that they electrically make an antenna look longer or shorter. That is a simplified explanation and certainly does not mean that a ten-foot antenna will pick up as much signal as one 100 feet long. The AT just helps the antenna get the most signal possible into the receiver. This can be compared to an auto transmission which provides several different gear ratios to match the engine speed to that required by the wheels under varying conditions. While the AT is electrically simple, it has two or three interacting controls which must be adjusted to get maximum signal. Others may disagree, but I find the adjustment a bit difficult. Signal strength increase with an AT is seldom more than one or two S units.

A preselector, by contrast, is more expensive and requires external power. A PS consists of a tube or transistor amplifier to increase the antenna signal level before delivery to the set. This is sort of a brute-force method but, depending on the amplifier, can provide five or six S units of gain. A PS is much simpler to operate, usually having a single dial roughly calibrated in frequency which is kept peaked for maximum signal as the receiver is tuned. Since the PS has so much gain, it may overload the receiver at times, causing spurious responses — signals appearing in the receiver that really aren't transmitted on the frequency to which the receiver is tuned. If the PS has a gain control, this can be used to prevent receiver overload. In some cases a PS may not help a receiver. Any amplifier, be it tube or transistor, also generates a small amount of noise as it operates. This noise is present in the PS output along with the amplified signal picked up by the antenna. The noise added to the signal can be expressed as a noise figure. If this noise figure of the PS is not better than that of the receiver it can actually degrade the receiver performance.

A PS is a preamplifier with tuned circuits so that it only amplifies signals near the desired one. This greatly reduces images by adding more tuned circuits to the receiver. This is one of the main benefits to a receiver like the DX-160 which has good sensitivity but poor image response. In most cases an AT will not help with the image problem. One case where neither an AT or PS will help is that of a strong noise level being picked up by the antenna along with the desired signal.

There is nothing that can be done to improve on the signal once it is picked up by the antenna. Try the following to see if a PS might help you. Tune your receiver to a spot between stations and disconnect your antenna. If the noise level stays about the same, the noise is in your receiver and a PS may help. If the noise level stays too high, this test may also reveal that your receiver is badly in need of repair.

This information should help you decide whether you want an antenna tuner or a preselector and just how much help either will be to you.

THE SCRAMBLER

Here is an interesting puzzle sent by Peter Rubin, ANDEX member No. 2823, who lives in Jericho, New York. We hope you will have a lot of fun solving this one.

How to work this puzzle.

- 1 — Unscramble all the words in the column at the left and write them in the space in the column at the right.
- 2 — Take all the letters of the words in the column at the right that are in circles. Form these into a sentence that will fit into the spaces provided for the answer.

IJLGEG	<u>○</u> <u>○</u> _ _ _ _
TDO	<u>○</u> <u>○</u> _
EAOGNR	<u>○</u> _ _ _ _ _
IUQKC	<u>○</u> <u>○</u> <u>○</u> <u>○</u> _
ABY	<u>○</u> _ _
ADSTN	<u>○</u> <u>○</u> <u>○</u> _ _
EIAD	<u>○</u> _ _ _
URHS	<u>○</u> _ _ <u>○</u>

The answer is:

Solution next month