IN THE UNITED STATES DISTRICT COURT FOR THE NORTHERN DISTRICT OF ILLINOIS EASTERN DIVISION

THE UNIVERSITY OF ILLINOIS FOUNDATION,

Plaintiff and) Counterclaim Defendant,)

BLONDER-TONGUE LABORATORIES, INC.,

- v -

- v -

Defendant and Counterclaimant,

Civil Action No. 66 C 567

JFD ELECTRONICS CORPORATION,

Counterclaim Defendant.)

S T I P U L A T I O N

It is stipulated that the copies of documents listed below are authentic copies and may be introduced into evidence:

> Defendant's Exhibit No. 31 JFD Log Periodic TV Antenna Assembly Instructions JFD ad "At the Moment of Truth" 32 JFD ad, Radio and Television 33, 33a Weekly, February 10, 1964 JFD ad "revolution in the air" 35 JFD ad "70 Million Fair Visitors" 36 JFD ad "What does JFD have . . .?" 37

Defendant's Exhibit No.

والمبوأ بمراجع

- 38 JFD ad "Get With the JFD Camp"
 - 39 JFD Sales Bulletin dated April 19, 1966
- 40 Reprint from the News Gazette, Champaign, Illinois, July 23, 1964

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41 JFD ad "Congress Didn't Go Far Enough"

HOFGREN, WEGNER, ALLEN, STELLMAN & MCCORD

January __, 1968. By

Attorneys for Defendant

MERRIAM, MARSHALL, SHAPIRO & KLOSE

January , 1968. By_

Attorneys for Plaintiff

SILVERMAN & CASS

By_

January __, 1968.

Attorneys for Counterclaim Defendant







LOG PERIODIC ANTENNAS DELIVERS WHAT VIEWERS WANT-MANY MORE STATIONS ... VHF CHANNELS 2 TO 13 ... UHF CHANNELS 14 TO 83 ... FM / STEREO GIVES THE CLEAN, UNIFORM SIGNAL SETS NEED ESPECIALLY FOR VIVID COLOR RECEPTION





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STADITION

"-that all 82-channel television receivers* must use an 82-channel television antenna."

Of course, you can't take the law into MOST EFFICIENT PERFORMyour own hands-but you can take advantage of today's ready-made opportunities to sell an 82-channel antenna with each 82-channel TV set.

Our Antenna Research Laboratories in Champaign, Illinois knew what they were doing when they teamed the acclaimed Log Periodic concept of the University of Illinois Antenna Research Laboratories with our new antenna design advance-the capacitor-coupled electronic dipole. Proof is the fact that the JFD LPV-VU is America's No. 1 82-channel TV/FM antenna!

Who says you can't have everything

you want in a TV antenna-VHF?.. UHF?... FM Stereo?-with a single down-lead to boot!

ANCE EVER ON VHF, UHF, FM/ STEREO FROM ONE ANTENNA USING ONE DOWN-LEAD!

- Cap-electronic dipole design makes more elements resonate on channels 7 to 13 with a corresponding increase in gain.
- Higher mode operation in UHF band achieves higher gain on chan-nels 14 to 83—and FM stereo.
- Narrower beamwidths . . . higher front-to-back ratios step up ghost rejection . . . intensify color.
- Patented frequency independent design maintains peak perform-

ance characteristics regardless of channel or band tuned.

Includes 3-way splitter so single down-lead can be tied into individual VHF, UHF and FM system inputs.

REMEMBER - AN 82-CHANNEL TV SET IS NOT AN 82-CHANNEL TV RECEIVER UNLESS IT HAS AN 82-CHANNEL TV ANTENNA!

*Lest we forget-every color set is also an 82-channel set requiring a color-perfect antenna. In fact, many color TV shows are broadcast on UHF channels.



JFD ELECTRONICS CORPORATION 15th Ave. at 62nd Street, Brooklyn, N.Y. 11219 JFD Electronics-Southern Inc. Oxford, North Carolina JFD International



News-Gazette Photo by Ian Ingalls Dr. Paul E. Mayes inspects and checks out one of log-periodic family. * * * * Ul's Mayes, Team Develop Better TV Antennas

By HANK HOKAMP

UNITED STATES DISTRICT COURT

NORTHERN DISTRICT OF ILLINOIS

BEFORE JUDGE HOFFMAN

DOROTHY L. BRACKENBURY

OFFICIAL COURT REPORTER

DEFENDANT EX. NO.

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News-Gazette Staff Writer Remember how you used to shake and pound your radios, rying to "get the darn things' playing again? That was then . but how about now?

Yes, you've found a new culprit to cuss and perhaps shake . . and to top things off, it's usually the most popular piece of furniture in the house he television set.

Thanks to the efforts of such men as Dr. Paul E. Mayes, professor of electrical engineer ing at the University of Illi nois, and his associates, this situation may well become a rarity instead of commonplace

"For many years no attempt was made to achieve a constant pattern regarding the de velopment of VHF, UHF, VHF

UHF, and FM antennas," Dr. Mayes said. "Today there exisits a need for antennas which will sociates the largest log-periodic cover a number of isolated freantenna in this family is the quency bands rather than cover-JFD Log-Periodic LPV antenna, ing continuously the entire spec-This antenna can conquer the trum between the lowest and super fringe area up to 175 highest frequencies of interest." miles from a transmitter. It's he said considered to be the best for

Dr. Mayes and his colleagues color and black and white rehave done just this .. developed ception regarding the capabilit-

In number of TV antennas which lies of the "family. are presently being sold to the The smallest LPV antenna consumer public by electronic reaches out to 50 miles from the transmitter. This is all one needs parts companies throughout the nation. to attain local reception. Another series of anten-

nas, this time a family of four designed for FM Stereo radios, were released for production July 1. These antennas were developed by Mayes and Ron Grant, chief engineer at the JFD Anten. na Laboratories located at 714 So. Randolph, C.

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The second antenna in this family is the LPV-U, or the first UHF antenna design based upon the patented LPV formula the laboratories at the UI. his antenna is used for high band performance on channels 14 to 83. Four models are now vailable and range up to 80 miles regarding reception.

No commercial antenna has The JFD Electronics Corpor-had uniform high gain over the ation, Brooklyn, N.Y., manu-complete VHF television band. factures these antennas and is The log-periodic V, the third licensed by the UI Foundation, antenna available in this series, JFD extends exclusive rights takes care of this unique situato the UI Foundation for its tion. Out of various experiments patented log - periodic - antenna led by Prof. V. H. Rumsey and concept. Prof. J. D. Dyson, both mem-Regarding the TV antennas bers of the electrical engance. developed by Mayes and his as-log spiral antenna became avail-

> What is called the strongest antenna developed for UHF is the Zig-A-Log antenna, a new concept for lecal or long distance reception on channel 14 to

This Zig-A-Log antenna is said to offer much less wind resistance, much less ice and snow loading area, and better directive gain.

Log-periodic or logarithmic antennas make-up a family that have a unique fundamental design. These designs have been developed by Mayes and his associates since 1954 at the UI and include the presence of three-fold purpose.

These antennas have been and are presently being used for satellite tracking at missile range locations at points along the Atlantic and Pacific Oceans as well as at Cape Kennedy.

Secondly, the log-periodic an tennas are used by communica tion networks of the Armed Forces. These new type designs can be made to cover any range of frequencies.

The third use of the antennas are found in commercial circles mentioned before. The TV logperiodic antennas have been developed since 1954 with the four FM Stereo antennas to be placed on the market in the near future.

Where dccs this antenna re search take place? Largely at the JFD Laboratories where 12 undergraduate, graduate and post-graduate students are engaged in this basic research in log-periodic type antennas for television, FM, amateur and military application.

The new JFD Antenna Laboratory is located in the Interstate Research. Park northwest of Champaign with the construction sche-duled to be completed by Sept. 1. Operations at the new laboratory will not be-gin until Oct. 1. The facilities will be used for the development of new antenna designs for all-channel VHF and UHF reception.

According to a survey paper recently published by Profs. E. Jordan, G. A. Deschamps, J. D. Dyson and Mayes, it was noted that some of the earliest broadband antennas were long wire types designed to operate in the high frequency or shortwave band or perhaps in the low frequency band. Among these antennas the well - known rhombic or equilateral parallelogrammed shaped antenna has held a high place since the days of radio. The log-periodic antenna is a revolutionary de velopment in design.

Other information gathered during the survey was presented for the express purpose of providing the nonspecialist with a basic understanding of the remarkable advances which have taken place over the past decade in the field of broadband anten-

Since the law now requires all TV sets to come from the actory with a UHF "hook-up", perhaps this need for antennas o cover a number of isolated requency bands could open nore interesting doors to interested parties such as Dr. Mayes and his associates.







NEW VRF ANTENNA

Prof. Paul E. Mayes left and Robert L. Carroll of the U. testing purposes of the roof of of I. Antenna Laboratory instal the Electrical Engineering Re-

search Laboratory. Its ribs are swept forward in a new design a model television antenna for

U. of I. Develops Powerful All-ChannelVHF Antenna

By Lynn Ludlow

Engineering research at the University of Illinois has developed a powerful V-shaped televis autonna that will receive all VHF channels equally well. This gives it a marked advan-

lage over other antennas used for - distance reception. Most are designed to receive one channel botter than others.

Negotiations are under way with manufacturers, although marketing problems may keep the new antenna from appearing soon in your neighborhood store.

Prof. Paul E. Mayes and Rob-ert L. Carroll, a graduate student, are co-inventors. Patents will be held by the U. of I. Foundation. Like the spiral antenna on Transit 1-B, an earth satellite still orbiting, the television antenna is a hyproduct of the U. of I. Antenna aboratory. The laboratory, part of the department of electrical engineering, has been concentraling in recent years on "frequency independent" "antennas for high speed aircraft.

Another autenna invented at the laboratory will be used to receive FOR RADIO TELESCOPE radio emissions from distant stars. at the University's radio-telescope Ter., holds a model spiral annear Danville.

Antenna Described

The same will prove the convertional holder - shaped an- off be reflected from the sides of Mr. Sterver, was found dead terms and there a combined MIF-UHF model that will transmit them to a nearby interview. So the energy interview and found the particularly useful in horacory. The big networks will be particularly useful in horacory. The big networks will be mounted on a form and the few will be mounted on a done areas served by bolic types justed. Those who operate the horacory and but to 11 and the reader of the sites. The useful of the torough to 'the antenna's which will be mounted on a done areas served by bolic types justed. Those who operate the horacory is a form the antenna, will probe the sites and Pools. The BHF model is now mount- graduate students will make the adjustments each day. The big difference, however, is residence, 1902 Broadmoor Dr. He is been the antenna, will probe in Danville, Decatur, Springfied is and Pools, but he expects to be in Danville, Decatur, Springfied is and programs to be been and ecording to precise in Airborne Television in another for UHF. The latter is struction gets under way. The 'resonant - V'' antenna' is struction gets under way. The 'resonant - V'' antenna' is a struction gets under way. The 'resonant - V'' antenna' is struction gets under way. The 'resonant - V'' antenna' is struction gets under way. The 'resonant - V'' antenna' is struction gets under way. The 'resonant - V'' antenna' is struction gets under way. The 'resonant - V'' antenna' is struction gets under way. The 'resonant - V'' antenna' is struction gets under way. The 'resonant - V'' antenna' is struction gets under way. The 'resonant - V'' antenna' is struction gets under way. The 'resonant - V'' antenna' is struction gets under way. The 'resonant - V'' antenna' is a struction gets under way. The 'resonant - V'' antenna' is struction gets under way. The 'resonant - V'' antenna' is the line struction gets under way. The 'resonant - V'' antenna' is a struction gets under way. The 'resonant - V'''

Lyle Hawkey, 1765 Parkside

years ago by Prof. V. H. Rumsey, ect of chorting and cataloging all now of the University of Califor-radio sources from the stars, inis, has been adapted in a num-ber of wave, most of these alaunt visual telescover Distress Plan ber of ways, most of them classi-

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Ten Republican members of the fred. Illinois House and Senate will Prof. John D. Dyson, also of the meet next week to draft a coun-laboratory, invented the spiral an-terproposal to the Democratic plan temposal to the Democratic plan temposal to the tradio

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 Dean Jack W. Peltason of the Wisconsin Area.
 Miss Ruh-Hele Zurlison will be on a traffic accident oct.</td half-time bass. Prof. Cropp will. Floral and table appointments when the car collided with spend the rest of his time with for the reception have been creation of the spender on U.S. Highway 126, teaching and research activities in cd by Mrs. Charles Colell, Mrs. A.

that is plarned to receive VHF channes equally well.

Spein die Test of ins terlie with the geology department.
Born in Wherling, W. Va., Cropp M.A. Harold Jackman, Mrs. Clyde received a bachelor's degree from Trus and Mrs. Water Johnson.
College of Woster, Wooster, Onio.
Wives of corporation members and master's and doctoral degrees will pour during the evening. They are Mrs. E. L. Simmons, Deca. Turn Mrs. Robert Kimboli, Wheat, 1854 and also has worked with the lon, Mrs. Clarence Nordling, Peris, Illinois State Geological Survey Mrs. Johnson Verset Colwell and Mrs.
Prof. Cropp is a member of Phil Mrs. Robert I, Dickey is general societies, Society of Economic.
Dr. Burt is retiring the yeart

America. So how of Economic Dr. Surt is retring this year Paleontologist and Mineralogists, after one of the longest ministries American As weighted of Petrol. at one church known in Metho-bum Geologist. American Astociation of Petrol-oum Geologita, American Asso dism. His retirement will become citation for the Advancement of effective in June or later, depend-Science, Association of Geology ind of the naming of a successor. Teachers and illuois State Academy of Science

SERVICES SATURDAY FOR FLOYD STEVENS Rantoni (Special)

Funeral services for Floyd Ste-Hawkey, a technician with the vens, 59, will be held at 2 radio astronomy project for two Saturday in Gark Funeral Home, years, has been helping Prof. Rantoul. Buri, will be in Maple-John D. Dyson with tosting. wood Cometey, The Rev. W. Har

tenna of the type to be installed at the U. of L radio telescope. In some ways the new televi-conventional hadder - shaped an will be trought of the attention, which we ways the reverting the term conventional hadder - shaped an will be trought of the attention which will function ventional Yagi antenna after a semilying vention of the trought of the attention is which we ways the in the state of the stat

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UNITED STATES DISTRICT COURT NORTHERN DISTRICT OF ILLINOIS COUNTER JUDGE HOFFMAN

DEFENDANT EX. NO. JED-12

Friday, May 12, 1981-Delivered on R.F.D. Touces May 12 DOROTHY L BRACKENBURY OFFICIAL COURT REPORTER Robert Douglas of Franklin To Study in Florida

Academy Names Leonard Eight at U.I. in Arts and Sciences Group.

Bobert S. Douglas, mathematics tencher at Franklin Junior High. Prof. Nelson J. Leonard of the Prosser. physiology department School, has been awarded a grant University of Illinois was namedihend: Prof. Mandre & Leich-to attend the Sammer Institute for Thursday as a fellow in the Amerimathematiciant. Prof. Regen-tligh School Teachers of Science Jean Academy of Arts and Sci-Jtabinowitch, physicist and has and Mathematics at the University. and Mathematics at the Univer- ences.

corporation memory at a receptor a reaction science remnariant tion at 8 p.m. Staday in Wesley grant. "Poundation. the Academy.

Commutity residents are invited group of more than 600 applicants. All areas of science are repre-whom Prof. Leonard first came a stead the reception. Resident for the Institute. Poundation to attend the reception. Resident

church members and the Wesley Foundation student council will act Reckless Homicide : at hosts and hostesses.

aception

Dr. Burt's sister. Miss Viola Mittan Placed house guest of the Surts for the

weekend, coming especially for On Piobation the reception. Mrs. Barbara Burt, C En & C A Concernent C Englis, C Arnason, the Burt's only daughter. Hives in Monterey, Collf., a a d with be unable to attend, but many alumai are expected to attend eith-ter the reception or the church ser-vices earlier in the day. The subers are Prof. John Bar-tion for two years. Mittan had pleaded guilty to Carl S. Marvel, chemist; Prof. Mittan had pleaded guilty to Carl S. Marvel, chemist; Prof.

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Pagene Pagene sad bas ences. Initiate of the department of her Atomic Scientists, and Atomic Scientists, and American at her Atomic Scientists, and The Rev. and Mar. Paul Burt, sliv of Florida. The Rev. and Mar. Paul Burt, sliv of Florida. The Rev. and Mrs. Paul Burt, sliv of Florida. A member of the department of letin of the Atomic Scientisty: and will be honored for their 33-year. The Institute will be held June chemistry and chemical engineer-Prof. Roger Adams, former pro-ministry by Wesley church and 19 through Aug. 11. It is supported ing since 1942, Prof. Leonard Islicent of American Association for corporation members at a recep, by a National Science Frandation one of 100 new fellows elected to Advancement of Science, interna-tional to the state of the state tionaliy known chemist

sented in the Academy, which was here as a post - doctoral student, founded during the American IS YOUR AUTOMATIC revolution under the lendership IS YOUR AUTOMATIC of John Adams, second president WASHER CR WRINGER

of the United States, "ibuce men from the state of Illinois were cleeted. The others are Charles P. Miller and Henry, Taube, both of the University of

Chicago,





WASHER AILING?

Manufee B. Deids.

under

25 state's congrest telescope. A model has been con sional districts. The Democratic proposal, intro-duced into the Illinois House These day, calls for extreme revemp-ing of the 21st and 22nd Contract To serve you better on your Mother's Day outing. of the 21st and 22nd Congress antennas will be installed along RADIO CAB sinal Districts. State Rep. Edwin E. Dale (R-Champaign), one of the 10 Re-publicans who will deaft their publicans who will deaft their naty's proposal and also a mem-FOR FAST SERVICE CALL: FL 2-3232 FL 2-4263 Take denly of the House Committee on elections and reapportionment, said Thursday there was "no doubt" but that the Democratic a rule the secre: sion (plan was a gerrymander. The committee on elections and reapportionment will have to act turns 118 W. Water St. - Downtown Urb (Between Broadway and Race) Downtown Urbana Feel (on any proposed redistricting plan. to Rep. Dale, the com--Bui mittee should meet soon to con Urbana's Finest Cocktail Lounge sider some of the proposals which , featuring . . . have been made. ITALIAN FOODS - Pizza, Sphaghetti, Lasagna 100 MUSIC NIGHTLY Magic Show at Library SPECIAL AGED STEAKS - a gournet's delight Tony Parks, a 5th grader at Mary Gamble at the organ SEE Y. Webber Schol will present a magplays the music you want DELICIOUS SEAFOODS and lobster tails ic show during the children's pro-gram at 2:59 a.m. Saturday in Urχοι to hear! WE DELIVER - DIAL 7-8366 - OPEN DAILY AT 4 P.M. - NOON SAT. haua Free Library, Mrs. Bernleet l'iske, children's librarian, will tell stories.

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