Use It As A High-Gain Multi-Set Home Amplifying System...

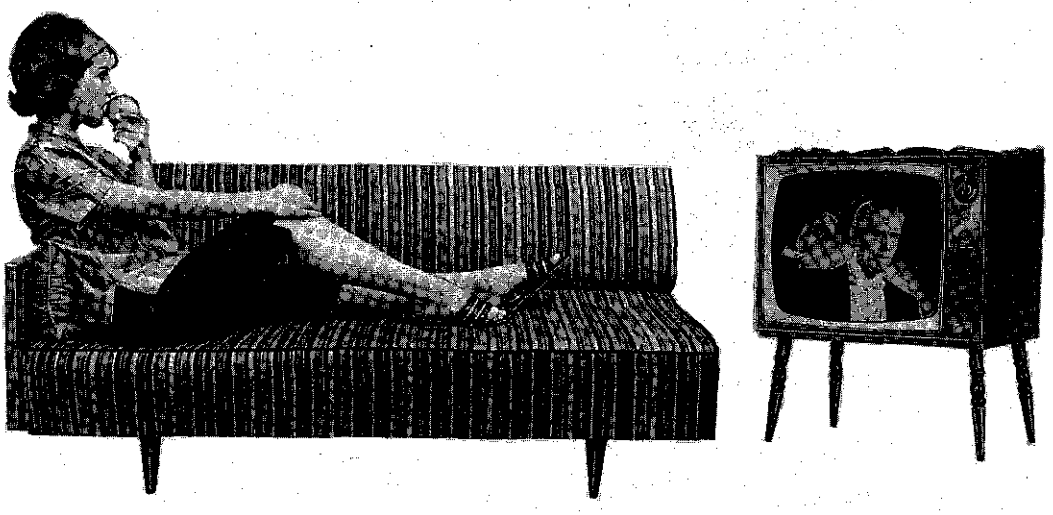
Use It As A Powerful High-Gain Single-Set Amplifying System...

For brilliant pictures on all channels—black & white or color !

JFD electronic transis-tenna

REGISTERED TRADE MARK

the transistor TV and FM antenna-amplifier-distribution system for the home.



SUBURBAN TV OWNERS—One Transis-tenna installation makes possible multi-set operation for any suburbanite. No extra antennas, couplers, or distribution systems are ever required. The first Transis-tenna cost is the *last* cost.

RURAL TV OWNERS—Enables fringe TV viewers to buy that second or third set without additional expense—and pull in clean, clear pictures as distant as 150 miles. The Transis-tenna provides fringe and near-fringe TV viewers with peak antenna sensitivity and efficiency that minimizes snow, ghosts and interference. Reduces need for high towers.

LOCAL TV OWNERS—The Transis-tenna guarantees finest ghost-free pictures in sight—color and black and white . . . offers the enjoyment of one or as many as 4 TV or FM sets anywhere in the house, one or all at a time. It's the "made-to-order" antenna for replacement or new installation.

COMMUNITY TV SUBSCRIBERS—The Transis-tenna gives community TV viewers city-quality reception . . . gets rid of the fixed expense of monthly or yearly rental charges . . . offers rent-free amplified antenna system that can power up to 4 different sets in 4 different parts of the home. With up to **282%** more signal voltage on all sets.

A-28

HAVE YOU HEARD ABOUT THE NEW

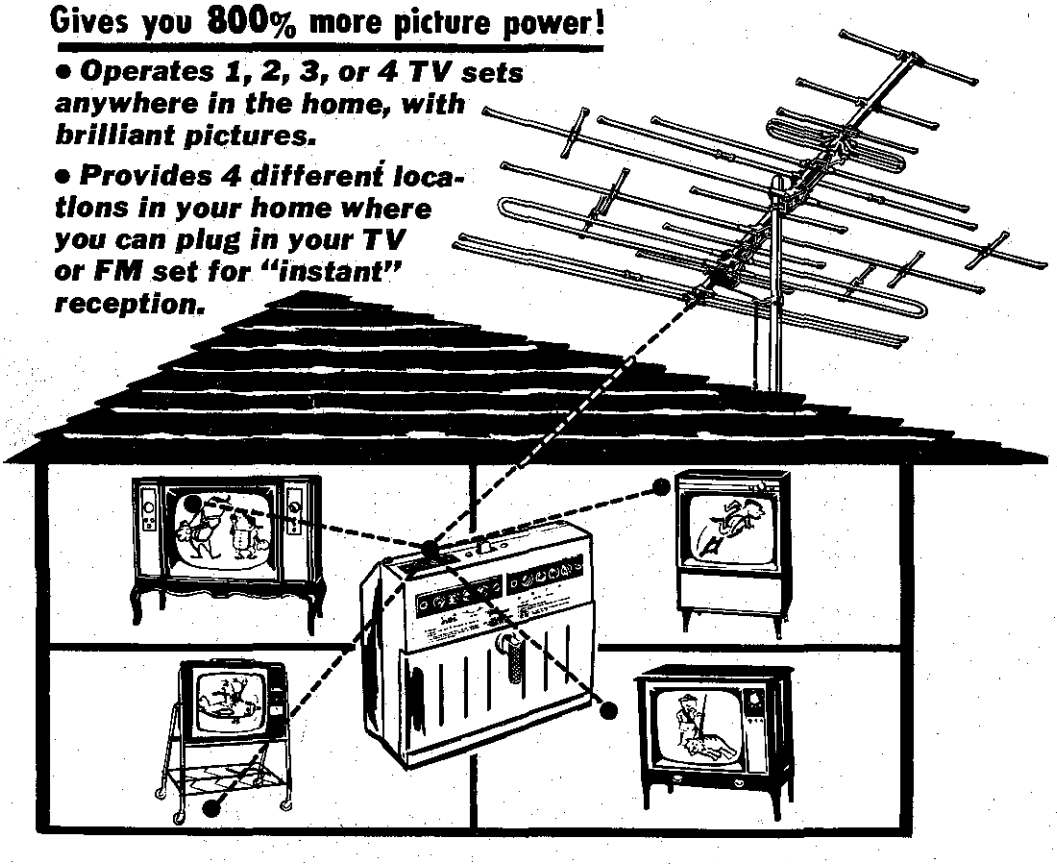
JFD *ELECTRONIC* transis-tenna?

REGISTERED TRADE MARK

the transistor TV and FM antenna-amplifier-distribution system for the home!

Gives you 800% more picture power!

- ***Operates 1, 2, 3, or 4 TV sets anywhere in the home, with brilliant pictures.***
- ***Provides 4 different locations in your home where you can plug in your TV or FM set for "instant" reception.***



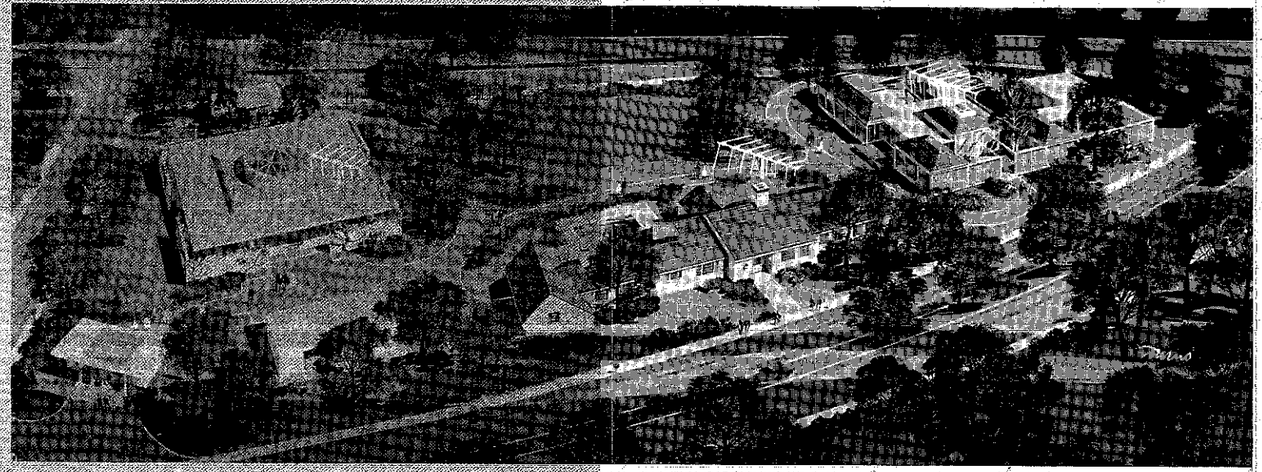
Now for the first time, the missile-proved transistor with all its amazing sensitivity, efficiency and reliability, has been built into the heart of today's most powerful television antenna—the JFD Transis-tenna.

Why not treat yourself and your family to sparkling pictures alive with crisp detail and rich contrast—*anytime, anywhere* in your home?

See your JFD service-dealer today for *your* JFD Transis-tenna—your *personal* community antenna system!

Form No. 261 Litho in U.S.A. 6-61

See the JFD LPV® Exhibit AT THE 1964-1965 NEW YORK WORLD'S FAIR



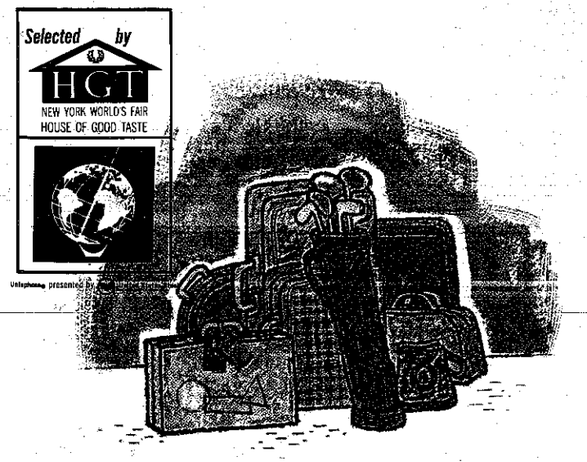
The New York World's Fair House of Good Taste Exhibit will showcase today's and tomorrow's finest advances in home living.

The Board of Directors of the House of Good Taste selected the JFD Log-Periodic LPV as the only television antenna to be installed on each of the three homes in its exhibit.

Fifty Million Fair-goers will see the JFD Log-Periodic LPV. Millions more, everywhere in America, will see, hear and read about the House of Good Taste and its choice of the JFD Log-Periodic LPV.

This powerful new marketing force will be at work building record JFD Log-Periodic sales and profits for you during 1964 and 1965. Another JFD first that means **more** customers — **more** profits for Log-Periodic LPV users!

USE THEM FOR YOURSELF AND YOUR FAMILY... USE THEM AS INCENTIVES TO YOUR CUSTOMERS TO PROMOTE MORE JFD LPV ANTENNA SALES...



Copyright JFD Electronics Corp. 1964

HOW TO GET YOUR JFD WORLD'S FAIR POINTS:

JFD DEALER POINT VALUES FOR LOG-PERIODIC ANTENNAS:

LPV17	60	LPV-U15	20
LPV14	50	LPV6, LPV6PM	15
LPV11	35	LPV4, LPV4PM	10
LPV-U21	30	LPV-U9	10
LPV8, LPV8PM	25	LPV-U5	5

When you purchase any of the above LPV's, your JFD distributor will give you World's Fair point certificates according to the above schedule, which are redeemable in:

Every JFD VHF or UHF Log-Periodic LPV you buy between March 1, 1964 and August 31, 1965 earns you valuable JFD Fair Festival Certificates (see schedule) which you can:

1. Trade in for **FREE** World's Fair Adult Admission Tickets **(worth 150 points)** or...
2. Trade in for **FREE** 3-day, 2-night Fair Week-ender holiday **(worth 3,000 points)** or...
3. Redeem for **$1.25 cash** for each **150 points,** from JFD.

Each Adult Admission Ticket is exchangeable at the Fair for two (2) Children's Tickets.

Here is how you can use World's Fair tickets to promote your LPV sales and installations:

1. Tickets lend themselves as possible premiums with JFD antennas sold to consumers.
   - A. The ticket might be packaged with a JFD LPV special.
   - B. Ticket could be offered free with new JFD LPV installations.
   - C. Tickets may be redeemed by prospective JFD antenna buyer mailing in necessary number of coupons.
   - D. Tickets could be redeemed through use of an LPV space advertising coupon brought to the dealers at the point of sale.
2. Tickets can be used in a consumer contest. For example, come to a dealer, sign an entry blank, get a free JFD LPV demonstration, and tickets might be given away to winners in weekly drawing. The grand prize might be an all-expense paid trip to the New York World's Fair.
3. Tickets can also be used as awards in LPV sales contests among dealer's salesmen; and tickets might be tied in with dealer incentive trips to the Fair.

IT'S THE PROFIT/ENTERTAINMENT OPPORTUNITY OF THE YEAR! SEE YOUR JFD LPV DISTRIBUTOR AND GET STARTED TODAY!

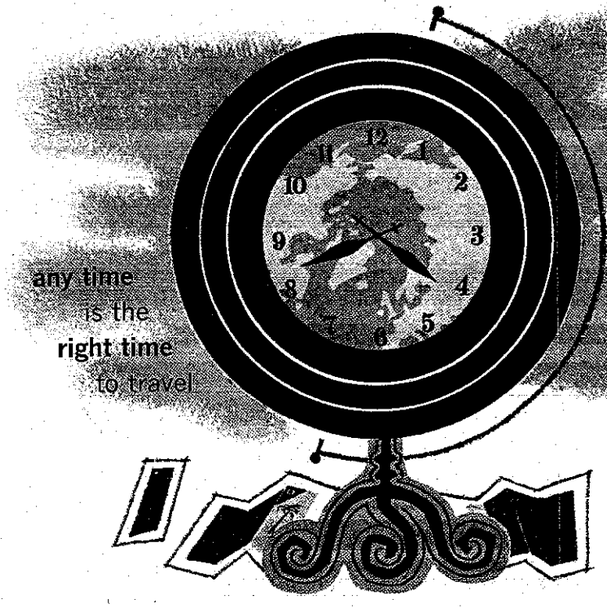
Form No. 689 litho in U. S. A. 1-64 PRINTED IN U.S.A.

A-53

AMERICAN EXPRESS SERVICE

JFD 1964-1965 NEW YORK WORLD'S FAIR FESTIVAL





Be Our Guest at the most Exciting Extravaganza of the Year

The fabulous 1964-1965 New York World's Fair
April 22 to October 18, 1964 and
April 21 to October 17, 1965

ABSOLUTELY FREE!

YOU WIN ALL WAYS WHEN YOU INSTALL THE

JFD LPV®

LOG-PERIODIC

- **MORE antenna sales and profits!**
- **FREE tickets to the New York World's Fair!**
- **FREE Week-end Fair Holidays in New York City!**

Here's a terrific opportunity to get tickets to the fabulous World's Fair for yourself and your family—at **no** cost.

HERE IS HOW!

Every JFD VHF or UHF Log-Periodic LPV you buy between March 1, 1964 and August 31, 1965 earns you **free** World's Fair tickets. See the schedule on the back of this folder and get started today.

And, the time for that trip you've been dreaming about is *now*... Just contact us and we'll help make your dream come true.

Your trip will be carefree and unforgettable because *all* your arrangements are in the capable hands of American Express' staff of friendly, efficient travel experts. American Express has had over a century of experience and maintains offices worldwide for your traveling convenience.

So, "bon voyage!" And, remember that American Express, *the complete travel service*, can handle your every travel need whenever, wherever you go.

Over 45 different nations and most of the 50 states will be represented. The 1964-1965 World's Fair will be housed in over 200 different buildings on 646 acres!

You'll see the first public demonstration of nuclear fission . . . a moon exploration team at work in a moon crater . . . water shows, auto thrills, ice shows, musical extravaganzas, a replica of the "Santa Maria," continental circus, space capsule, Wild West, and the most spectacular fountain and pyrotechnic display ever created.

Opening day is April 22, 1964, and the Fair will be open every day from April to October during 1964 and 1965.

Plan now to come to the billion-dollar New York World's Fair.

ENJOY THE GREATEST SHOW EVER ASSEMBLED!



USE THEM FOR YOURSELF AND YOUR FAMILY...USE THEM AS INCENTIVES TO YOUR CUSTOMERS TO PROMOTE MORE JFD LPV ANTENNA SALES!

AND TO HELP YOU SELL MORE LPV ANTENNAS, JFD OFFERS YOU A SENSATIONAL WORLD'S FAIR TIE-IN PROMOTION PROGRAM...



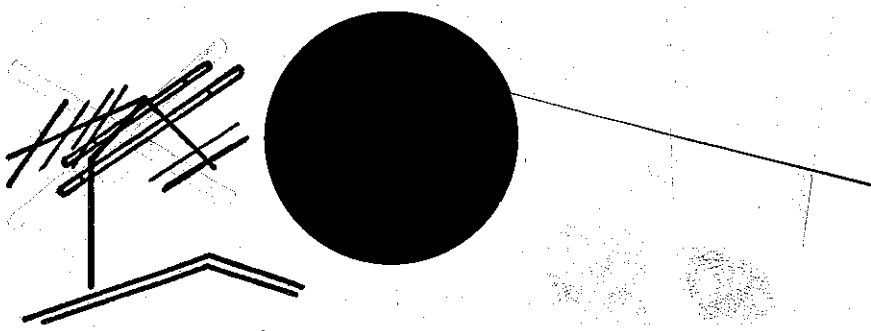
. . . a stunning array of full-color official World's Fair displays, banners, streamers, brochures, folders, cards, newspaper mats, and dozens of additional advertising aids will power **your** own local sales campaign — earn you more profits and points toward your family's FREE FAIR HOLIDAY!



CALL YOUR JFD LPV DISTRIBUTOR AND SIGN UP NOW!

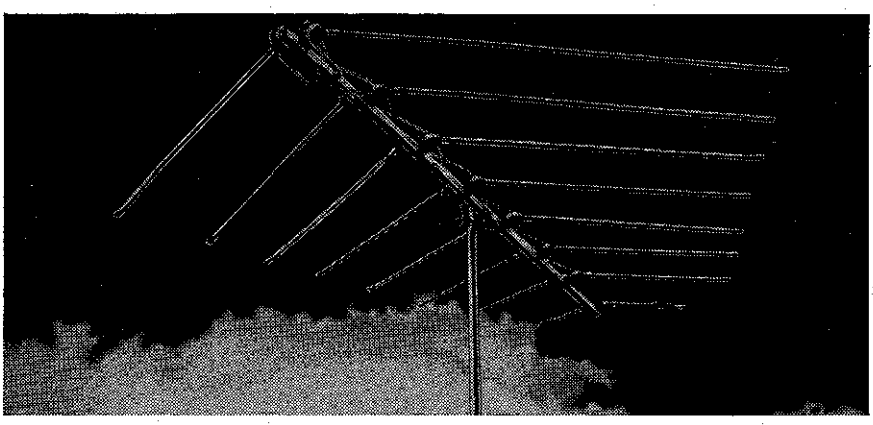
Form No. 682

Copyright JFD Electronics Corp. 1964



Replace your old antenna ... with the new Space-Age patented

JFD LPV® LOG-PERIODIC TV/FM ANTENNA



See the beautiful difference in your COLOR and black and white reception!

The JFD LPV is designed according to the patented log-periodic geometric formula $(\frac{L_{(n+1)}}{L_n} = \tau)$ of the famous Antenna Research Laboratories of the University of Illinois.
It works like a space satellite antenna to bring you vividly sharp and bright TV pictures—free from ghosts—even if you live far from the station. And the same JFD log-periodic LPV brings you fine FM stereo.

Permanently Gold Anodized finish keeps the LPV sparkling like new.

AT THE MOMENT OF TRUTH—THE PICTURE IS THE POINT!

THE JFD LOG PERIODIC LPV® WORKS BEST!

Please give me an estimate on a new JFD LPV installation without any obligation.

NAME .....

ADDRESS .....

PHONE .....

ADVERTISED IN LOOK / Sunset

Selected by

NEW YORK WORLD'S FAIR
HOUSE OF GOOD TASTE

Unisphere® presented by United States Steel

© 1967 New York World's Fair 1964-1965 Corporation

SEE THE REMARKABLE LOG-PERIODIC JFD LPV® TV/FM ANTENNA

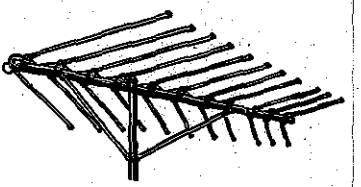
AT THE 1964-65 NEW YORK WORLD'S FAIR



The House of Good Taste Exhibit at the New York World's Fair will show the latest and finest advancement in home living. It selected the JFD Log-Periodic LPV as the only television antenna to be installed on each of its three model homes.

Proof again that the JFD Log-Periodic LPV is *the best antenna for you* for **COLOR**, black and white, and FM stereo.

LICENSED UNDER ONE OR MORE OF U.S. PATENTS 2,958,081; 2,985,879; 3,011,168; 3,108,280 AND ADDITIONAL PATENTS PENDING IN U. S. A. AND CANADA. PRODUCED BY JFD ELECTRONICS CORPORATION UNDER EXCLUSIVE LICENSE FROM THE UNIVERSITY OF ILLINOIS FOUNDATION.



Mail card below for free estimate of JFD LPV *Antenna for your location!*

STAMP HERE

YOUR AUTHORIZED LOG PERIODIC® JFD LPV DEALER

'67 Hifi Line Listed By Canadian Admiral

TORONTO. — Suggested list prices of the 1967 line of solid-state stereophonic high fidelity combinations, with FM/AM and FM stereo radio, being introduced by Canadian Admiral Corp., Ltd., range from $259.95 to $599.95. The latter is a grandfather clock model.

There are six models with widths varying from 48 to 72 inches. The grandfather clock is 23 inches wide.

IN ADDITION, there is the compact Penthouse model. Less than 40 inches wide, at $259.95, it includes the same solid-state radio chassis, solid-state amplifiers and record changer as the first three larger console models, with 40 watts peak music power output, FM/AM-FM stereo radio and Garrard 3000 record changer with diamond LP stylus. It has a walnut grained vinyl-covered wood cabinet, with rolling ball caster stand an optional extra. Speakers are two 6-inch woofers and two 3½-inch tweeters. The set is compact enough to set on a shelf or hang on a wall.

The Canberra, at $299.95, Chesterton at $399.95 and Grenfell at $419.95 have similar features in full-size cabinets from 48 to 57 inches wide. Two are contemporary styles with walnut veneer cabinets and hardwood solids. The Canberra has a walnut-grained cabinet. Record storage space is provided in all three models.

Three top-of-the-line models, the Roma ($499.95), Orleans (also at $499.95) and Westminster ($519.95) have veneer cabinets in Italian Provincial, French Provincial and contemporary styling respectively. The Garrard Model 50 record changer with four-pole motor and diamond LP stylus is used with these additional features: Record changer compartment light, six speakers, three-way speaker control, and longer cabinets 60 or 72 inches wide. The Westminster has sliding door panels that cover speaker grilles when not in use.

The new grandfather clock vertical stereo set has a Garrard 3000 record changer, 40-watt solid-state amplifier, solid-state FM/AM-FM stereo radio and six speakers. The cabinet is walnut veneer and includes an electric clock.

RADIO CONTROLS in all models include five rocker-type pushbuttons, plus loudness, balance, treble tone, bass tone and tuning controls with lighted FM/AM dial. An FM stereo indicator light is included.

Canadian Admiral's solid-state chassis are warranted for five

Emerson Division Dedicates Plant

ST. LOUIS. — The U. S. Electrical Motors Division of Emerson Electric Co. has formally dedicated a new 213,000-square-foot manufacturing plant in Mena, Ark. Located on a 53-acre site, the modern facility will be used for the production of 15-75 horsepower motors.

Douglas H. Blair, formerly plant superintendent of USEM's Anaheim, Calif., plant, has been named manager of the new Mena plant.

Operations are already established on a two-shift basis with skeleton crews on the third shift. Potential local employment generated by the new facility is esti- 500, office and

JFD Labs Shows Antenna Series

NEW YORK.—The JFD Antenna Research & Development Laboratories, Champaign, Ill., has introduced a new 82-channel TV/FM antenna series called the LPV Color Laser.

The new receiving device utilizes three antenna concepts currently used in space exploration including: The cap-electronic log periodic-V for VHF; a broad band zoned trapezoid driver for UHF; and a broad band disc-on-rod UHF director system. These features have been integrated into a single antenna that concentrates its power on the channel desired, providing higher gain plus broader bandwidth, better directivity, and improved impedance match for enriched color and higher definition black and white TV performance.

Only one antenna downlead is required as a VHF/UHF/FM signal splitter is included for mounting on the backs of the set.

The new JFD Color Laser antenna series includes eight models ranging in price from $17.50 to $69.95.

Francis Scores Via Three-Day 'Reopening' Sale

GROTON, Conn.—Francis Electronics, Inc., 565 Long Hill Road, in Groton, had a three-day gross volume of around $15,000, compared to a normal $6,000 for that time of the month, when it conducted its recent "grand reopening," according to Joseph J. Francis, the owner.

He adds that Francis Electronics now has 24 employes, as against 12 a year ago, and estimates that his business will gross about $1 million over-all for 1966. The enterprise is now housed in a 19,700-square-foot building, of which about 9,900 square feet constitute actual sales floor space, Mr. Francis reports. George Reeves is store manager.

Mr. Francis also states that $2,000 worth of merchandise — receiver

Wells-Gardner Net Off in Quarter, but Up for 9 Months

CHICAGO. — Net earnings more than doubled for the nine-month period for Wells-Gardner Electronics Corp. over the same period a year ago.

However, earnings for the third quarter were less than last year. For the three months ended Sept. 30, the firm's net earnings were $359,000 or 84 cents a share, compared with $387,000 or 90 cents a share for the same 1965 period.

Sales for the third quarter totaled $12,446,000 compared with $12,131,000 for the same quarter last year.

For the nine months ended Sept. 30, Wells-Gardner earnings amounted to $843,000 or $1.90 a share compared with $397,000 or 92 cents a share for the same period a year ago. Sales for the nine months totaled $29,882,000 compared with $20,226,000 a year ago.

The firm's backlog of unfilled orders totaled $34,272,000 as of Sept. 30, compared with $19,625,000 a year ago, indicating capacity operations during the last quarter and well into next year, according to Grant Gardner, president.

Reconditioned Phono at $19.99

LOS ANGELES. — The Akron over the weekend promoted a professional-type reconditioned record player with a separate speaker at $19.99.

Ad copy by the nine-unit promotional hard and soft goods retailer described the phonograph as one which "originally sold for $100." A drawing of the three-speed phone used the Newcomb label.

Robert Newcomb, president of Newcomb Audio Products Co., here, which markets phonographs to the educational market, said he did not make a sale to The Akron M Newcomb suggested t dise may hav distri

Motorola Price Suit Dismissed Again

CHICAGO.—The fair trade suit by Motorola-Chicago Co., distributor, against Delta Wholesale Distributors, 4140 South Archer Avenue, was dismissed for the second time in Circuit Court because of failure to respond at trial call.

The suit had been reinstated last year after it was dismissed for the same reason.

Delta had denied it advertised five models of Motorola TV sets at less than fair trade prices in violation of a fair trade agreement. It said the ad in a neighborhood newspaper stated the sets were damaged or in a deteriorated condition and that State law permits advertising of such products at less than stipulated prices.

Sues Dealer Over Zenith Fair Trade

NEW BRUNSWICK, N. J. — Apollo Distributing Co., Newark, has filed a suit in Middlesex County Superior Court, here, charging Goldberg's Appliance Co., Inc., 68 Market Street, Passaic, with selling a Zenith color TV set below the fair-trade price.

Apollo, the exclusive New Jersey distributor for Zenith TV sets, charges that the retailer sold a set for $625 when it was fair-traded at $655.

The suit seeks undetermined damages and an injunction.

Wilentz, Goldman & Spitzer, Perth Amboy, represents Apollo.

IT&T Subsidiary Opens in Zambia

LIVINGSTONE, Z coun

Consumer Selectivity Hits Into Color Business in L.A.

By TOM RYAN

LOS ANGELES. — Retailing a color television set these days in the country's number one color market just isn't what it used to be.

One of the big reasons is lack of specific models.

Commented one veteran merchant, M. D. Schuster, a vice-president of Wallichs Music City, five-unit home entertainment equipment dealer.

"A year ago this time, we could sell almost anything in color, but not now."

"Customers are walking off our floors with an 'I'll see you later' when we don't have exactly what they want. My salesmen have learned in a hurry that to close a color deal often requires some hard sell."

The seemingly hard-nosed refined tastes of the southern California consumer for a specific cabinet or remote unit with a color set and refusal to accept substitutions is but one of many dark clouds.

Color TV unit sales so far in 1966 have been disappointing, probably no more than 10 per cent ahead of this time last year, according to local estimates. Black-and-white TV sales are reported about 20 per cent off this year to date. Stereo consoles, particularly hard hit in the past two months, are running about even with this time last year.

Yet some dealers report they have been enjoying hefty gains in stereo console sales, enabling them to pick up lost color TV dollars.

Radio sales? They're about even with this time last year.

Some of the fuzziness evident in the local home entertainment equipment picture influence the not-too-solid state of sales include:

- Obvious shortages of key-model color sets, especially among smaller independent dealers. Some major chains report they have fat inventories of desirable color sets from calculated stockpiling.
- "Packaging," also known as a supplier tie-in deal. There is no evidence pointing to open bulldozing tactics of suppliers trying to unload unwanted merchandise with hard-to-get color sets, but there are isolated reports of dealers being "favored" with some needed color after placing orders for radios or stereophonic consoles.
- Pricing. Color tickets are higher than a year ago, and the consumer generally knows it. Some merchants complain advertising leaders of $299 for 19-inch color sets by some promoters is serving to further confuse the public.
- The economy. The southern California home goods market has been in a state of semi-recession for nearly two years. Inflationary trends this year have halted some big-ticket buying by consumers who find their budgets simply won't permit "luxury" spending.
- The tight money market, accompanying inflation. "A year [illegible] were walking into my [illegible] in their pock[illegible] happen-

MR. HACKER, operator of a store in suburban Sherman Oaks, reiterated his complaint of a year ago that the Los Angeles market, which pioneered color sales nationally, is "not getting its fair share" of color sets from manufacturers.

He said he has only 150 color sets in inventory, compared with about 1,000 units this time last year.

Hacker color sales this year are off about 50 per cent, he said.

Color shortages in the local market are more acute than a year ago this time, he asserted.

In an effort to compensate for his lost color TV sales, Mr. Hacker is promoting and selling home pool tables starting at $695.

Mr. Schuster at Wallichs said his color TV and stereo console sales through October were about even with the like 10 months of 1965. Radio sales are off, and black-and-white TV is "terrible."

He projected Wallichs' brown goods sales for calendar 1966 will run about 10 per cent over 1965.

A source close to the May Co. reported that the 15-unit department store is enjoying healthy sales increases in color, stereo and monochrome TV.

May Co., it was reported, has "a big supply of color" as a result of stockpiling efforts.

A spokesman for the seven Zodys discount department stores reported the chain has been unabl to build any significant inventory of color.

"Key models are very hard to get, and deliveries of 25-inch color sets are spotty," the Zody's spokesman noted. Through October, radio sales were reported about 15 per cent up, and stereo volume about even, compared with the first 11 months of last

Eastman Kodak Shows Three New [illegible]cessory Items

[illegible] Three

Zenith Sales, Profits Best for 3, 9 Months

CHICAGO. — Zenith Radio Corp. made new records in the third quarter and nine months ended Sept. 30.

Third quarter net profits were 14.8 per cent higher than comparable 1965 on a sales gain of 27.6 per cent.

Nine-month net income was a hefty 49.8 per cent above the like 1965 period. Sales in the three quarters rose 44.1 per cent from last year.

This marked the sixth successive year that third quarter and nine-month earnings and sales have set new records, and was the 115h consecutive quarter in which both earnings and sales increased over the corresponding quarter of the previous year.

Third quarter net profits were $7,480,000, equal to 40 cents per share, compared with $6,514,000, or 35 cents.

Sales in the there months totaled $153,021,000 against $119,950,000.

NINE-MONTH NET earnings were $25,832,000, equal to $1.38 per share, compared with $17,242,000, or 92 cents.

Sales in the three quarters were $458,259,000 against $317,986,000.

Joseph S. Wright, president, noted that sales in September were the highest for any month in Zenith's history.

Zenith's profit margins in the third quarter and year-to-date had been (unfavorably) affected by unusually heavy expenses relating to the company's expansion programs, the cost of which have been charged to operations as incurred, Mr. Wright stated.

Virtually every consumer home entertainment product made by Zenith set unit sales records in the levels in the first nine months, despite a reduction in over-all industry unit sales, Mr. Wright said.

Over two million Zenith television receivers have been produced and shipped in less than ten months in 1966, seven weeks earlier than in 1965, as reported. This is the eighth consecutive year that Zenith claimed it has led the industry in both black-and-white and total television set sales.

MR. WRIGHT STATED that the company's major plant expansion programs are proceeding on a satisfactory basis. The work force at the new 700,000-square-foot color picture tube plant in Melrose Park, Ill., was substantially increased during the third quarter.

The Melrose Park facility will have an annual capacity of one million color television tubes and should be producing at this rate early next year. This will give Zenith an annual color tube production capacity of two million units. The plant has been designed and constructed to permit an expansion of production should additional capacity be required.

Production started during September in the new 220,000-square-foot Sioux City, Ia., plant of Zenith's subsidiary, the Wincharger Corp. The new facility permits Wincharger to manufacture FM/-AM radio receivers and a wide range of electronic components formerly produced in Chicago. The space released in Zenith's Chicago plants permits an expansion of color television manufacturing operations.

IN PORTABLE PHONOGRAPH and console stereophonic instruments, Zenith recorded substantial increases over 1965 to obtain [illegible] it clai[illegible]

FM STEREO AUTHORITIES AGREE...

NEW JFD FULL-WAVE L-DIPOLE LOG-PERIODIC ANTENNA PROVIDES BEST SEPARATED, DISTORTION-FREE FM/STEREO!

Electronic Distributing Magazine

Log-Periodic Design in F-m Antenna Greatly Improves Stereo Performance

Manufacturer:
JFD Electronics Corp.
15th Ave. at 62nd St.
Brooklyn, N. Y. 11219

Moderator:
Edward Finkel
Vice-President/Sales

Product:
LPL/F-M Log Periadic antennas far stereo reception

CONSUMER acceptance of JFD antennas with designs adapted from the log-periodic principles has led to the development of an entirely new line which provides flawless f-m stereo (multiplex) reception.

The need for outdoor antennas of superior design for f-m stereo reception stems from the higher signal voltage required for properly separated stereo signals. Unless such signals are delivered from the multiplex matrix within the stereo tuner, even the finest of hi-fi amplifiers will prove disappointing.

Another important advantage provided by the LPL-FM Stereo log-periodic antenna systems is the wide-band response characteristic. This provides unvarying gain across the f-m band, a particularly important consideration in stereo reception. This flat response is in sharp contrast to the performance of even the best yagis. Yagis, when used to cover the entire f-m broadcast band can show gain variations of more than 2:1.

Our tests indicate that the full-wavelength elements used in this new line provide twice the gain of the best 10-element f-m yagis. This new line provides twice the gain of the best 10-element f-m yagis. This can be further improved upon by stacking individual antennas into arrays.

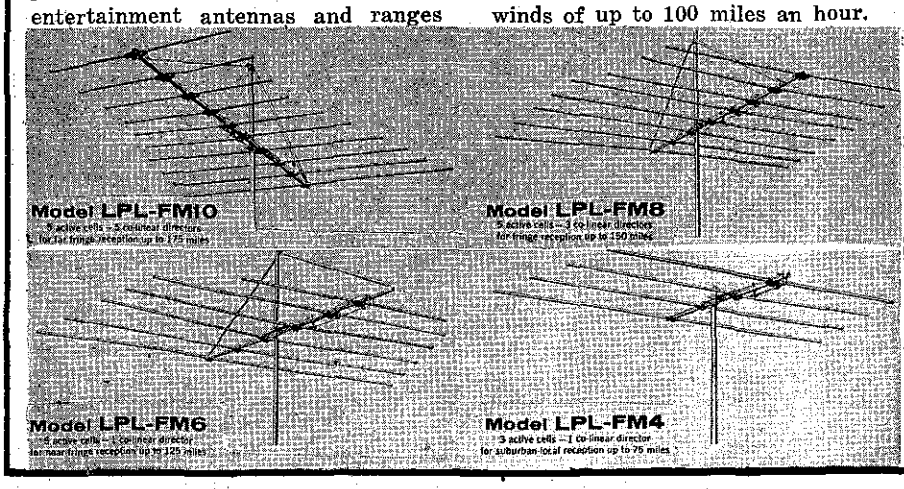
Directional selectivity of the LPL-FM Stereo series provides, too, a considerably narrower horizontal f-m beam. We believe it is the narrowest pattern achieved to date for home-entertainment antennas and ranges from 10 to 25 degrees less than the best available f-m yagis. The multiple-driven elements designed into the antenna also provides a back-fire radiation pattern which gives more than 30-decibel discrimination between stations transmitting from opposite directions. Such discrimination provides upward of 96 per cent rejection of same-channel and adjacent-channel stations located behind the antenna.

Each antenna in the line is designed to provide a characteristic impedance of 300-ohms between 88 to 108-megacycles, the limits of the f-m broadcast band. This means transfer losses between antenna and receiver are minimized.

Technical features which assure long life for the antennas are several. Stainless-steel take-off terminals are provided that will resist corrosion in any climatic environment. Gold-alodized aluminum tubing that meets military corrosion specifications are used for both the driven and parasitic elements in the antenna, giving further assurance of maintenance-free performance.

Inserts 12-inches long reinforce each element of the antennas to protect against ice and wind loading. High impact low-loss Implex A insulators are used, while the entire assembly mounts to the mast with two, rather than one, u-bolts. Both are heavy-duty types.

The narrow horizontal-beam pattern produced by the antennas make them ideal for use with a rotator so that the full gain capabilities of the log-periodic design can be exploited. For this reason, the boom supports, which are 1-inch in outside diameter, are mounted above the boom. This permits the rotator to be mounted immediately below the antenna itself to minimize sway and whipping. The support system employed provides rigidity against winds of up to 100 miles an hour.



A-30

The Reports are in...

on the new JFD LPL-FM

Full-Wave Log Periodic FM/STEREO Antenna

ELECTRONIC DISTRIBUTING MAGAZINE

THE LEADING DISTRIBUTOR MAGAZINE SINCE 1937

TELEPHONE (216) 248-4955

33140 AURORA ROAD • CLEVELAND, OHIO 44139

October 2, 1964

Mr. Edward Finkel
JFD Electronics Corporation
15th Ave. at 62nd St.
Brooklyn, N. Y. 11219

Ed -

field tests of your firm's new LPL/FM periodic antennas for f-m stereo reception, specifically Model LPL-FM10, show that their wideband response characteristic is an important feature of this line. This provides unvarying gain across the f-m band, a particularly important consideration in stereo reception. Our tests indicate that the full-wavelength elements used in this new line provide twice the gain of the best 10-element f-m yagis.

Directional selectivity of the LPL-F
considerably narrower horizontal f-m
designed into the antenna also provi
which gives more than 30-decibel dis
mitting from opposite directions.
of 96 per cent rejection of same-ch
located behind the antenna.

Each antenna in the line is design
of 300-ohms between 88 to 108-mega
band. This means transfer losses

Technical features which assure
Stainless-steel take-off termina
in any climatic environment. Go
military corrosion specification
elements in the antenna, giving
performance.

Inserts 12 inches long reinfor
against ice and wind loading.
are used, while the entire ass
than one, u-bolts.

The narrow horizontal-bea
ideal for use with a rotator
log-periodic design can be

Form No. 830 Litho in U. S. A. 10-64

AUDIO

MUSIC AND SOUND REPRODUCTION

RADIO MAGAZINES, INC.
P. O. BOX 629, MINEOLA, N. Y.
PIONEER 2-1950

Mr. Phil Bettan
JFD Electronics Corporation
15th Avenue at 62 Street
Brooklyn, New York 11219

October 5, 1964

Dear Phil:

I have recently had the opportunity of testing your LPL-FM10 Log Periodic antenna. I was most pleased to find that it
in your advertisements.
claimed

In fact, we found your claim of effective range to be rather conservative, since we were able to pick up stations up to 250 miles away without difficulty

point, I should like you to know that it appears at this
the most efficient and directive
we have encounte

JFD

DEALERS PRICE LIST

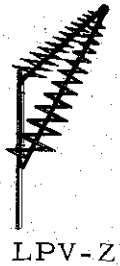
ZIG-A-LOG and LPV-U LOG-PERIODIC UHF ANTENNAS

Effective: April 1, 1964

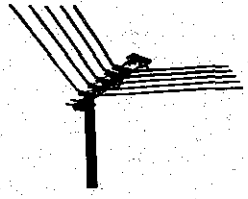
Catalog No.	Description	Pkg.	List Price	SUGGESTED DEALER PRICES 1-4	5-11	12 & Over
LPV-ZU10	1-Bay Zig-a-Log	1	17.95	10.77	9.69	8.98
LPV-ZU20	2-Bay Zig-a-Log	1	37.50	22.50	20.25	18.75
LPV-U5	UHF Log-Periodic (5 Active Cells)	2	6.95	4.17	3.75	3.48
LPV-U9	UHF Log-Periodic (9 Active Cells)	1	12.50	7.50	6.75	6.25
LPV-U15	UHF Log-Periodic (15 Active Cells)	1	18.95	11.37	10.23	9.48
LPV-U21	UHF Log-Periodic (21 Active Cells)	1	27.95	16.77	15.09	13.98

Formulated according to the patented geometrically derived logarithmic-periodic scale of the Antenna Research Laboratories of the University of Illinois, JFD UHF Log-Periodics give you a custom-antenna answer for any UHF reception problem. Six different models cover every location need...from the city to the fringes. Each is deluxe-constructed of Gold Bond Alodized aluminum in the same quality tradition of their famed VHF counterpart -- the original LPV. Each delivers the same excellent values of gain, directivity, VSWR and impedance which are characteristic of JFD Log-Periodic performance.

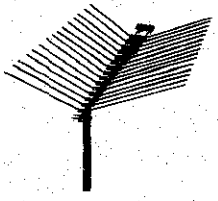
model LPV-ZU10



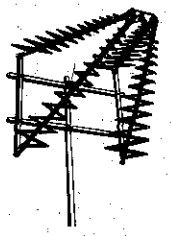
model LPV-U5



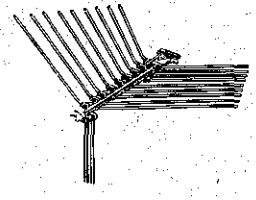
model LPV-U15



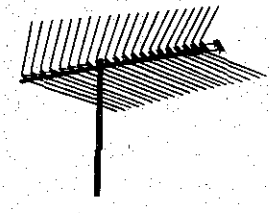
model LPV-ZU20



model LPV-U9



model LPV-U21

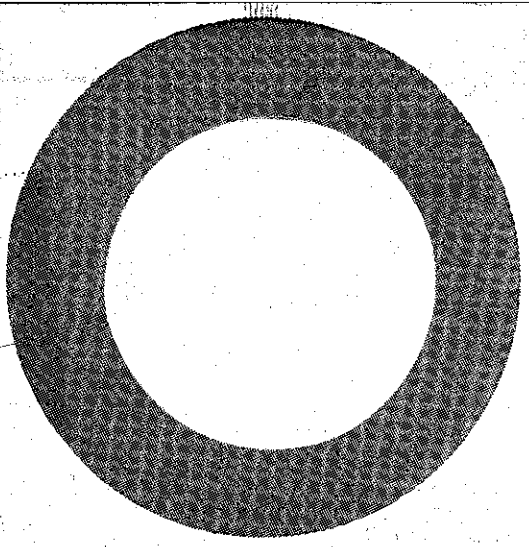


JFD ELECTRONICS CORPORATION
15th Avenue at 62nd Street, Brooklyn, N. Y. 11219

Litho in U.S.A.

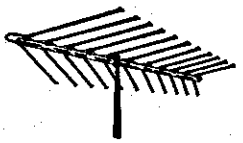
Form No. 738

A-50

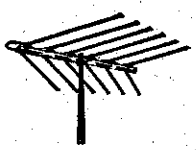




LOCAL: up to 50 miles
from transmitter
LPV-4: 4 active cells



FRINGE: up to 125
miles from transmitter
LPV-11: 9 active cells,
2 directors



SUBURBAN: up to 75
miles from transmitter
LPV-6: 6 active cells

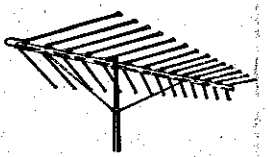
JFD

LOG—PERIODIC

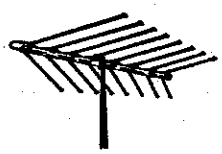
LPV $\frac{L(n+1)}{Ln}-\tau$

TV ANTENNA

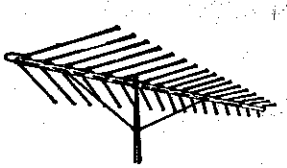
Of gold alodized aluminum



FAR FRINGE: up to 150
miles from transmitter
LPV-14: 13 active cells,
1 director



SUPER-SUBURBAN: up to
100 miles from transmitter
LPV-8: 7 active cells
1 director



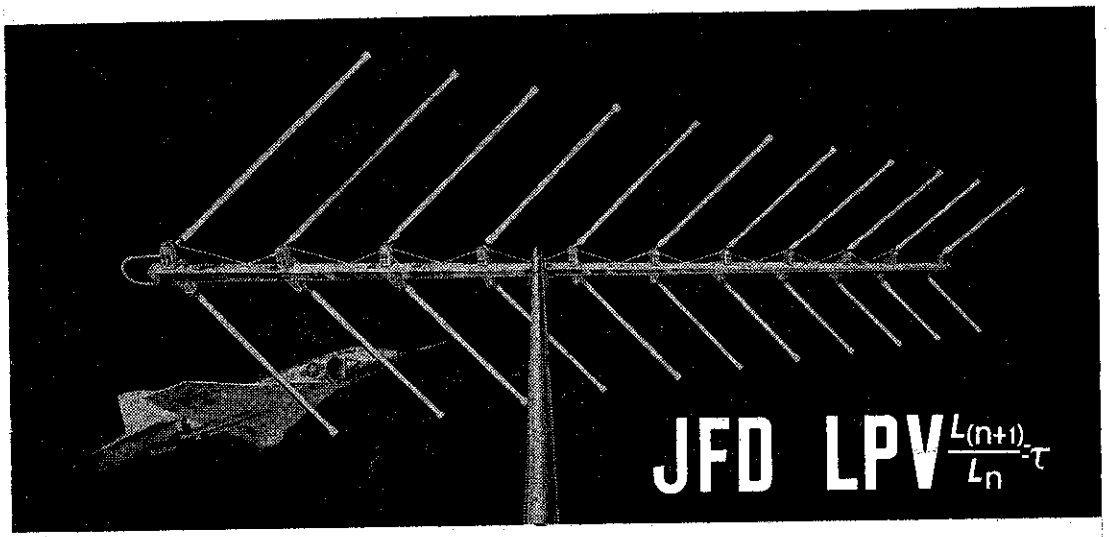
SUPER-FRINGE: up to 175
miles from transmitter
LPV-17: 15 active cells,
2 directors

A NEW KEY to crisper, clearer, sparkling TV reception in color, black-and-white, FM STEREO anywhere

Years of study at the Antenna Research Laboratories of the University of Illinois* behind it! Principles utilized in Air Force satellite tracking and telemetry Exclusive from JFD Electronics!

DID YOU KNOW YOUR TV ANTENNA IS NOT DELIVERING THE POWER YOUR SET NEEDS FOR GOOD RECEPTION? See reverse side for details.

*U. S. PATENTS 2,958,081—2,985,879—3,011,168. ADDITIONAL PATENTS PENDING. PRODUCED EXCLUSIVELY BY JFD ELECTRONICS UNDER LICENSE TO U. OF ILLINOIS FOUNDATION.



If sun, wind and storms have damaged your TV Antenna, it cannot deliver the full signal power your TV set needs for bright, sparkling performance.

Make your own 30 second visual check-up of your TV Antenna:

☐ **Your antenna design is depriving your set of picture power.**
Your old antenna design is delivering less than 50% of the signal your set needs for clear TV pictures. Since it was installed modern engineering has made possible many new electronic and mechanical advances in antenna design. Why deny yourself the brilliant and enjoyable reception a new up-to-date TV antenna can bring you and your family?*

☐ **Elements (rods) dull or darkened bent or missing**
This condition indicates that your antenna is functioning well below its maximum power (as does an 8 cylinder auto working on only 4 or 6 cylinders.)

☐ **Mast rusting or staining your roof**
If you neglect it, your entire antenna installation will become so corroded that it may eventually collapse and cause serious damage.

☐ **Your antenna transmission wire is dried or brittle**
It's time to replace the wire as well as the TV antenna whose weather-worn insulators and terminals lose needed signal power.

☐ **Your system is not protected against lightning or static damage**
Be sure your installation has a correctly grounded mast and JFD Underwriters Approved Lightning Arrester. Otherwise your fire insurance policy is void in case of home damage from lightning.

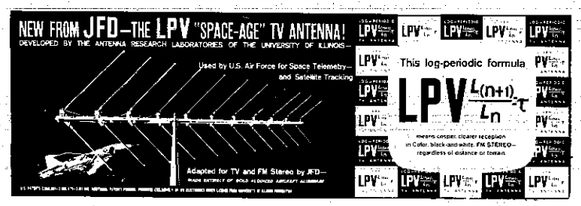
*For the best picture in sight, we recommend the JFD LOG-PERIODIC LPV ANTENNA. See other side for details. **CALL TODAY!**

AUTHORIZED
JFD
DEALER

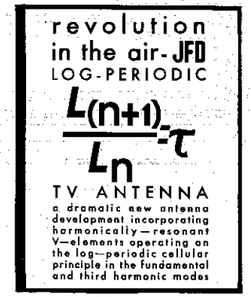
FORM 428 LITHO IN U.S.A. 10/62

STOP and SELL YOUR ANTENNA PROSPECTS with these LPV SALE-SPARKERS!

Use this exciting material to remind your customers that they get the newest advances and the complete service at your store. The LPV is a dramatic entering wedge that can help you sell other items as well as antennas.



FORM 426
color streamer, 8½ x 22" for windows



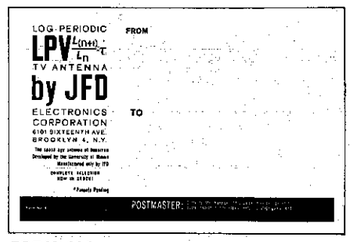
FORM 425 10-page color catalog



FORM 428
doorknob hanger for homes and autos

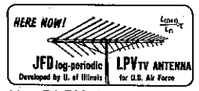


FORM 429
doorknob hanger for homes and autos

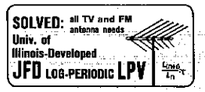


FORM 411
color shipping label

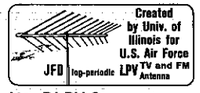
POSTAGE METER CUTS



No. RLPV-1



No. RLPV 2



No. RLPV 3



No. DLPV-1



No. DLPV-2

RADIO AND TV COMMERCIALS

FORM 460 60 second radio script
FORM 460A 60 second radio script
FORM 461 20 second radio script
FORM 461A 35 mm. TV Slide
FORM 463 35 mn. TV slide

THE LOG-PERIODIC **LPV** WILL BE BACKED BY THE BIGGEST PROMOTION IN ANTENNA HISTORY. It will generate new attention to TV performance—new buying excitement. Tie in with this excitement to sell not only **LPV's**, but installation, color TV, service.
USE ENCLOSED POSTCARD TO ORDER YOUR PROMOTION MATERIALS

THE LPV $\frac{L(n+1)}{Ln}:\tau$ LOG-PERIODIC TV ANTENNA BY JFD IS THE BIGGEST ANTENNA STORY IN YEARS. TELL IT AND YOU'LL SELL IT. HERE'S HOW...

Virtually every TV set-owner—which means almost everybody—is interested in the better reception he can get with the log-periodic LPV. Make sure all the prospects in your area know about it. Use the promotion material pictured in this folder to plan a complete, continuing campaign.

1 Mailers to reach your customers and best prospects.

2 A newspaper ad campaign to cover your entire marketing area—bring everybody in.

3 TV slides and radio/TV scripts to convey the full excitement of the LPV story.

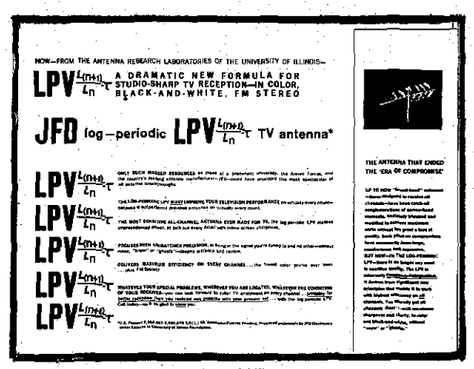
4 Doorknob hangers for "pinpoint" advertising in your immediate locality.

5 Streamer to "stop" street traffic, create impulse sales, help close the order.

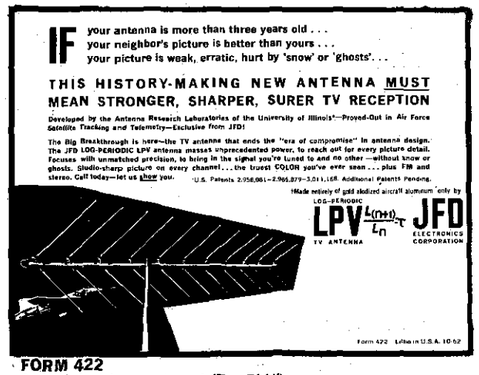
Use the enclosed postcard to order additional selling kits—conveniently packaged in a handsome file folder-portfolio—now.

LPV MAILERS TO SEEK OUT AND SELL OLD AND NEW TV VIEWERS!

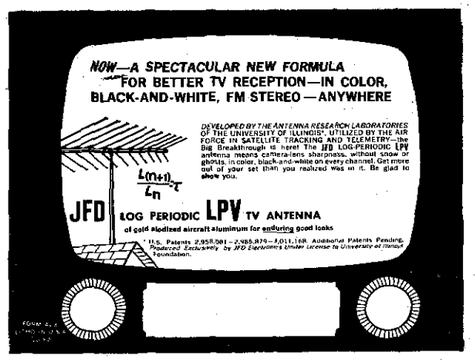
Send to your customer lists, phone book or street directory lists, association rolls, etc. (Possibly the board of elections, cleaning stores, liquor dealers, department stores or other businesses in your neighborhood have lists they may let you use.) For maximum impact, send all three—postcard, self-mailer, postcard—to fringe prospects, local prospects, all prospects.



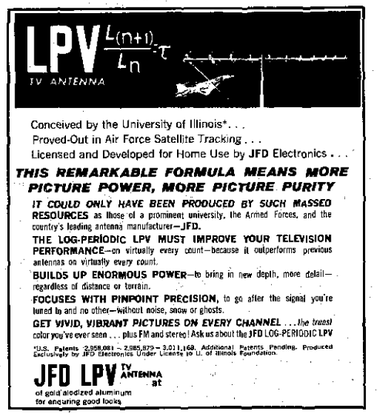
FORM 421 (folds to 5½ x 4¼")
4-page, 2-color consumer self-mailer/envelope stuffer



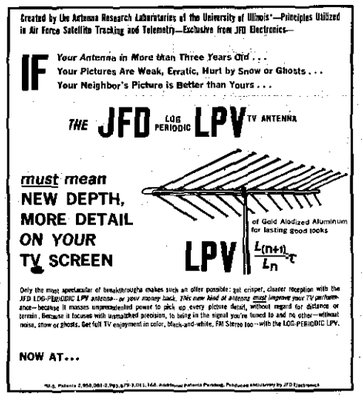
FORM 422
2-color jumbo postcard (7 x 5¼")



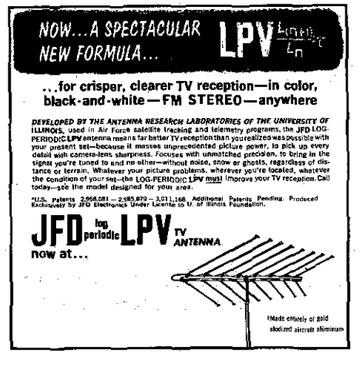
FORM 423
2-color jumbo postcard (7 x 5¼")



Mat No. 255
3 cols. x 84 lines=252 lines



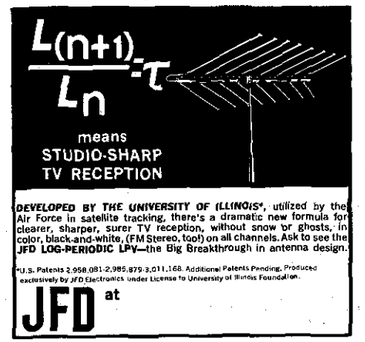
Mat No. 256
3 cols. x87 lines=261 lines



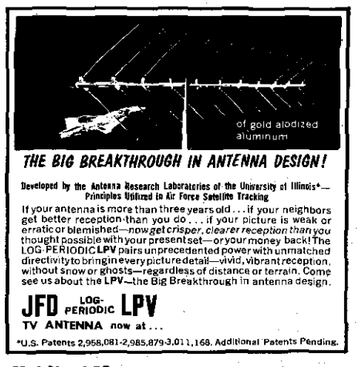
Mat No. 257
3 cols. x 74 lines=222 lines

LPV AD MATS TO MAKE EVERY TV OWNER REALIZE THERE'S SOMETHING NEW IN THE AIR!

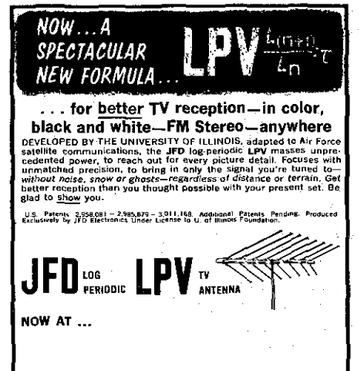
Consistency is the secret of effective advertising. Alternate these *mats on a planned schedule* to create a continuing campaign and a lasting impression. Your newspaper rep will be glad to help you with the details. (Mats shown one-third actual size.)



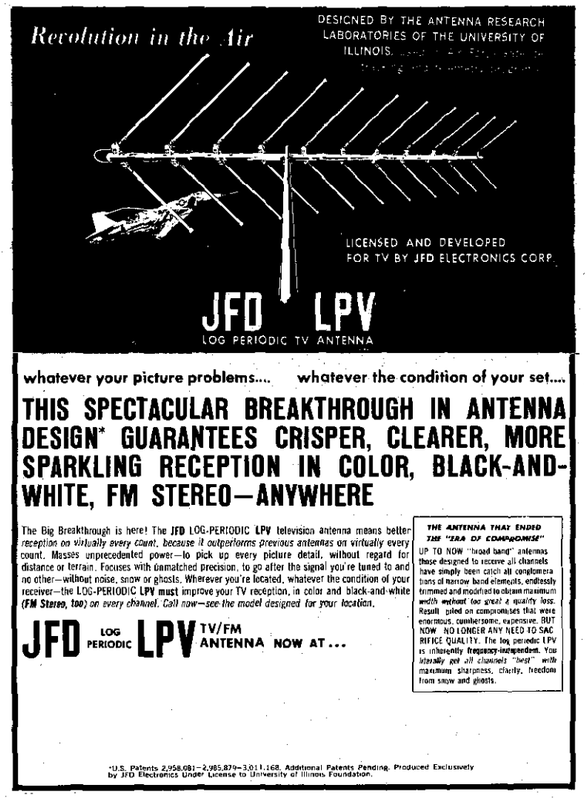
Mat No. 259
2 cols. x 50 lines=100 lines



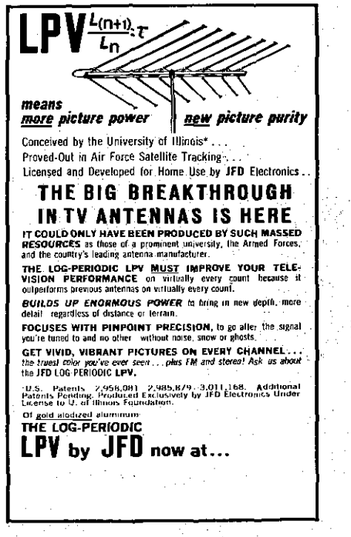
Mat No. 260
2 cols. x 52 lines=104 lines



Mat No. 261
2 cols. x 57 lines=114 lines



Mat No. 254
4 cols. x 140 lines=560 lines



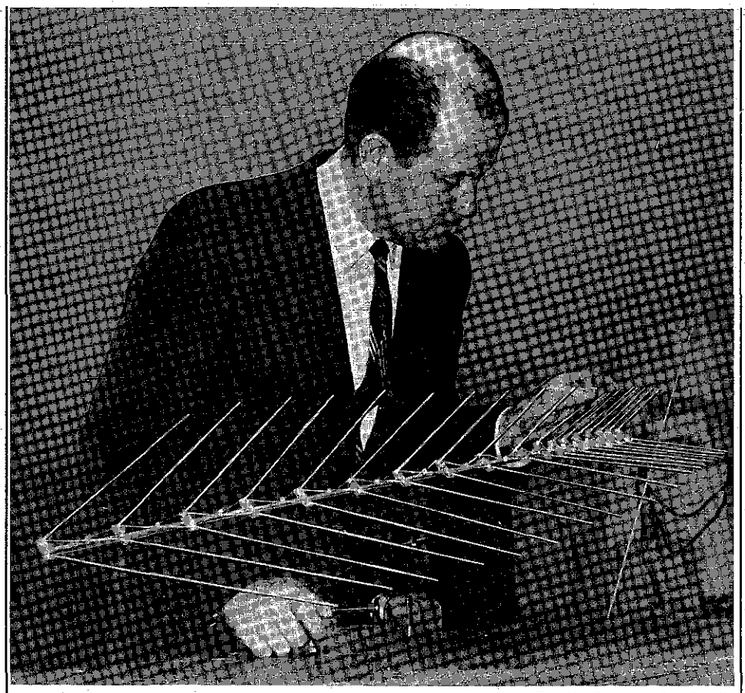
Mat No. 258
2 cols. x 85 lines=170 lines

SHOWN ⅓ ACTUAL SIZE

SHOWN ⅓ ACTUAL SIZE

JFD ELECTRONICS CORPORATION 1462 62nd Street Brooklyn 19, N.Y.

A-44



News-Gazette Photo by Ian Ingalls

Dr. Paul E. Mayes inspects and checks out one of log-periodic family.

★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★

UI's Mayes, Team Develop Better TV Antennas

By HANK HOKAMP
News-Gazette Staff Writer

Remember how you used to shake and pound your radios, trying 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 ... the television set.

Thanks to the efforts of such men as Dr. Paul E. Mayes, professor of electrical engineering at the University of Illinois, 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 development of VHF, UHF, VHF-UHF, and FM antennas," Dr. Mayes said. "Today there exisits a need for antennas which will cover a number of isolated frequency bands rather than covering continuously the entire spectrum between the lowest and highest frequencies of interest," he said.

Dr. Mayes and his colleagues have done just this .. developed a number of TV antennas which are presently being sold to the consumer public by electronic parts companies throughout the nation.

Another series of antennas, 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 Antenna Laboratories located at 714 So. Randolph, C.

The JFD Electronics Corporation, Brooklyn, N.Y., manufactures these antennas and is licensed by the UI Foundation. JFD extends exclusive rights to the UI Foundation for its patented log - periodic - antenna concept.

Regarding the TV antennas developed by Mayes and his associates the largest log-periodic antenna in this family is the JFD Log-Periodic LPV antenna. This antenna can conquer the super fringe area up to 175 miles from a transmitter. It's considered to be the best for color and black and white reception regarding the capabilities of the "family."

The smallest LPV antenna reaches out to 50 miles from the transmitter. This is all one needs to attain local reception.

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

No commercial antenna has had uniform high gain over the complete VHF television band. The log-periodic V, the third antenna available in this series, takes care of this unique situation. Out of various experiments led by Prof. V. H. Rumsey and Prof. J. D. Dyson, both members of the electrical engineering department at the UI, this log spiral antenna became available.

What is called the strongest antenna developed for UHF is the Zig-A-Log antenna, a new concept for local or long distance reception on channel 14 to 83.

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 a 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 antennas are used by communication 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 log-periodic antennas have been developed since 1954 with the four FM Stereo antennas to be placed on the market in the near future.

Where does this antenna research 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 scheduled to be completed by Sept. 1. Operations at the new laboratory will not begin 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. C. 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 development 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 antennas.

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

Form No. 837 litho in U. S. A. 11-64

Compare

WHAT JFD LPV LOG PERIODIC TV & FM ANTENNAS OFFER YOU AGAINST ALL OTHERS!

Compare COMPLETENESS OF LINE!

Only JFD offers you the most *complete* line of all...in step-up models...in VHF (ch. 2-13)...in UHF (ch. 14-83)...in FM/Stereo...in VHF/UHF/FM bands.

Compare ENGINEERING!

JFD leadership in antenna design is an acknowledged fact. JFD Champaign, Illinois R & D facilities include the world's newest and most advanced antenna laboratories. Here a team of scientists, graduate engineers and technicians, under the direction of Dr. Paul E. Mayes, are revolutionizing the state of the antenna art. This priceless scientific know-how and integrity stand behind each JFD Log Periodic you see.

Compare PERFORMANCE!

JFD LPV's are the first and only antennas based on the geometrically-derived *Logarithmic Periodic* scale developed by the Antenna Research Laboratories of the University of Illinois and used in satellite telemetry. Result: frequency-independent performance that delivers a combination of superior gain, 300 ohm impedance match, pinpoint directivity, and front-to-back ratio never before possible across the *entire* band.

Compare COLOR RECEPTION!

JFD Log Periodic response is *flat* across each channel for true, crisp color picture resolution.

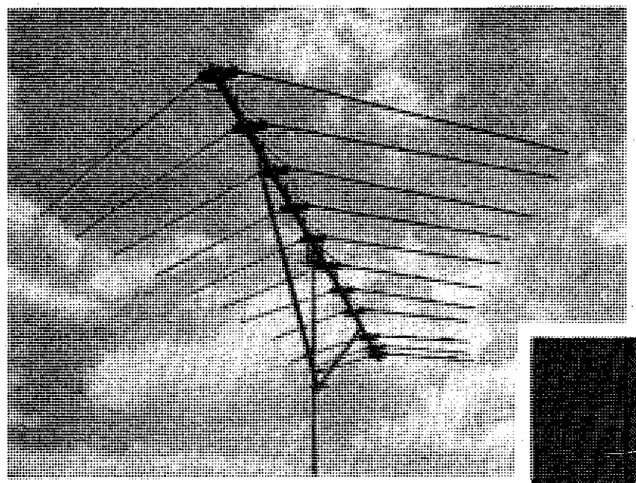
Compare CONSTRUCTION!

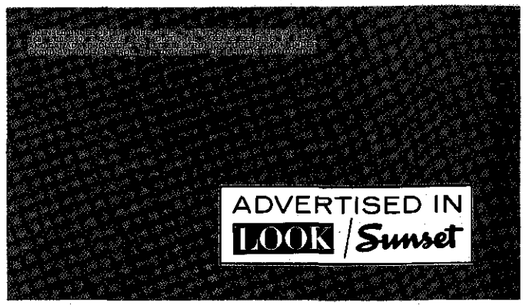
Life-time stainless-steel take-off terminals that can never corrode, "tank-turret" element brackets, non-breakable heavy-wall Implex A acrylic insulators, twin U-bolts with 6 inch mast grip span; supple, permanently riveted aluminum drive line rod, electrically conductive gold alodizing, plus a host of other exclusive mechanical improvements.

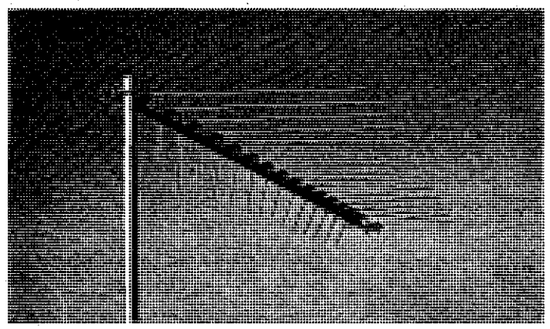
Compare ADVERTISING AND PROMOTION!

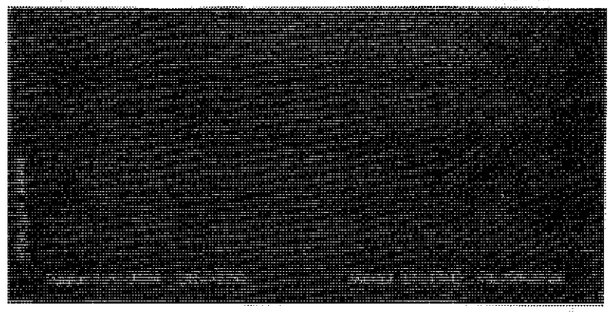
A versatile selection of indoor and outdoor sales helps ... advertisements in LOOK, SUNSET and other national and local consumer publications ... in newspapers ... on television ... that sell your best prospects.

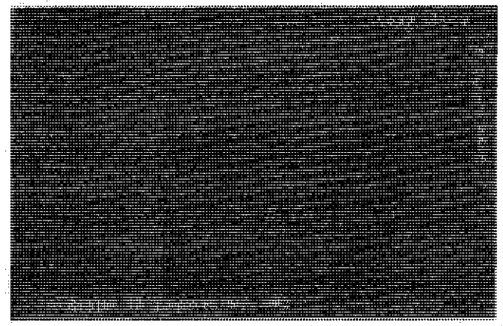
CALL YOUR JFD DISTRIBUTOR TODAY — AND SHARE IN THE PROFITS AND PRESTIGE THAT ONLY JFD LPV LOG PERIODICS CAN BRING YOU!

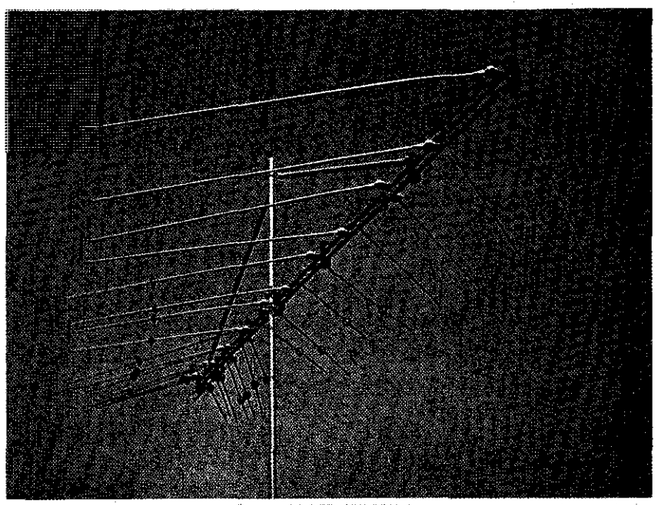


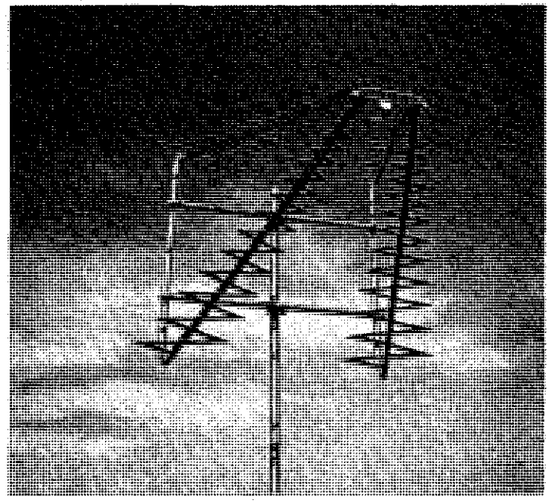


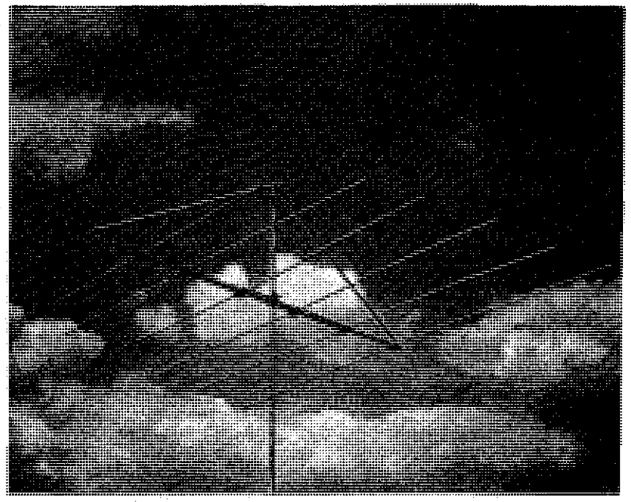












You Can Rely on JFD Log-Periodic* TV COLOR and antennas for the Finest Pictures In Sight-Black/White!

NEW—from the famous JFD R&D Laboratories in Champaign, Illinois — the authentic Log-Periodics with the engineering advances that outperform all others in COLOR, black and white—on VHF, UHF, VHF/UHF/FM!

WHY MORE JFD LPV LOG-PERIODICS ARE BEING INSTALLED THAN ANY OTHER VHF ANTENNA . . . The JFD Log-Periodic is a revolutionary new concept in antenna design. Its frequency-independent performance does not sacrifice gain, directivity, bandwidth or impedance match as other conventional antennas must on certain frequencies to achieve all-VHF-channel reception. Harmonically resonant V-elements operate on the patented Log- Periodic cellular formula $\frac{L_{(n+1)}}{L_n}=\tau$ to provide the **same** superb performance on every VHF channel—**color** or black and white—**plus** FM/Stereo.

STOUTLY BUILT OF HEAVY WALL GOLD ALODIZED ALUMINUM . . . Inch for inch, ounce for ounce, JFD LPV Log-Periodics deliver more mechanical strength in **less** mass. Gleaming gold alodizing (the same used by NASA and the military services) does **not** insulate vital contact points as does anodizing. Instead, **electrically conductive** gold alodizing **improves** signal continuity.

DEVELOPED FROM RESEARCH PERFORMED AT THE UNIVERSITY OF ILLINOIS ANTENNA RESEARCH LABORATORIES . . . The JFD Log-Periodic is the commercial end result of six years of electronic research. No other design has undergone such intensive research and development by leading antenna scientists.

INSTALLED BY MORE WORLD'S FAIR PAVILIONS THAN ANY OTHER BRAND . . . The New York World's Fair House of Good Taste, Formica House, New York City Pavilion, House of Japan, Eastman Kodak exhibit, Florida and Hawaii Pavilions installed JFD Log-Periodics to assure best possible performance of their color TV sets. Millions of Fair visitors will remember and ask for the JFD Log Periodic LPV, paving the way for more sales by you.



JFD FREQUENCY-INDEPENDENT LPV LOG-PERIODIC BREAKS THROUGH THE BANDWIDTH BARRIER FOR

GAIN: As high as **14** db (in model LPV17)—with **extra** gain on the high band where it is needed most.

BANDWIDTH: Frequency-independent log periodic design delivers broad band performance never before possible. Does not discriminate against any channel—or frequency.

RESPONSE: Consistently **flat** (± ½ db) across **both** low and high bands for the finest **color** reception.

DIRECTIVITY: No need to give up directivity to obtain bandwidth as other antennas do. Log-Periodic **backfire** horizontal radiation patterns, for example, are the **narrowest** of any all-channel antenna. Reject noise, ghosts, interference and other unwanted signals more effectively because: sharpness of beamwidth affects directivity more than any other factor.

VSWR: As low as **1.2 to 1** for **maximum** transfer of signal to line across the **full** bandwidth. Low VSWR's are typical of JFD LPV Log-Periodic antennas because of their **constant** 300 ohm impedance characteristic.

EVERY LPV YOU BUY EARNS YOU VALUABLE FAIR FESTIVAL POINTS . . . Each JFD Log-Periodic VHF, UHF, VHF/UHF/FM, or FM/STEREO you install includes Fair Festival certificates which you can trade in for **FREE** World's Fair tickets, trips or cash.

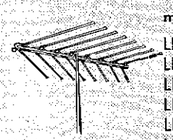
Whether it's VHF, UHF, VHF/UHF/FM, or FM/STEREO, JFD HAS THE LOG PERIODIC TO HELP YOU MAKE THE SALE OTHERS CAN'T!

SEE WHY AT THE MOMENT OF TRUTH, THE PICTURE IS THE PROOF—THE JFD LPV LOG-PERIODIC WORKS BEST!

*Don't gamble on Log-Periodic "look-alikes" and imitations! Insist on the **genuine** LPV by JFD—exclusive producers of the pace-setting Log-Periodic antenna developed from research performed by the Antenna Research Laboratories of the University of Illinois.

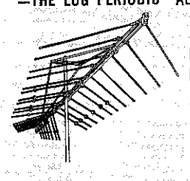
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15th Avenue at 62nd Street, Brooklyn, N. Y. 11219
JFD Electronics-Southern Inc., Oxford, North Carolina
JFD International, 64-14 Woodside Ave., Woodside 77, N. Y.
JFD Canada, Ltd., 51 McCormack Street, Toronto, Ontario, Canada

THE ONE AND ONLY ORIGINAL LPV LOG-PERIODIC FOR VHF CHANNELS 2 TO 13 & FM/STEREO

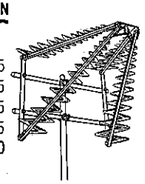


model	description	list
LPV17	18 Cells Directors	$59.95
LPV14	15 Cells Directors	49.95
LPV11	11 Cells Directors	39.95
LPV8	8 Cells Directors	29.95
LPV6	6 Cells	21.95
LPV4	4 Cells	14.95

NEW! THE FIRST COMBINATION VHF/UHF/FM/STEREO —THE LOG PERIODIC "ALL-VU"—WITH SINGLE LEAD-IN



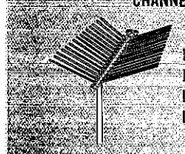
model	description	list
LPV-VU18	18 Cells	$69.95
LPV-VU15	15 Cells	$59.95
LPV-VU12	12 Cells	$49.95
LPV-VU9	9 Cells	$39.95
LPV-VU6	6 Cells	$27.50



NEW! LOG PERIODIC ZIG-A-LOG FOR PROBLEM "UHF" AREAS

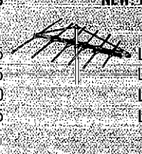
model	description	list
LPV-ZU20	E-Plane Stacked	$37.50
LPV-ZU10	1-Bay	$17.95

NEW! LOG PERIODIC LPV FOR UHF CHANNELS 14 TO 83 & VHF 7 TO 13



model	description	list
LPV-U21	21 Cells	$27.95
LPV-U15	15 Cells	$18.95
LPV-U9	9 Cells	$12.50
LPV-U5	5 Cells	$ 6.95

NEW! LOG PERIODIC LPL FM STEREO



model	description	list
LPL-FM10	10 Cells	$49.95
LPL-FM8	8 Cells	$39.95
LPL-FM6	6 Cells	$29.95
LPL-FM4	4 Cells	$19.95

NEW! FM ANTENNA AMPLIFIERS FOR VHF, UHF & FM



model	description	list
[illegible]	[illegible] VHF/UHF/FM Amplifier	$49.95
[illegible]	[illegible] VHF Amplifier	$39.95
[illegible]	[illegible] VHF/FM Amplifier	$39.95
[illegible]	[illegible] UHF Amplifier	$29.95
[illegible]	[illegible] FM Amplifier	$14.95

JB #1

DON'T BE HUMBUGGED BY MISLEADING CLAIMS AND HALF-TRUTHS.

COMPARISON PROVES THE JFD LOG PERIODIC* IS YOUR BEST ANTENNA BUY — ELECTRICALLY AND MECHANICALLY

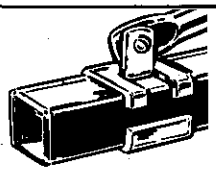
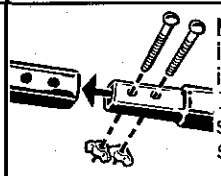
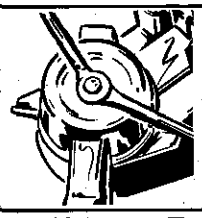
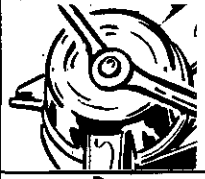
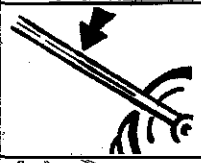
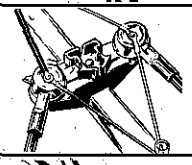
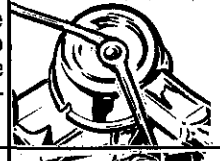
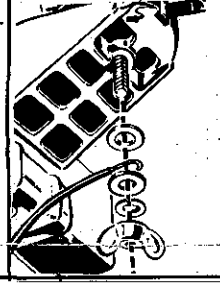
The Finney Company recently published a "Quick Check Chart" which purports to point out the differences in construction between their Ve-Log, our LPV Log Periodic, and other competitive arrays. Its omissions, misstatements and distortions of the truth force us to set the record straight with the comparison chart below. One "minor" fact that Finney forgot to mention is that their Ve-Log series is an obvious copy of our highly successful LPV Log Periodic.

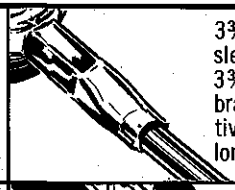
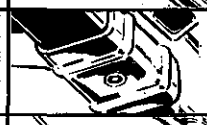
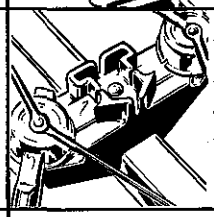
JFD

NOW READ THE MORE COMPREHENSIVE JFD CHART BELOW FOR ALL THE FACTS:

* Licensed under one or more of U.S. patents 2,958,081; 2,985,879; 3,011,168; 3,108,280; 3,150,376 and additional patents pending in U.S.A. and Canada. Produced by JFD Electronics Corporation under exclusive license from the University of Illinois Foundation.

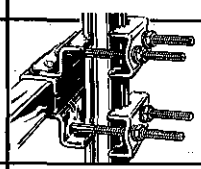
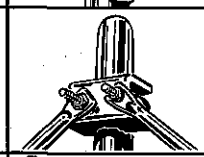
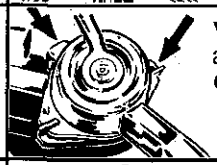
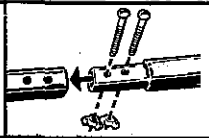
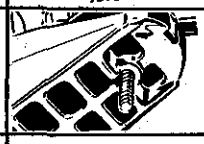
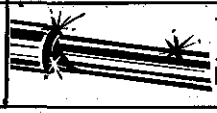
LOG-PERIODIC CONSTRUCTION COMPARISON CHART

	JFD LPV LOG PERIODIC	FINCO VL SERIES	CM 3600 SERIES*	TACO PARALOG*
1" Square Crossarm (made from 1¼" dia. round) for increased strength.	 YES	YES	**NO**—1" Dia. Round	YES
Splice sleeves on long split boom units to reinforce boom at splice joint.	 **NO**—5" swaged crossarm inserts **into** other section of crossarm and is secured by two screws. 1" Boom Braces add all support strength needed. Deliberately designed as separate pieces.	**YES** — Double channel Splice Sleeves 10" lg 2 rivets & 2 screws securing joint.	**NO**—Boom extension swaged — inserts 5½" into other section of boom, and secured by 2 screws.	**YES**—But only 2¼" engagement on each boom section — secured by 4 screws.
One-piece Drive Line.	 **NO**—High compression aluminum rivets **permanently** secure drive line section to **each** element—provide **positive** electro-mechanical contact between element and drive line for best continuity.	**YES—But** drive line is only pressure-fitted to four **small** contact points which are subject to corrosion resulting in picture-fade and electrical flashing. Drive line can also come loose during shipping and installation (See below).	NO	YES
RIVETED CONTACT between Drive Line and Driven Element Bracket Assembly.	 **YES—Permanently** riveted. **Cannot** spring open despite element windflutter which causes compression and expansion of drive lines of all antennas.	**NO**—Pressure-contact **only.** Drive line is prone to being jarred loose by wind and vibration. Result: electrical intermittency in form of picture flutter and crackling.	**YES**—Riveted	**YES**—Riveted
High Tensile Aluminum Drive Line Rod.	 **YES** — Tough (**not** soft as Finco claims) 52000 p.s.i. ductile aluminum rod which flexes under wind, ice or snow loading—**without** snapping.	**YES** — Excessively **hard** aluminum wire subject to snapping or permanent deforming under wind, ice or snow loading. Snaps out of clamps in shipping.	**NO** — Ductile aluminum wire.	**NO** — Ductile aluminum wire.
Sufficient Drive Line Clearance to Boom (Snow & Ice formation clearance).	 YES	YES	**NO**—Approx. ¼" to 5/16".	YES
Drive Line Cross-over Spacing Insulators.	 YES	YES	**NO**—Only on the 1 cross-over at mast location — NOT on other cross-overs.	
Aluminum Drive Line Clamp (to connect drive line to element bracket assembly).	 YES	YES	**NO**—(STEEL)	YES
Aluminum Terminal Screws. Aluminum Terminal Screws. (cont'd.)	 **NO**—JFD deliberately uses **STAINLESS STEEL** (Finco neglected to mention **"stainless"** steel terminals are used on all JFD LPV's for permanent corrosion-proof contact).	**YES** — (aluminum corrosion forms coating of oxide which impedes signal continuity). More subject to shearing and acceleration of oxidation. Also, aluminum screws in contact with copper wire of lead-cause accelerated electrolytic corrosion. (JFD's stainless steel terminal screws prevent this electrolytic reaction.)	**NO**—(STEEL)	YES

Sleeve Reinforceing Elements.	 3⅜" long x ½" dia. seamless sleeves. (Shake tests prove that 3⅜" sleeves dampen harmonic vibrations of elements more effectively – without breakage from longer sleeves.	6"-10" long x ½" dia. **butt** seam-sleeves will open up through vibration and whip. Elements are more susceptible to breakage because they cannot flex to absorb stress and strain.	3⅜" long	3½" long
Boom Reinforcing back-up Brackets at Elements.	 YES	YES	NO	NO
Complete Aluminum-clad insulator to reinforce insulator.	 **PARTIAL**—to prevent element from possible shorting against bracket. Non-breakable heavy-wall Implex A acrylic insulator requires no metal reinforcement.	**YES**—Because it is necessary to reinforce thin-wall non-outdoor type polystyrene plastic insulator. Polystyrene will weather and crack prematurely. Companies against its use outdoors.	Kralastic Similar to Implex A	Cycolac Similar to Implex A
DC and Static Grounded System (with grounded tower or mast – no lightning arrestor needed).	**NO**—Deliberately such so that it will not be prone to noise and interference pick-up.	**YES**—Poor design will pick up noise and interference more readily.	NO	YES

*CM 3600 and Taco Paralog data is reprinted exactly as listed in Finney VE-LOG quick check chart.

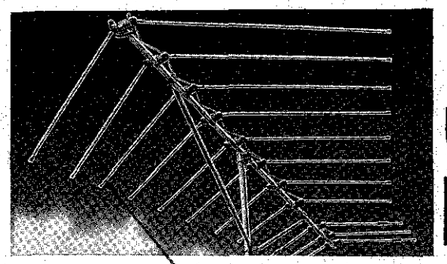
NOW – LOOK AT THESE OTHER VITAL FEATURES THAT JFD HAS GOT – BUT FINCO FORGOT (?)

	JFD	FINCO
Double U-Bolts.	 **YES**—Two U-bolts in tandem with four serrated-gripping profiles provide a bearing surface that spans 6". Non-tilt, non-slip high-leverage mast grip that never needs re-tightening or re-orienting.	**NO**—Single U-bolt. Antenna is prone to tilt and flop –will not hold horizontally under stress of wind and vibration.
Tubular Crossarm Supports.	 **YES**—(on larger LPV's) one-inch dia. tubular aluminum front and rear crossarm supports are secured by U-bolt to mast. Provides solid sag-free reinforcement that withstands 500 lb. snow loads and 100 mph winds.	**NO**—Thin wire rods hooked into hole at top of mast provide sole support. Will stretch and pop out under use causing antenna to break up quickly.
Perma-Lok Element Turret – Bracket Assembly of .062 5052 Alloy.	 **YES**—A Cadillac-quality mark of JFD LPV construction. Elements are held solidly rigid because Perma-Lok turret is **double**-locked—elements **cannot** swing closed.	**NO**—Obsolete design, carried over from old-type antenna construction, allows elements to vibrate, loosen and sway about.
Add-on "Dyna-Pak" Reliability.	 5" swaged Dyna-Pak section inserts into main antenna section and is secured by two screws. Forms double-walled joint that does not break.	Shears off at front of antenna under stress. Broke down under same test that JFD LPV withstood.
Non-slip Terminal Screws.	 **YES**—Special terminal screw rivets are staked permanently into insulator so they can not turn. Wing nuts facilitate attachment of lead-in.	**NO**—Terminal screw (which also holds bracket and element assembly) **turns as it is tightened**, preventing secure locking of lead-in wires under nut.
Drive Line Bracket.	**NONE**—Drive line is riveted solidly into element by means of large-diameter 1" long, high-compression rivet.	**YES**—Works loose under use, precipitating oxidation under contact point to antenna. Prone to picture fade and flutter.
Alodizing.	 The finest modern technology can produce. The 300 ft. automated JFD alodizing plant (turning out 6000 per shift) produces the most beautiful, enduring and uniform finish possible.	Hand-done corodizing finish produces blotchy, uneven finish.

COMPARE AND SEE WHY AT THE MOMENT OF TRUTH – THE PICTURE IS THE PROOF THE JFD LOG PERIODIC LPV WORKS BEST!

JFD ELECTRONICS CORPORATION · 15th Avenue at 62nd Street · Brooklyn, N. Y. 11219

Form No. 811 Litho in U. S. A. 11-64



JFD WORLD'S FAIR FESTIVAL HOLIDAYS FOR LPV® DISTRIBUTOR SALESMEN & DEALERS

from April 22 to October 18, 1964 and from April 21 to October 17, 1965

HOW IT WORKS: Each month, each distributor will receive two sets of Fair certificates according to the schedule shown, based on his LPV antenna purchases: his own set, as well as a **second** set (equal in point value) that go to his dealers who buy LPVs. You can use these certificates in any way you deem best because they are interchangeable for distributor, distributor salesmen or dealer purposes.

For Example: you can employ your certificates:

1. As bonuses to those salesmen who exceed sales quotas.
2. To increase the point values of any LPVs you want to promote as "specials" for the month.

JFD DISTRIBUTOR & DEALER LPV POINT VALUES

model	points	model	points
LPV17	60	LPV-U15	20
LPV14	50	LPV6, LPV6PM	15
LPV11	35	LPV4, LPV4PM, LPV-U9	10
LPV-U21	30	LPV-U5	5
LPV8, LPV8PM	25		

JFD DISTRIBUTORS & DISTRIBUTOR SALESMEN CAN USE THEIR POINTS FOR EITHER:

1. **8-DAY, 7-NIGHT LUXURY HOLIDAY WITH AIR FARE**
   25,000 points cover all expenses at the Fair and in New York City. All points over 25,000 can be applied against air fare at the rate of 100 points per $1.00 of flight cost
2. **8-DAY, 7-NIGHT LUXURY HOLIDAY WITHOUT AIR FARE**
   25,000 points cover all expenses at the Fair and in New York City except transportation (to New York and return) which the distributor arranges to suit his convenience.

JFD LPV DEALERS CAN USE THEIR POINTS FOR EITHER:

1. Free World's Fair Adult Admission tickets (worth 150 points) or . . .
2. 3-day, 2-night Fair **WEEK-ENDER HOLIDAY** (worth 3,000 points) or . . .
3. Redeem his certificates from JFD for $1.25 cash for each 150 points.

DISTRIBUTOR AND DEALER CERTIFICATES ARE EXACTLY THE SAME AND EXCHANGEABLE FOR EACH OTHER.

TO QUALIFY:

1. All LPV antennas shipped until August 31, 1965 will earn point values for **both** distributors and dealers, as assigned above.
2. All distributors are requested to inform JFD 30 days in advance of their arrival date so the American Express Travel Agency can make all necessary reservations and arrangements.
3. Children up to 12 years of age will be eligible for trip at rate of 12,500 points each (no air fare included). Children must be accompanied by parents or adults. (Maximum of 3 children allowed per family in same room.)
4. If you desire to stay at your hotel for a period longer than that specified in the JFD Festival Holiday, you must notify hotel management in advance.
5. The Holidays do not include any additional personal expenses —except those specified, and expire August 31, 1965.

HOW CERTIFICATES WILL BE MAILED

At the end of each month, JFD will mail participating distributors **two** sets of certificates (one for himself and one for his dealers). JFD will honor the certificates for the holiday desired or redeem them to the dealer in cash at rate of $1.25 per 150 points.
The ticket offer expires October 17, 1965—the cash redemption offer expires September 30, 1965.

SUGGESTIONS FOR OTHER USES OF FAIR TICKETS TO PROMOTE LPV SALES:

1. Tickets lend themselves as possible premiums with JFD antennas sold to consumers.
   A. The ticket might be packaged with a JFD LPV special.
   B. Ticket could be offered free with new JFD LPV installations.
   C. Tickets may be redeemed by prospective JFD antenna buyer mailing in necessary number of coupons.
   D. Tickets could be redeemed through use of an LPV space advertising coupon brought to the dealers at the point of sale.
2. Tickets can be used in a consumer contest. For example, come to a dealer, sign an entry blank, get a free JFD LPV demonstration, and tickets might be given away to winners in weekly drawing. The grand prize might be an all-expense paid trip to the New York World's Fair.
3. Tickets can also be used as awards in LPV sales contests among dealer's salesmen, and tickets might be tied in with dealer incentive trips to the Fair.

PLEASE NOTE THAT . . . Each LPV antenna a JFD distributor buys has a dealer as well as an additional distributor point value.
For example: Six LPV14 LPVs are worth 300 distributor points (6 × 50 points = 300) applicable towards a distributor Fair Holiday or any other incentive. The same six LPV14 LPVs are also worth 300 dealer points (6 × 50 points = 300), which are redeemable in World's Fair tickets, trips or in cash as outlined.

START NOW TO MAKE SALES/POINTS WITH THE FABULOUS JFD LPV!

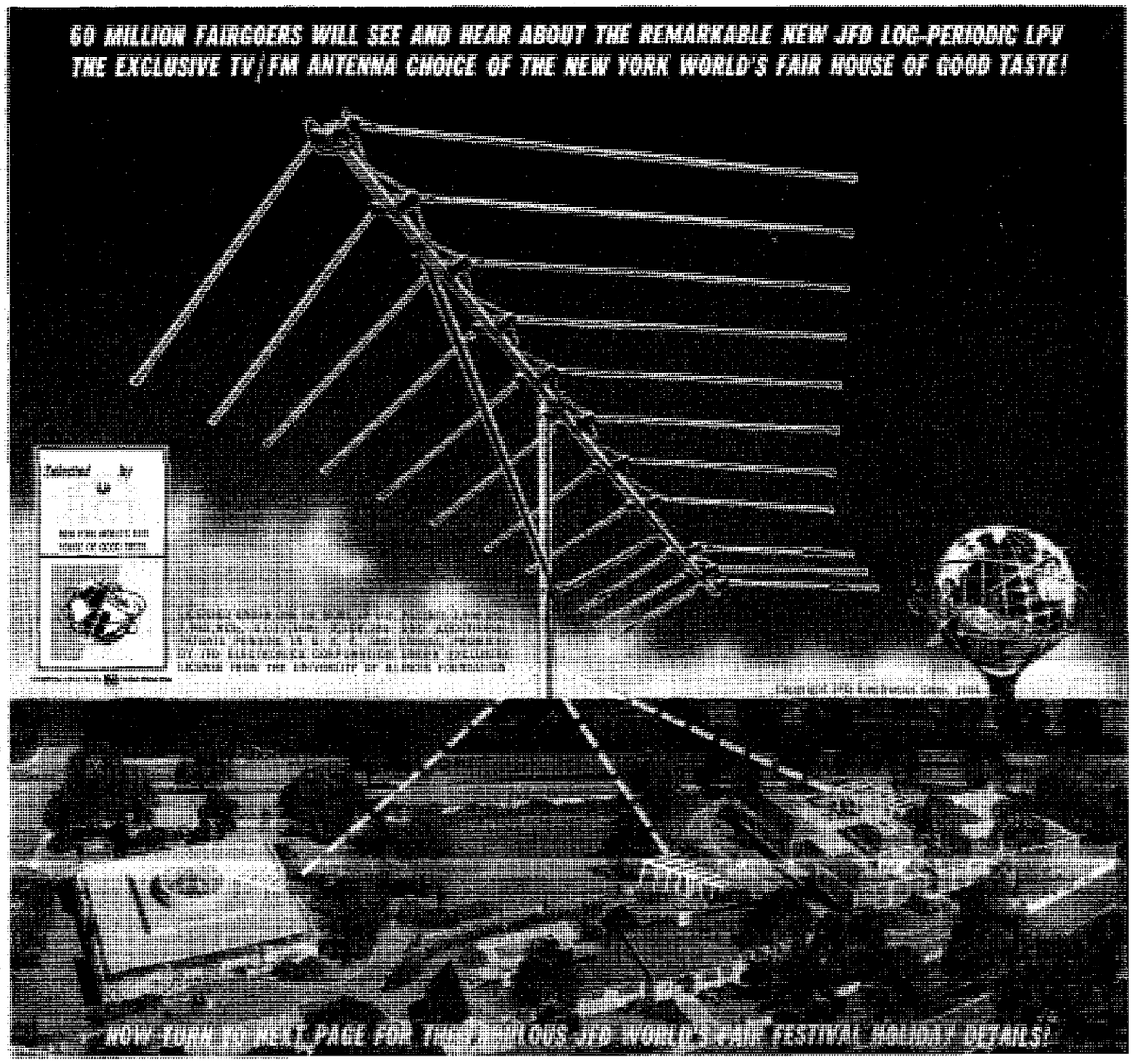
Form No. 688 Litho in U. S. A. 1-64

Copyright JFD Electronics Corp. 1964

JFD®

The New York World's Fair House of Good Taste Exhibit will showcase today's and tomorrow's finest advances in home living.
Its Board of Directors selected the JFD Log-Periodic LPV as the only television antenna to be installed on each of the three homes in its exhibit.
Sixty million Fair-goers will see the JFD Log-Periodic LPV. Millions more, everywhere in America, will see, hear and read about the House of Good Taste and its choice of the JFD Log-Periodic LPV. This powerful new marketing force will be at work building record JFD Log-Periodic LPV sales and profits for you during 1964 and 1965.

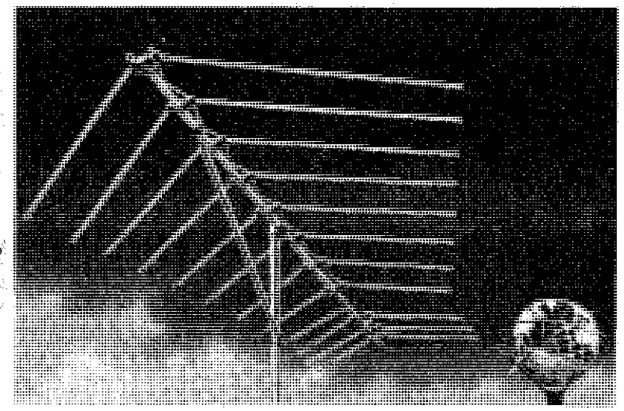
Another JFD first that means more customers—more profits for Log-Periodic LPV users!





Get ready for the time of your life at the 1964-1965 JFD WORLD'S FAIR FESTIVAL!

YOU WIN ALL WAYS WHEN YOU FEATURE THE JFD LPV® LOG PERIODIC



1 More antenna sales and profits than you have ever seen

2 A fabulous all-expense 8 days and 7 nights holiday at the World's Fair for you or your salesmen

3 Your dealers and salesmen can get FREE World's Fair tickets and trips

You Win Every Way You Look At It.

What an opportunity—for every JFD distributor (and his salesmen)—for a never-to-be-forgotten trip to the most exciting spectacle of the twentieth century—the magnificent World's Fair **and** glamorous New York City, itself!

From the time you step into your Jetliner to fly to New York until the moment you arrive back home—meals, Fair admissions and attractions, hotel accommodations, night clubs, theater tickets, sightseeing—**everything** is on JFD.





YOU'LL FLY ABOARD A MAGNIFICENT JET...
... to and from Kennedy International Airport

YOU'LL SEE A TOP NEW YORK BROADWAY SHOW...
... on the fabulous "White Way"—from the best seat in the house.

YOU'LL SEE THE SIGHTS ...
... of the world's greatest metropolis—New York City.

YOU'LL LIVE IT UP AT...
... New York's best steak house—Danny's Hideaway. Dine, dance and enjoy a floor show at the famous Hawaiian Room of the Hotel Lexington, too.

YOU'LL LIVE IN LUXURY...
... at the palatial new New York Hilton Hotel.

YOU'LL BE OUR HONORED GUEST AT THE WORLD'S FAIR ...
... where you will see the fabulous House of Good Taste Exhibit with the JFD Log-Periodic LPV... plus

YOU'LL TOUR THE COMPLETE FAIRGROUNDS AND EXHIBITS ...
... and enjoy all these exciting exhibits and attractions: General Motors, Marine Center, Ford, Hall of Sciences, General Electric, Monorail, Auto Thrill Show, Les Poupees De Paris, Motor Cruise, Indian Village, Wax Museum, Dancing Waters, and Santa Maria Replica.

YOU'LL DINE LIKE A KING ...
... morning, noon and evening, whether at the Fair or in New York City, you will enjoy deluxe food in attractive surroundings.

START NOW... MAKE SALES/POINTS WITH JFD ANTENNAS!

HOW YOU, YOUR SALESMEN, AND DEALERS CAN PARTICIPATE IN THE JFD WORLD'S FAIR FESTIVAL HOLIDAY

Each and every LPV antenna earns you valuable Fair Point Certificates according to the schedule (right). You or your salesmen can use these Certificates for:

1. An 8-day, 7-night all-expense Fair holiday (worth 25,000 points).
2. A 3-day, 2-night Fair Week-ender holiday (worth 3,000 points).

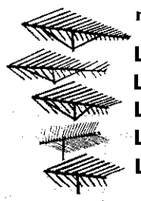
JFD also matches the Fair Certificates you get with an additional **equal** number of certificates **for your dealer.** Your dealer can use his certificates for:

1. Free World's Fair Adult Admission Tickets (worth 150 points) or ...
2. A 3-day, 2-night Fair **WEEK-ENDER HOLIDAY** (worth 3,000 points) or ...
3. Redeem his certificates from JFD for $1.25 cash for each 150 points.

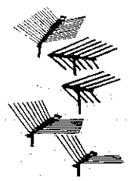
Distributor and dealer Certificates are exchangeable for each other. This gives you more flexibility in fitting the Fair points into any special dealer or distributor salesmen incentive programs to better suit your needs.

LICENSED UNDER ONE OR MORE OF U.S. PATENTS 2,958,081; 2,985,879; 3,011,168 AND ADDITIONAL PATENTS PENDING IN U.S.A. AND CANADA. PRODUCED BY JFD ELECTRONICS CORPORATION UNDER EXCLUSIVE LICENSE FROM THE UNIVERSITY OF ILLINOIS FOUNDATION.

JFD POINT VALUES FOR LOG-PERIODIC ANTENNAS:



model	points	model	points
LPV17	60	LPV-U15	20
LPV14	50	LPV6, LPV6PM	15
LPV11	35	LPV4, LPV4PM	10
LPV-U21	30	LPV-U9	10
LPV8, LPV8PM	25	LPV-U5	5



IT'S THE PROFIT/ENTERTAINMENT OPPORTUNITY OF THE YEAR!

JFD ELECTRONICS CORPORATION
15th Avenue at 62nd Street, Brooklyn, N. Y. 11219
JFD Electronics-Southern Inc., Oxford, North Carolina
JFD International, 64-14 Woodside Ave., Woodside 77, N. Y.
JFD Canada, Ltd., 51 McCormack Street, Toronto, Ontario, Canada
401-144 W. Hastings Street, Vancouver 3, B.C.

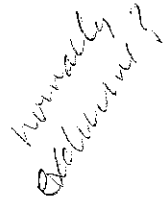
AND TO HELP SELL AND INSTALL MORE ANTENNAS, JFD HAS A SENSATIONAL WORLD'S FAIR TIE-IN PROMOTION PROGRAM!



A stunning array of full-color official World's Fair displays, banners, streamers, brochures, folders, cards, newspaper mats, and dozens of additional advertising aids will power your own local sales campaign — earn you more profits **and** more points toward your Fair holiday.

University of Illinois Foundation

Annual Report for the Fiscal Year 1965-66



Officers

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HJALMAR W. JOHNSON '22
Valparaiso, Indiana

Vice-President
DONALD R. GRIMES '28
Chicago

Treasurer
H. O. FARBER
Urbana

Assistant Treasurer
C. C. DE LONG '26, M.S. '27
Urbana

Assistant Treasurer
ROBERT N. PARKER '47
Champaign

Secretary
JAMES C. COLVIN '25
Urbana

Offices of the Corporation:
224 Illini Union Building, Urbana
Illini Center, 20th Floor, LaSalle Hotel, Chicago

The Foundation was founded in 1935, under the laws of the State of Illinois, as a non-profit corporation. All gifts to it are deductible for federal income tax purposes.

Staff Members

Executive Director
JAMES C. COLVIN '25
Urbana

Associate Director
ROBERT C. TOLL
Champaign

Special Representative in Chicago
VICTOR CULLIN '20
Wilmette

Grants-in-Aid Project Director
JOHN G. PACE, A.M. '46
Champaign

Associate, Grants-in-Aid Project
BURTON A. INGWERSEN '20
Urbana

Administrative Secretary
MRS. ZERLA M. YOUNG '42
Urbana

Bookkeeper
MRS. BETTY PETERS
Homer

Assistant Bookkeeper
MRS. DOROTHY CHILTON
Ogden

Secretaries
MRS. MARY B. DE LONG
Champaign

MRS. PATTY HOWELL
Champaign

MRS. SHARON KEYES '66
Urbana

MRS. NORMA ROBERTS
Urbana

Mr. and Mrs. Powell lost their lives October 23, 1965, in an automobile accident near Oswego, New York. Mr. Powell was a partner in the accounting firm of Haskins and Sells. Not long after the tragic accident, friends in the accounting profession began contributing to a memorial fund at the University of Illinois. Contributions were many and generous and the fund grew rapidly. Most of it, given during the fiscal year 1965-66, totalled $58,715. Later the firm of Haskins and Sells added $50,000 to the fund.

CLASS OF 1916 GIFT

Members of the Class of 1916 organized a strong campaign during the year, and at their golden reunion in June announced that the fund would be used to create a memorial for the late President Edmund Janes James in whose administration they were graduated. The fund reached $17,490 and will be increased during 1966.

The gift will go to identify a court in the new Undergraduate Library Complex on the Urbana campus. The Library unit, soon to be constructed, will be built below the ground level and will be connected with the existing Main Library. The walls of the court will bear an inscription to honor President James and will display a plaque identifying the area with the Class of 1916.

These programs, and others of like proportions, contribute more than can be described here to the welfare of students, to faculty programs, to many others benefited by the University's work.

Board of Directors

HAROLD BOESCHENSTEIN '18
Chairman of the Board, Owens-Corning Fiberglas Company, Toledo, Ohio

RAYMOND EPSTEIN '38
Chairman of the Board, A. Epstein and Sons, Inc., Chicago

L. C. GOAD '23
Formerly Executive Vice-President, General Motors Corporation, Detroit, Michigan

DONALD R. GRIMES '28
President, Independent Grocers' Alliance, Chicago

VERNON L. HEATH '28, A.M. '29
President, L. S. Heath & Sons, Inc., Robinson

GARDNER HEIDRICK '35
President, Heidrick and Struggles, Inc., Chicago

DR. DAVID D. HENRY
President, University of Illinois

RICHARD J. HILL, JR. '22
Vice-President, S. A. Healy Company, White Plains, New York

RALPH S. JOHNS '25
Partner, Haskins & Sells, Chicago

HJALMAR W. JOHNSON '22
Formerly Vice-President, Inland Steel Company, Chicago

C. E. LOVEJOY '20
Vice-President, Bill Brothers Publishing Company, Chicago

C. ROBERT MILLER '28
Partner, Arthur Young and Company, Chicago

WILLIAM F. MURRAY '34
Senior Vice-President, Harris Trust and Savings Bank, Chicago

STEWART D. OWEN '20
Formerly Managing Editor, *Chicago Tribune*, Chicago

J. G. THOMAS '23, LAW '28
Partner, Thomas, Mulliken and Mamer, Champaign

KENNEY E. WILLIAMSON '21
Chartered Life Underwriter, Peoria

President's Statement

names has been suggested as a major innovation in philanthropy and may be followed by others.

THE GIFT OF MR. AND MRS. CHARLES J. MERRIAM

During the year four scholarships and three fellowships in political science were awarded in a continuing program made possible by the generous gifts of Mr. and Mrs. Charles J. Merriam of Chicago. The scholarships were awarded in memory of Mr. Merriam's late father, who was a professor of political science in the University of Chicago and one of the country's leaders in that field. Mr. and Mrs. Merriam added $15,401 to their benefactions to the Foundation during the year to be held as an unrestricted fund for possible use later by the scholarship-fellowship program.

THE CLARA Y. SHAW ESTATE

This year's income for the Clara Y. Shaw Estate amounted to $24,561 and provided scholarships in varying amounts for 81 students. The Estate consists of securities as well as 640 acres of farm land north of Urbana. Mrs. Shaw died in 1955, leaving the Foundation an estate of approximately $470,000.

THE WELDON POWELL PROFESSORSHIP IN ACCOUNTANCY

One of the most important and extensive fund programs ever conducted through the Foundation is the fund for the Weldon Powell Memorial Professorship in Accountancy.

Cash gifts made during the fiscal year 1965-66 or income received from special endowments made possible the continuation of a number of notable special projects. A few of them:

THE KRANNERT CENTER FOR THE PERFORMING ARTS

No gift to the University or the Foundation has had greater significance than that of Mr. and Mrs. Herman C. Krannert of Indianapolis for the Krannert Center for the Performing Arts, now under construction. The Center itself will occupy two city blocks in Urbana. It will contain four theatres — a Great Hall, a Music Theatre, a Drama Theatre, and a Studio Theatre — as well as an outdoor amphitheatre. As President Henry points out, it will bring together a number of important teaching programs of the University and will be of tremendous cultural significance to future generations of students and faculty, to the entire state and nation.

THE LINK-BELT PROGRAM

Of great interest is the scholarship-fellowship program made possible by an anonymous gift of a half million dollars by a former director of the Link-Belt Company. During the year the fund provided scholarships for 81 students in varying amounts up to $1,000 and also a fellowship in engineering. The idea of former officers or directors making major gifts associated with their companies'

BY HJALMAR W. JOHNSON
PRESIDENT OF THE FOUNDATION

The University of Illinois Foundation is a not-for-profit corporation organized under the laws of the State of Illinois. It has as its primary purpose and objective the raising of funds for developing and increasing the facilities of the University of Illinois for broader educational opportunities. This year we are presenting this annual report for the fiscal year 1965-66 to acquaint you with what was accomplished toward meeting this objective.

The annual fund has increased over last year and, in addition, large special gifts by alumni and other friends of the University have made the totals for the year substantial.

The patent program, now carried on by an auxiliary organization, University Patents, Inc., of Illinois, has launched a promising program.

The borrowing function of the Foundation — the acquisition of funds for the purchase of farm and city property needed by the University — has saved the University many thousands of dollars because the Foundation is in a position to purchase these properties when the owners are ready to sell, without waiting for state appropriations for this purpose.

There is an ever-growing need for private support for the public higher education institutions. A recent report of the National Association of State Universities and Land Grant Colleges states that over two-thirds of all college and university students now are enrolled in such institutions and the tax funds available must be used to meet the ever-growing basic needs. Private gifts and grants provide the means for flexibility of operation — for scholarships, loan funds, cultural programs, better libraries, continuing research, and the many, many special needs that arise — which stimulate faculty, students, administrators, and make for a great university.

Officers and directors of the Foundation appreciate your gifts for the current year and hope that you are as proud as we are to be a part of this program to strengthen the University of Illinois.

Some Special Programs



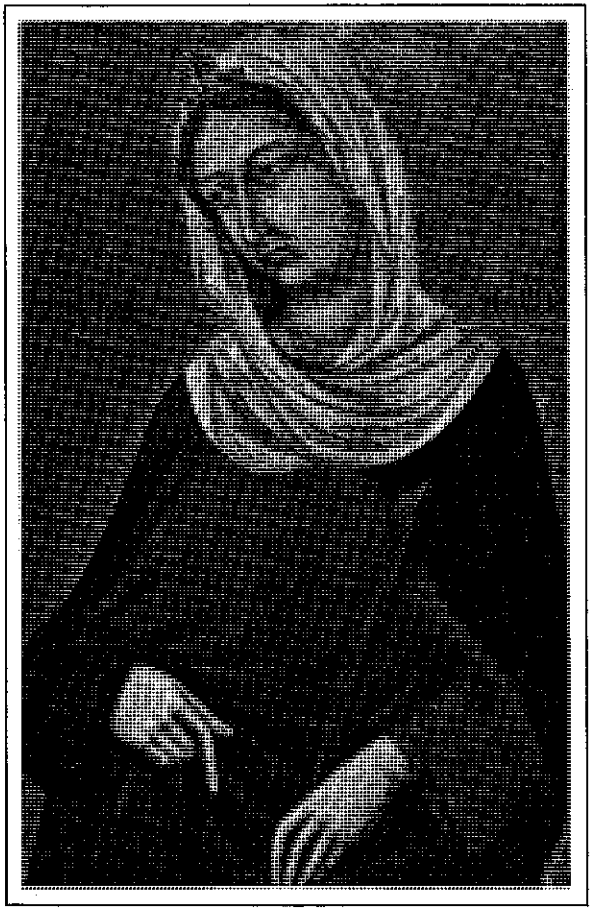
Award in Engineering, R. C. Fuson Award in Chemistry, Robert Graham Award in Veterinary Medicine, Mimi I. Jehle Award in German, Harvey H. Jordan Award in Engineering, E. W. Lehmann Award in Agricultural Engineering, Jesse Sampson Award in Veterinary Physiology, George Weinstein Award in Student Activities.

THE PRESIDENT'S FUND

Alumni gave $4,737 to the President's Fund, which is administered by President Henry's office and which enables the University to make emergency grants to students, to take care of many kinds of special needs which do not fall into other categories.

As you have seen, most of these allocations benefited *people*. All these gifts were made to the Foundation for the benefit of the University, of course. But, as used in University programs, every dollar went to help a student. This is the way your dollars are used. They help humanize the University's work, and they add "the margin for greatness" to important University programs.

Accomplishments During the Year



The total in funds contributed to the Foundation during the fiscal year 1965-66 is $1,858,222, an increase of $836,125 over that given the previous year.

This is more than a half million dollars above the total for any other fiscal year.

Income from investments was $115,799.

All of us connected with the Foundation — its members and directors, its officers and staff — can be proud of this accomplishment.

MAIL PROGRAM RESULTS

Gifts received from mail efforts have increased from $141,643 last year to $154,358 this year.

EFFECTIVE PHONE CALLS

Telephone campaigns in 18 cities have brought in 2,158 pledges for a total of $27,551. Groups of alumni met and, by the use of 'phones set up in central points, called Illini in Champaign-Urbana, Bloomington-Normal, Peoria, Buffalo, Albuquerque, Cincinnati, Cleveland, Columbus, Dallas, Denver, Detroit, Lansing, Louisville, Midland (Michigan), Phoenix, Rochester, Seattle, and Washington, D.C. A large number of contributors gave to the Foundation Fund for the first time.

MORE FOR GRANTS-IN-AID

The program of Grants-in-Aid to students in campus activities, including athletics, was instituted at Illinois in April of 1960 and for two years has been

FUNDS IN LAW

The Law Alumni Fund, established in 1962, provided scholarships for 26 students, and the Albert James Harno Memorial Fund made it possible for eight students to continue their legal education. An additional scholarship was made from the Lott Herrick endowment and 12 from the Chicago Title and Trust Company annual gift.

ART ACQUISITION

Alumni and other friends contributed $487,124 for the acquisition of art objects in the Krannert Art Museum. One of the year's most exciting gifts was made by Mrs. Herman C. Krannert of Indianapolis for the purchase of additional art objects. Her gift made possible five notable purchases: a Buddhist Stele, second century, A.D., from Gandhara, India; a painting "Saint Catherine," early fourteenth century, by Ugolino da Siena (Italian); "The Veil of Saint Veronica," early sixteenth century, by Michael Zeynsler (German); "Proculus Visiting Saints Formus and Rusticus," by Giovanni Battista Tiepolo (Italian, 1696-1770); and "Achilles Displaying the Body of Hector," by Jacques Louis David (French, 1748-1825).

PRIZES AND AWARDS

This year's income from various gifts made possible the Leah F. Trelease Award in Short Story Writing, the Follett Prize in Poetry, the H. Roy Brahana Award in Mathematics, Edward S. Fraser

Ingold of San Francisco, and portions of the Grotius Society (London) Transactions through an additional gift of Carleton Healy of Grosse Pointe, Michigan.

STUDENT LOANS

Twenty-seven students received loans amounting to $15,940 during the year from funds provided by alumni gifts. The total in loan funds contributed during the period was $3,358.

JAMES WEBB YOUNG FUND

One of the most interesting programs supported by Foundation gifts is the James Webb Young Fund in Advertising. It provides fellowships ranging from $1,150 to $2,500 for graduate students in advertising.

Many recipients study for their doctor's degrees and go into the teaching of advertising. The department policy limits the expenditures from annual receipts to $10,000, putting the balance each year into endowment. During the year gifts received totalled $23,189, and the income from endowment was $1,704.

JANE ADDAMS MEMORIAL

To restore the famous Hull House on the Chicago Circle Campus friends gave, during this year, $53,722 in addition to the $199,354 already received.

a project of the Foundation. During the fiscal year, 915 gave to the fund for a total of $128,530.

PRESIDENTS CLUB MEMBERSHIP DOUBLES

The University of Illinois Presidents Club, started late in 1964, had a membership of 63 at the beginning of the fiscal year. During the twelve-month period 69 more people qualified, bringing the membership to 132 on June 30, 1966. Alumni and other friends of the University become members by indicating their intention of giving $10,000 or more over a ten-year period, payable on the basis of $1,000 or more each year. Or, they may qualify by agreeing to make a deferred gift of $15,000 or more through insurance or a bequest. Considering each gift at the minimum figure, the amount to be contributed through this organization is in excess of $1,500,000. Gifts made to qualify for the Presidents Club may be designated for a project of the donor's choice, or may go into the valuable unrestricted fund.

ONE HUNDRED CLUB GAINS

The One Hundred Club includes those who contribute $100 or more each year. During 1965-66, it was composed of 1,303 people. Based on minimum gifts, the total in gifts from this fast-growing organization reached $130,300.

WILLS PROGRAM VITAL

Bequests constitute one of the largest avenues of giving to the University and to the Foundation.

The wills program grows out of the warm personal relationship between an alumnus or other friend and the University. In most cases bequests are arranged after conferences between the donor and the Foundation staff. In others the bequests are made in confidence between the donor and his attorney. Among the wills admitted to probate this year are those of Dr. Benjamin Goldberg of Palm Springs, California, estimated at $1,500,000; Charles A. Goodenberger, Jr. of Butte, Montana, $303,800; and William W. Sayers of Long Beach, California, approximately $1,500,000. Funds from the Goldberg and Sayers bequests have not been received and so are not included in Foundation receipts.

COLLEGE PROGRAMS ACTIVE

College and departmental funds have received wide support. The College of Law has two major funds: The A. J. Harno Memorial Fund for Scholarships, an endowment, and the Law Alumni Fund, which enables the College to use both interest and principal. Alumni in Law gave $22,043 during the year for these two funds.

The Department of Ceramic Engineering joined the Foundation effort this year; alumni of this department contributed $7,052 to the newly established fund and to the memorial fund for the late A. I. Andrews, who was department head.

of Chicago. During the year 209 students were enrolled in the program.

RESEARCH

Research received $317,877 from Foundation efforts. Most of the studies were conducted in medicine and were for pilot studies, the results of which led to support on a large scale from corporations or health agencies.

LECTURESHIPS

Gifts made possible several lectureships, adding an extra value to University educational programs. Among these are the David Kinley Lectureship in Economics, the Lita Bane Lectures in Home Economics, the P. L. Windsor Lectures in Library Science, and the Stanley H. White Lectures in Landscape Architecture. The lecture funds available during the fiscal year amounted to $3,106.

LIBRARY ACQUISITIONS

Library acquisitions through gifts were notable. The most spectacular of these was John Milton's copy of "Lycophronis Alexandra" (1601) with his autograph, date of purchase (1634) and the price Milton paid for it.

Among other notable purchases are the John Brussell collection, some 300 volumes, on Shakespeare and his era, and other volumes on Shakespeare through an additional gift from Ernest

The aim of this part of the report is to tell you how your gifts were used in the University. No one could tell the entire story; the effect of your contribution on the life of one student receiving a scholarship may be far-reaching.

SCHOLARSHIPS

During the year, 399 students received Foundation scholarships. The amounts depended on the wishes of some donors and on the student's financial need, and they ranged from $150 to $1,000 a year. Many of them were for $350 a year, which covers tuition and fees. Students benefited are studying in virtually every college of the University and on all three campuses.

FELLOWSHIPS

Fellowships usually amount to $3,000 each. They not only help a graduate student continue his education but, in many cases, assist in carrying on research or teaching programs. This year 14 fellowships were awarded through Foundation gifts.

REHABILITATION-EDUCATION

The Rehabilitation-Education program, so vital to students who are physically handicapped but who have strong intellectual capabilities, received $15,334 from gifts. A total of $143,282 has been contributed for the new building in which the Center is located. The largest single gift was $100,000 from the Robert R. McCormick Charitable Trust

The Civil Engineering Department established a special trust fund during the year. Gifts made to the Department totalled $11,171.

At the Chicago Circle Campus, faculty and students contributed $6,935 to purchase books for the Library.

Alumni and others in the advertising field gave $23,189 to the James Webb Young Fund, honoring one of the country's distinguished leaders in that field.

Alumni, chiefly in physical education, old friends of the late Coach Robert C. Zuppke, contributed $6,682 to a fund to provide a plaque for Zuppke Field in Memorial Stadium.

Gifts of $6,537 were received for the Library Collections Fund at Urbana.

Faculty and alumni at the Medical Center Campus added $106,764 to the fund for the new Illini Union Building on that campus.

Several funds contributed by alumni and other friends of the College of Commerce and Business Administration totalled $82,560 for the year.

MEMORIALS NUMBER 80

Memorial funds honoring faculty people or alumni constitute an important part of the giving program in the Foundation. During the year some 80 memorials were providing funds for scholarships, prizes and awards, fellowships and research.

These are important to the fund program. The Foundation receives these funds and administers them as the donors direct, within the framework of the University needs.

PATENT DEVELOPMENT

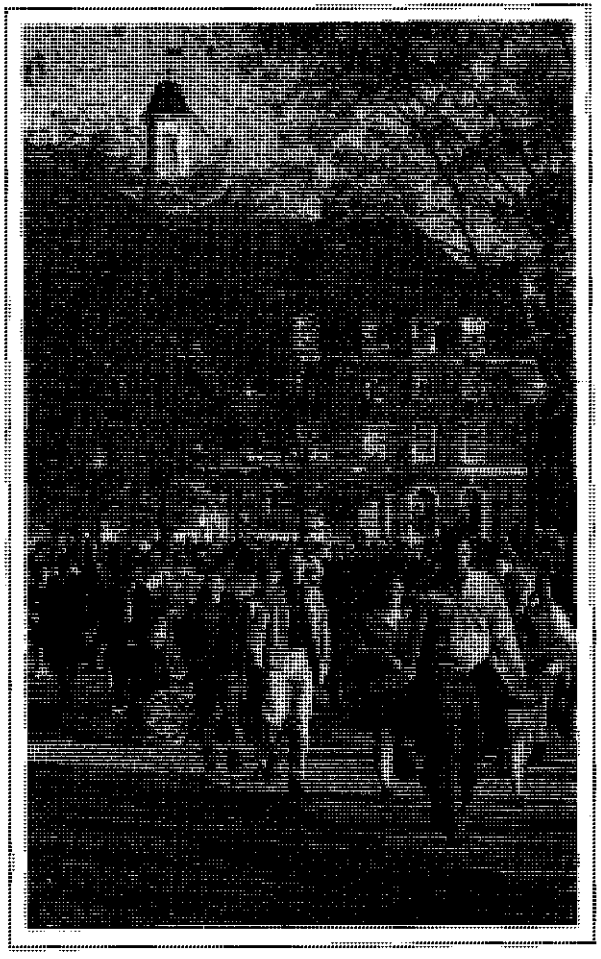
During the year the Foundation, through University Patents, Inc., of Illinois, an adjunct of the Foundation, received reports from various University departments of 37 new inventions. The patent organization made contact with scores of industries to market those which appeared to have commerce value, and arranged licensing agreements for manufacture and sale. The gross royalty income for the year was $130,812.

PROPERTY ACQUISITION EXTENSIVE

The Foundation borrowed $2,903,800 during the fiscal year for the purchase of 37 pieces of property for University use. Of this number 14 properties were for the site of Krannert Center for the Performing Arts. The rest were for houses or lots needed by the University for expansion in other areas. The University pays the Foundation rental sufficient to amortize the financial obligations incurred for these purchases.

A vital part of the Foundation's work is carried on at the Illini Center, on the 20th floor of the LaSalle Hotel in Chicago. People in the central office in the Illini Union on the Urbana campus and those working on Foundation programs in Chicago, of course, are in frequent communication.

What Your Gift Means to the University



Chicago, July 10-14.

The automobile units, with under seat speakers, indoor speakers, deck and kick panel speakers as optional equipment, range from an 8-track monaural unit for $69.95 suggested list to $109.95 for a compatible 4- and 8-track stereo unit.

The home units list for $29.95 for a self-contained ac unit, four track in several cabinets and colors, a compatible 4- and 8-track stereo is listed at $99.95. The latter unit also features automatic cartridge recognition, manual over-ride, automatic track switching, walnut cabinetry, plays through any hifi, stereo, radio on component system with tape or photo input.

The leader automobile unit plays stereo cartridges monaurally through amplifier and speaker system and has a black case, chrome deck and walnut trim face plate.

The step-up unit, listing at $89.95, is a 4-track stereo which plays both 300- and 600-foot music cartridges and will play mono music cartridges. It has a black case, chrome or gold deck and knobs.

An 8-track stereo in black case and chrome or gold deck and trim lists for $99.95, while the top unit is a 4- and 8-track stereo, manual over-ride, automatic track switching.

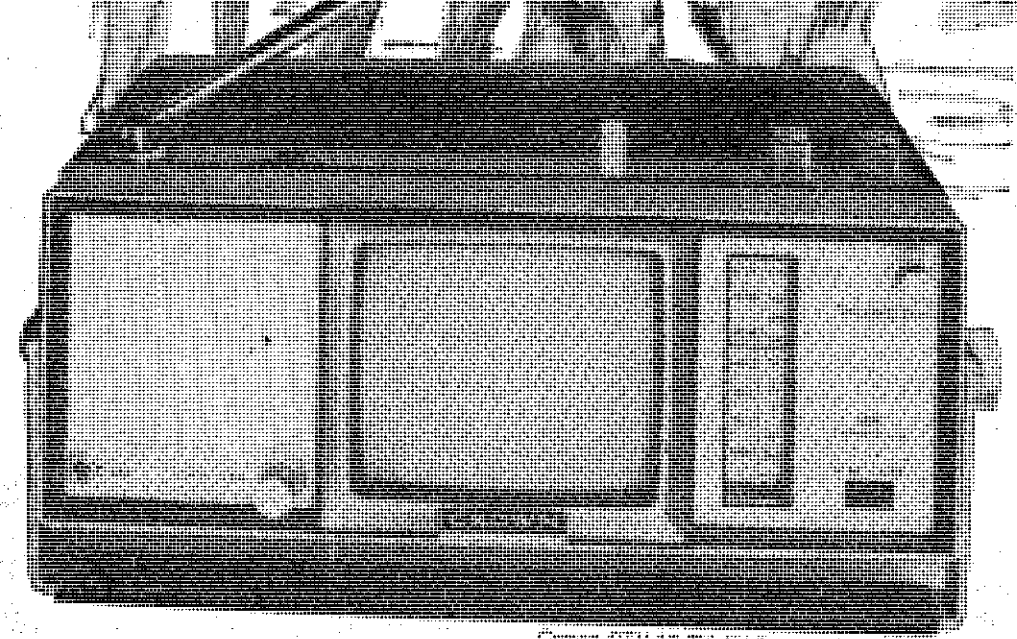
Charge Antenna Patent Suit a Plot

CHICAGO. — Jerrold Electronics Corp. and R. Cooper, Jr., Inc., charged in Federal Court that the University of Illinois Foundation's patent infringement suit against them "was brought as a result of a conspiracy between the foundation and JFD Electronics Corp."

The defendants assert JFD is a competitor of Jerrold, Philadelphia, in the manufacture of radio and TV antennas. They deny they make or sell antennas that infringe the foundation's patents No. 3,150,376 for a multiband log-periodic antenna and No. 3,210,767 for a frequency-independent, unidirectional antenna.

The defendants also charge the patents are invalid because they do not involve inventions. Sidley, Austin, Burgess & Smith represents the defendants.

HAVE A SELL-OFF



Crown CTV-12 TV 4½" with AM/FM Radio.

What is the thing that people like to do best on a hot, sultry, lazy summer afternoon?

You betcha.

But they can also watch TV on a battery-operated portable TV set with a 4½-inch screen and built-in AM/FM radio, by Crown. Or listen to records on a battery-operated portable phonograph with built-in AM/FM radio, by Crown. Or listen to tapes on a battery-operated portable tape recorder with built-in radio, by Crown.

Crown makes all this hot, sultry, lazy summer listening possible with a complete line of battery-operated portable entertainment things. All brilliantly designed and quality manufactured by Crown. All covered by Crown's full year guarantee on parts and labor. It all adds up to this: on those hot, sultry, lazy summer afternoons the thing that YOU are going to like to do best is watch all those Crown battery-operated portable entertainment things being sold off your shelves. Then, while you are counting your profits, pour yourself some seltzer and ice and flip on one of those Crown CTV 12 TV sets and catch the ballgame. Or listen to AM or FM radio. Or a record. Or a tape. Yawn. You never had it so good.

INDUSTRIAL SUPPLIERS COMPANY

965 FOLSOM ST., SAN FRANCISCO 94107/415-781-3030

CROWN

company-sponsored school in the nation geared to meet these dual requirements," Mr. Trux claimed.

INSTRUCTION is offered in the following three specialized training categories:

1. Users of Ampex video recording systems and accessories. A three-and-a-half-day course in basic television including both closed circuit and broadcast applications, videotape production, camera, microphone, and studio lighting techniques is offered. Tuition is $100.

2. Dealer sales representatives. Dealer sales schools are two days in duration and feature many of the topics included in the buyer's school plus a wide range of sales-oriented topics. Tuition is $50.

3. Dealer service personnel. A five-day service and maintenance workshop in the operation and servicing of video equipment, replacement of parts, and new developments and innovations in the industry is offered. Tuition is $100.

Hotel accommodations and meals during each session are covered by the tuition.

SPECIAL TRAINING groups, such as educators, medical, or industrial representatives, wishing to learn fundamentals of CCTV and videotape recording can be easily accommodated, Mr. Trux said.

Charles E. Pipher, formerly CEPD special markets manager and newly appointed director of training and technical services, has over-all responsibility for the school.

Customer curriculum of AVI will be under the direction of James M. Crooks, who has been appointed

Channel Master Dropped From Suit

CHICAGO. — Channel Master Corp. was dismissed as a defendant to a suit charging infringement of University of Illinois Foundation's patent for a frequency independent unidirectional antenna.

The Federal Court suit charges Channel Master, Ellenville, N. Y., makes antennas for radio and TV sets that infringe Patent No. 3,210,767 and that Electronic Distributors, Inc., here, sells them.

Channel Master asserted the court lacked jurisdiction.

Eletronic Distributors has denied the charges and claims the patent is invalid because of prior art and patents.

[redacted] Flint, Mich
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Atlantic [redacted] Alexandria. Va., reports.

The firm conducted a study for the National Aeronautics and Space Administration on costs and technical factors involved in receiving TV broadcasts directly from a synchronous satellite, including the cost of equipping home receivers for this purpose.

The report analyzed various combinations of frequencies, background noise, and effective signal strength in terms of reception quality and receiver cost.

ARC studied the reception of signals ranging from 30 dbw to 90 dbw. The Early Bird satellite has a signal strength of 10 dbw.

It was found that the cost of equipping receivers to receive direct satellite broadcasts varied considerably with the strength of the signal. Existing satellites have too low a signal strength to make direct home reception economical.

The study said for a satellite transmission of moderate power (a low 40 dbw signal) cost of modifying home receivers in large quantities would be about $180 each for reception in cities and about $90 in rural locations, which have less background noise. In the case of a satellite having very high signal strength (90 dbw), the report estimated that the job could be done for $15.

16 Reps Named By BSR Division

BLAUVELT, N. Y.—Sixteen new sales reps have been named by the McDonald division of BSR (USA) Ltd.

They are: Bert Gedzelman Sales Co., Spring Valley, N. Y.; Component Marketers, Montclair, N. J.; Arnold Kramerson Sales Co., Great Neck, N. Y.; A. B. & T. Sales Corp., Olney, Md.; Schroeder Sales Co., Cleveland; Elliot Associates, Inc., Atlanta; Irving W. Rose Associates, Inc., Chicago; Zimmer Sales Co., Shawnee Mission, Kan.; Heiman Co., Inc., Minneapolis; Avco Sales Co., Dallas; R. & D. Sales Co., Denver; Vector Corp., Seattle; Sinai-Johnson, Inc., San Francisco; Shepard, Winters & Stern, Burbank; Ted Sharaf Associates, Miami and Tampa, and Musimart of Canada, Ltd., Montreal.

The outlet just o
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and scrubber, 6
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Empire Pres Elliptical Sty

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tems, turntables, and
components.

Model 888E, priced
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design and housing tape deck, ste-
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$1,500. Cabinetry is designed and sup-
plied to Concertone by Los Angeles fur-
niture maker Raymond E. Enkeboll.

Admiral-Chicago Realigns Execs.

ROSEMONT, Ill. — An executive realignment affecting three positions has taken place at Admiral Corp., Chicago, Inc. According to Victor A. Croft, branch general manager. Sales responsibilities for the electronics and appliance lines have been split.

D. W. Principe, who formerly had responsibility for both lines, has been named sales manager-appliance division.

L. E. Zuhn has been promoted to sales manager-electronic division. He was formerly territory salesman for the southern area, a position which has not been filled.

Both report to Charles Rosenkrantz, general sales manager.

In another move, Joseph F. Grgula was appointed advertising manager.

Formerly assistant sales coordinator manager — for which position a successor has not been named — Mr. Grgula had previously been a store manager in the area for the Grgula Western Tire Co.

He suceeds Robert Schroeder, who has left the company.

Increase Sought In Admiral Shares

CHICAGO. — A board of director's proposal to increase the number of authorized common stock shares from 3 million to 9 million is being submitted to Admiral Corp. stockholders.

The proposal will be considered, along with a reelection of directors, at the annual stockholder's meeting here, May 5.

The increase in the number of shares was proposed "in case something comes along that looks interesting," a company official said, emphasizing that the company has no definite plans. "It could be used for a stock split, acquisition or for sale of stock to the public," he explained,

He reiterated that there were no specific plans in mind, when asked whether the acquisition of a home laundry appliance line might be in store, a recurrent rumor in the trade concerning Admiral.

Antenna Patent Suit Hits Jerrold

CHICAGO. — The University of Illinois Foundation, Urbana, charged in Federal Court that Jerrold Electronics Corp., Philadelphia, and R. Cooper, Jr., Inc., here, make or cause manufacture and sale of radio and TV antennas that infringe two of its patents.

The patents are Nos. 3,150,376, for a multiband, log-periodic antenna, and 3,210,767, for a frequency-independent, unidirectional antenna.

The suit asks for injunctions and an accounting and award of damages.

Merriam, Matshall, Shapiro & Klose represents the foundation.

Mountain National Buys Shinnston

CHARLESTON, W. Va.—Mountain National Corp. here, an electronics distributor, has purchased Shinnston TV Cable Co. of Shinnston, W. Va. The purchase price was not disclosed.

This is the company's debut into the CATV field as owner and operator. It has been awarded CATV franchises in Pennsboro and Cairo, W. Va., and Mountain Lake Park and Loch Lynn, Md.

Ford Cites Sales Of Auto Players

DETROIT.—Ford Motor Co. sold 60,000 cars with stereosonic tape players installed at the factory during the first six months of the 1966 model year, it reported.

Breakdown by auto lines was more than 20,000 in Ford models, about 12,000 in Thunderbirds, more than 11,000 in Lincoln Continental, nearly 10,000 in Mustangs, and nearly 5,000 in Mercurys. Ford said installations had "outrun forecasts" both in player systems ordered and tapes sold.

The system was developed by Ford and Motorola, Inc. Radio Corp. of America produces the sample cartridge sold with each unit.

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Toshiba will not market novelty radios of the type previously sold ...ucts which ... factures.

COURT NEWS

Bar-Mac Sues for $1,090,000 on Pact

LOS ANGELES. — M. Warschaw and Bar-Mac, Inc., trading as Sunbeam Television Service, 8831 South Western Avenue, filed a $1,090,000 suit in Superior Court charging Murray Gross and Max Warren, trading as Bonded Picture Tube Manufacturing Service, with violating a non-competition agreement. The suit also seeks an injunction barring Pacific Telephone & Telegraphh Co. from listing the defendants as Sunbeam Television Service and Sunbeam Picture Tube Co. and from referring calls for those firms to the defendants' firm.

Mr. Warschaw states he bought capital stock of his company, Bar-Mac, from Mr. Warren last Oct. 15. At the time of the agreement, Mr. Gross was manufacturing picture tubes and related parts and agreed to sell exclusively to the plaintiffs, but, it is charged, last Nov. 1, he refused to supply any more tubes to them.

The action asks to compel the defendants to live up to their agreement not to compete with the plaintiffs within 60 miles.

Yanover & Kreshek, Beverly Hills, represents the plaintiffs.

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Electronic Distribs. Asks to Void Suit

CHICAGO. — Electronic Distributors, Inc., denied in Federal Court that it sells television and radio antennas that infringe University of Illinois Foundation's patent for a frequency independent unidirectional antenna.

Electronic Distributors charges Patent No. 3,210,767 is invalid because of prior art and patents. It asks for dismissal of the suit.

Prince, Schoenberg & Fisher represents Electronic Distributors. The foundation is in Urbana, Ill.

Channel Master Sues to Invalidate U. of Illinois Patent

NEW YORK. — Channel Master Corp. has filed a Federal Court suit in Brooklyn against the University of Illinois Foundation, seeking to invalidate its patent for a radio and television antenna.

The suit also names JFD Electronics Corp., exclusive licensee of the patent, and the University of Illinois. The patent in dispute is No. 3,210,767 for "Frequency Independant Undirectional Antennas."

Channel Master maintains that the patent is invalid and that JFD, the Foundation and the University falsely charged it with infringing the patent.

Channel Master accuses JFD of printing misleading statements in nationally distributed trade journals which led the public to believe Channel Master copied the patent. The resulting damage to its business exceeds $100,000 Channel Master charges.

An infringement suit against Channel Master over the same patent, brought by the University of Illinois Foundation, is pending in Federal Court, Chicago.

Darby & Darby represents Channel Master in the suit here. The manufacturer is located in Ellenville, N. Y. JFD is at 1462 62d Street, Brooklyn.

6,010,000 Homes Own Color as of April 1

NEW YORK. — The total number of United States households owning color television sets reached 6,010,000 as of April 1, according to the latest quarterly estimate provided by National Broadcasting Co.

This total represents a gain of 2,800,000 color households, 87 per cent above the 3,210,000 color households for April 1, 1965.

The April 1, 1966, color estimate is the sixth of a regular series released quarterly by NBC. The spiralling color trend fo the past 15 months is revealed by the following NBC estimates of color sets in use, color households and color penetration of TV homes.

	Color Sets In Use	Color TV Households	Color Households as % of All TV Households
Jan. 1, 1965	2,860,000	2,810,000	5.3
April 1, 1965	3,280,000	3,210,000	6.0
July 1, 1965	3,600,000	3,510,000	6.5
Oct. 1, 1965	4,450,000	4,360,000	8.1
Jan. 1, 1966	5,350,000	5,220,000	9.6

The NBC estimates are based on a variety of authoritative industry sources and special surveys which ancompass such factors as color set production, inventory at the factory, distributor and retail levels and set scrappage. The estimates provide a realistic appraisal of the net number of color-equipped TV households in the United States.

Channel Master Asks to Kill Suit

CHICAGO. — Channel Master Corp. has asked Federal Court to dismiss a suit charging it makes and sells television and radio antennas that infringe University of Illinois Foundations patent for a frequency independent unidirectional antenna.

The patent involved in No. 3,210,767.

Channel Master, Ellenville, N. Y., says the court lacks jurisdiction over it because it does not have a place of business in Illinois. It also contends that the antennas are not made and sold in the State and all orders and sales are consummated in Ellenville. Lucas & Coffee represents Channel Master. The foundation is in Urbana, Ill.

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CHICAGO. Sam Perry Ashbach $10,0... to be jailed u... him and his Ashbach Ente... plied with.

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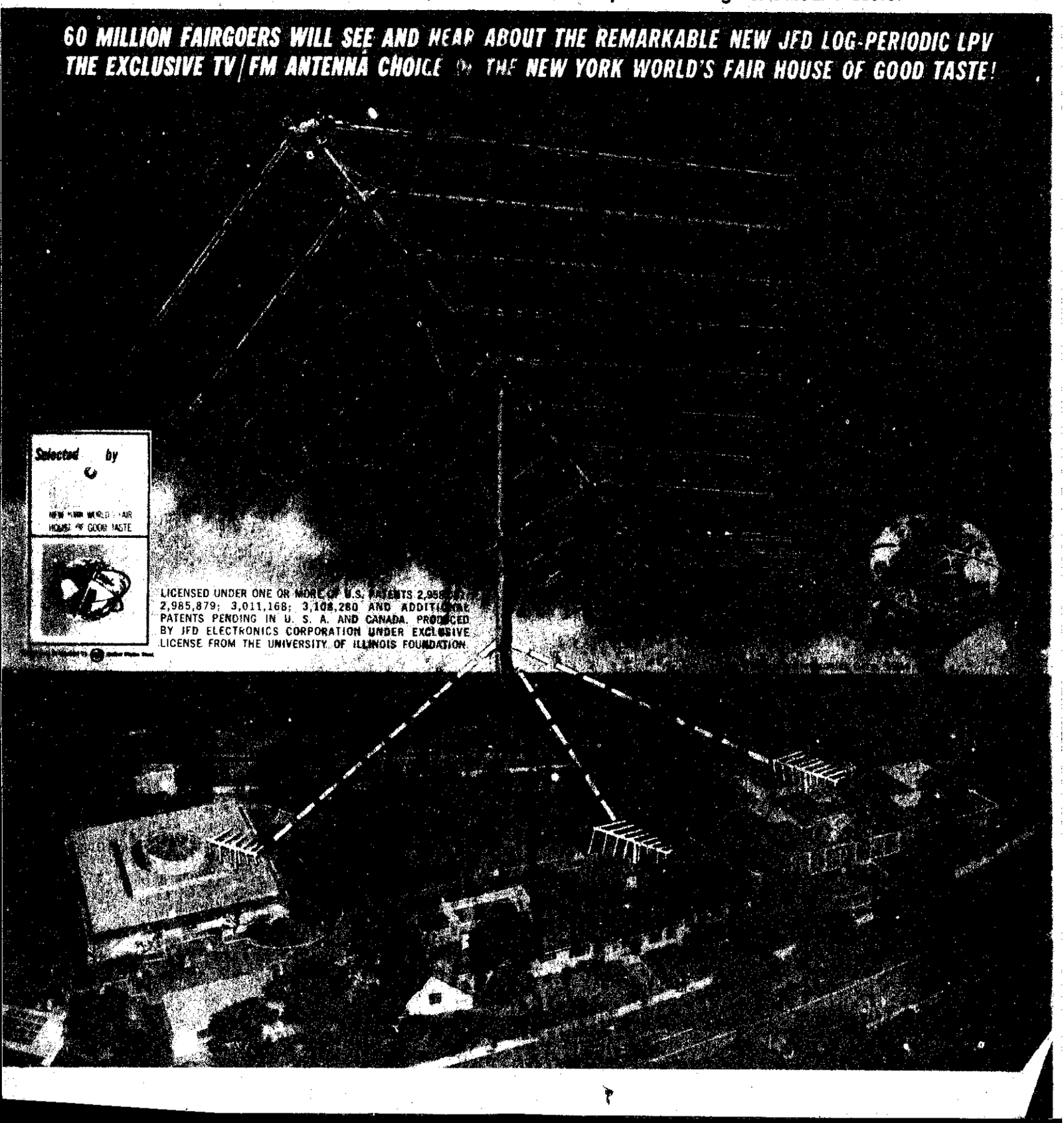
JFD

The New York World's Fair House of Good Taste Exhibit will showcase today's and tomorrow's finest advances in home living. Its Board of Directors selected the JFD Log-Periodic LPV as the only television antenna to be installed on each of the three homes on display.

Sixty million Fair goers will see the JFD Log-Periodic LPV. Millions more, everywhere in America, will see, hear and read about the House of Good Taste and its choice of the JFD Log-Periodic LPV. This powerful new marketing force will be at work building record JFD Log-Periodic LPV sales and profits for you during 1964 and 1965.

Another JFD first that means more customers—more profits for Log-Periodic LPV users!

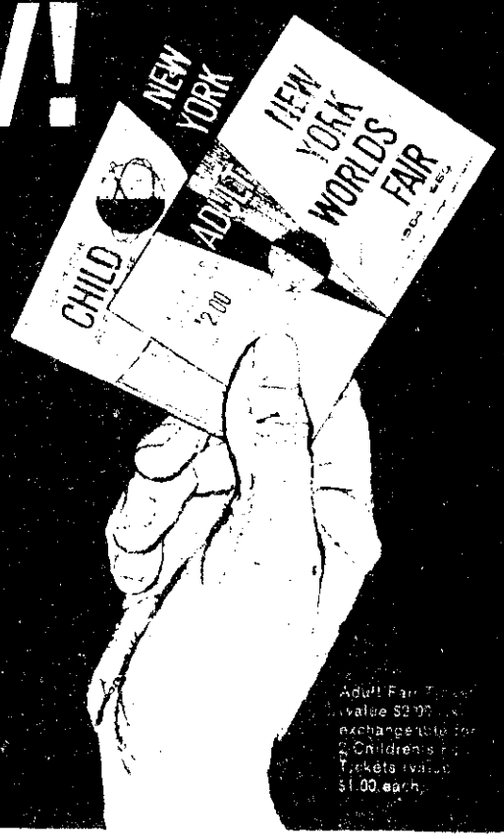
60 MILLION FAIRGOERS WILL SEE AND HEAR ABOUT THE REMARKABLE NEW JFD LOG-PERIODIC LPV THE EXCLUSIVE TV/FM ANTENNA CHOICE OF THE NEW YORK WORLD'S FAIR HOUSE OF GOOD TASTE!



BE OUR GUEST AT THE MOST EXCITING EXTRAVAGANZA OF THE YEAR...

—the fabulous 1964-1965 New York World's Fair Festival!

You win all ways when you feature the LOG-PERIODIC JFD LPV!



- MORE antenna sales and profits!

plus

- FREE tickets to the New York World's Fair!
- FREE Weekend Fair Holidays in New York City

HERE IS HOW

Every JFD VHF or UHF Log-Periodic LPV you buy between March 1, 1964 and August 31, 1965 earns you valuable JFD Fair Festival Certificates (see schedule below) which you can:

1. **Trade in for FREE World's Fair Adult Admission Tickets (worth 150 points) or . . .**
2. **Trade in for FREE 3-day, 2-night Fair WEEK-ENDER HOLIDAY (worth 3,000 points) or . . .**
3. **Redeem for $1.25 cash for each 150 points, from JFD.**

USE THEM FOR YOURSELF AND YOUR FAMILY . . . USE THEM AS INCENTIVES TO YOUR CUSTOMERS TO PROMOTE MORE JFD LPV ANTENNA SALES!

ENJOY THE GREATEST SHOW EVER ASSEMBLED

50 different nations and 50 states will be [illegible] see the first public demonstration of [illegible] exploration team at work . . . watch [illegible] continental circus, monorails, the Wild West [illegible] and hundreds of other spectacular sights.

AND TO HELP YOU SELL MORE LPV ANTENNAS JFD OFFERS YOU A SENSATIONAL WORLD'S FAIR TIE-IN PROMOTION PROGRAM . . .

A stunning array of full-color [illegible] banners, streamers [illegible] mats and dozens [illegible] local sales campaign [illegible] toward **your** FREE FAIR HOLIDAY.

START NOW... MAKE SALES/POINTS WITH JFD ANTENNAS!

JFD DEALER LPV POINT VALUES

model	points	model	points
LPV17	50	LPV-U15	20
LPV14	50	LPV6, LPV6PM	15
LPV11	35		
LPV-U21	40	LPV4, LPV4PM, LPV-U9	10
LPV8, LPV8PM	25	LPV-U5	5

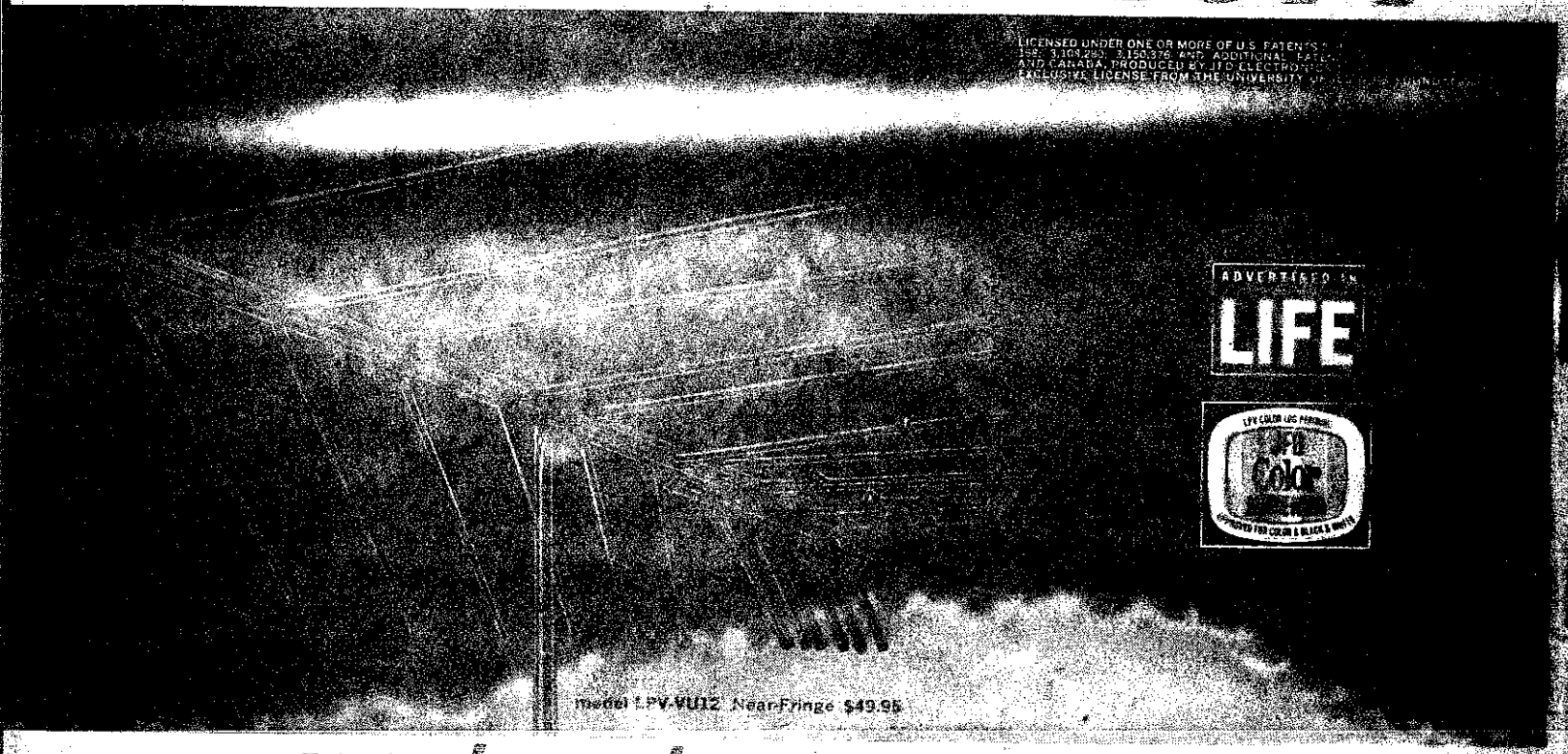
Obtainable from your JFD distributor when you purchase LPV Antennas.

JFD JFD ELECTRONICS CORPORATION

15th Avenue at 62nd Street, Brooklyn, N. Y. 11219

JFD Electronics Components Division, Oceanside, N. Y. 11572
JFD International, 15th Avenue at 62nd Street, Brooklyn, N. Y. 11219
Canadian JFD Electronics, Ltd., 51 McHenry Road, Rexdale, Ontario

america's no.1



VHF/UHF/FM ANTENNA!

Because it delivers best 82-channel TV performance—COLOR or black/white—plus FM/Stereo—using only a single downlead!

No other antenna works like the 82-channel JFD LPV-VU Color Log Periodic . . .

■ **Only** the JFD LPV-VU is designed according to the patented **log periodic design** of the **University of Illinois Antenna Research Laboratories.**

■ **Only** the JFD LPV-VU utilizes capacitor-**coupled Cap-Electronic** dipoles for higher mode operation that achieves higher gain, **narrower** beamwidths on VHF channels 7 to 13 and UHF channels 14 to 83. (Our competition's copies of the JFD LPV-VU use only **fundamental** mode which resonate as simple dipoles with consequently limited gain.

■ **Only** the JFD LPV-VU offers true **frequency-independent** performance that insures brilliant **color** on any channel.

JFD®

LPV®-VU

Color®

LOG PERIODIC

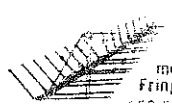
You **bet** you can have everything you want in **one** antenna—VHF, UHF, FM—with a **single** down-lead, too! Start teaming up JFD 82-channel **LPV-VU Color** Log Periodics with all the 82-channel TV sets in your area—see the difference in profits **and** performance. Call your distributor or **write** for brochure 806.

[illegible] of LIFE will be seeing spectacular JFD [illegible] Log Periodic advertisements all season long. This unprecedented campaign will be pre-selling JFD LPV antennas for **you!**

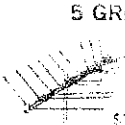
Full-color television commercials **will** show millions more why the LPV's **patented** space log periodic design **works** best on **any** channel—**color** & **black/white.**

5 GREAT MODELS TO CHOOSE FROM


model LPV-VU18
Far-Fringe


model LPV-VU15
Fringe


model LPV-VU12
Near-Fringe
$49.95


model LPV-VU9
Suburban-Fringe
$39.50


model LPV-VU6
Metro-Suburban
$27.50

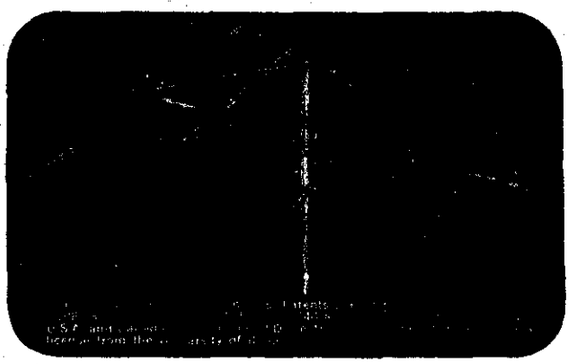
Experts' Choice!

JFD® LPL-FM

STEREO LOG PERIODIC ANTENNA

NATIONALLY ACCLAIMED for:

- Greater Sensitivity.
- Sharpest Directivity.
- Cleanest Signal.



NATIONALLY ACCLAIMED by:

- FM station engineers.
- Hi-fi publications.
- Tuner designers.
- Independent testing labs.

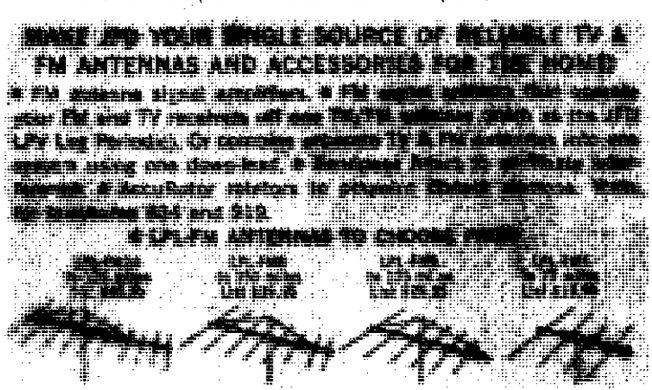
For the first time, JFD engineers have harnessed the amazing frequency independent telemetry log periodic antenna design to FM stereo. The result is a spectacular advance in the state-of-the-FM antenna art—the patented* JFD LPL-FM Log Periodic.

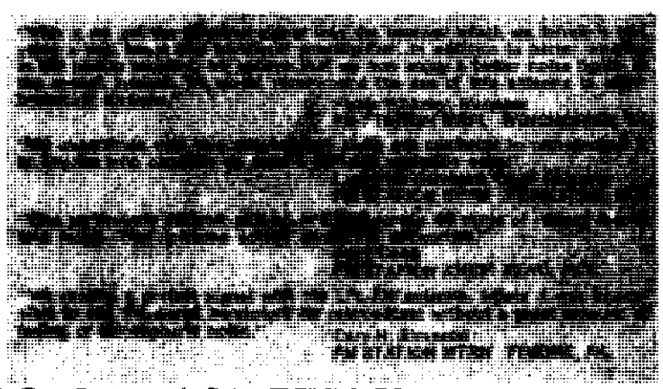
Your tuner's multiplex circuits require higher signal levels than monophonic tuner circuits. JFD full-wavelength L-dipole design gives your tuner up to 41 percent more signal voltage than today's best 10-element FM Yagi.

Your tuner's multiplex circuits also need pure, distortion-free signal. JFD frequency independent log periodic antenna design feeds your tuner studio-quality signals . . . maintains 300 ohm impedance match that prevents signal-sapping standing waves—on every station.

Whether you are seeking more FM stations, better separated FM stereo, elimination of distortion and interference . . . demand the antenna that is the expert's choice—the JFD LPL-FM Log Periodic.

Developed from research performed at the University of Illinois Research Laboratories.

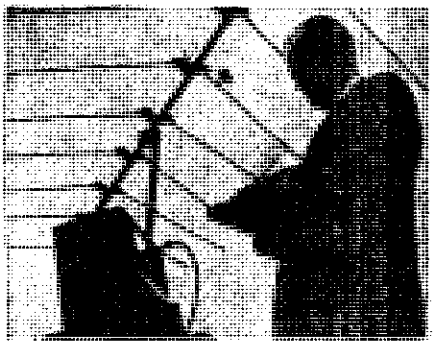




JFD ELECTRONICS CORPORATION

15 Avenue at 62 Street, Brooklyn, N.Y. 11219

International, 64-14 Woodside Ave., Woodside, N.Y. 11377 JFD Canada, Ltd., Canada



Again from JFD®

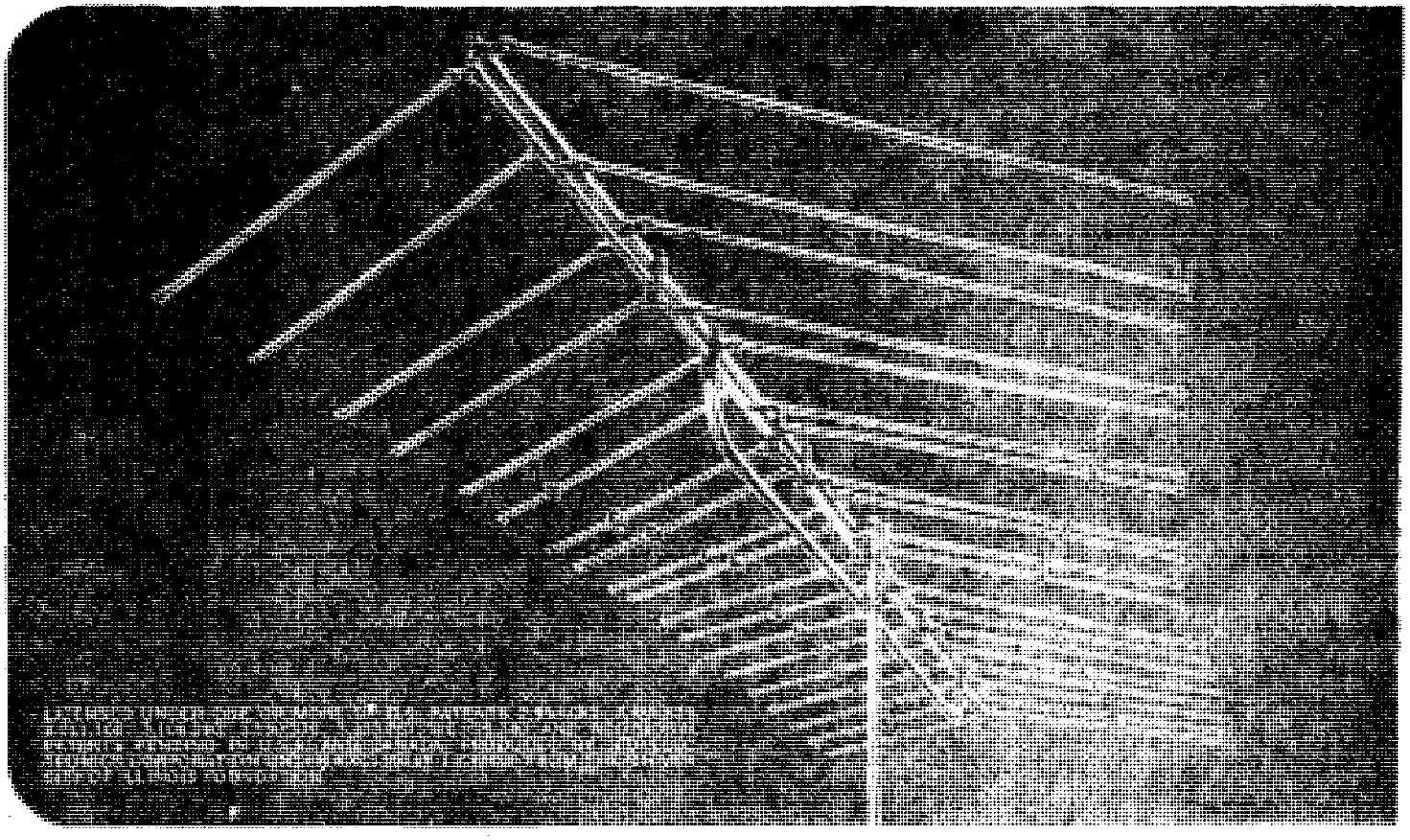
the first major VHF antenna advance since the invention of the JFD LPV Log Periodic!

Developed at the JFD Antenna-Research Laboratories, Champaign, Illinois under the direction of Dr. Paul E. Mayes, co-inventor of the acclaimed LPV Log Periodic concept.

the remarkable new

JFD® LPV®-TV COLOR LOG PERIODIC

for channels 2 to 13 and FM/Stereo



Circle 16 on reader's service card

BY FAR–the best antenna for VHF COLOR performance because it combines...

- The electronic perfection of the **patented** frequency independent Log Periodic concept of the **University of Illinois Antenna Research Laboratories.**
- New **capacitor-coupled Cap-Electronic** elements that respond on the **third** harmonic mode for **highest** effective gain. More harmonically resonant elements mean higher signal-to-noise ratios, better ghost rejection, **sharper** directivity on **high** VHF band—where it's most needed, **especially** in **color.***
- **True dual-band directors** separately tune to high and low bands for added gain and directivity on **all** channels.
- **Flat frequency response** (± ½ db across entire channel) for studio-quality color regardless of channel tuned.

New LPV-TV Log Periodic antenna series incorporates new capacitor-coupled element concept for improved response, especially in color, on channels 2 to 13.

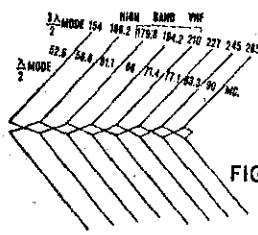


FIG. 1

Fig. 1 shows how a VHF log periodic with eight conventional V-dipoles might look. The resonant frequencies of the dipole elements in the low VHF band are indicated near midpoint of each dipole. The 3/2 wavelength resonant frequencies are indicated near the ends of each dipole. (Note that only **three** dipoles resonate at frequencies in the high VHF band.)

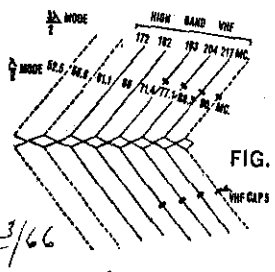
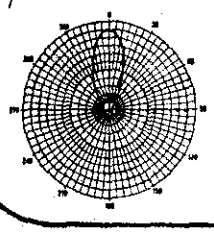


FIG. 2

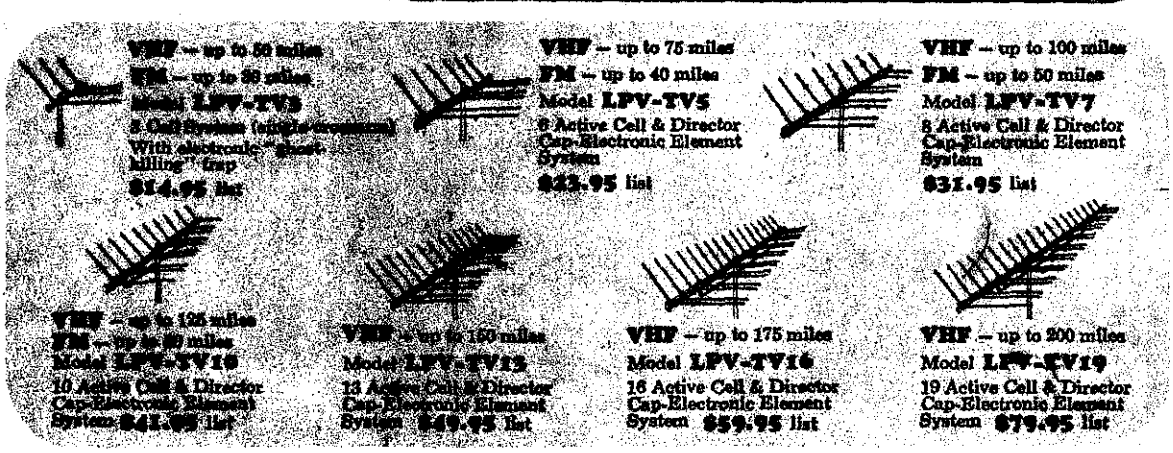
However, by introducing parallel plate capacitors into the dipoles and by carefully adjusting the value of this capacitance and its position on the dipole, as shown in Figure 2, the resonant frequencies of the dipole can be shifted in the 3/2 wavelength mode. In this way, the dipole can be made to resonate at two desired frequencies: e.g., 88 and 216 mc.


FIG. 3

Result: the active region in the high band extends over **five** of the eight original dipoles instead of three, as in Fig. 2, with a performance improvement of 66⅔%. The new capacitor-coupled dipoles also present more capture area on the low band than ordinary dipoles. Thus LPV-TV antennas offer, on both bands, **higher** and more uniform gain, **lower** side-lobe levels, **narrower** beamwidths, for vastly improved ghost **rejection** (see Fig. 3).

featured in LIFE

F.J. Reporter 3/66



JFD ELECTRONICS CORPORATION
15th Avenue at 62nd Street, Brooklyn, N.Y. 11219
JFD International, 64-14 Woodside Ave., Woodside, N.Y. 11377
JFD Canada, Ltd., Canada

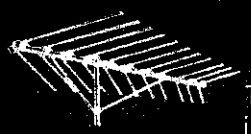
See what's **NEW** from **JFD** at **BOOTH #2101** in San Francisco Parts Show June 3, 4, 5

©1966, JFD

JFD The Dramatic Products an
You Need for Full Profits i

Nineteen months ago JFD made hist
Now meet the new TV antennas, converters,

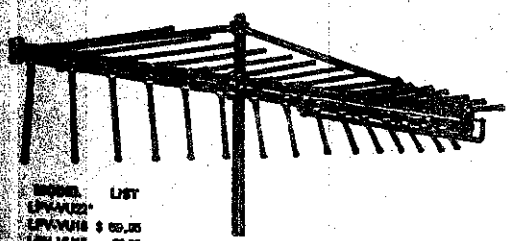
*MODEL	LIST
LPV17	$59.95
LPV14	49.95
LPV11	39.95
LPV8	29.95
LPV6	21.95
LPV4	11.95



Today begins the JFD 1964-1965 campagin of sales events and pr introductions!

Exciting new Log-Periodic antennas from the JFD Antenna Research and Develo Laboratories with the engineering advances to help you make the sales others can the complex new VHF/UHF/FM age.

NEW FROM THE NOTED JFD CHAMPAIGN, ILLINOIS LABORATORIES—
NEW LOG-PERIODIC LPV ANTENNAS FOR ANY AND ALL BANDS...EVERY RECEPTION NEED



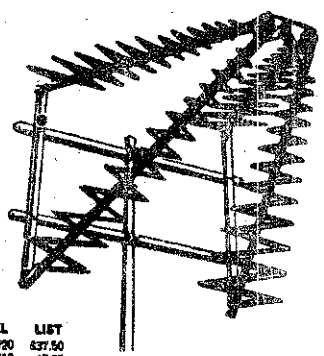
MODEL	LIST
LPV-VU22*	
LPV-VU18	$ 69.95
LPV-VU15	59.95
LPV-VU12	49.95
LPV-VU9*	

*To be announced

Model LPV-U15 (suburban-fringe) shown

NEW! THE FIRST COMBINATION VHF/UHF/FM ANTENNA —THE LOG-PERIODIC ALL-VU - WITH SINGLE LEAD-IN

Tomorrow's antenna today. The most advanced application of the Log-Periodic formula—receives all FCC authorized television channels (VHF 2 to 13 and UHF 14 to 83) plus all FM/FM Stereo frequencies. This is the first single all-channel antenna using a single down-lead to achieve this performance break-through! (So advanced it includes VHF-UHF Splitter to provide separate lead-ins to today's VHF, UHF, and FM stereo set terminals.) Available in five gold alodized aluminum models.

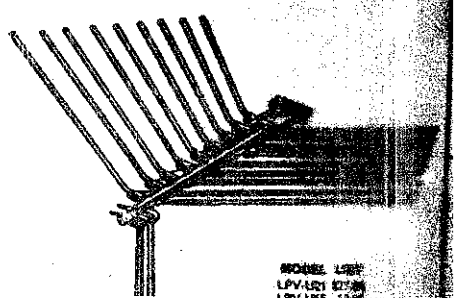


MODEL	LIST
LPV-ZU20	637.50
LPV-ZU10	17.95

Model LPV-ZU20 (deep fringe) shown

NEW! LOG-PERIODIC ZIG-A-LOG FOR "PROBLEM" UHF AREAS

This exotic all-new UHF series obsoletes bulky parabolics and wind-prone stacked bowtie-reflectors. Packs more long-distance pick-up sensitivity per element. Another ahead-of-the industry antenna advance that puts you in command of new UHF antenna business in your town. In two gold alodized aluminum models.



MODEL	LIST
LPV-U21	$27.95
LPV-U15	14.95
LPV-U9	12.00
LPV-U5	9.95

Model LPV-U9 (local and suburban) shown

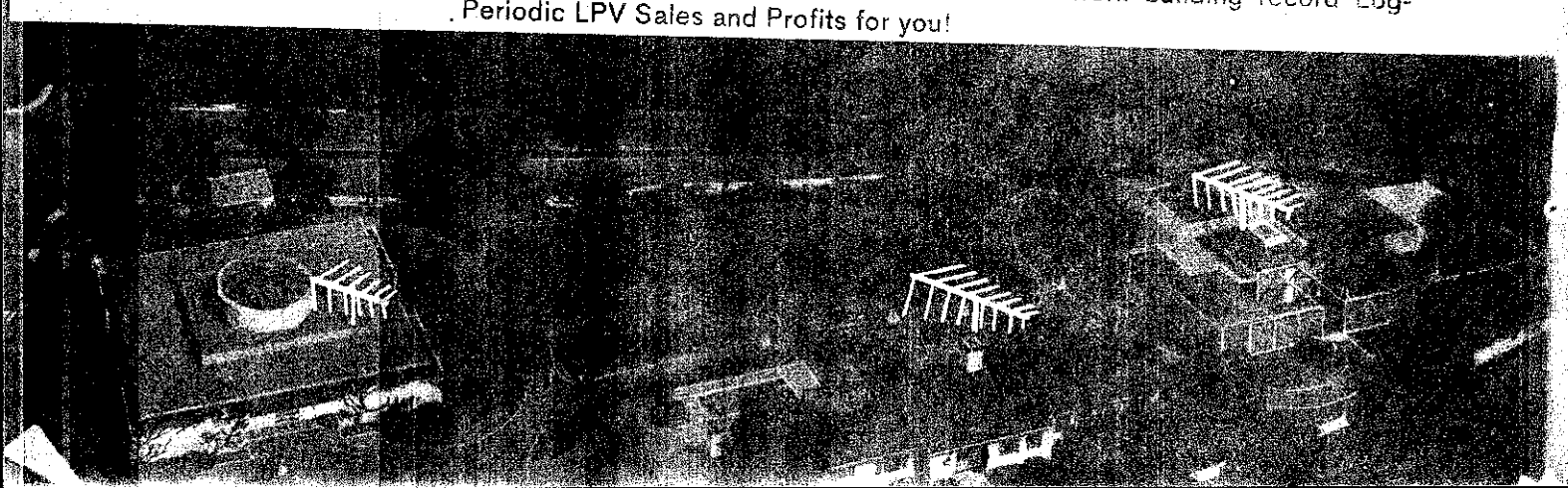
NEW! LOG-PERIODIC LPV FOR UHF CHANNELS 14 TO 83 (PLUS VHF 7 TO 13)

Developed by the same team of scientists and engineers that broke tradition with the JFD VHF Log-Periodic LPV. Delivers the high-gain, ghost-free signal needed in complex UHF for best channel 14 to 83 reception—plus channels 7 to 13. Available in four gold alodized solid aluminum rod, models—

BACKED BY EXCLUSIVE EXHIBITION AT THE NEW YORK WORLD'S FAIR HOUSE OF GOOD TASTE!

In 1964 and 1965, JFD puts the prestige and drawing power of the biggest attraction of all time behind every JFD Log-Periodic LPV TV/FM antenna you sell—the New York World's Fair!

This powerful new marketing force will be at work building record Log-Periodic LPV Sales and Profits for you!



Promotions
Today's VHF, UHF, FM Markets!

...the revolutionary Log-Periodic LPV antenna...
...amplifiers that will make new history for JFD dealers and distributors!

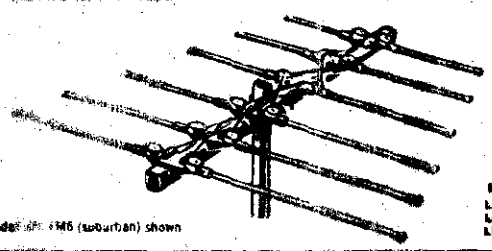
...new Log-Periodic UHF converters, antennas, TV amplifiers for VHF, UHF and ...as powerful as they are salable.

...the biggest promotion ever ... the JFD World's Fair Festival!

...the extra-ordinary product and promotion support you can expect as a ...the JFD marketing team.

Selected by

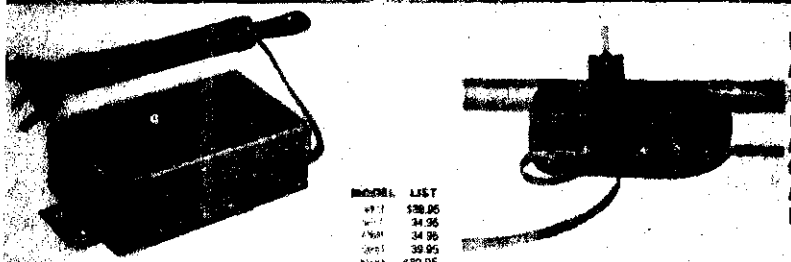
NEW YORK WORLD'S FAIR
HOUSE OF GOOD TASTE



Model LPL-FM8 (suburban) shown

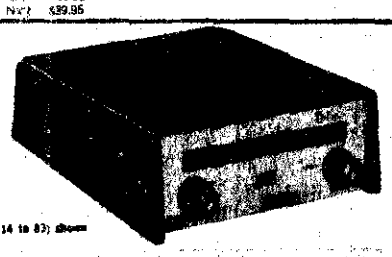
MODEL	LIST
LPL-FM10	$49.95
LPL-FM8	39.95
LPL-FM5	29.95

NEW! THE FIRST FM/FM STEREO LOG-PERIODIC
Makes even smallest high-fi system pour forth FM sound as it was never heard before. Features unique new Log-Periodic LPL dipole that outperforms FM antennas twice the size. Another new antenna breakthrough through JFD engineering leadership. Available in three area-engineered gold alodized aluminum models. Model LPL-FM8, for 28% more gain, model LPL-FM10 for 52% more gain than the best 10 element yagi.



MODEL	LIST
[illegible]	$39.95
[illegible]	34.95
[illegible]	34.95
[illegible]	39.95
[illegible]	$39.95

NEW! ANTENNA AMPLIFIERS FOR VHF, UHF AND FM
All-new solid state circuitry for drift-free, distortionless amplification—extra reliability. Mounts on any antenna crossarm for up to 16 db of additional noise-free gain. Uses printed circuitry that is sealed against weather effects. AC power supply, located at set, also serves as multi-set coupler. "OFST" Offset Free-Space Terminals insure maximum signal transfer. Fully warranted. Available in VHF, UHF, and FM/FM stereo models. In both transistor and Nuvistor models.



MODEL	LIST
CR2-[illegible]	49.95
CR1-U	59.95

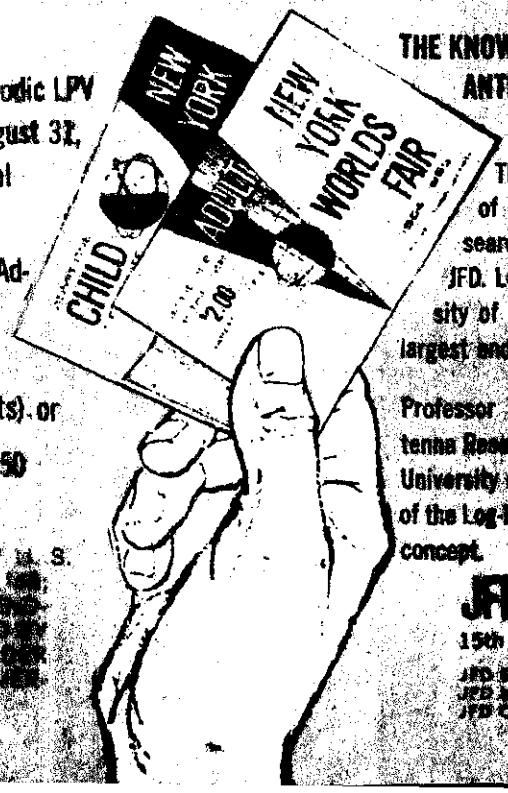
Model CR2-[illegible] (Channels 14 to 83) shown

NEW! UHF CONVERTERS
The first all-transistorized UHF converter. Lower noise, higher reliability, excellent 300 ohm impedance match—outperforms any tube-type converter. Absolutely drift-free because of its heat-less solid state circuitry. Instant start-up. Consumes less power than conventional tube-types. Elegantly styled. Dial light illumination on UHF channel scale for convenient tuning. Only 6" X 7" X 2½". In two models

PLUS—

Every JFD VHF, UHF or VHF-UHF Log-Periodic LPV you buy between March 1, 1964 and August 31, 1965 earns you valuable JFD Fair Festival Certificates which you can:

1. Trade in for FREE World's Fair Adult Admission Tickets (worth 150 points) or..
2. Trade in for FREE 3-day, 2 night Fair Week-ender holiday (worth [illegible] points) or
3. Redeem for $1.25 cash for each 150 points, from JFD.



LICENSED UNDER ONE OR MORE OF U. S. PATENTS 2,958,081; 2,985,879; 3,011,168; 3,198,260 AND ADDITIONAL PATENTS PENDING IN U.S.A. AND CANADA. PRODUCED BY JFD ELECTRONICS CORPORATION UNDER EXCLUSIVE LICENSE FROM THE UNIVERSITY OF ILLINOIS FOUNDATION.

RADIO TV WEEKLY
RE-REPORTER

THE KNOW-HOW OF THE WORLD'S NEWEST AND FINEST ANTENNA LABORATORIES IS BUILT INTO EACH JFD LPV ANTENNA YOU SELL!

The Log-Periodic concept is the result of six years of intensive electronic studies at the Antenna Research Laboratories of the University of Illinois and JFD. Located in Champaign, Illinois (home of the University of Illinois), the vast new JFD research center is the largest and most complete of its kind.

Professor Paul Mayes of the Antenna Research Laboratories of the University of Illinois, the originator of the Log-Periodic V-dipole antenna concept.



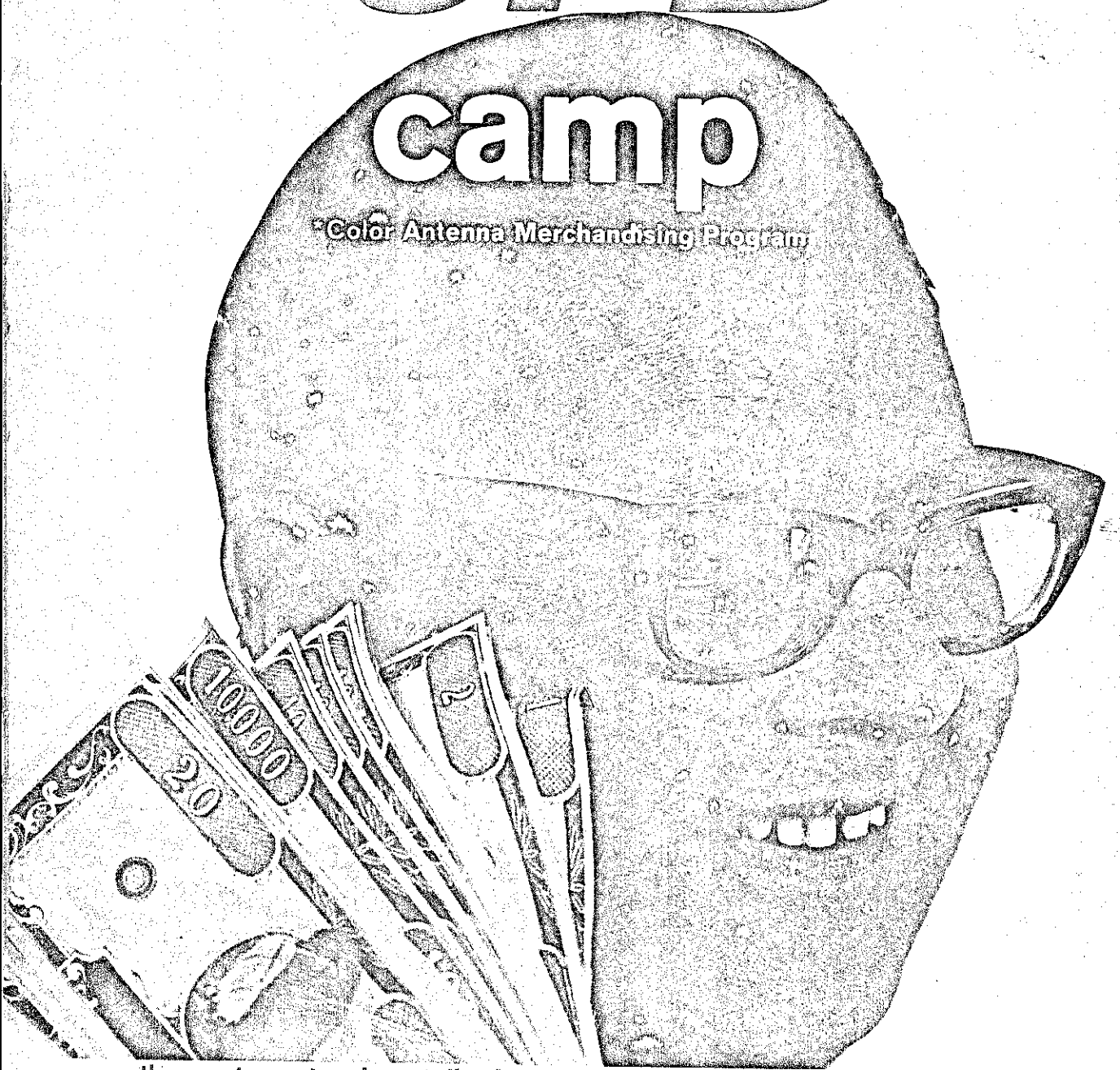
JFD ELECTRONICS CORPORATION
15th Avenue at 62nd Street, Brooklyn, N. Y. 11219

JFD Electronics-Southern Inc., Oxford, North Carolina
JFD International, 64-14 Woodside Ave., Woodside 77, N. Y.
JFD Canada, Ltd., 51 McCormack Street, Toronto, Ontario, Canada

get with the JFD®

camp

*Color Antenna Merchandising Program



—the most spectacular retail sales promotion campaign in TV antenna history!

Sure you're doing great selling color TV sets. But if you're skipping the color **antenna** sale that goes with it, you're passing up "beaucoup" profits. Too risky and tricky, you say? That was B.C. (**Before** CAMP) which now "automates" the color antenna sale—earns **you** (instead of your competition) those extra profits. Keeps **customers** happy, too. How? Easy. CAMP coordinates a comprehensive combination of dynamic selling tools that (1) drive home the fact that only a **color-engineered** TV antenna can do justice to the fine reception color TV sets were designed for and that (2) JFD LPV COLOR LPV Log Periodic antennas make color sets work at their very **best.**

Turn the page and see how the JFD CAMP takes the mystery **out** of TV antenna business—and puts back the **profits.**

JUST WHAT IS CAMP? Camp is a popular new expression meaning anything done in a style that is different or unusual enough to be considered "in" and attention-getting—a most apt definition of JFD's own (CAMP) Color Antenna Merchandising Program.

turn your store into a JFD camp site—

where the antenna action is!

NOW—CAMP MAKES TV ANTENNAS

AS EASY TO SELL AND INSTALL

AS A WASHING MACHINE

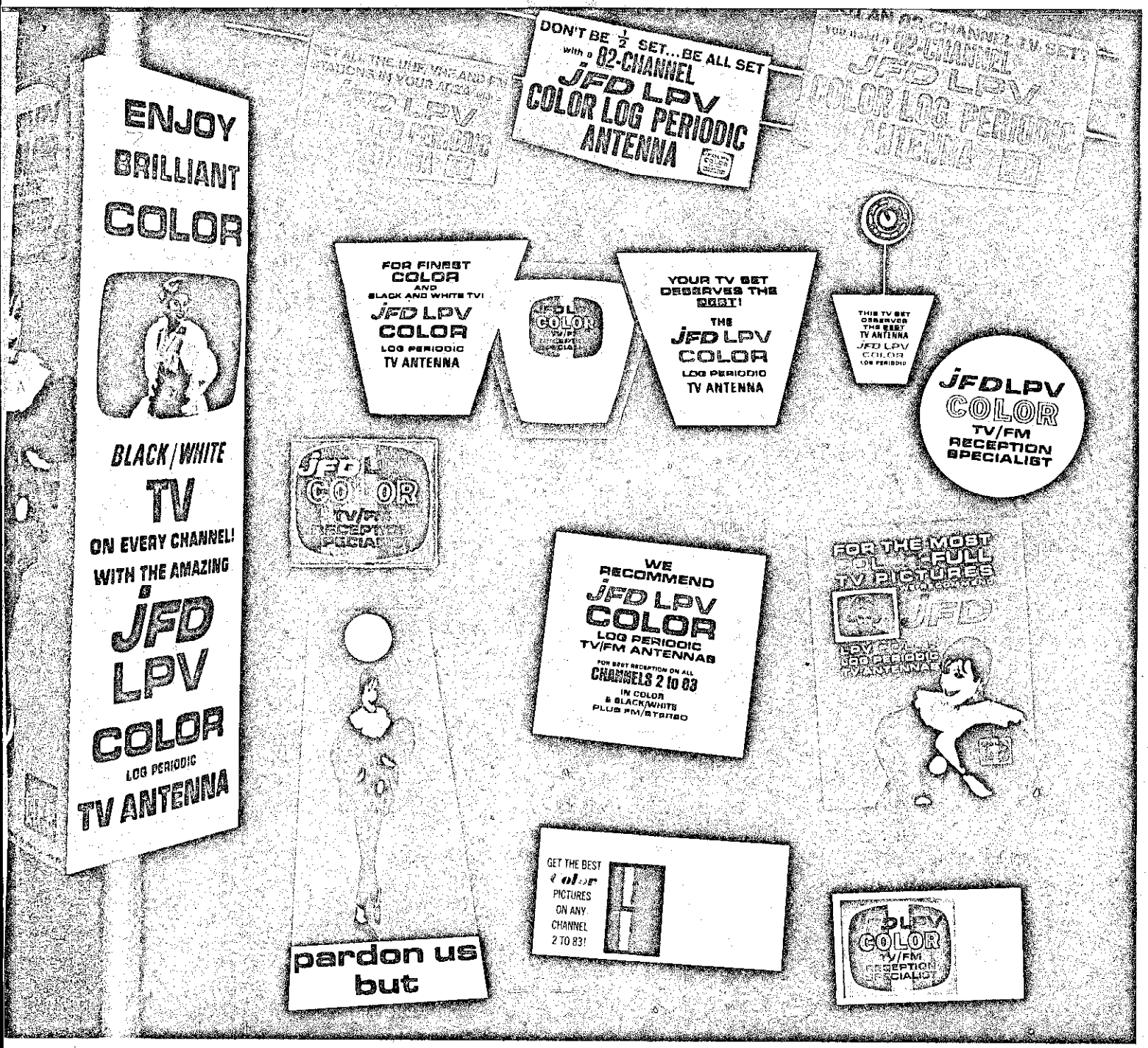
—MORE PROFITABLE, TOO!

JFD COLOR TV/FM RECEPTION SPECIALIST

JFD COLOR TV/FM RECEPTION SPECIALIST



JFD



Camp pre-sells prospects — CAMP goes to work pre-conditioning prospects the moment they stop by or step into your showroom. Colorful window decals (1) and bright fluorescent signs (2) identify you as a Color TV Reception Specialist. Gleaming gold-alodized antenna displays (3) stop traffic and start the sale. Antenna mast sleeve (4) Colorful pennants (5) and mobiles (6) lend a festive air. Miniature danglers (7) on TV sets call attention to the fact that color sets work better with a color-engineered JFD LPV TV antenna. Provocative button (8) invites questions and breaks down resistance. Lavish full-color brochure (9) lets you follow through by showing customers (in three minutes flat) why their new color TV deserves a modern new LPV Color Antenna by JFD.

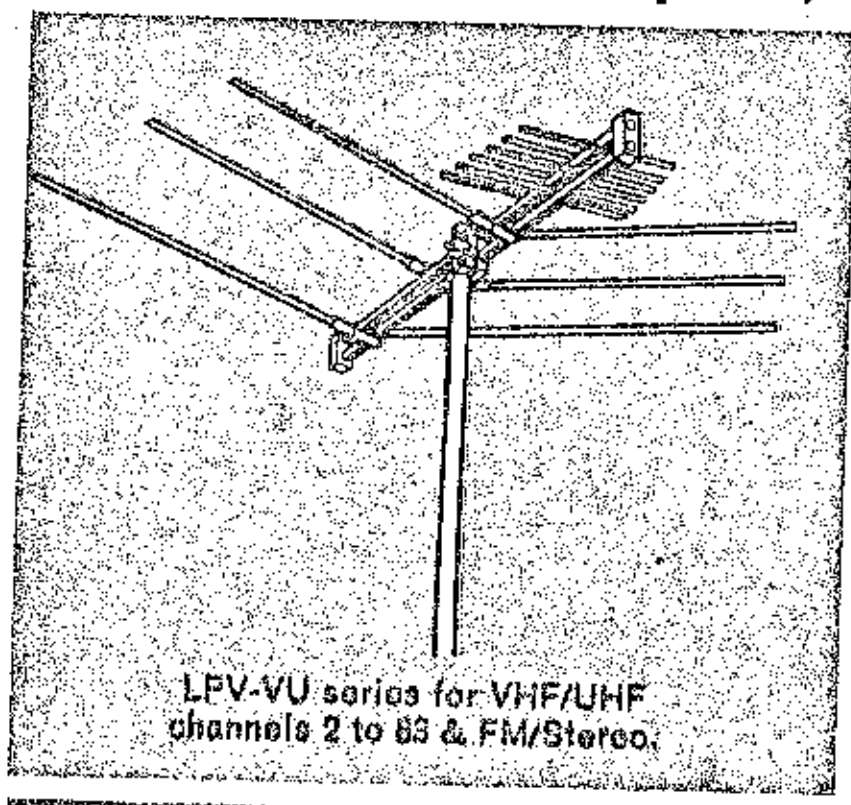
Camp works outside, too — Big full-color truck decals (10) tell the world you are the Color TV Reception Specialist for the area. So do equally colorful arm patches (11). Compelling door-knob hangers (12) alert obsolete antenna owners to your expert color service. Make your own personalized direct mail advertising campaign using full-color self-mailers (13) and (14).

Interested? A call to your JFD LPV distributor puts you in the winning CAMP. See him today and watch your antenna profits G-R-O-W!

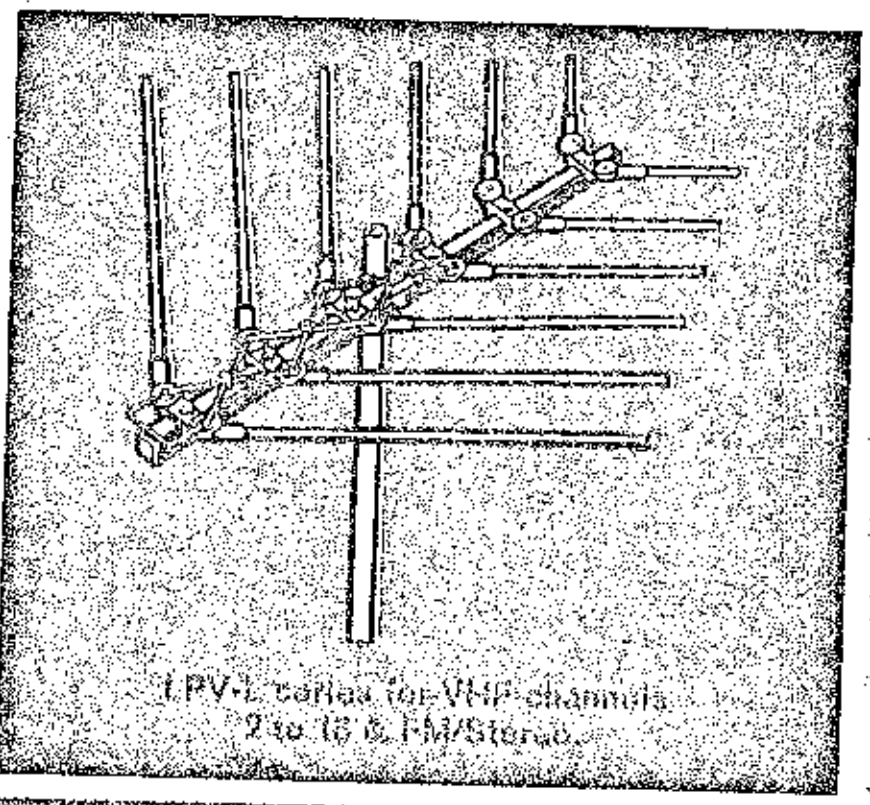
Why Play Antenna Roulette? Rely On JFD for the Best Antennas and the Best Promotions.

Look at what else JFD® has going for you!

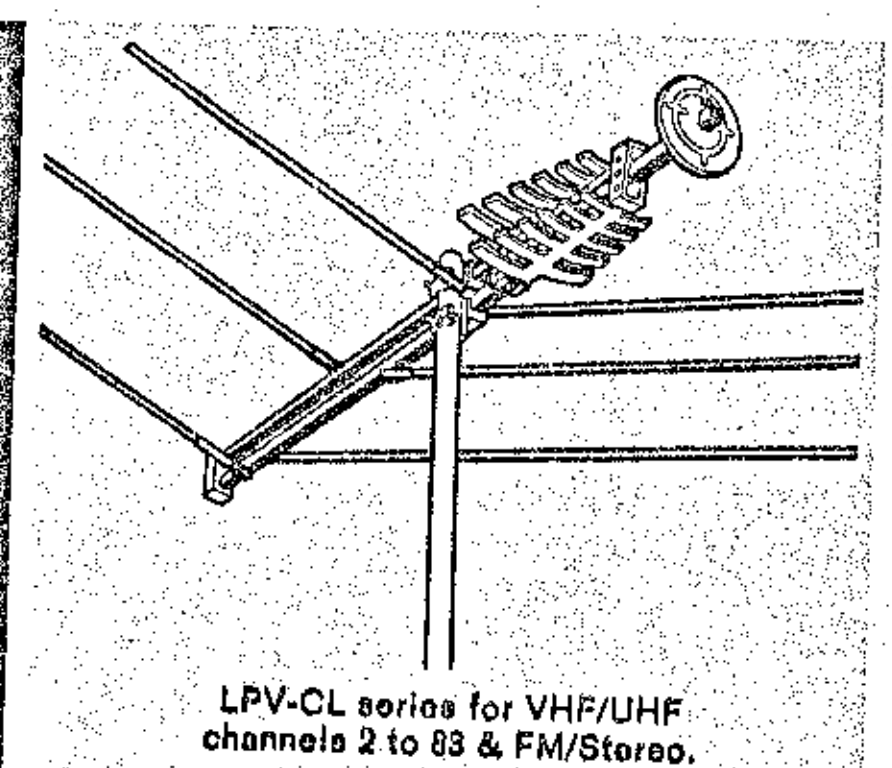
1. Most advanced selections of VHF, UHF, and VHF/UHF/FM antennas. (Also, the most copied.)



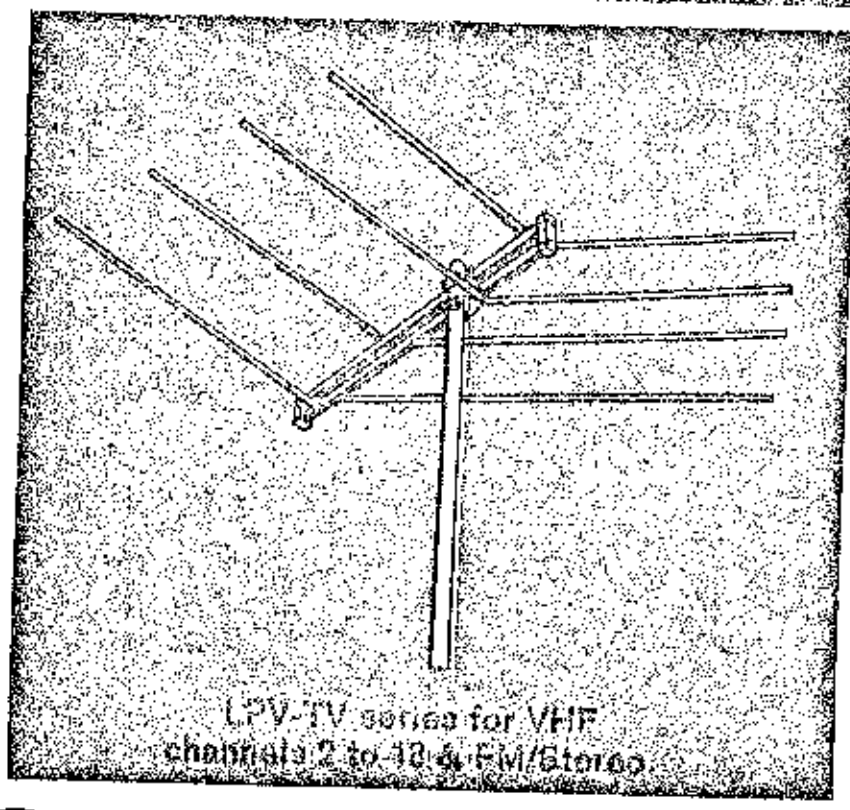
LPV-VU series for VHF/UHF channels 2 to 83 & FM/Stereo.



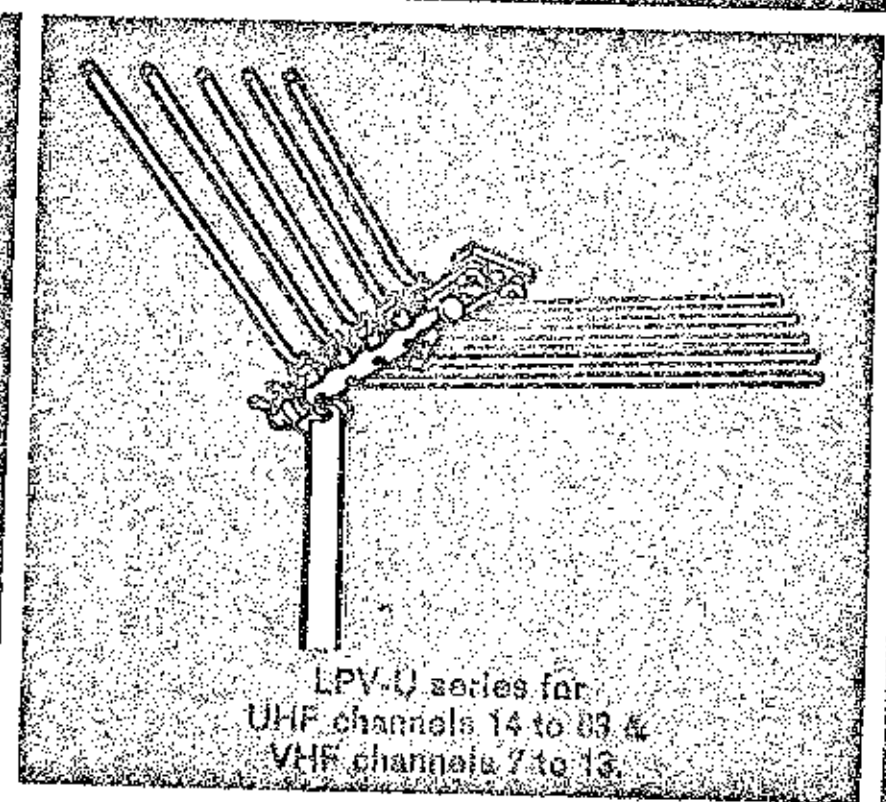
LPV-L series for VHF channels 2 to 13 & FM/Stereo.



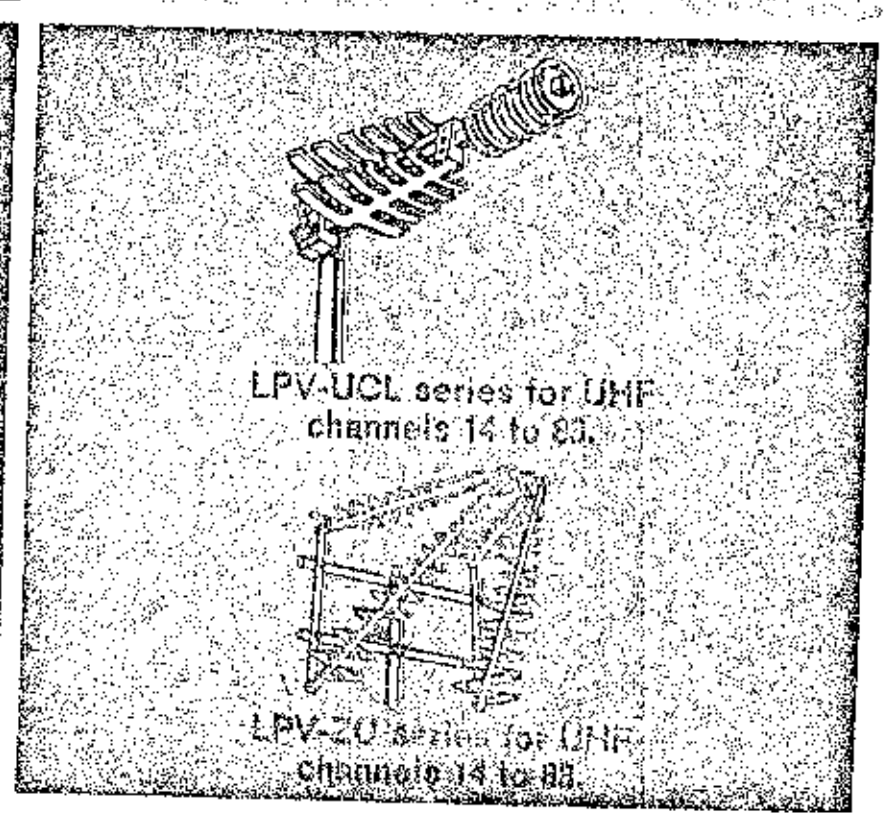
LPV-CL series for VHF/UHF channels 2 to 83 & FM/Stereo.



LPV-TV series for VHF channels 2 to 13 & FM/Stereo.



LPV-U series for UHF channels 14 to 83 & VHF channels 7 to 13.



LPV-UCL series for UHF channels 14 to 83.

LPV-ZO series for UHF channels 14 to 83.

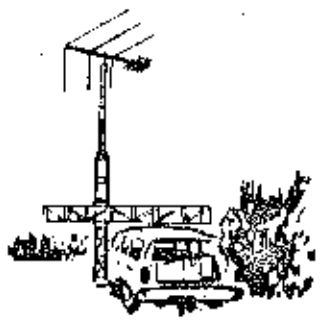
2. Scientific engineering under direction of Dr. Paul E. Mayes (co-inventor) of the Log Periodic Antenna concept.



3. Eleven patents* issued and pending assure you of getting genuine Log Periodic design—not an ineffective imitation.



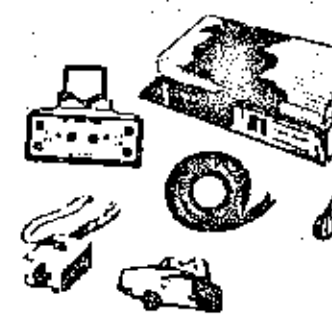
4. Eight modern Mobile Field Labs continuously research LPV Log Periodic performance in town and country across the U.S.A.



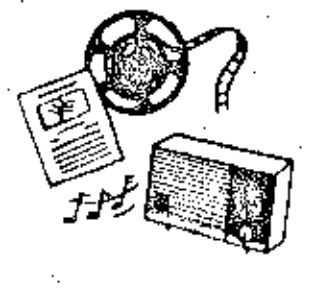
5. Advertised nationally in big space ads in LIFE that pave the way for your local LPV sales.

ADVERTISED IN LIFE

6. Plus wide selection of 82-channel Amplifiers, Matching Transformers, Splitters and Coaxial Cables.



7. Massive co-op dealer advertising support — newspaper mats, full color motion picture TV commercials, radio jingles.



* LICENSED UNDER ONE OR MORE OF U.S. PATENTS [illegible] [illegible] [illegible] 3,108,280; 3,150,376; 3,210,767; RE. 25,740 AND ADDITIONAL PATENTS PENDING IN U.S.A. AND CANADA. PRODUCED BY JFD ELECTRONICS CO. UNDER EXCLUSIVE LICENSE FROM THE UNIVERSITY OF ILLINOIS FOUNDATION.

JFD® JFD ELECTRONICS CO.
15th Avenue at 62nd Street, Brooklyn, N.Y. 11219

JFD International, 64-14 Woodside Ave., Woodside, N.Y. 11377 •

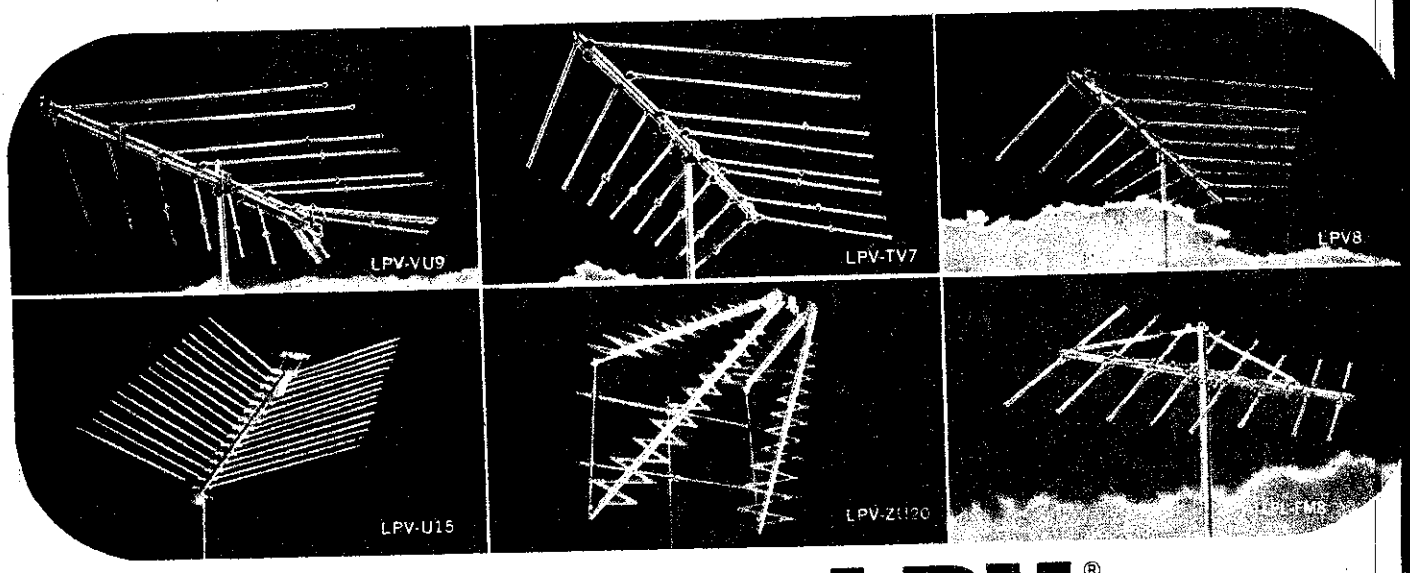
JFD de Venezuela, S.A., Avenida Los Haticos 125-97, Maracaibo, Venezuela

FORM NO. 6607 LITHO IN USA ©19

National Electronic Service Dealer (1 of 2)

ELEC. TECH 8/62

What does JFD® have that other TV antenna manufacturers wish they had?



the JFD® LPV® COLOR LOG PERIODIC

Mr. Dealer:

Don't let other antenna makers "snow" you with claims of how their antenna "break-throughs" work so sensationally you hardly need a TV set to get a picture.

They've got little choice.

Ever since the LPV Color Log Periodic was introduced by JFD back in '62, our competitors' engineers have been going around in circles.

They've copied it down to the rivets.

They've camouflaged their use of the log periodic principle with terms such as "energy distribution."

They've imitated its name by calling theirs "V-log," "Super-log" and ..... -log.
(fill-in-yourself)

They've tried to equal its performance with "half-size" compacts—(but you can't send a midget to do a man's job—this just doesn't work.)

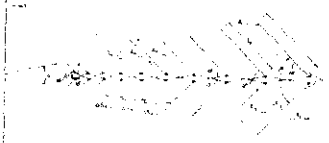
They still don't know whether to knock it . . . fight it . . . join it . . . or how to live with it.

We say **the proof of it all is the picture your antenna delivers to your customer's set. That** is where the JFD LPV Color Log Periodic conclusively demonstrates its basic performance superiority.

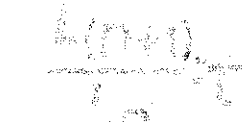
If you're looking to give your customers the **finest** and **truest** color . . . **crispest** black & white . . . **more** VHF and UHF channels . . . even better FM **stereo**—don't compromise **your** professional reputation with "antenna-compromises." Rely on the patented JFD LPV Color Log Periodic as do so many tens of thousands of knowledgeable service-dealers.

We don't expect you to take **our** word for it either. Let the **picture** (and your **profits**) be the proof.

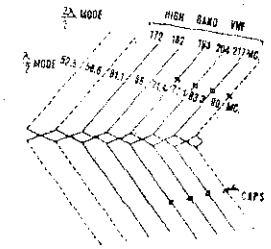
Exactly! That's the JFD LPV Color Log Periodic has that oth so-called antenna "break-throughs" would like to have!



- ONLY the JFD LPV delivers genuine **frequency-independent** performance. The **entire** antenna (not **part** of the antenna as in other ordinary antennas) responds to **every** channel.



- ONLY the JFD LPV follows the **patented log periodic** design of the University of Illinois Antenna Research Laboratories.



- Only the JFD LPV uses **Cap-Electronic** (capacitor-coupled) elements. This permits (1) precise and independent tuning for optimum performance in **both** fundamental **and** harmonic modes—**plus** (2) increased capture area—**plus** (3) directors tuned to perform on **all** bands, not just one. The result is **higher** gain, **narrower** directivity, **higher** front-to-back ratios for brilliant color, better-than-ever black & white—on channels 2 to 83.

ADVERTISED IN LIFE

NATIONALLY ADVERTISED IN LIFE. Month after month, 32 million readers of LIFE are being exposed to the reasons why the JFD LPV works best.

JFD Color Antenna

COLORFULLY ADVERTISED OVER TELEVISION. Spectacular motion-picture commercials in full-color are pre-selling millions of present and prospective color TV owners.

25 DIFFERENT LPV LOG PERIODICS TO CHOOSE FROM. Interested in VHF? . . . UHF? . . . VHF/UHF/FM? Whether it's just **one** band or **all**, town or country, you get the precise antenna-answer when you make it an LPV Color Log Periodic. Interested in more facts? Just write us.

MERCHANDISED IN DEPTH. Banners, direct mail, newspaper mats, radio/TV commercials . . . you name it JFD's got it to help **you** sell your way to top antenna profits.

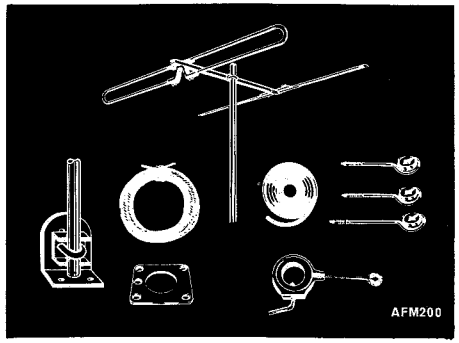
• A WORD ABOUT OUR PATENTS . . . **Eleven** different U. S. patents and patents pending embrace the **scientific** advances of the JFD LPV—**more** than any other outdoor TV antenna. Our competition's attorneys are burning the midnight oil trying to find **loop**holes and ways to circumvent this patent protection which assures you of getting the **only** genuine antenna **designed** according to the **original patented log periodic** design of the **famous University of Illinois Antenna Research Laboratories.**

LICENSED UNDER ONE OR MORE OF U.S. PATENTS 2,958,081; 2,985,879; 3,011,168; 3,108,280; 3,150,376; 3,210,767; RE 25,740 AND ADDITIONAL PATENTS PENDING IN U.S.A. AND CANADA. PRODUCED BY JFD ELECTRONICS CORPORATION UNDER EXCLUSIVE LICENSE FROM THE UNIVERSITY OF ILLINOIS FOUNDATION

AT THE MOMENT OF TRUTH THE PICTURE IS THE PROOF
WHY JFD LPV COLOR LOG PERIODICS WORK BEST!

JFD ELECTRONICS CORPORATION

15th Avenue at 62nd Street, Brooklyn, N.Y. 11219
JFD International, 64-14 Woodside Ave., Woodside, N.Y. 11377
JFD Canada, Ltd., Canada



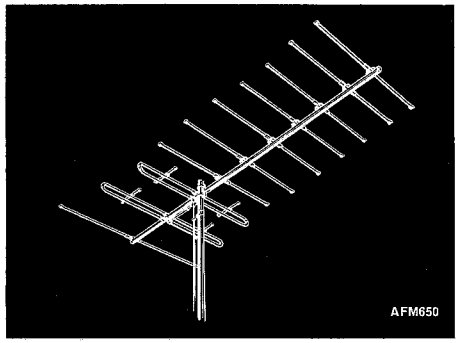
—ideal for areas where stations are in one general direction.

Attaches to any antenna! Also available as kit for all-new installations!

model	description	list
AFM200	STEREO-DIPOLE AND REFLECTOR KIT FOR ALL NEW INSTALLATIONS	$13.85

- One preassembled gold alodized AFM200 antenna.
- One 5 ft. gold alodized aluminum mast.
- One universal wall/roof base base mount.
- 50 ft. 300 ohm twin lead.
- Galvanized steel guy wire, guy ring, stand-offs and hardware.

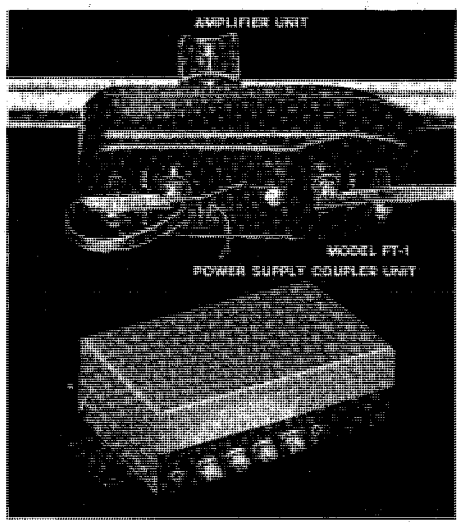
model	description	list
AFM250	AFM200 antenna only	$8.60



—pinpoints distant stations, pulls in maximum possible signal. (receives stations 100-125 miles distant)

- Twin-diven satellite-dipole Yagi captures more signal—delivers 6.5 to 9.2 db gain.
- Wide-spaced element design provides uniform broadband response across FM band.
- Acute directivity minimizes troublesome noise and multi-path signals.
- Preassembled—no loose hardware.
- Gold alodized one inch square aluminum crossarm and ½ inch reinforced aluminum dipoles for rugged mechanical reliability.

model	description	list
AFM350	6-Element FM Yagi for up to 100 miles	$23.50
AFM650	10-Element FM Yagi for up to 125 miles	$32.50



install the JFD FM Antenna Amplifier model FT-1 for sparking FM stereo-multiplex or monaural listening. Space-age solid circuitry gives you up to 15 db of amplification—handles up to 45,000 microvolts without overloading. Mounts on the antenna crossarm. Printed circuit is "Poly-U" sealed against weather effects. Exclusive "OFT" Offset Free-space Terminals prevent accumulation of dirt, moisture and ice which siphon off signal strength. Because 117 V AC power supply is located at receiver, it also acts as a coupler so that one antenna can serve two FM systems.

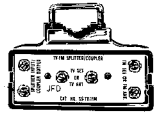
model FT-1 **$34.95 list**

model SS-TV FM TV/FM SIGNAL SEPARATOR **$5.95 list**

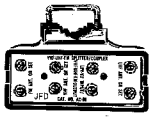
Separates TV and FM signal components from combined TV/FM signal. Feeds them into separate TV set and FM system inputs. Can also serve to combine signals from separate TV and FM antennas into **one** downlead. Mounts easily on TV set on mast. No-strip terminals.

model AC80 VHF/UHF/FM COUPLER-SPLITTER **$8.95 list**

Made especially for use with JFD LPV-VU (channels 2 to 83 plus FM) Log Periodic antennas. Separates combined VHF/UHF/FM signal for input into individual respective VHF, UHF and FM sets. Also serves to combine the outputs of separate VHF, UHF, FM antennas into single downlead. Mounts on mast or TV set. No-strip terminals.

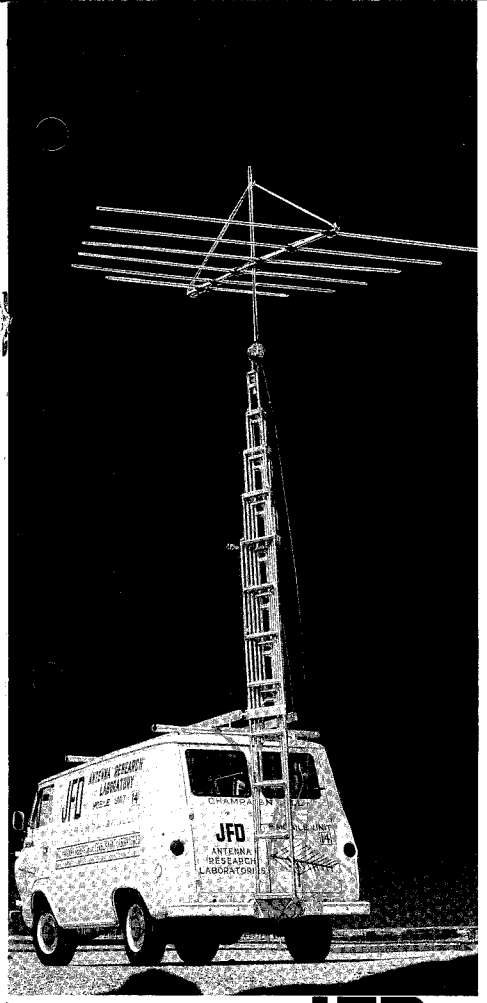


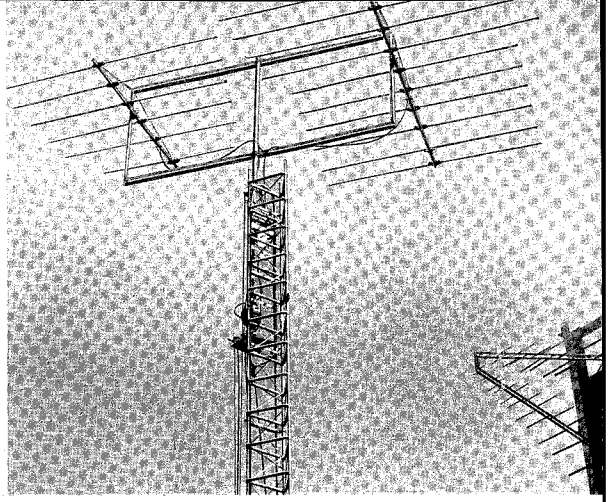
SS-TV FM TV/FM SIGNAL SEPARATOR

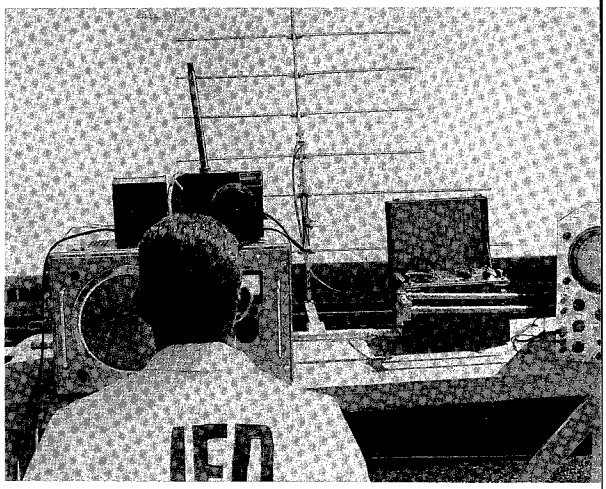


AC80 VHF/UHF/FM COUPLER-SPLITTER

form 776 copyright JFD, 1964 litho in U.S.A. 8-64







NEW from the **JFD** Research and Development Laboratories of Champaign, Illinois

STEREO

featuring the new FULL-WAVE Log-Periodic L-Dipole system

developed from research performed at the University of Illinois Antenna Research Laboratories

Licensed under one or more of U.S. patents 2,958,081; 2,985,879; 3,011,168; 3,150,376 and additional patents pending in U.S.A. and Canada. Produced by JFD Electronics Corporation under exclusive license from the University of Illinois Foundation.

JFD LOG-PERIODIC DESIGN DELIVERS

REQU

full-wave Log-Periodic L-Dipole array breaks through the perfor

Adapted from the revolutionary satellite-tracking LOG-PERIODIC antenna design developed from research performed at the Antenna Research Laboratories of the University of Illinois.

FIRST **FULL**-WAVELENGTH L-DIPOLE Log Periodic antenna—achieves the highest gain ever in an FM antenna. (Patents Pending)

Superior LOG-PERIODIC FREQUENCY INDEPENDENT performance across the entire FM range —from 88 mc/s. to 108 mc/s.

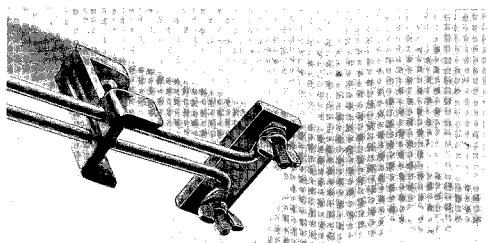
BACK-FIRE beam produces highest front-to-back ratio needed to reject interfering signals.

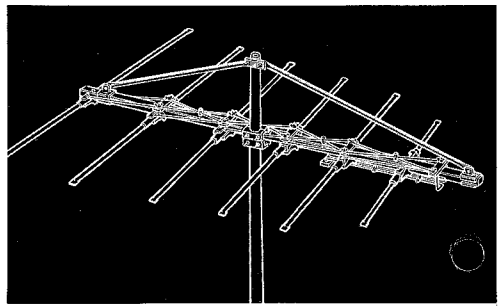
JFD *LOG-PERIODIC FULL-WAVELENGTH LPL-FM ANTENNAS make the weak link (the antenna) the STRONG link to every FM monaural and FM stereo-multiplex station*

■ Stainless steel take-off terminals that never corrode.

■ Gold alodized ½" o.d. aluminum tubing. Exceeds U. S. Air Force corrosion specifications MIL-C-5541 and MIL-S-5002.

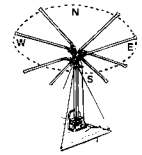
■ Top-suspension boom supports (one inch outer diameter) permit close-up mounting of antenna to rotator. Provides rigidity against 100 mile per hour winds





Copyright JFD Electronics Corp. 1964

FULL CIRCULAR 360° DIRECTIVITY PATTERNS OF JFD STEREO-CONE RECEIVES FM FROM **ALL** DIRECTIONS!



Obsolete turnstile antennas do not have equal gain in all directions—thus cannot pick-up many stations.

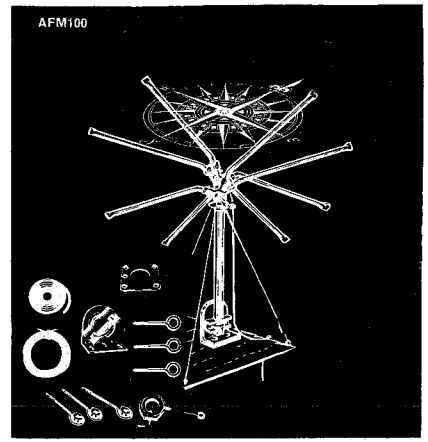
The new JFD 8-dipole stereo-cone fills in these blind spots—provides more uniform gain in all directions.

model	description	list
AFM100	STEREO-CONE KIT FOR ALL NEW INSTALLATIONS	$15.95

CONTENTS:

- One preassembled Stereo-Cone antenna.
- One 5 ft. gold alodized aluminum mast.
- One universal wall/roof base mount.
- 50 ft. 300 ohm twin lead.
- Galvanized steel guy wire, guy ring, stand-offs and hardware.

AFM100

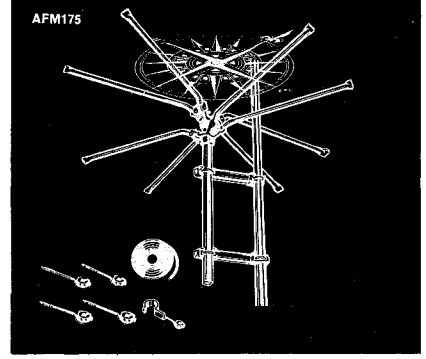


model	description	list
AFM150	STEREO-CONE KIT FOR ALL NEW INSTALLATIONS	$11.95

- One preassembled Stereo-Cone antenna.
- One pair gold alodized mast brackets.

ATTACHES TO ANY MAST IN MINUTES!

AFM175



model	description	list
AFM175	STEREO-CONE KIT FOR EXISTING INSTALLATIONS	$13.95

- One preassembled Stereo-Cone antenna.
- One pair gold alodized mast brackets.
- 50 ft. 300 ohm twin lead.
- Three 3½ in. and one 7½ in. wood screw eyes.
- One mast stand-off.

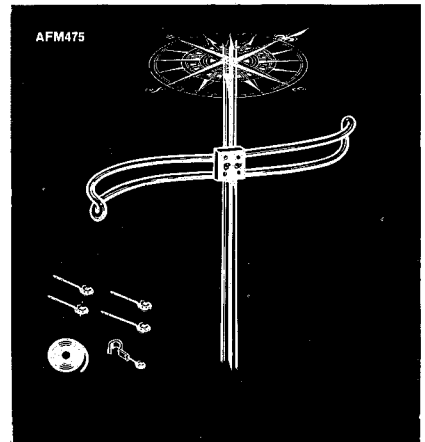
—today's most economical all-directional antenna

Attaches in seconds—to any mast! Also available as kit for new installations.

model	description	list
AFM400	"SUPER S" KIT FOR NEW INSTALLATIONS	$11.95

- One preassembled gold alodized AFM400.
- One 5 ft. gold alodized aluminum mast.
- One universal wall/roof base mount.
- 50 ft. 300 ohm twin line.
- Galvanized steel guy wire, guy ring, stand-offs and hardware.
- ½ inch seamless gold alodized element.

AFM475



model	description	list
AFM 450	"SUPER S" FOR EXISTING INSTALLATIONS	$6.95

- One preassembled AFM450 "Super-S" antenna.

model	description	list
AFM475	"SUPER S" KIT FOR EXISTING INSTALLATIONS	$8.95

- One preassembled AFM450 "Super-S" antenna.
- 50 ft. 300 ohm twin lead.
- Three 3½ in. and one 7½ in. wood screw eyes.
- One mast stand-off.

Model LPL-FM10; 5 Active Cells–5 co-linear directors

List Price: $49.95

Overall Dimensions: 142.8" L. x 140" W.

Weight: Approx. 9 lbs.

Gain is as much as 41% better than the best 10-element FM Yagi.

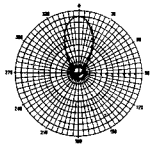
GAIN: 9.6 db. (± .6 db/half wavelength dipole)

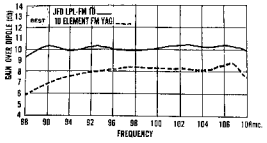
"E" PLANE HALF-POWER BEAMWIDTH: 37.5° (± 2.5°)

VSWR: Median 1.5:1

NOMINAL IMPEDANCE: 300 ohms

FRONT-TO-BACK RATIO: Median 26.0 db





Model LPL-FM8; 5 Active Cells–3 co-linear directors

List Price: $39.95

Overall Dimensions: 115.3" L. x 140" W.

Weight: Approx. 8 lbs.

Gain is as much as 35% better than the best 10-element FM Yagi.

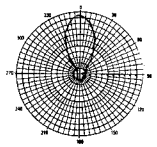
GAIN: 9.1 db (±0.7 db/half wavelength dipole)

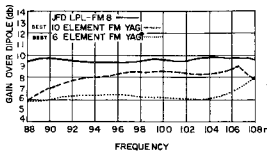
"E" PLANE HALF-POWER BEAMWIDTH: 40.5° (± 3.5°)

VSWR: Median 1.8:1

NOMINAL IMPEDANCE: 300 ohms

FRONT-TO-BACK RATIO: Median 20 db





Model LPL-FM6; 5 Active Cells–1 co-linear director

List Price: $29.95

Overall Dimensions: 87.8" L. x 140" W.

Weight: Approx. 6 lbs.

Gain is as much as 30% better than the best 6 elemeht FM Yagi.

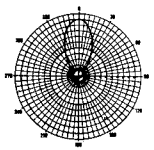
GAIN: 7.7 db (± 0.6 db/half wavelength dipole)

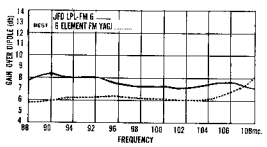
"E" PLANE HALF-POWER BEAMWIDTH: 43° ± 2.5)

VSWR: Median 1.5:1

NOMINAL IMPEDANCE: 300 ohms

FRONT-TO-BACK RATIO: Median 18 db





Model LPL-FM4; 3 Active Cells–1 co-linear director

List Price: $19.95

Overall Dimensions: 58.3" L. x 140" W.

Weight: Approx. 5 lbs.

Average gain is equal to that of the best 6-element FM Yagi.

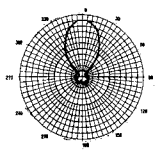
GAIN: 6.3 db (± 0.9 db/half wavelength dipole)

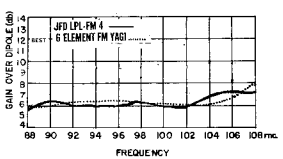
"E" PLANE HALF-POWER BEAMWIDTH: 46° (± 2°)

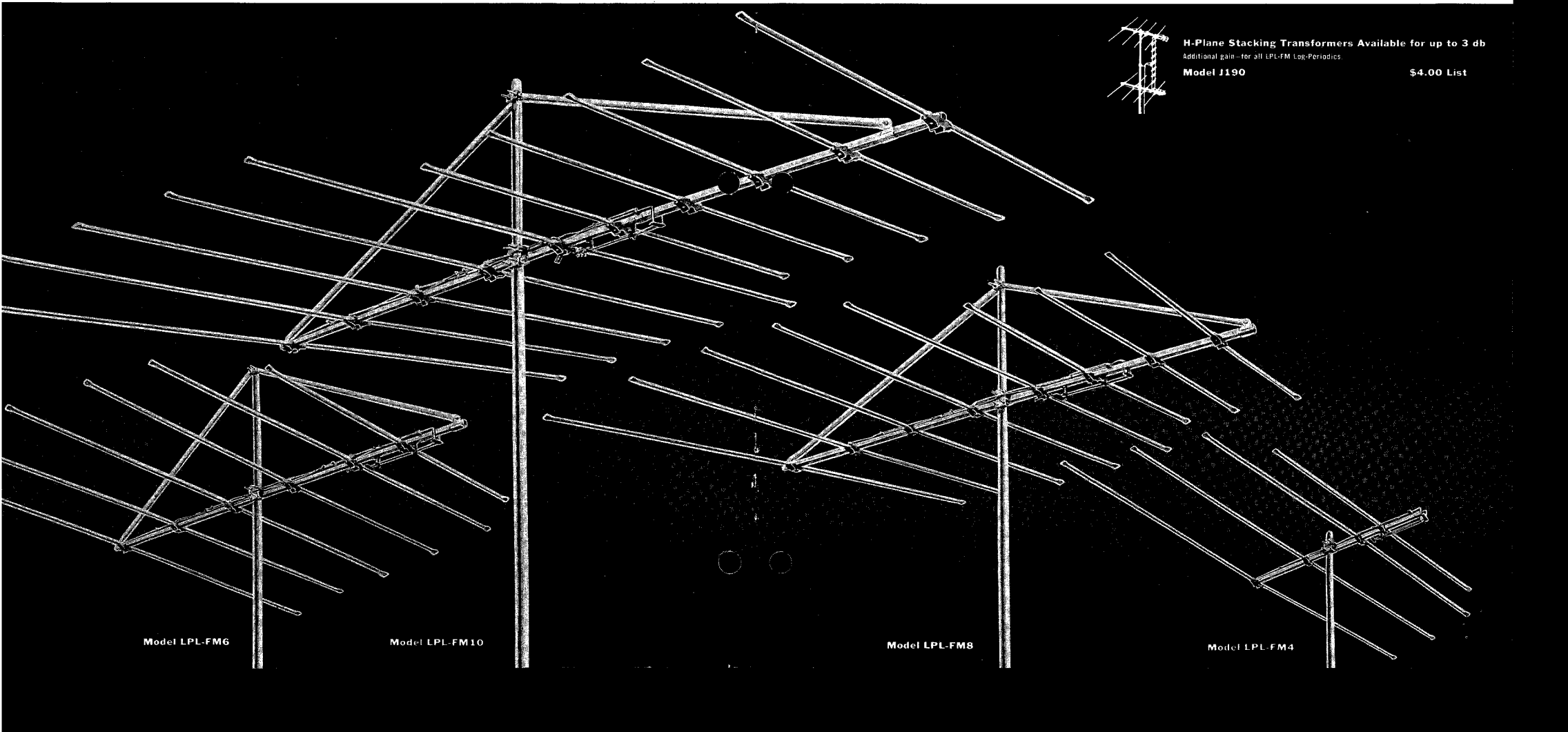
VSWR: Median 1.6:1

NOMINAL IMPEDANCE: 300 ohms

FRONT-TO-BACK RATIO: Median 16.6 db







H-Plane Stacking Transformers Available for up to 3 db

Additional gain–for all LPL-FM Log-Periodics

Model J190 **$4.00 List**

Model LPL-FM6

Model LPL-FM10

Model LPL-FM8

Model LPL-FM4

america's no. 1

LICENSED UNDER ONE OR MORE OF U.S. PATENTS 3,011,168; 3,108,280; 3,150,376; 3,210,767 AND PATENTS PENDING IN U.S.A. AND CANADA. JFD ELECTRONICS CORPORATION UNDER EXCLUSIVE LICENSE OF UNIVERSITY OF ILLINOIS FOUNDATION.



model LPV-VU12 Near-Fringe $49.95

ADVERTISED IN LIFE

JFD COLOR ANTENNA

VHF/UHF/FM ANTENNA!

Because it delivers best 82-channel TV performance—COLOR or black/white—plus FM/Stereo—using only a single downlead!

No other antenna works like the 82-channel JFD LPV-VU Color Log Periodic . . .

■ **Only** the JFD LPV-VU is designed according to the patented **log periodic** design of the **University of Illinois Antenna Research Laboratories.**

■ **Only** the JFD LPV-VU utilizes **capacitor-coupled Cap-Electronic** dipoles for **higher** mode operation that achieves **higher** gain, **narrower** beamwidths on VHF channels 7 to 13 and UHF channels 14 to 83. (Our competition's copies of the JFD LPV-VU use only **fundamental** mode which resonate as simple dipoles with consequently limited gain.

■ **Only** the JFD LPV-VU offers true **frequency-independent** performance that insures brilliant **color** on any channel.

JFD®

LPV®-VU

Color

LOG PERIODIC

You bet you can have everything you want in **one** antenna—VHF, UHF, FM [illegible] too! Start [illegible] JFD [illegible] LPV-VU Color Log [illegible] with the 82-[illegible] your area—see the difference in [illegible] and performance. Call your distributor or write for brochure 806.

32 million readers of LIFE will be seeing spectacular JFD [illegible] Periodic advertisements [illegible] this unprecedented [illegible] be presented [illegible] antennas for **you!**

Full color television commercials will show millions more why the LPV's patented space-log periodic design works best on **any** channel—color & black/white.

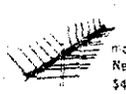
6 GREAT MODELS TO CHOOSE FROM



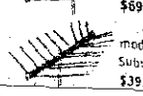
model LPV-VU18
Far-Fringe
$69.95



model LPV VU15
Fringe
$59.95



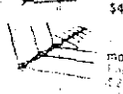
model LPV-VU12
Near-Fringe
$49.95



model LPV-VU9
Suburban-Fringe
$39.50



model LPV-VU6
Metro-Suburban
$27.50

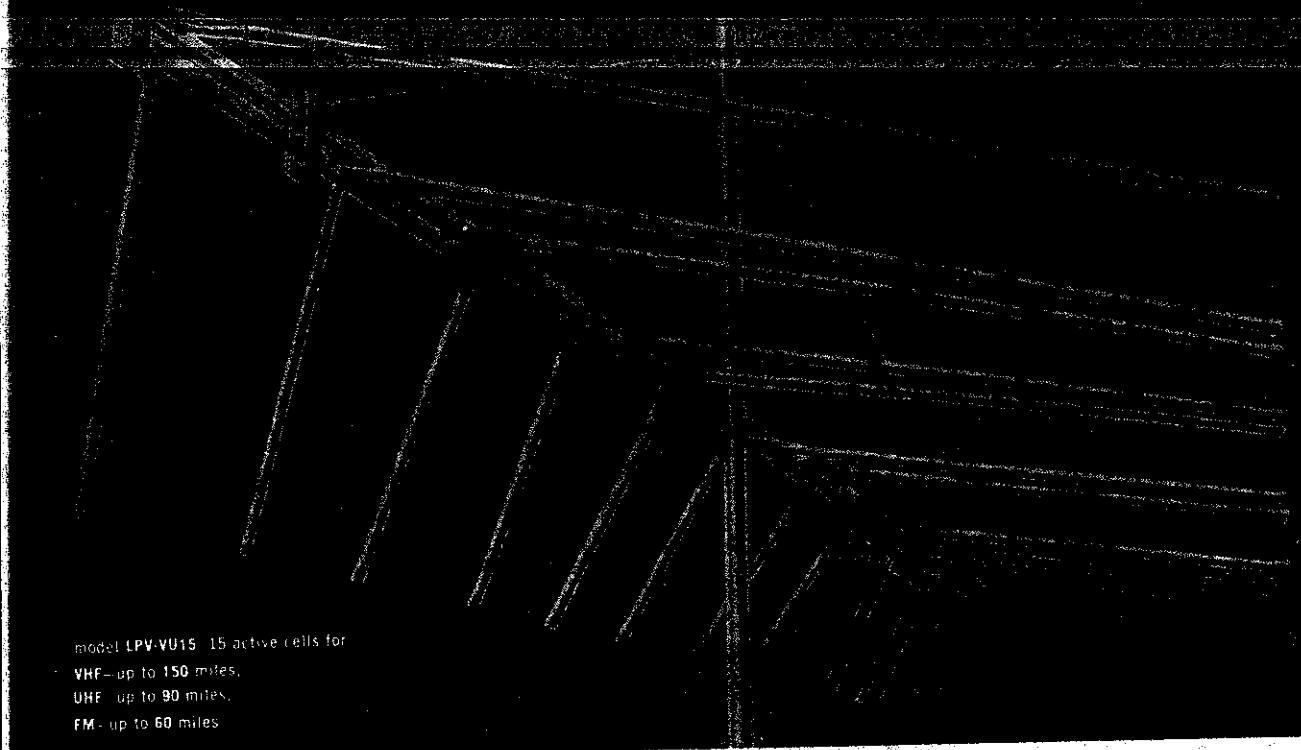


model LPV-VU5
[illegible]

JFD ELECTRONICS CORPORATION
15th Avenue at 62nd St.
JFD Electronics Southern [illegible]
JFD International [illegible]
JFD Canada, Ltd.

JFD LOG PERIODIC

—the world's first all-channel VHF/UHF/FM antenna with single down-lead!



model LPV-VU15 15 active cells for
VHF- up to 150 miles,
UHF up to 90 miles,
FM- up to 60 miles

space-age engineered for finest COLOR and B/W TV...FM/STEREO recept

Two years ago, JFD made history with the revolutionary new Log Periodic LPV antenna for VHF/TV and FM.

Now, the totally new JFD **LPV-VU** Log Periodic—the world's **first** VHF/UHF/FM antenna—will make new history for JFD dealers and distributors!

Engineered by the JFD R & D Laboratories, the LPV-VU is today's most advanced application of the patented log periodic concept of the Antenna Research Laboratories of the University of Illinois because:

1. **The JFD LPV-VU is the first and only truly all-channel antenna to receive all FCC authorized VHF and UHF TV channels 2 to 83, plus all FM/Stereo frequencies.**
2. **Frequency independent log periodic design provides an unprecedented combination of remarkable gain...flat, full bandwidth response...sharp directivity...high front-to-back ratios ...matched impedance and low VSWR on all TV and FM bands.**
3. **Only one downlead is required (a JFD AC80 splitter is included so lead-ins can be run to VHF, UHF and FM set terminals).**
4. **Unique low-impedance twin crossarms (in place of usual crossed feeder harness) help effect maximum distribution of all VHF/UHF TV and FM signals without variance.**

The JFD LPV-VU offers a host of new mechanical advances, too, such as the twin square aluminum crossarms, stainless steel terminals, oversized unbreakable Celanese "Fortiflex A" insulators, solid aluminum bus bar transformers—plus handsome, electrically-conductive gold alodizing.

Get the JFD LPV-VU from your local distributor today.

Why sell today's VHF/UHF/FM markets with yesterday's antennas? Rely on the JFD LPV-VU Log Periodic to make the sales others can't—in color, black and white, and FM stereo!

Model	Description	List
LPV-VU18	18 Active Cells VHF—up to 175 miles UHF—up to 90 miles FM—up to 75 miles	69.95
LPV-VU15	15 Active Cells VHF—up to 150 miles UHF—up to 90 miles FM—up to 60 miles	59.95
LPV-VU12	12 Active Cells VHF—up to 125 miles UHF—up to 65 miles FM—up to 50 miles	49.95
LPV-VU9	9 Active Cells VHF—up to 100 miles UHF—up to 40 miles FM—up to 40 miles	39.95

Write for brochure 701 for details regarding FREE N. Y. World's Fair trips for JFD Log Periodic dealers.

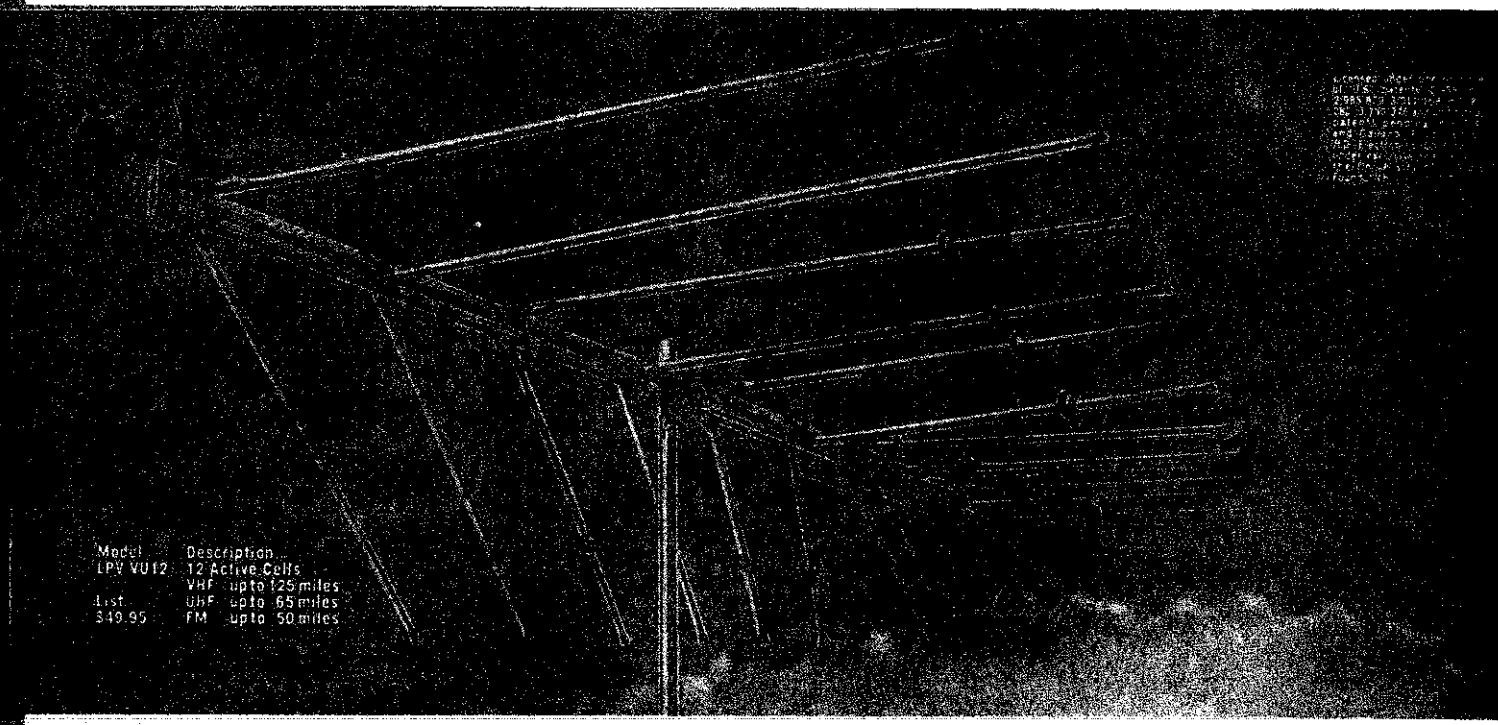
Whether the location calls for VHF...or UHF...or FM ...or VHF/UHF/FM—there is a JFD Log Periodic antenna to suit your installation needs—perfectly.

JFD ELECTRONICS CORPORATION
15th Avenue at 62nd Street, Brooklyn, N. Y. 11219

JFD Electronics-Southern Inc., Oxford, North Carolina
JFD International, 64-14 Woodside Ave., Woodside 77, N. Y.

LICENSED UNDER ONE OR MORE OF U.S. PATENTS 2,958,081; 2,985,879; 3,011,168; 3,108,280 AND ADDITIONAL PATENTS PENDING IN U.S.A.

This group of Universal Components Veteran Salesmen Says:



"You Can Have Everything You Want in a TV Antenna— VHF/UHF/FM Stereo - Single Down-lead!"

JFD® LPV-VU Color® LOG-PERIODIC

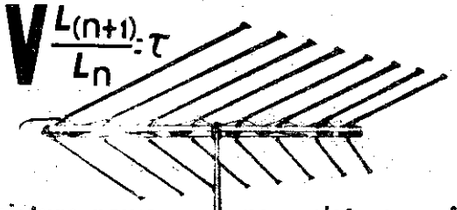
FEATURING THE

CAP-ELECTRONIC DIPOLE

UNIVERSAL COMPONENTS CORPORATION

6325 NEW UTRECHT AVENUE, BROOKLYN, NEW YORK 11219 AREA CODE 212-CLOVERDALE 9-4990

LPV $\frac{L_{(n+1)}}{L_n} = \tau$



means
more picture power | ***new picture purity***

Developed by the University of Illinois*
Proved Out in Air Force Satellite Tracking . . .
Licensed and Developed for Home Use by **JFD** Electronics . .

THE BIG BREAKTHROUGH IN TV ANTENNAS IS HERE

IT COULD ONLY HAVE BEEN PRODUCED BY SUCH MASSED RESOURCES as those of a prominent university, the Armed Forces, and the world's leading antenna manufacturer.

THE LOG-PERIODIC LPV MUST IMPROVE YOUR TELEVISION PERFORMANCE—on virtually every count—because it outperforms previous antennas on virtually every count.

BUILDS UP ENORMOUS POWER to bring in new depth, more detail, regardless of distance or terrain.

FOCUSES WITH PINPOINT PRECISION, to go after the signal you've tuned to and no other, without noise, snow or ghosts.

GET VIVID, VIBRANT PICTURES ON EVERY CHANNEL . . . the truest color you've ever seen . . . plus FM and stereo! Ask us about the JFD LOG-PERIODIC LPV.

*U.S. Patents 2,958,081—2,985,879—3,011,168. Additional Patents Pending. Produced Exclusively by JFD Electronics Under License to U. of Illinois Foundation.

Of gold anodized aluminum

THE LOG-PERIODIC LPV by JFD

now at . . .

GIFFORD-BROWN, INC.

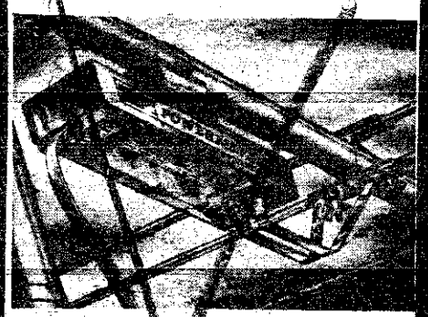
1400 WALNUT, DES MOINES

Also WATERLOO

FACON 11-62

"Designed Formula from Hell"

NEW JERROLD® TRANSISTOR POWERMATE PREAMPLIFIER



No tubes, no batteries to replace. Has exclusive universal bracket—mounts on antenna boom, mast, wall, **window sill**—even behind receiver. For any antenna, new or already installed. Avg. gain 13.9db at Ch. 13—18.25db at Ch. 2—highest in the business, producing lowest possible System *Noise Figure*.



$39.95 list.
$26.63 net,
complete with remote a-c power supply.

For details, write

JERROLD ELECTRONICS CORPORATION
Distributor Sales Division
Dept. US-275 Philadelphia 32, Pa.

Radio & TV Dealer
10/

Don't Compromise INSTALL THE BEST!

INSIST ON THE **JFD** **transis-tenna**

THE ONLY "ADD-ON" TV/FM ANTENNA AMPLIFIER THAT MOUNTS AT THE RIGHT PL —DIRECTLY ON ANTENNA TERMINALS—THE POINT OF HIGHEST SIGNAL-TO-NOISE RA

- **PADT transistor circuitry provides superior gain, higher saturation level and larger cross-modulation index characteristics**—up to 18 db gain or low band and 15 db. on high band—13 db. (TNT106FM 25 db. gain on FM)
- **Interference-proof circuit design rejects spurious signals from amateur, citizen's band, fire, police, aircraft and other commercial services. Only the pure amplified video signal gets through to the set.**
- **Converts any antenna-type into a truly electronic antenna system.** Weather-proof solid aluminum busbars connect directly on to the terminals of any antenna. No makeshift straps, clamps or brackets. Another exclusive JFD feature.

. . . PLUS 11 OTHER OUTSTANDING PERFORMANCE AND CONSTRUCTION FEATURES THAT DELIVER MAXIMUM GAIN AND HIGHEST SIGNAL-TO-NOISE RATIO — IN BLACK AND WHITE OR COLOR!



Drive up to 4 set

NO.	DESCRIPTION	LIS
TNT103	AC-powered TV/FM Transis-tenna	$36
TNT100	Battery-powered TV/FM Transis-tenna	34
TNT105	"All-In-One" Home TV/FM Transis-tenna	29
TNT106FM	AC-powered FM Transis-tenna	35

See your JFD distributor or write for brochure 250 and get the facts.

JFD ELECTRONICS CORPORATION
6101 Sixteenth Avenue, Brooklyn 4, N.Y.

. . . for more details circle 38 on page 12

Winegard Introduces Outlet System For Television, FM and High Fidelity

Called Audio-Pix, Inexpensive and Easy to Install; Combines the Advantages of Two Types of Present Installations; Uses Only One Wire for All Outlets

BURLINGTON, IOWA, Tuesday

The Winegard Company, Burlington, Iowa, announced . . .

ATC ipment Viet

RCE BASE, Ill.— ill soon complete radar equipment ic control at under- training bases in the and for locations in a.

sion-modification pro- n as Project Gin Andy, expanding mobile proach control (MRA- facilities from a n of two airport surveil- dar (ASR) and two preci- roach radar (PAR) scopes SR scopes and three PAR

nodification enables mobile proach control facilities to radar control and separa- aircraft to and from their areas, and to monitor the to insure they remain their assigned airspace.

ation of the new system hlin AFB, Tex., last May satisfactory, a spokesman the plan was immediately d.

ations have been complet- Laredo AFB, Tex., Webb x., Vance AFB, Okla., Tan t Air Base, Vietnam, and n Bay Vietnam.

ystem is presently being at Da Nang and Pleiku in Vietnam and will be ater at Sheppard AFB, her pilot training base. systems are to be as- the air force communi- t mobile communications Clark AB, Philippines.

Foundation Asks KO of Trust Claim

CHICAGO. — The University of Illinois Foundation asked Federal Court to dismiss a counterclaim by Blonder-Tongue Laboratories, Inc., charging it with antitrust violations and infringement of an antenna patent.

The counterclaim was filed by the Newark, N. J., firm in the foundation's suit charging B-T infringes a foundation patent for television and radio antennas.

The foundation denies it conspired with JFD Electronics Corp., Brooklyn, N. Y., to restrain competition in television and FM broadcast receiving antennas. It also denies that it and JFD changed the design of some of their antennas to copy the invention claimed in B-T's patent, No. 3,259,904, for ultra-high frequency antennas with combined support and lead-in.

The foundation denies, too, that it and JFD falsely represented that the foundation's patent, No. 3,210,767, for frequency independent unidirectional antennas for radio and TV, embraces all antennas of the socalled log-periodic type.

B-T has denied it makes antennas that infringe the foundation's patent and asked for dismissal of the complaint.

MICON ELECTRONICS INC.
ROOSEVELT FIELD
GARDEN CITY, NEW YORK
Manufacturers
EMLOCK®
MINIATURE
RF CONNECTORS
TO MIL-C-22557/A
AVAILABLE FROM STOCK AT
ANGUS INC.
Pleasant Valley
Moorestown, N. J.
(609) 235-1900

Power tube calculator, applications data— all free from MACHLETT

Special Problems

1. Ghosts – This problem can usually be reduced or eliminated by reorienting the antenna. Try turning the antenna to a variety of positions as you or a friend watch the TV screen. The best position may not necessarily be when the antenna is pointed directly at the station(s). Remember to check all stations as you shift the antenna, since a compromise may be necessary to achieve the best picture on all channels. If a satisfactory compromise cannot be achieved, you may require an antenna rotator.

   Two other possible couses of ghosts are cables too close to other cables, and too much metal close to the cable. The first can be cured by keeping your cable at least six inches away from all other TV cables. If the cable must be run near lorge metal surfaces, try using longer stand-offs. If this fails, it moy be necessary to use coaxial coble. If you are thinking about purchasing a rotator or coaxial cable, see your dealer, explaining the difficulty. He may be able to suggest a simpler, less costly solution.

2. No Picture, Snow, or Poor Contrast – Too little signal is the cause here. Check all connections, ond check the cable for shorts or breaks. If this happens in wet *weather only, replace yaur cable with foam-filled* twin-lead (see 'Cable,' above).

   If you are in a fringe area, you may wish to install a signal amplifier. See your dealer about a Blonder-Tongue unit to meet your requirements.

3. Fading Picture – This may be caused by a branch hitting the antenna, or by the wind shifting the direction of the antenna. Clear all obstacles awoy from the antenna, ond provide a sturdier mast mounting, if necessary.

4. Interference – Interference may come from a variety of sources. A line filter for your TV set, o high-pass Filter at the antenna input of your TV set, or coaxial cable are among the passible solutions. See your dealer for further information.

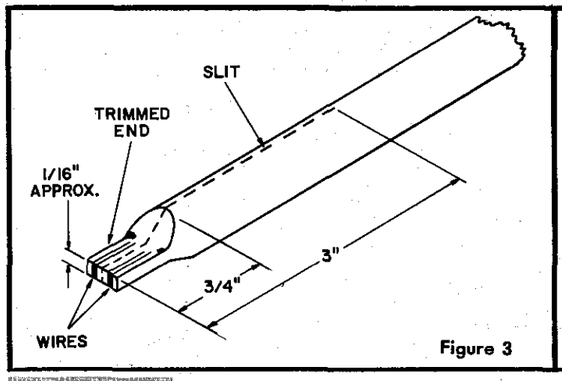


Figure 3

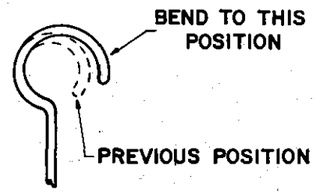


Figure 4

ACCESSORIES

Blonder-Tongue manufactures a complete line of color-approved home distribution equipment, including antennas, signal amplifiers, matching transformers for TV and FM, and UHF converters. Below is a partial list.

U-Ranger	UHF add-on antenna far use with Blonder-Tongue Color Ranger antennas.
U/Vamp-2	mast-mounted twa-transistor VHF/UHF signal amplifier.
Vamp-2	mast-maunted two-transistor VHF signal amplifier.
V/U All-2	indoor, two-transistor VHF/UHF signal amplifier.
MT-283	VHF/UHF/FM transformer for matching antenna to coaxial downlead, and coax to set.
Coblematch U/V	indoor VHF/UHF/FM transformer for matching coax to set input.
TF-331 U/V	*indoor, flush-mounted UHF/VHF/FM feed-through plate.*
A-102 U/V	VHF/UHF/FM two-set coupler.
A-104 U/V	VHF/UHF/FM four-set coupler.
A-107	VHF/UHF coupler-splitter.
BTX-11A	transistor UHF converter for weak-signal areas.
BTX-99A	transistor UHF converter far strong- and medium- strength signals.
BTD-44	tunnel-diode, cordless UHF converter for strong-signal areas.

See your dealer for further information on these products, as well as specific recammendations to meet the particular requirements of your own installation.

BLONDER-TONGUE

LOG-PERIODIC VHF-FM ANTENNA

COLOR RANGER-10

INSTRUCTIONS

Your new Color Ranger-10 is an advanced, ten-element log-periodic antenna, designed for optimum reception of VHF and FM. It is especially effective for color reception, featuring high, uniform gain and a precisely-shaped directional pattern, which aids in eliminating ghosts. The Color Ranger's mechanical and electrical design incorporate the very latest developments in antenna engineering. The Ranger-10 utilizes twin-boom construction, with its superior electrical characteristics and mechanical rigidity. Self-locking, snap-out elements ensure correct positioning, and are reinforced at critical points. A chromateiridite finish provides excellent protection against the elements, assuring long, trouble-free service.

The antenna has provisions for UHF addition at any time. By simply turning four nuts, the Blonder-Tongue U-Ranger antenna, designed to function as an integral part of the Ranger 10, can be added for UHF reception. No antenna couplers or separate leads to the set are required.

All Blonder-Tongue antennas are built to the very highest standards. Every unit undergoes a comprehensive inspection before receiving the Blonder-Tongue insignia. In this way, we strive to maintain the quality and reliability with which the Blonder-Tongue name has been synonomous for over fifteen years.

FOR THE MAN IN A HURRY

Don't be surprised at the length of these instructions. Because this antenna is a quolity design, manufactured with great care, it is only natural that we wish to assure it will perform to its maximum copabilities. For this reason, we have included several paragraphs of installation techniques, to aid you in setting up your system.

Our technical writers and engineers have spent considerable time preparing these instructions for your guidance. To attoin the best results, please read this entire booklet carefully, with the antenna in front of you, BEFORE proceeding with installation. It will be time profitably spent.

INSTALLATION TIPS

Following these installation tips will aid you in making an installation of professional quality. Should you encounter unusual problems or special situations, consult yaur dealer. Authorized Blonder-Tongue dealers have a wealth of invaluable practical television experience. Yours will be only too glad to give yau guidance in installing (or enlarging) your Blonder-Tangue TV system.

Location

Particular attention should be paid to the antenna location, as it may make the difference between a poor and *on excellent picture.*

1. Wherever possible, the antenno should be mounted above all local obstacles, such as buildings or nearby trees. Use the height af your neighbors' antennas as a guide.

   In addition, try to avoid having large structures of the same height behind the antenna, since they may cause ghosts.

2. *The ontenna should be mounted away from power* lines. Keep in mind that power lines can blow in the wind, and sag when carrying ice or snow. Mount the antenna where tree branches will not blow into it.

3. Safety codes require that the antenna mast be grounded. Your dealer can supply the necessary parts to accomplish this.

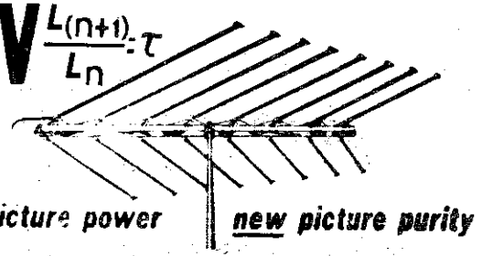
4. Keep the antenna away from chimneys of buildings where coal ar oil is burned. These fuels sometimes deposit carban on antennas, resulting in poorer performance.

5. Support the antenna mast at a minimum of two points. As a rule of thumb, at least 1/4 of the total mast length should lie between the two supporting points. Masts over 10-15 feet may require guy lines (ask your dealer).

6. Be sure the mast mounting is firmly secured to a firm *support, such as a masonry woll, o house structural* member, etc. A wide variety of masts and mountings are available from your Blonder-Tongue dealer, who will be glad to recommend the type best suited to your

© 1965

LPV $\frac{L_{(n+1)}}{L_n} = \tau$



...eans
...ore picture power new picture purity

...eloped by the University of Illinois*
...ved Out in Air Force Satellite Tracking . . .
...censed and Developed for Home Use by JFD Electronics . .

THE BIG BREAKTHROUGH IN TV ANTENNAS IS HERE

...COULD ONLY HAVE BEEN PRODUCED BY SUCH MASSED ...ESOURCES as those of a prominent university, the Armed Forces, ...d the world's leading antenna manufacturer . . .

...HE LOG-PERIODIC LPV MUST IMPROVE YOUR TELE-...SION PERFORMANCE on virtually every count—because it ...ps ... previous antenna on virtually every count.

...UILDS UP ENORMOUS POWER to bring in new depth, more ...tail regardless of distance or terrain.

...OCUSES WITH PINPOINT PRECISION, to go after the signal ...ou tuned to and no other without noise, snow or ghosts.

...ET VIVID, VIBRANT PICTURES ON EVERY CHANNEL . . . ...truest color you've ever seen . . . plus FM and stereo! Ask us about JFD LOG-PERIODIC LPV.

...S. Patents 2,958,081—2,985,879—3,011,168. Additional ...ents Pending. Produced Exclusively by JFD Electronics Under ...se to U. of Illinois Foundation.

...gned aluminized aluminum

...HE LOG-PERIODIC ...PV by JFD

now at...

GIFFORD-BROWN, INC.

1400 WALNUT, DES MOINES

Also WATERLOO

...CON 11-6-61

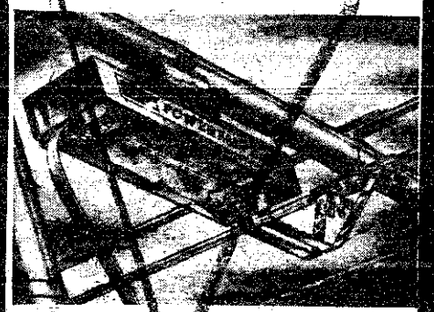
...outperforms them all!

NEW JERROLD®

TRANSISTOR

POWERMATE

PREAMPLIFIER



No tubes, no batteries to replace. Has exclusive universal bracket—mounts on antenna boom, mast, wall, window sill—even behind receiver. For any antenna, new or already installed. Avg. gain 13.9db at Ch. 13, 10.25db at Ch. 2—highest in the business, producing lowest possible System Noise Figure.



$39.95 list,
$26.63 net,
complete with remote a-c power supply.

For details, write

JERROLD ELECTRONICS CORPORATION
Distributor Sales Division
Dept. TOS-275 Philadelphia 32, Pa.

Radio + TV [illegible]
10/[illegible]

Don't Compromise INSTALL THE BEST!

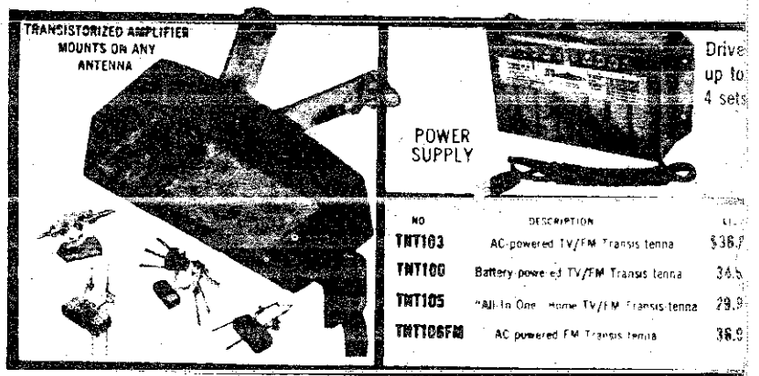
INSIST ON THE JFD

transis-tenna

THE ONLY "ADD-ON" TV/FM ANTENNA AMPLIFIER THAT MOUNTS AT THE RIGHT PLA —DIRECTLY ON ANTENNA TERMINALS—THE POINT OF HIGHEST SIGNAL-TO-NOISE RAT

- **PADT transistor circuitry provides superior gain, higher saturation level, and larger cross-modulation index characteristics**—up to 18 db gain on low band and 15 db. on high band—13 db. (TNT106FM 25 db. gain on FM).
- **Interference-proof circuit design rejects** spurious signals from amateur, citizen's band, fire, police, aircraft and other commercial services. Only the **pure amplified video signal gets through to the set.**
- **Converts any antenna-type** into a truly electronic antenna system. Weather-proof solid aluminum busbars connect directly on to the terminals of any antenna. No makeshift straps, clamps or brackets. Another exclusive JFD feature.

...PLUS 11 OTHER OUTSTANDING PERFORMANCE AND CONSTRUCTION FEATURES THAT DELIVER MAXIMUM GAIN AND HIGHEST SIGNAL-TO-NOISE RATIO—IN BLACK AND WHITE OR COLOR!



NO	DESCRIPTION	LI...
TNT103	AC-powered TV/FM Transis-tenna	$36.7
TNT100	Battery-powered TV/FM Transis-tenna	36.5
TNT105	"All-In-One" Home TV/FM Transis-tenna	29.9
TNT106FM	AC-powered FM Transis-tenna	36.9

See your JFD distributor or write for brochure 250 and get the facts.

JFD ELECTRONICS CORPORATION
6101 Sixteenth Avenue, Brooklyn 4, N. Y.

. . . for more details circle 38 on page

Winegard Introduces Outlet System For Television, FM and High Fidelity

Called Audio-Pix, Inexpensive and Easy to Install; Combines the Advantages of Two Types of Present Installations; Uses Only One Wire for All Outlets

BURLINGTON, IOWA, Tuesday — The Winegard Co., Burlington, has announced [illegible]

COURT NEWS

3M Denies Monopoly Charge by U.S.

CHICAGO. — Minnesota Mining & Manufacturing Co. asserted in Federal Court that there is no basis for continuing a monopoly suit the Government filed concerning magnetic recording media, pressure-sensitive tape and aluminum, presensitized, lithographic plates.

The suit charges 3M with attempting to monopolize and restrain manufacture and sale of those products by suing or threatening patent infringement suits to coerce competitors to accept patent license agreements.

3M denies the charges and asks for dismissal of the suit. The Government seeks injunctions prohibiting 3M from carrying out contracts or agreements that allegedly restrain trade in the industries and from acquiring patents in the industries for five years.

The defendant says there is no basis under present competitive conditions for granting the injunctions and that the Government is barred from maintaining the suit because it waited too long to file it.

It says the Government knew about 3M's activities with respect to patents, licenses, sales practices and pricing in the media and tape industries since 1945 and in the plate industry since 1955, but refrained from filing the suit until last April 7.

3M also says many of the patents and suits claimed to have been used in an illegal manner have terminated or expired and that the accused license agreements have been modified so as to eliminate the need for injunctions.

Chadwell, Keck, Kayser, Ruggles & McLaren represents 3M.

• • •

Terra Intl. Gets Ban on Trademark

NEW YORK. — Terra International Co., Ltd., was granted an injunction on consent in Federal Court against F. J. Strauss Co., Inc., over the "Kensington" trademark on radios.

Terra, holder of registration No. 743,328 on "Kensington," charged Strauss with infringement by unauthorized marketing of radios with the same mark.

The consent decrees that Terra holds a valid registration on the mark and that Strauss did infringe. The agreement that Strauss will not use the mark without authorization may not be cited as adjudication of issues nor used for advertising.

Amster & Rothstein represents Terra.

• • •

Consents to Ban On Admiral Prices

NEWARK, N. J. — Admiral Corp. Metropolitan Division, Inc., has obtained a consent judgment in Superior Court, permanently enjoining Ace Electronics Service Inc., from selling Admiral products at less than fair trade prices.

Ace Electronics trades as Ace TV & Appliance Co. at 69 Route 35, Neptune City.

Admiral had accused the retailer of advertising an Admiral Duplex Refrigerator D1964 for $349.88, when the model was fair traded at $378.

Raff, Sherman & Scheider, here, represents Admiral.

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Consents to Ban On Motorola Prices

NEWARK, N. J. — Cooper Distributing Co., Inc., has obtained a permanent injunction on consent in Superior Court barring Turchin's Department Stores, Inc., from selling Motorola products for less than fair trade prices.

Turchin's is at 116 North Wood Avenue, Linden. Raff, Sherman & Scheider represents Cooper.

Blonder-Tongue's Antenna Charges Denied by JFD

CHICAGO. — JFD Electronics Co., Brooklyn, N. Y., joined the University of Illinois Foundation in denying in Federal Court that they conspired to restrain competition in television and FM antennas and infringe a patent owned by Blonder-Tongue Laboratories, Inc.

JFD says it was formerly known as JFD Electronics Corp. and is now a division of Stratford Retreat House, a religious corporation authorized under New York State law.

The conspiracy and infringement charges are in Blonder-Tongue's counterclaim to the foundation's suit charging B-T infringes Patent No. 3,210,767, for frequency-independent, unidirectional antennas for television and and Radio. B-T, Newark, N. J., denied the charge and asked for judgment that the patent is invalid and not infringed.

JFD, exclusive licensee under the foundation's patent, denies it and the foundation changed the design of some of their antennas to copy the invention claimed in B-T's Patent No. 3,259,904, for ultra-high-frequency antennas with combined support and lead-in. B-T's patent, JFD charges, is invalid because of prior art and patents.

B-T says antennas covered by its patent are accused of infringing the foundation's patent.

JFD and the foundation also deny they falsely represented that the foundation's patent embraces all antennas of the so-called log-periodic type and that only JFD has the right to make such antennas. And they deny that they falsely libeled and disparaged competitors' products.

JFD also charges B-T uses Patent No. 3,016,510 on Golden Dart antennas to deceive the public. JFD charges B-T knows the patent does not cover certain Golden Dart antennas.

JFD asks the court to enjoin B-T from further allegedly false use of the patent number, fine B-T $500 for each instance of false patent marking and award JFD half the fine.

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Appeals Order ForChannelMaster

CHICAGO.—University of Illinois Foundation filed notice of appeal of the dismissal of Channel Master Corp. as a defendant to a suit charging infringement of a patent for a frequency independent unidirectional antenna for radios and TV sets.

The Federal Court suit charges Channel Master, Ellenville, N. Y., makes antennas that infringe the foundation's Patent 3,210,767 and that Electronic Distributors, Inc., here, sells them.

Channel Master was dismissed on its motion asserting the court lacks jurisdiction.

Electronic Distributors denies the charges, asks for dismissal of the suit and claims the patent is invalid.

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Retailer Files Bankruptcy Plea

SAN FRANCISCO.—A. K. Loader, a retailer trading as Archway TV & Appliance, 1760 Fremont, Seaside, Calif., has filed a voluntary bankruptcy petition in Federal Court here.

A statement of affairs lists liabilities of $78,468, including secured claims, $62,703, and unsecured, $15,764.

Assets total $108,168, including real estate, $62,500; inventory, $12,530; vehicles, $4,900; machinery, fixtures and tools, $7,707, and property claimed exempt, $16,385.

Robert Gibbon, Aptos, Calif., represents debtor. Daniel R. Cowans, San Jose, is referee.

Color Margins Dip in September

CHICAGO. — Initial results of the National Appliance and Radio-TV Dealers Association data processing system indicate that margins on color television sales for October "slid somewhat" from September.

Jules Steinberg, NARDA executive vice-president, said he expects specific figures on the monthly survey to be ready soon.

tA the same time, he pointed out that the indications on markup on stereo business has held up "very well" and stereo sales are accounting for "a greater percentage of over-all business than dealers did in September."

Certron Buys Tapemaster For Expansion

ANAHEIM. Calif.—Certron Corp. has acquired the Tapemaster division of Interstate Engineerin g Corp. for an undisclosed amount of stock and debentures. Both firms are located here.

Tapemaster manufactures magnetic tape, primarily for the home audio market, and Certron specializes in processing and certification of precision magnetic tapes.

Edwin R. Gamson, president of Certron, said the acquisition was directed at enabling Certron to expand heavily in the cartridge tape business.

"Our objective is to apply the high quality certification methods of the computer tape industry to the cartridge market without increasing prices," Mr. Gamson said.

He noted that most cartridges to date have used rejected computer tape and the lack of quality has brought many complaints from the consumer market.

The acquisition includes Tapemaster's 25,000-square-foot manufacturing facility, which will now be operated under the Certron name. Mr. Gamson said the present staff was being retained, but he declined to state how many people this involved.

John M. Nashu of Certron's management staff has been named general manager of the new tape manufacturing division. George D. Derado, formerly vice-president of Greentree Electronics, will direct the division's marketing activity.

Burleigh Brooks Enters Tape Field For Photo Industry

NEW YORK.—Burleigh Brooks, Englewood, N. J., distributor of photographic products, has entered the continuous loop cartridge tape and tape player field with a group of products for the photo industry.

Under its own Brooks label, the company is offering at $79.95 list an eight-track home-type player made by Lear. It also is offering, under the manufacturer's name, a Borg-Warner eight-track auto player list priced at $119.95 complete with 5-inch speakers.

BB also has been named to handle the GRT eight-track cartridge line, along with similar tapes from RCA Victor, Columbia, Capitol and Decca.

In an advertisement in a major photo industry-publication, the firm said: "Look at these market estimates by industry leaders: In three years over 93 per cent of new cars will be equipped with tape players. Twenty-two million cars in use will have tape players installed. Eight hundred and 40 million tape cartridges will be sold each year."

Lear Names Gall To New V-P Post

DETROIT.—James R. Gall, director of marketing, has been named to the new position of vice-president of marketing for the Lear Jet Industries stereo division, here.

N.Y. Eying Price Cuts Following Admiral Act

Continued from Page 1

In commenting on Mr. Schwartzstein's remark, Harry Schecter, vice-president, general manager, Zenith Radio Corp. of New York, said that there is no reason for abnormal price cutting at retail because Zenith field inventories are in good shape while his own inventories are at a week and a half level. Mr. Schecter further stated that there will be no price reductions, no deals and no extra promotions.

Officials at Bruno-N. Y., Inc., RCA distributor, could not be reached at press time for comment.

Mr. Schwartzstein has no plans for making commensurate reductions in dealer costs.

For their own part, many retailers are critical because they are being asked to cut their own margins.

This criticism is being leveled at the many suppliers who induced dealers to buy heavily in order to have merchandise available for the "great volume of business that was anticipated this fall."

Color sales are good at this point, and many dealers report better sales than last year. However, the pace is not fast enough to keep many dealers out of financial problems as notes become due. Retail prices have turned soft as numerous stores attempt to convert their inventories into cash.

At the same time, financing companies are rejecting more and more consumers. Furthermore, color set prices are being criticized at both dealer and consumer level for being too high.

Pressed by shrinking margins, dealers are asking their suppliers for price concessions. Whether or not these concessions will come is an unknown factor at this point. Ironically, the distributors are fairly clean in terms of inventory since it has been shifted to the retail level. As a result, the question can be fairly asked: What inducement is there for distributors and branches to cut prices on merchandise they can't deliver?

Nevertheless, dealer pressure for some type of pricing concession can be expected to grow.

One veteran pointed out that many of the companies have price-maintained lines. He asked how branches and distributors can expect stores to maintain prices and at the same time pay their bills.

"Something's got to give," he declared.

Just what will happen in terms of concessions or actual declines in wholesale pricing depends to a large degree on how business shapes up between now and Christmas. If sales continue at present moderate levels, retail pricing can expect to become more and more competitive as stores move to liquidate inventories. This situation will be reflected at the wholesale level with a spate of price cutting by many distributors.

The cuts in fair trade pricing by the local Admiral branch affected higher price models. A complete breakdown follows with old and new pricing: 23-inch models: LK 5315—$538, $510; LK 5321—$550, $524; LK 5325—$568, $535; LK 5348—$568, $535; LK 5349—$568, $535; 25-inch sets: CK 5511—$520, $498; LK 5522—$565, $535; LK 5521—$575, $545; LK 5541—$599, $559. LK 5311 $525 — $498: The The following models dropped from $638 to $599: LK 5545, 5558, 5559, 5531, 6561, 6565, 6569, 6521.

General Electric and Magnavox said that they don't have any plans for price changes on color TV sets. A Magnavox official, declared that the company did not increase prices in September when other leading suppliers made hikes of about 3 per cent. The Magnavox spokesman said that while the industry experienced some declines in color during October Magnavox has witnessed a retail sales pickup since early November.

Electrohome Plant To Open Today

CHICAGO. — Electrohome of Canada, manufacturer of stereo and television, will open its $4 million cabinet plant in Kitchener, Ont., today.

The entire 45,000-square-foot plant will house computerized and automated production systems for cabinets.

Howard Main, vice-president-marketing, estimates that the new plant will permit an increase of cabinet production of about 40 per cent in 1967.

Sansui Establishes American Unit

TOKYO. — Sansui Electric Co. Ltd., has established an American sales company, called Sansui Electronics Corp., New York, capitalized for $50,000, at 34-43 56th Street, Woodside, N. Y.



20 Minutes from the Heart of Manhattan

ALROY MOTOR INN

(formerly Crossway Airport Inn)

at LaGuardia Airport Circle
overlooking the airport and Flushing Bay

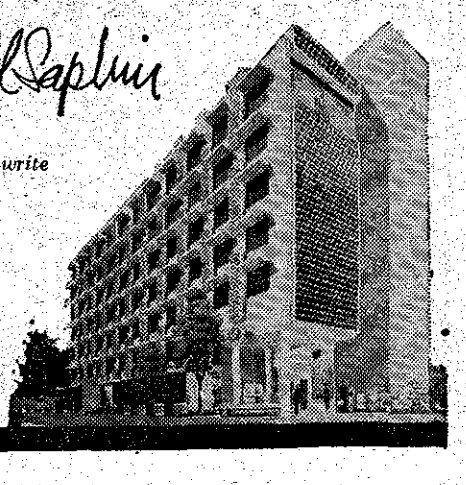
136 SOUNDPROOF ROOMS • MEETING ROOMS • DISPLAY ROOMS • TV, RADIO, AIR CONDITIONING, WALL-TO-WALL CARPETING IN EACH ROOM • DIRECT-DIAL TELEPHONE • FINE "V.I.P." RESTAURANT • COCKTAIL LOUNGE • COFFEE SHOPPE • SWIMMING POOL • FREE PARKING • LIVE MUSIC & ENTERTAINMENT WEEKENDS • MEMBER AMERICAN EXPRESS, DINERS' CLUB, CARTE BLANCHE, AAA

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For reservations, wire, phone, write

ALROY MOTOR INN
100-30 DITMARS BOULEVARD,
E. ELMHURST, N. Y. 11369
Tel. 212-446-7900

Owned and Operated by AL SAPHIN
formerly owner of
Monarch-Saphin Stores
and Penna. Philco Distributorship



Dec. 7 Vote on Plan Of Dennis Mitchell

PHILADELPHIA. — Referee Thomas J. Curtin has continued a vote by unsecured creditors on the 18 per cent Chapter XI plan of Dennis Mitchell Industries, Inc., to Dec. 7, at 2:30 p.m. in Federal Court.

The housewares manufacturer had upgraded its previous offer of 15 per cent. The present plan is payable 3 per cent in cash on confirmation and in five 3 per cent yearly notes. In the event of default in payment of any note for 15 days, remaining notes would become due immediately.

For the period Aug. 3 to Oct. 30, in which the debtor has been in operation under a Chapter XI receiver, losses were reduced to $11,715, it was stated at the creditors' meeting.

Dennis Mitchell, is at 4424 Paul Street, with operations also in Woodbury, N. J., and Millsboro, Del.

Insist on the Original

CHEMEX® FILTER-COFFEE MAKER

"The CHEMIST'S Way" of Making Coffee



One Piece Quart Model. (2 to 4 cups)
No spare parts. Retail Price **$6.50**
No replacements.

Chemex-Bonded® Filterpaper 100— Retail Price **$2.75**
for all models, except 3 quart

There is no filterpaper that give satisfaction like Chemex® Brand Bonded Filterpaper. Always look and ask for Chemex® Bonded Filterpaper for proven quality and performance. Accept no substitutes.

Write or phone

CHEMEX CORP.

42 Murray St., New York 7, N.Y. • RE 2-6575

This ad is currently influencing consumers. It is helping to bring you more CHEMEX® business. How's your CHEMEX stock?

Fights Voiding Of Trust Suit On Corning

PHILADELPHIA. — Vornado, Inc., has gone to U. S. Court of Appeals here to fight the dismissal of its $1.2 million antitrust suit against Corning Glass Works and two distributors.

In dismissing the suit last September, U. S. District Judge Reynier J. Wortendyke, Jr., Newark, N. J., found that Corning's products were in open competition. Therefore, he ruled, Corning's holding retailers to fair trade agreements did not violate the Sherman Act.

The judge also barred Vornado from selling Corning's trademarked products below fair-trade prices.

The two distributors are Isaac Lehroff, trading as I. Lehroff, and H. Schultz & Sons, both in Newark. The suit, filed in September, 1963, charged the defendants had entered into a price-fixing agreement in restraint of trade.

Wilentz, Goldman & Spitzer, Perth Amboy, N. J., represents Vornado. Pitney, Hardin & Kipp is Corning's counsel. Shanley & Fisher represents Schultz, and Abe W. Wasserman represents Mr. Lehroff.

Electric Gifts Offered by Two Cleveland Stores

CLEVELAND.—The two department stores that advertised housewares here at the weekend offered a great variety of electrics for gift giving in limited ad linage.

HALLE BROS. CO.: Cornwall simmer trays, $11.95 to $25.95; bun warmer, $6.95; French bread warmer, $9.95; Descoware porcelainized pot, $9.95; Farberware perc, $14.99; Ronson cookette, $9.95 and $13.50; Dormeyer table mixer, $34.99; Hanovia heater, $29.95; Pollenex massagers, $15.95; Presto toasters, $11.99 and $16.99; Soda King siphons, $16.95; Salton bun warmer, $9.95; Salton bread warmer, $9.95; Knapp-Monarch automatic cookware, $29.95.

STERLING LINDNER: Sunbeam vac, $28.88; Farberware broilers, $25.88 and $39.95, percs, $17.96 and $20.96; Schick hair dryers, $29.98 and $42.88; Regina portable vac, $19.88, shampooer polisher, $34.98; Bissel Grand Rapids sweeper, $9.98, 400 sweeper, $11.98, Sunbeam hair dryer, $12.88; Westinghouse pole heater, $23.88.





AD-VENTURES

Personal Care Items Top NY's Yule Kickoff

NEW YORK. — Local stores kicked off the big Christmas season here Sunday with heavy housewares advertising that focused sharply on personal care electric items.

Korvette's and Macy's were the chief proponents of personal care merchandise. The former devoted almost two full pages to the classification, while the latter's drug department featured such items as saunas, toothbrushes, hair dryers and massagers.

Other stores, including Macy's housewares, were more modest in their personal care offerings, spotlighting individual items among their ads of gift suggestions.

While personal care shone, other classifications figuring prominently in weekend advertising were bath shop, serving accessories, cookware and bar supplies, including glass chillers.

Other highlights of the promotional scene:

- A 24-page supplement of "Wonderful World of Housewares" . . . "your complete guide for a Merry Christmas" by Gimbels.
- A Macy's roto ad in World Journal Tribune magazine section featuring Puritron ductless range hoods at $29.99, but also offering models at $38.88 to $74.88.
- Full-page ad introducing Ronson's Varaflame Cookette at Macy's to retail at $13.49 and $9.94.

The **GIMBELS** supplement was chock full of cookware, bar accessories, bath goods, gourmet ware, personal care, floor care merchandise. Cookware sets ranged from $19.99 12-piece Teflon-coated aluminum from Regal to $59.95 10-piece Teflon-lined porcelain set at $59.95.

Typical of other offerings in the spread were Soda King siphons, $16.95; Pearl-Wick "wet look" hamper ensemble including $16.99 hamper, $5.99 waste basket, $5.99 brush holder and $11.99 vanity stool; Rialto makeup mirror with flip-up magnifier, $9.99; Detecto Petal-look scale, $10.99; Weavewood dishwasher proof walnut salad bowls, $8.99; Oneidacraft 50-piece stainless flatware service for four, $39.95; Pollenex massagers, $9.95 to $39.95; Braun appliances from $19.95 personal fan to $49.94 portable sunlamp; Westinghouse Royal Lady electrics from $15.99 slicing knife to $21.99 Teflon-coated fry pan; Oster push-button liquefier-blender, $24.99; Schick hair dryer with beautifying mist, $40.88, and Eureka upright vac at $39.95, lightweight vac at $29.95 and floor polisher at $29.95.

GIMBELS drug department got into the personal care act with Ranger Research's Swedish Masseur at $12.95 and Serene's facial sauna at $29.95.

Focal point of the **KORVETTE** personal care push was Westinghouse's Steam-Press Valet at $19.88. Other items in the spread were Empire cordless clothes brush, $3.88; Royal Family cordless shoe care kit, $3.88; Sunbeam cordless toothbrush, $11.44; Ronson shoe polishers and electric toothbrush at "Korvette's low price"; Pollenex massager, $9.98; Oster massagers, $9.88 and $32.88; Nadco exercise belt massager, $79.88; portable sauna bath, $199, and Sperti adjustable floor model sun lamp, $28.88.

MACY'S drug section has latched on to a couple of housewares suppliers. The personal care ad, for instance, included Oster's electric toothbrush at $19.98, the Facsorna II, $29.95; Shavex cordless rechargeable manicure set $14.95, and Jet Age's hair dryer at $19.95.

BLOOMINGDALE'S bid for Christmas volume spotted both home entertaining items and personal care merchandise. It offered a six-piece Desco hostess cookware set at $25 and in open stock; an Ernest Sohn chafing dish at $20 and $22; as well as an Oster hardtop hair dryer at $26 and $30, and four Braun appliances, from $10 travel toothbrush to $50 sun lamp.

STERN BROS.' personal care selections were divided between housewares, toiletries, sporting goods and notions departments. Offerings from housewares included Pollenex deep heat massagers, $9.95 to $29.95. From toiletries came the Saunda, $29.50 and Songrand products, ranging from an instant curl kit at $12.95 and hair brush at $9.95 to a chin massager at $14.95. Notions added Griffin shoe polisher kit at $5.95, with sporting goods featuring Ranger Research hipster cycle at $9.99 and Swedith Masseur at $12.95.

A page of gifts for the house from STERN'S included Salton bun-bread warmer, $9.95, Cornwall electric serving tray, $9.99, Braun hair dryer, $19.95.

Personal care was the star of MACY' ads, with most of another full page devoted to personal care electrics from the housewares department. Featured were Pollenex deep heat massagers in back cushion models at $39.95 and hand models at $9.95, plus a vibrator massager at $29.95. A Songrand heat massager, $8.99, was featured elsewhere, from the drug department.

Braun's Mini Dryer at $19.95 or $24.95 with case and Berns Air King humidifiers, including console styled unit at $79.95 rounded out personal care. Other electric housewares, included the Proctor Silex Starlite glass perc at $16.95 and Waring MR4C blender at $29.88 filled the page.

MACY's bath shop was spotlighted as well, with Detecto Para's wet look sets (shower curtain, $5.99) and National Potteries bath accessories (toothbrush caddy, $2.99) featured.

B. ALTMAN & CO., sketching in a near-page of gift ideas, included Equality's hand-held hair dryer at $15 and Dynamics Classics' instant glass chiller at $3.95.

Personal care electrics peppered ads from ABRAHAM & STRAUS. Scattered through the store's ads were such items as the Saunda facial sauna at $29.99, Oster hardtop hair dryer at $24.99 and Dominion manicure set at $15.99. Entertaining housewares got biggest play, including a Salton Hotray at $16.99 and an 11-piece Wearever Teflon-lined cookware set at $18.88. Gift items ranged from the exotic —taxi horns imported from India at $9.99 each—to the practical—Nova valet with storage seat plus battery operated shoe polisher for $19.99.

In Brooklyn editions, A&S spotlighted Le Creuset seven-piece cookware set at $19.99, Shetland's Blendamatic blender plus electric can opener for $19.99, Regalia's glass chiller at $5.99. Personal care electrics included Kembric battery-operated clothes brush, $5.95, battery-operated tie-selector, $8; Universal hand-bag styled hair dryer, $9.99 and, from drugs and toiletries, Songrand heat massager, $8.99, and AMC cordless tootbrush, $10.99.

HAMMACHER SCHLEMMER'S typical assortment ads included such unusual items as Invento's white sound machine at $18.50 and Winco's heat mask at $9. Also included were more mundane items, including Braun's Mini hair dryer at $25, Hanovia sun lamps at $40 and $150 and the Chiller Diller glass chiller at $10.

The glass chiller as a gift for the man was spotted by BROAD STREET'S men's apparel store, who chose Dynamic Classics' model at $5.95.

Electrics Take The Spotlight in Philadelphia Ads

PHILADELPHIA. — Electric housewares were highlighted in advertising here this weekend, with personal care items and table-top serving accessories featured by five major stores.

The Westinghouse steam-press valet is receiving wide promotion, along with such standard items as electric knives, mixers and coffee makers.

STRAWBRIDGE & CLOTHIER: Westinghouse steam-press valet, $19.88; Proctor Starflite percolator, $17.99, Songrand's whirlpool foot bath, $39.95; jamproof Dazey electric ice crusher, $16.99; Sunbeam Vista Mixmaster, $34.94; Knapp Monarch redi-oven, $29.99; Remington cordless custom knife, $28.88; de luxe Remington cordless knife, $34.88; Proctor Starflite toaster, $14.99; Proctor Starflite steam iron, $13.99.

JOHN WANAMAKER: Remington cordless knife, $28.88; Tufram cookware, $8.95 to $15.95; Club Aluminum black magic cookware, $5.97 to $19.97.

GIMBEL BROS.: Salton Hotray, $9.99; Presto steam and dry iron, $9.99; West Bend coffee urn, $9.99; Waring shakemaker, $9.99; Oster can opener, $9.99; Sunbeam hand mixer, $9.99 Toastmaster portable room heater, $9.99; Pollenex heat massager, $9.99; and Racine hair cutting outfit, $9.99.

LIT BROS.: Saunda facial sauna, $29.50; Thermo-Jet foot bath, $39.95; Westinghouse steam-press valet, $19.88; Ronson hair brush, $24.99.

E. J. KORVETTE: Remington Princess shaver, $7.88; Ronson king-size shaver, $14.44; Norelco Speedshaver, $19.88.

Northern Electric Sets Some Hikes

CHICAGO. — Northern Electric Co. is putting a price increase of up to 5 per cent into effect Jan. 1.

Maurice F. Moriarty, vice-president, said Northern could not, at existing prices, absorb increased labor and materials costs.

Increases are primarily on electric blanket and heating pad lines —rather than on vaporizers, toothbrushes or bottle warmers — and particularly on promotional models, where the percentage increases are greatest.



and only deem® does it!

Just fill, fit on the filter and squeeze directly into the steam iron. Patented deem® offers fast squeeze bottle action. No waiting, no waste, no spilling.

Other fine products from Crystalab: Scale Rid Steam Iron Cleaner, Disposal and Drain Cleaner, Crystal-Aire Odor Absorbers

PRACTICAL PRODUCTS OF SCIENTIFIC RESEARCH FROM CRYSTALAB HARTFORD CONNECTICUT U.S.A.

The Following Pages Are Poor Quality

Mr. Dealer:

Don't let other antenna makers "snow" you with claims of how their antenna "break-throughs" work so sensationally you hardly need a TV set to get a picture.

They've got little choice.

Ever since the LPV Color Log Periodic was introduced by JFD back in '62, our competitors' engineers have been going around in circles.

They've copied it down to the rivets.

They've camouflaged their use of the log periodic principle with terms such as "energy distribution."

They've imitated its name by calling theirs "V-log," "Super-log" and .....-log.
(fill-in-yourself)

They've tried to equal its performance with "half-size" compacts—(but you can't send a midget to do a man's job—this just doesn't work.)

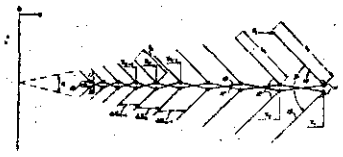
They still don't know whether to knock it ... fight it ... join it.

ture your antenna delivers to your customer's set. That is where the JFD LPV Color Log Periodic conclusively demonstrates its basic performance superiority.

If you're looking to give your customers the **finest** and **truest** color ... **crispest** black & white ... **more** VHF and UHF channels ... even better FM **stereo**—don't compromise **your** professional reputation with "antenna-compromises." Rely on the patented JFD LPV Color Log Periodic as do so many tens of thousands of knowledgeable service-dealers.

We don't expect you to take **our** word for it either. Let the **picture** (and your **profits**) be the proof.

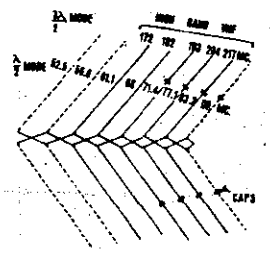
Exactly WHAT the JFD LPV Color Log Periodic has that other so-called antenna "break-throughs" would like to have!



- ONLY the JFD LPV delivers genuine **frequency-independent** performance. The **entire** antenna (not **part** of the antenna as in other ordinary antennas) responds to **every** channel.

$$\frac{L(n+1)}{Ln} = \tau$$

- ONLY the JFD LPV follows the patented log periodic design of the University of Illinois Antenna Research Laboratories.



- Only the JFD LPV uses **Cap-Electronic** (capacitor-coupled) elements. This permits (1) precise and independent tuning for optimum performance in **both** fundamental and harmonic modes—**plus** (2) increased capture area—**plus** (3) directors tuned to perform on **all** bands, not just one. The result is **higher** gain, **narrower** directivity, **higher** front-to-back ratios for brilliant color, better-than-ever black & white—on channels 2 to 83.

LIFE NATIONALLY ADVERTISED IN LIFE. Month after month, **32 million** readers of LIFE are being exposed to the reasons why the JFD LPV works best.

MERCHANDISED IN DEPTH. Banners, direct mail, newspaper mats, radio/TV commercials . . . you name it, JFD's got it to help you sell your way to top antenna profits.

...SION. Spectacular motion-picture commercials in full-color are pre-selling millions of present and prospective color TV owners.

25 DIFFERENT LPV LOG PERIODICS TO CHOOSE FROM. Interested in VHF? . . . UHF? . . . VHF/UHF/FM? Whether it's just **one** band or **all**, town or country, you get the precise antenna-answer when you make it an LPV Color Log Periodic. Interested in more facts? Just write us.

advances of the JFD LPV—**more** than any other outdoor TV antenna. Our competition's attorneys are burning the midnight oil trying to find loopholes and ways to circumvent this patent protection which assures you of getting the **only** genuine antenna designed according to **the original patented log periodic** design of the famous **University of Illinois Antenna Research Laboratories.**

LICENSED UNDER ONE OR MORE OF U.S. PATENTS 2,958,081; 2,985,879; 3,011,168; 3,108,280; 3,150,376; 3,210,767; RE 25,740 AND ADDITIONAL PATENTS PENDING IN U.S.A. AND CANADA. PRODUCED BY JFD ELECTRONICS CORPORATION UNDER EXCLUSIVE LICENSE FROM THE UNIVERSITY OF ILLINOIS FOUNDATION.

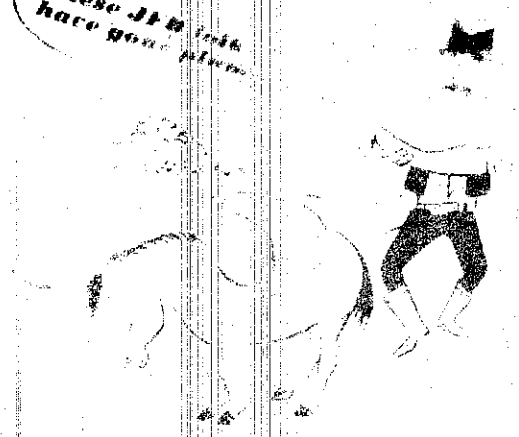
AT THE MOMENT OF TRUTH THE PICTURE IS THE PROOF WHY JFD LPV COLOR LOG PERIODICS WORK BEST!

JFD ELECTRONICS CORPORATION

15th Avenue at 62nd Street, Brooklyn, N.Y. 11219
JFD International, 64-14 Woodside Ave., Woodside, N.Y. 11377
JFD Canada, Ltd., Canada

copyright, 1966 by JFD

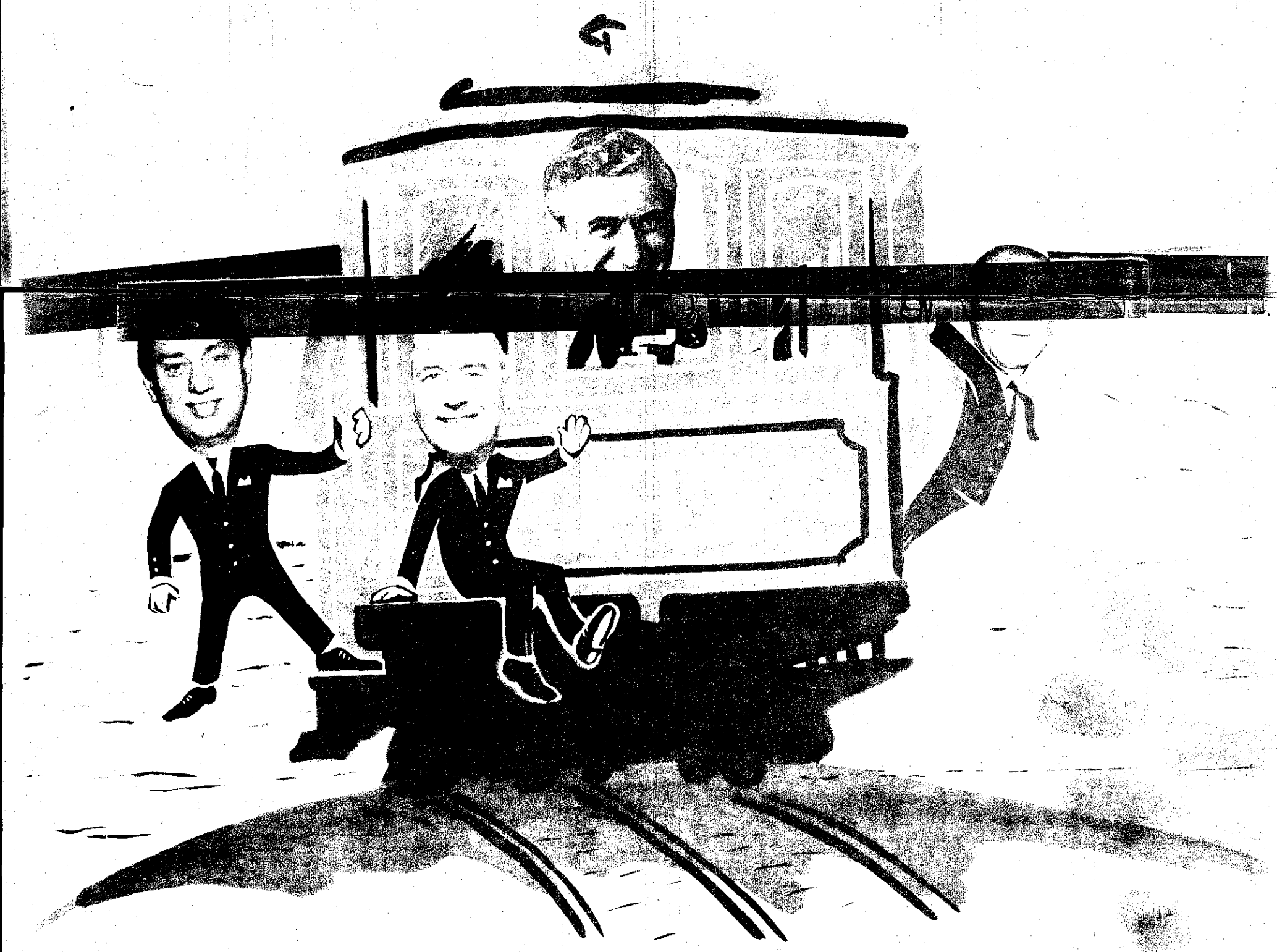
See What's New From JFD at Booth No. 2101 in San Francisco Parts Show, June 3, 4 and 5



with these

JFD

SHOW SPECIALS



We're uncorking the mightiest deals in the TV antenna and accessory business. Not one—but **six** terrific Golden Gate Show Specials that will pay off for you in whopping profits.

Look us up in Civic Auditorium Booth **2101** or Hospitality Suite **138-139-140** at the Del Webb Townehouse where we'll be a'waitin' to take your order in 'Frisco.

PLEASE NOTE!

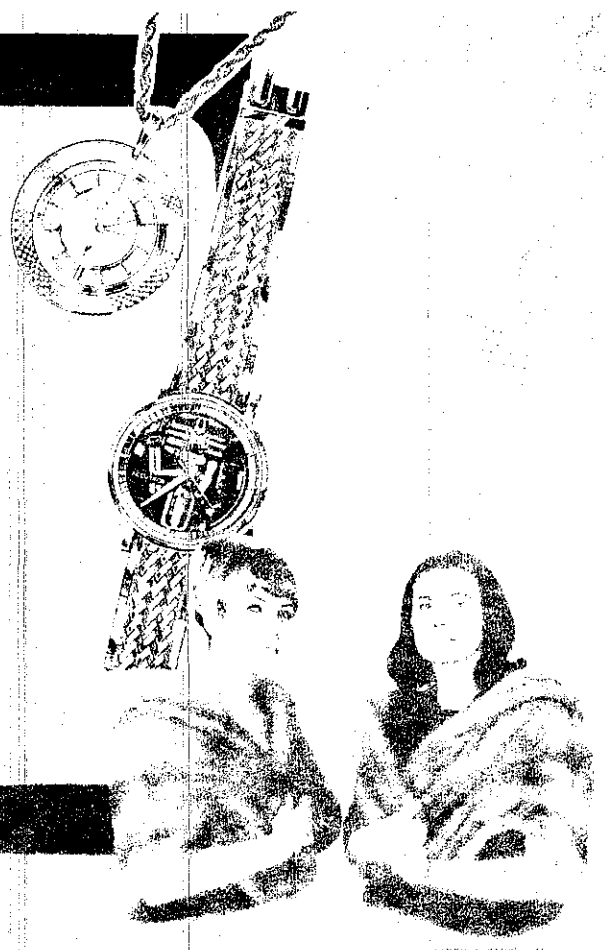
As a San Francisco Show Special **Bonus**, JFD is including luxurious **FREE** gifts with each Show Special you order. However, you **must** place your order in person (either at our Booth or Hospitality Suite) **at the show** to receive your beautiful FREE prizes.

If you can't make it to the Show, you **must** call us collect at 415-UNderhill 3-7100 to get the FREE gifts available with each Show Special.

All Show Specials will [illegible] 1966. However, [illegible] will **not** include the [illegible].

© 1966 JFD ELECTRONICS CORPORATION

LPV®
L
log periodics



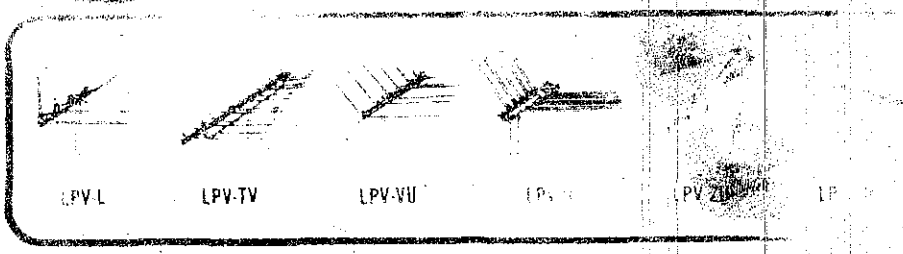
Golden Gate Show

BUY any **1,000** assorted LPV antennas
(minimum 20 per cat. no.)

PLUS FREE GIFT

DELUXE MR. AND MRS. ACCUTRON* WATCHES OR MINK STOLE

*See man's Accutron Spaceview "I" and woman's Accutron pendant "A" in full-color folder enclosed.
Antennas must be released in 1 or 2 shipments, by July 30th.
30-60-90 days billing



Golden Gate Show

BUY any **500** assorted LPV antennas
(minimum 25 per cat. no.)

PLUS "Summer Spree" Spiffs** for your salesmen and countermen

PLUS FREE GIFT

DELUXE MR. OR MRS. BULOVA ACCUTRON WATCH

*See man's Accutron Spaceview "I" and woman's Accutron pendant "A" in full-color folder enclosed
Antennas must be released in 1 or 2 shipments, by July 30, 1966.
30-60-90 days billing



IF YOU CAN'T COME OUT TO THE SAN FRANCISCO PARTS SHOW, YOU MUST ORDER YOUR GOLDEN GATE SPECIALS BY CALLING US COLLECT IN SAN FRANCISCO (AT 415 — UNDERHILL 3-7100 — EXTENSION 138-139-140) TO GET YOUR FREE GIFTS!

ALL SHOW SPECIALS CAN BE ORDERED (WITHOUT FREE GIFTS) ANYTIME UP TO JUNE 30, 1966

N. C. BY JULY 31, 1

**THESE "SUMMER SPREE" SPIFFS FOR YOUR SALESMEN AND COUNTERMEN ARE EXTRAS—INCLUDED WITH ALL SHOW SPECIAL ANTENNA ORDERS:

LPV-VU LOG PERIODICS (Channels 2-83 & FM)

Model	Amount
LPV-VU18	$ .50
LPV-VU15	.50
LPV-U12	.25
LPV-VU9	.25
LPV-VU6	.25
LPV-VU5	.20

LPV-TV LOG PERIODICS (Channels 2-13 & FM)

Model	Amount
LPV-TV19	$ .50
LPV-TV16	.50
LPV-TV13	.50
LPV-TV10	.25
LPV-TV7	.25
LPV-TV5	.25
LPV-TV3	.20

LPV-L LOG PERIODICS (Channels 2-13 & FM)

Model	Amount
LPV17-L	$ .50
LPV14-L	.50
LPV11-L	.25
LPV8-L	.25
LPV6-L	.25
LPV4-L	.20

LPV-U LOG PERIODICS (Channels 7-13, 14-83 & FM)

Model	Amount
LPV-ZU20	$ .25
LPV-ZU10	.25
LPV-U21	.25
LPV-U15	.25
LPV-U9	.20
LPV-U5	.10

LPV KITS

Model	Amount
LPV4PM	$ .20
LPV6PM	.25
LPV8PM	.25
LPV-VU5PM	.20
LPV-VU6PM	.25
LPV-VU9PM	.25

LPL-FM LOG PERIODIC FM/Stereo Antennas

Model	Amount
LPL-FM10	$ .50
LPL-FM8	.25
LPL-FM6	.25
LPL-FM4	.20

It's like finding Gold...son!

Golden Gate Show Special 3

BUY any 240 assorted LPV antennas
(minimum 15 per cat. no.)

GET 15 FREE

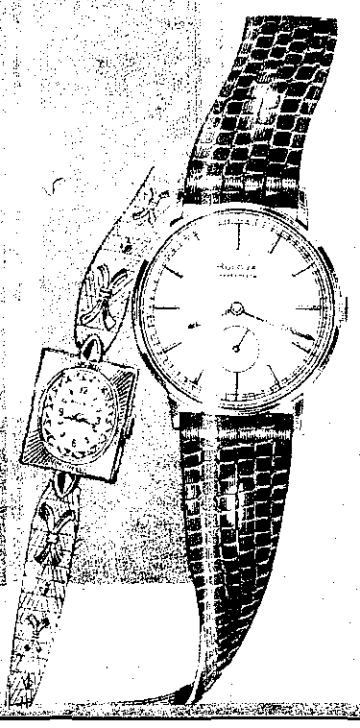
PLUS "Summer Spree" Spiffs** for your salesmen and countermen

PLUS FREE GIFT

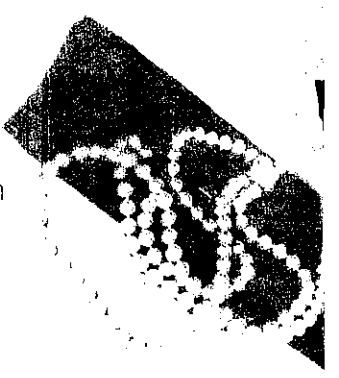
MR. OR MRS. BULOVA WATCHES

Antennas must be released in one or two shipments by July 30, 1966.
30-60-90 days billing

553/2Y--GODDESS OF TIME "KK", Yellow, 21 Jewels, 14K Gold, Faceted Crystal, Shock Resistant, Unbreakable Mainspring, 14K Gold Adjustable Bracelet.
GODDESS OF TIME "LL", Same as above in White. $100.00



#15215Y GOLDCRAFT "BB" Yellow, 17 jewels, 14K. Waterproof, shock resistant, unbreakable mainspring, anti-magnetic, applied stick dial, brown lizard calf strap. $100.00



Golden Gate Show

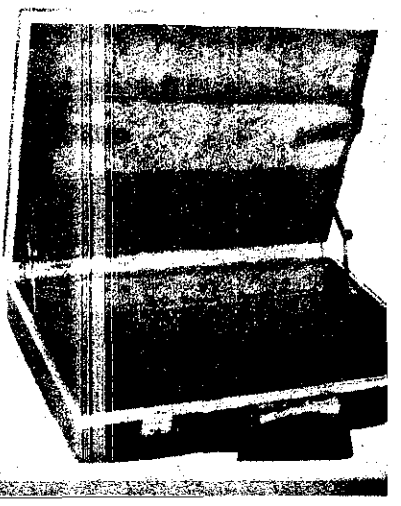
BUY any 100 assorted LPV antennas (minimum 20 per cat. no. minimum order, $50.00)

PLUS "Summer Spree" Spiffs** for your salesmen and countermen

PLUS FREE GIFT

PEARL NECKLACE OR ATTACHE CASE

Antennas must be released in one shipment.
30 days net



Curtis Mathes To Snare 5% of Color TV Market

DALLAS.—Curtis Mathes Manufacturing Co. will zoom in for a 5 per cent share of the color TV market.

Chairman of the executive committee, Curtis Mathes, Sr., said here that his firm expects to make and market 500,000 color sets a year by 1970. And if black and white interferes with color production, it will probably be dropped by the wayside. For the time being, however, black and white is still very much in the CM line.

With access now to three tube suppliers, Curtis Mathes has purchased 300,000 color tubes for the current calendar year. "Our actual supply for the next fiscal year could reach well above that figure," Mr. Mathes said.

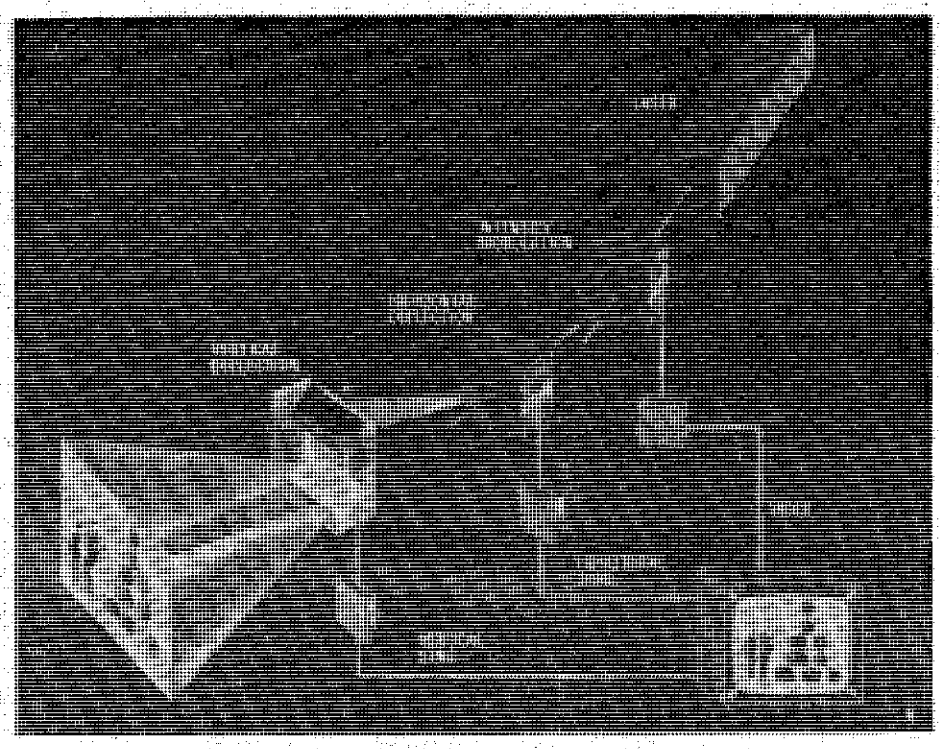
Buffalo Store Hits With Hunter Push

BUFFALO. — Purchase Radio came up with a timely promotion on walkie talkies beamed at fall hunting enthusiasts.

The electronics store promoted a special purchase collection of walkie talkies which were featured in three price lines. Three transistor units were promoted at $4.88 each in pairs, six transistor units at $16.50 each in pairs, and 12 transistor units at $31.95 each in pairs.

At the same time the store featured other models of walkie talkies. Purchase Radio used special newspaper advertising to promote the items as "Hunter's Specials" at the start of the fall hunting season in western New York.

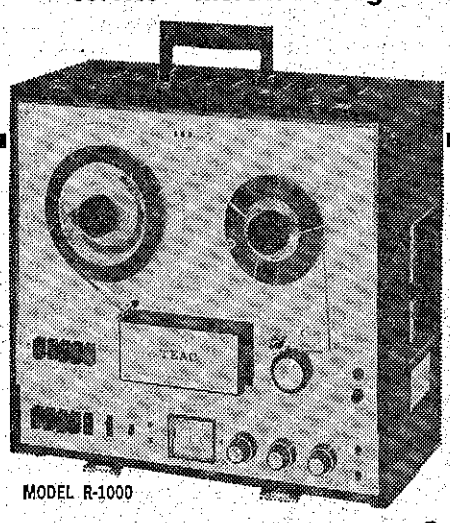
The promotion pulled steady response from hunters as well as shoppers looking for Christmas gifts.



A laser beam is used in Zenith Radio Corp.'s new experimental picture display system that produces a large-size picture for projections. The system as illustrated uses a 50 milliwatt, helium-neon laser light source; a first ultrasonic diffraction cell that acts as a horizontal deflector which provides a high degree of resolution; and a vertical deflector. They perform essentially the same functions as parts of a conventional picture tube and deflection yoke. In addition, there are a number of optical components to shape and focus the beam on a screen. TV signals for display by the system are provided by portions of a regular TV chassis.

Who else but TEAC(?) offers as standard equipment:

- ☑ 3 Hysteresis Motors
- ☑ 4 Heads
- ☑ Automatic Reverse
- ☑ Dual VU Meters
- ☑ Automatic Shut-off
- ☑ Solid State Circuit
- ☑ Tape Monitoring While Recording
- ☑ Speed Changes Accomplished Electrically
- ☑ Symmetrically Arranged Controls
- ☑ Push Button Operation
- ☑ Record and Playback Equalizers When Tape Speed Is Changed
- ☑ **All Teac Dealer Franchises are limited by area and are protected (price — service — merchandising — warranty).**



MODEL R-1000

TEAC®

(TEE-AK)

TEAC is now introducing, for the first time, their world famous line of stereophonic tape recorders to the American market. This is just the beginning of a complete new and exciting line of SIGHT and SOUND products. The "standard equipment" features found on TEAC are the "plus" features that make it possible to move TEAC with a minimum sales effort and at a maximum dollar profit with consumer pricing that is readily acceptable.

We invite all dealers who feel they can qualify as a TEAC dealer to write for more details.

TEAC CORP.—Makers Of Stereo Tape Recorders, Computers, Data Recorders and Audio Products.

INTERCONTINENTAL SEAWAY PRODUCTS COMPANY
5400 E. 96th Street
Cleveland, Ohio 44125
Dealer Inquiries Invited

NEWS BRIEFS

Cable Television Goes Over Big in Little Col. Town

MANITOU SPRINGS, Col. — "More TV channels than New York City" is the slogan of Abel Cable, the Community Antenna Television Service which will go into service "immediately" in this little mountain resort community 6 miles west of Colorado Springs.

Following approval by the Manitou Springs City Council, the cable television service went into business with a bang.

Complete newspaper sections in both daily Colorado Springs papers invited region residents to a showing of cable TV and the 1967 televisio nsets in the Manitou Springs ice rink, the only building large enough to hold the two-day show.

Ten channels are offered by the service to residents of Manitou Springs and the nearby Ute Pass communities of Cascade, Chipita Park, and Green Mountain Falls.

The service will shortly be offered to Colorado Springs' suburbs of Skyway Park, Ivywild, Stratton Meadows, and the Broadmoor District, officials of the company said.

Television dealers in the area cooperated in the opening event, displaying their new sets and furnishing free refreshments during the program.

Cable television or community antenna service is about the only way small communities deep in the Colorado Rockies can pick up adequate television reception.

• • •

Second Set Push Scores in Houston

HOUSTON. — Television merchants here are putting many second sets in homes where football interest runs high by urging fans to 'have your own TV—see all the games.'

Big boosts in sales are laid to the Motorola pass and kick football promotion kit with Paul Hornung's endorsement on the free goods offered purchasers of the sets.

The three-piece football kit contains a Paul Hornung passing target, football tee, football, and NFL football TV viewing guide. The package is offered with 19-inch Motorola portable black and white sets retailing for $149.95 and $159.95.

Retailers say these second sets are usually snapped up to use in a kitchen, playroom, or porch—'anywhere there's an electric outlet'—for up-to-date-minute grid action.

Heavy institutional advertising of the 'football special' is—they say — shaking the summer doldrums from consumers and giving a shot in the arm to sales of portable black and white TV sets—all lines of them.

Foundation Asks KO of Trust Claim

CHICAGO. — The University of Illinois Foundation asked Federal Court to dismiss a counterclaim by Blonder-Tongue Laboratories, Inc., charging it with antitrust violations and infringement of an antenna patent.

The counterclaim was filed by the Newark, N. J. firm, in the foundation's suit charging B-T infringes a foundation patent for television and radio antennas.

The foundation denies it conspired with JFD Electronics Corp., Brooklyn, N. Y., to restrain competition in television and FM broadcast receiving antennas. It also denies that it and JFD changed the design of some of their antennas to copy the invention claimed in B-T's patent, No. 3,259,904, for ultra-high frequency antennas with combined support and lead-in.

The foundation denies, too, that it and JFD falsely represented that the foundation's patent, No. 3,210,767, for frequency independent unidirectional antennas for radio and TV, embraces all antennas of the socalled log-periodic type.

B-T has denied it makes antennas that infringe the foundation's patent and asked for dismissal of the complaint.

• • •

Cameo/Parkway Quarter Net Up

PHILADELPHIA. — Earnings of Cameo/Parkway Records, Inc., increased 23.8 per cent on a sales gain of 62.1 per cent for the first quarter ended Sept. 30.

Net income amounted to $60,740, equal to 10 cents per share, compared with $49,063, or 8 cents, for the same 1965 period.

Sales and revenue totaled $1,249,603, against $770,945.

Alfred Rosenthal, president reported that this reversal of the losses reported by the company for the fiscal year ended June 30 was the result of the "great consumer acceptance for Cameo/Parkway's line of budget-priced, long-playing albums under the Wyncote label.

He said he anticipates a continued strong showing in both sales and profits for the balance of the year.

• • •

12-Page Booklet to Push RCA Victor Albums

NEW YORK.—A 12-page full-color booklet will be used by RCA Victor Records as an insert in three leading consumer magazines to promote 74 best-selling albums and eight stereo cartridges during the Christmas season.

The booklet will also be used as a counter giveaway in retail stores, and in conjunction with dealer ads in trade media.

Grand Prix Fans Like 'the Latest' In Kooky Discs

WATKINS GLEN, N. Y. — Record departments in stores put aside the symphony and "straight" bands and vocalists and bring out the Top 40 singles each Grand Prix weekend. After eight years of this international event, local merchants have found that customers among the nearly 100,000 here for the weekend are only interested in "the latest" and that means the Sonny and Cher, Ventures, Rolling Stones and the like.

'Our own teen population buys these in some measure throughout the year but they still retain an interest in Mantovani, Sinatra, Tony Bennett and Andy Williams," one variety store manager said. "But not these racing car spectators, they want the latest kooky group on record everytime."

• • •

Consents to Ban On Admiral Prices

NEWARK, N. J. — A consent judgment permanently barring Al Borup's American Radio, Inc., from selling Admiral products below fair trade prices has been obtained in Superior Court by Admiral Corp.

The retailer is at 50 Smith Street, Perth Amboy. Raff, Sherman & Scheider here, represents Admiral.

• • •

Daniel O. Landis

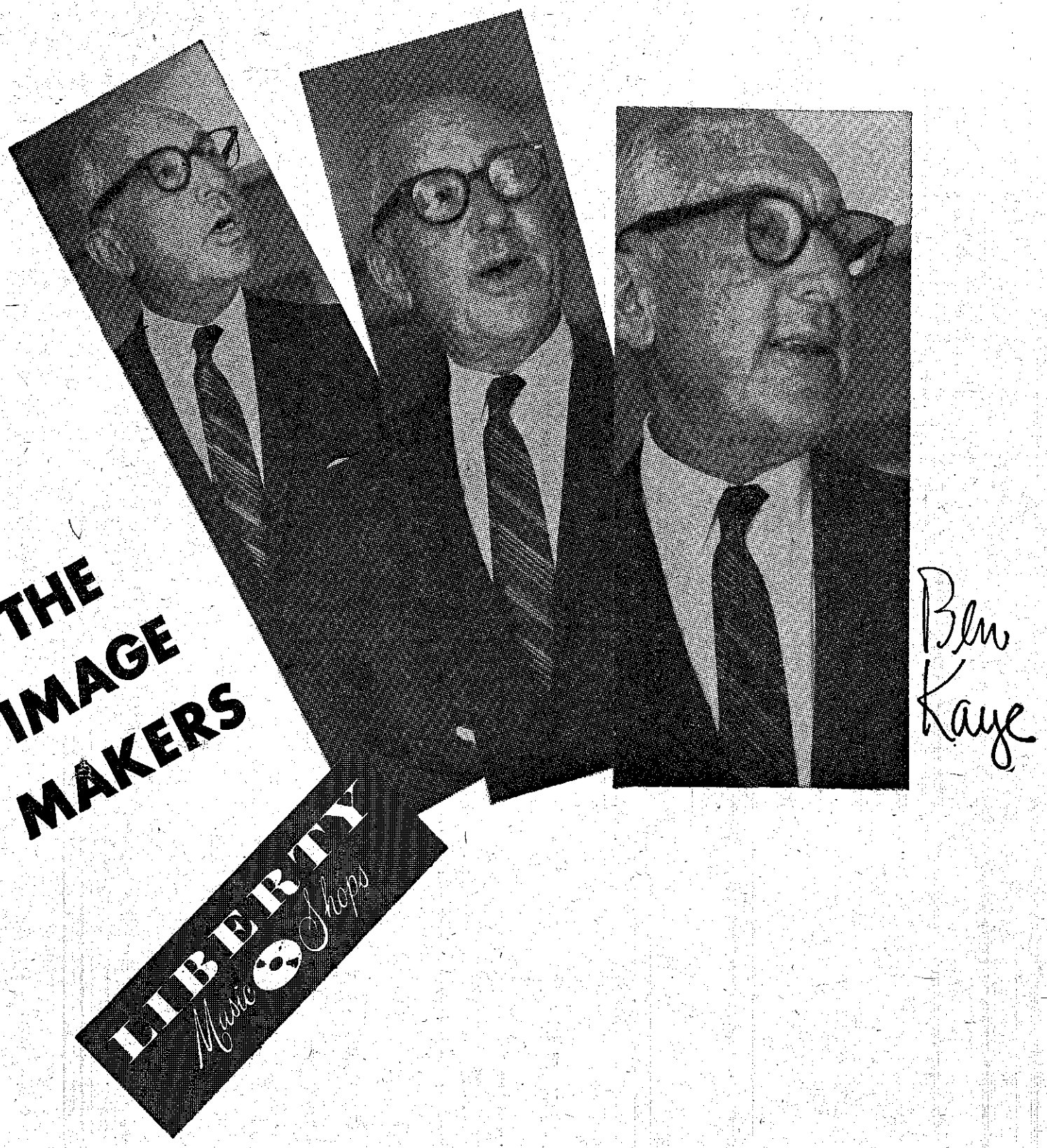
UPPER DARBY, Pa. — Services for Daniel O. Landis, 63, an inventor of closed-circuit theatre television systems and of an optical system that made home TV practical, will be held today at Frank Williams Funeral Home, Clifton Heights, Pa. Interment will be in Valley Ford Memorial Gardens.

Mr. Landis, who died Sunday in Delaware County Memorial Hospital, was granted a patent in the 1930s for the reflex optical system while employed at Radio Corp. of America (from 1931 to 1936).

He applied the system to closed-circuit theatre TV. He also was granted six other patents in the mechanical engineering field.

Prior to his association with RCA, he assisted in developing parabolic mirrors designed for the Washington, D. C., Observatory telescope. He subsequently had been employed by Lennox Instrument Co., Philadelphia, as an instrument maker.

Mr. Landis is survived by his widow, Florence; two daughters, two grandchildren, four sisters and a brother.



NEW YORK.—Prince Ranier is a customer.

So is his wife.

So is the Shah of Iran.

So is Frank Sinatra.

You could also include Sir Alec Guiness, Sir Laurence Olivier and Sammy Davis—along with a dozen or so other international celebrities.

Obviously, Liberty Music Shops alreadyhas a good image.

But Ben Kaye, Liberty's president, thinks it can be improved. After all, this is only his 50th anniversary in the home entertainment business, and it's a great time to take a look at the future.

Liberty has just adopted a new approach in its advertising that's designed to tell the consumer two things: that while the four store chain has a prestigious reputation, it also has a wide appeal to middle income New Yorkers. At the same time, Liberty Music Shops is endeavoring to point out to the shopper that price can mean many things besides a bargain.

For example, a recent ad in The New York Times was headlined, "Price at any price. (Is that the way to buy?)"

The ad copy read, "Price is only one part of any purchase. Some people think Liberty Music Shops' prices are high. They're not. Our standards are . . . Whatever you need, from a phonograph needle to a home entertainment center, any one of our 43 product experts will give you all the time you require to choose the right product at the right price . . . Our service is fast, complete and skillful. Our guarantees are precise and thorough . . ."

But Liberty's approach to advertising is only one part of the changes that are taking place.

The main store, which occupies half a square block, at 50th Street and Madison Avenue, is getting a $50,000 renovation which will put more products on display on the main floor. Currently, virtually all the company's displays of consoles and home entertainment centers are in room settings on the second floor. Space is now being set aside on the main floor for showing more of these products.

One of the key aspects of the renovation is a $10,000 salon for the display of home video tape recorders.

Mr. Kaye said HVTR's not only have a great future: "they have a great present."

The Liberty Shops president said that the product needs missionary work and it needs pioneering, but that these efforts pay off. Business concerns, he said, find them more effective and more economical than many other audio-visual devices. As a result, the bulk of sales is in the commercial area. At the same time, however, consumer sales have been improving steadily. Ultimately, Mr. Kaye believes that this is the way the business will go.

The new display salon for HVTR's will make it possible for customers to see demonstrations of the equipment in a quiet, comfortable setting in which all the advantages will come through clearly.

Liberty's emphasis on HVTR's comes at a time when the chain is also doing a good deal of work in developing the market for eight track cartridges and playbacks. This is taking the form of a consistent program of advertising as well as the display of several thousand cartridges on the main floor of the 50th Street store.

"Pioneering new products has been our specialty since 1916," Mr. Kaye said, "and we helped many famous manufacturers get a start in the home entertainment business."

Back in 1916, when Mr. Kaye joined Liberty, the only product that the company could help pioneer was the "Victrola" and records. At the time, the firm was owned by Nathan Goldfinger and was located at 86th Street and Broadway. Mr. Kaye took over the store in 1926 and moved it to Madison Avenue and 67th Street. Liberty now has its present 30,000-square-foot operation on 50th Street, as well as stores in the Carlyle Hotel, in White Plains and in the Mobil Building on 42nd Street and Third Avenue.

By 1928, Liberty was selling radios including such brands as Fada, Stromberg Carlson, Majestic, Atwater Kent, Freed-Eisenman.

The price of around $200 was a bit out of line with today's levels.

By 1939, Liberty entered the television business and found a ready market for RCA and General Electric models selling in the neighborhood of $1,000.

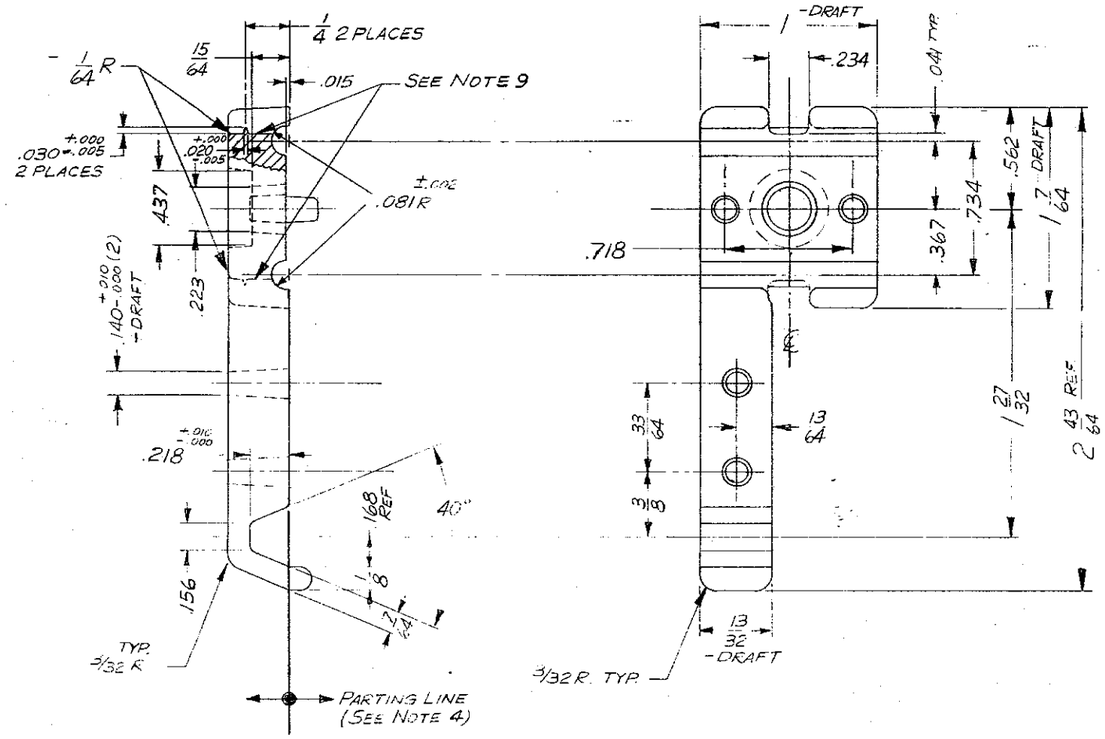
In the late 1940s Liberty had begun to merchandise hi-fi equipment, and the price range was between $300 and $1,000.

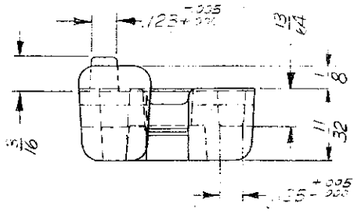
After quoting the prices of latter day home entertainment products, Mr. Kaye said, "That's the story of our industry. New products have come out at relatively high prices, but eventually prices came down and the market broadened."

—MANNING GREENBERG

1. MATERIAL: POLYPROPYLENE, BLACK.
2. ALL DRAFT 5° UNLESS OTHERWISE SPECIFIED.
3. 2 CAVITY MOLD FOR VAN DORN H-260 MOLDING MACHINE.
4. PARTING LINE OF DIE (TOOL MAKER TO CONTACT B-T LABS IF PARTING LINE SHOULD BE IN A DIFFERENT LOCATION.)
5. VENDORS TO SUBMIT MOLD DRAWINGS FOR B-T LABS APPROVAL, BEFORE STARTING MOLD
6. SAMPLES TO BE SUBMITTED FOR B-T LABS APPROVAL (BEFORE MOLD IS APPROVED)
7. HEIGHT OF MOLDING FLASH NOT TO EXCEED .004
8. TWO PIECES ARE TO MATE WITH EACH OTHER WITHIN .010.
9. THESE SURFACES MAY HAVE SOME DRAFT TO FACILITATE EJECTION.

REVISIONS		
B	6-27-63	MZ
REVISED NOTE 3		
C	7-19-63	MZ
REVISED .094 SLOT TO CORRECT POSITION		
D	9-10-63	MZ
REVISED FOR ACCEPTANCE OF FINAL SAMPLES.		
E	12-10-63	MZ
ADDED NOTE 9, B-T No. 6220683 WAS 6220619 ADDED FEATHER EDGE.		







ITEM	PART NO.	DESCRIPTION	QTY.	DWG. NO.

BLONDER-TONGUE LABS., INC. NEWARK 2. N. J.	ELECTROCOMP, INC. NEWARK 2. N. J.
PART NO. 6220665	TITLE CLAMP J TOOK WITH ANT...
DO NOT SCALE	DWN. CAR 8-20 / CHK'D. / SCALE 2
TOLERANCES UNLESS OTHERWISE SPECIFIED FRACT. ± .DEC. ± ANG. ±	ENG. / APPD. / DWG NO. 11-15...

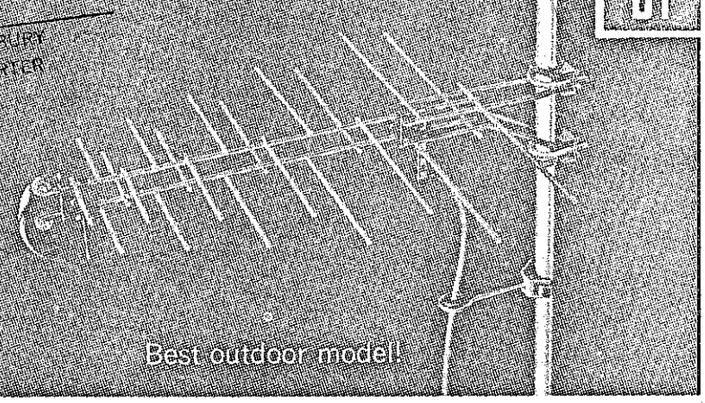
C6650160

A1-1552

UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF ILLINOIS
BEFORE JUDGE HOFFMAN
DEFENDANT EX. NO.
DOROTHY L. BRACKENBURY
OFFICIAL COURT REPORTER

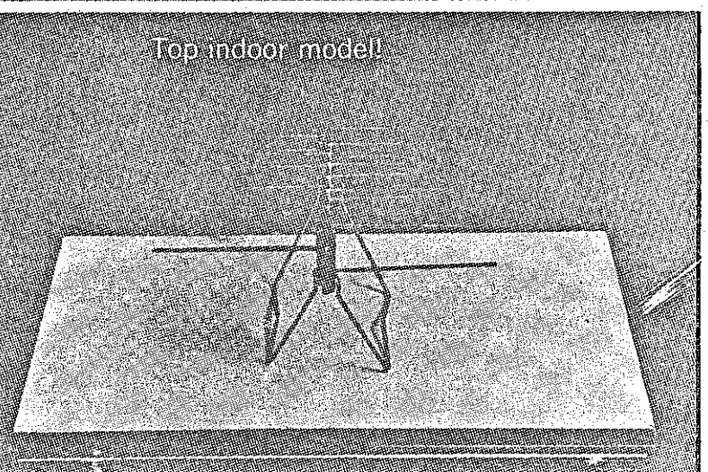
BT

First antennas to deliver uniform, peak performance on all UHF channels



Best outdoor model!

Top indoor model!



BLONDER-TONGUE UHF ANTENNAS
GOLDEN DART outdoors / GOLDEN ARROW indoors

These Blonder-Tongue antennas take advantage of today's most modern approach to TV antenna design —the periodic principle. Result: they provide constant high gain with matched impedance on all channels from 14 to 83.

ALL-CHANNEL REALLY MEANS ALL-CHANNEL

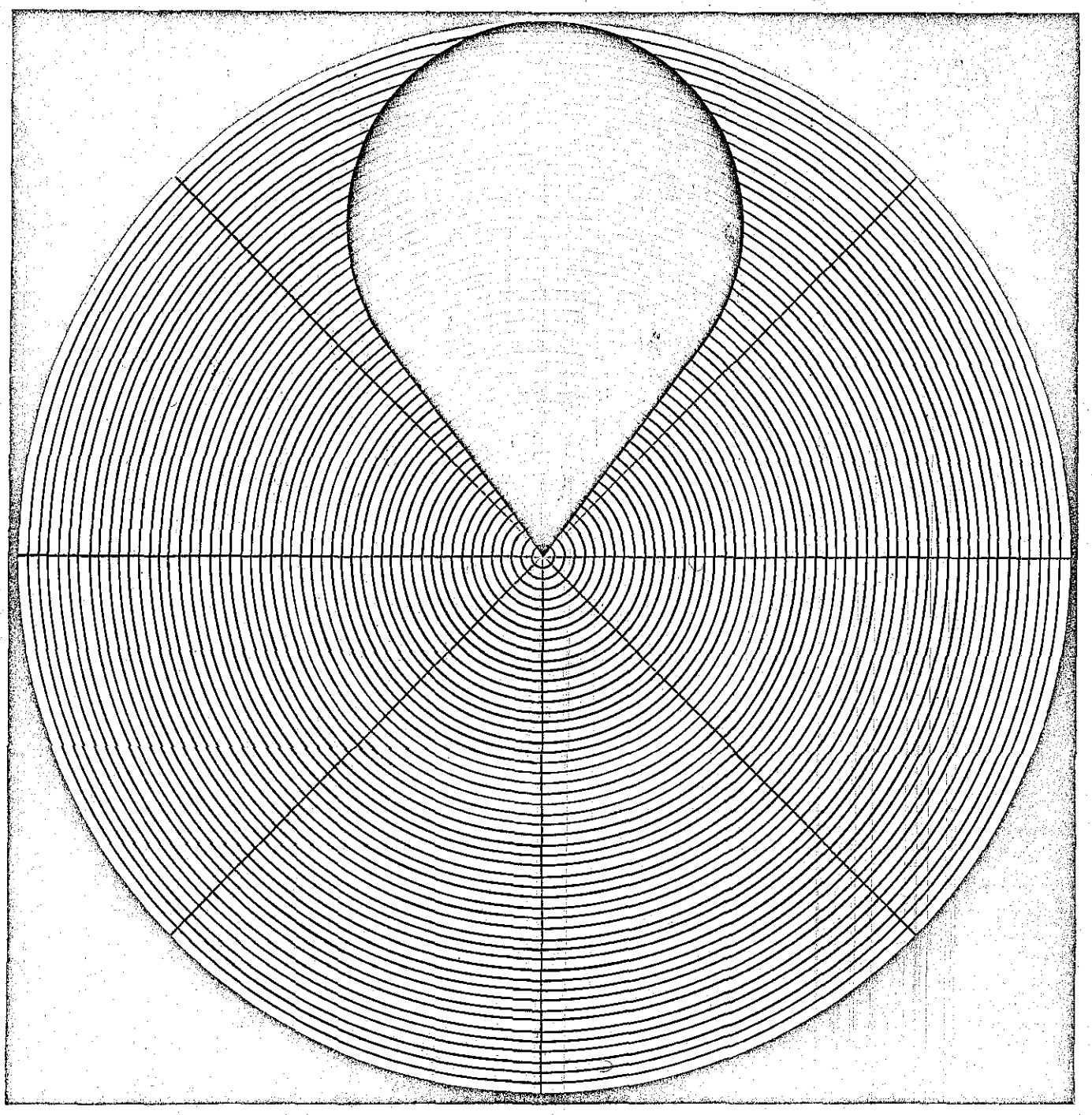
No matter what UHF channel serves your area from 14 to 83, the Golden Dart and the Golden Arrow deliver sharp, clear pictures on every one. The reasons: an excellent front-to-back ratio; sharp directivity to minimize ghosts and other interference; and a low VSWR.

EXCELLENT FOR COLOR OR BLACK AND WHITE TV

Full bandwidth, flat response for sharp black & white and brilliant, true fidelity color pictures.

ENGINEERED BY THE COMPANY WITH THE MOST UHF EXPERIENCE

The same know-how employed in producing 3 million UHF converters has gone into making the finest UHF antennas in the field. By providing peak performance across the full UHF spectrum, they match the high performance standards of Blonder-Tongue UHF converters.



New look in true log periodic design

The new Blonder-Tongue color ranger antenna line

NEW... Install VHF now ... Add UHF later... No couplers required... It's convertible!

NEW... UHF add-on acts as a VHF signal director (improves VHF signal reception)!

NEW... True log periodic design for constant gain across the entire bandwidth (no station dropouts).

NEW... Built-in support for downlead protection.

NEW... Light weight... Can be installed by one man.

APPROVED FOR COLOR

UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF ILLINOIS
BEFORE JUDGE HOFFMAN

DEFENDANT EX. NO._____
DOROTHY L. BRACKENBURY
OFFICIAL COURT REPORTER

The new Blonder-Tongue color ranger antenna line

U-Ranger

Eleven-Element
True Log-Periodic UHF
Add-On Antenna

Superb reception of black-and-white and color TV. Improves VHF reception of Color Ranger antennas for any signal area. Attaches in seconds to all Blonder-Tongue Color Ranger antennas. No couplers and only one downlead needed for VHF/FM and UHF.

Color Ranger-3

Three-Element
True Log-Periodic Antenna

For metropolitan and suburban use. Outperforms dipoles, flying V's, and conicals. Excellent for color TV and FM stereo. Recommended for strong signal areas where ghosts are not a major problem. Add UHF with the U-Ranger.

Color Ranger-5

Five-Element
True Log-Periodic Antenna

Outstanding metropolitan and suburban antenna. Superb reception of color TV and FM stereo. Performs better than stacked flying V's and conicals. Superior to most small yagis. Recommended for strong-to-medium signal areas and *for all but the most severe cases of ghosting.* Add sparkling UHF with the U-Ranger.

Color Ranger-10

Ten-Element
True Log-Periodic Antenna

Superior metropolitan, suburban *and* fringe-area reception. Outperforms yagis and even many large antenna arrays. Brilliant reception of color TV and FM stereo. Recommended for all signal areas, especially those with weak signals, or where ghosts are a severe problem. Add crystal-clear UHF with the U-Ranger.

NOW . . . the first TRUE log periodic antenna . . . the new Color Ranger . . . outperforms other antennas in any reception area. It is particularly effective for color or where ghosting is a problem because it has:

1. Uniform gain across entire band for brilliant color reception.
2. Best front to back ratio in the industry for outstanding reception in weak signal areas and positive ghost-killing power.
3. Uniform impedance across entire band.

IT'S CONVERTIBLE, TOO! The Color Ranger VHF antenna converts to UHF/VHF instantly and at any time, now or as needed for new UHF stations coming on the air, with the U-Ranger add-on. No couplers, no extra downlead required! One lead carries VHF/FM and UHF signals.

And only the Blonder-Tongue Color Ranger offers all these outstanding features:

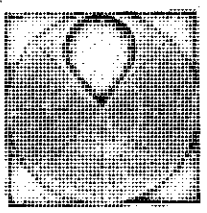
Electrical Features:

1. The only convertible line . . . install VHF now . . . add UHF later.
2. No couplers needed to add UHF, now or later. Just connect VHF downlead to UHF add-on's terminals.
3. UHF add-on improves VHF reception.
4. Built-in stand-offs keep twinlead in correction position (not required on Ranger-3).
5. Boom is transmission line . . . no wires to corrode or break.
6. All elements are plated (not anodized), making all surfaces conductive (elements on Ranger-3 are pure aluminum).
7. No crimped connections—longer life.
8. Spring-tension, knife-edge contact points mean permanent electrical contact of all elements.

Mechanical Features:

1. Dual boom for double strength.
2. No braces or supports required.
3. Snap-out elements, for fastest assembly.
4. U-bolt mounting, for easy assembly and extra ruggedness.
5. Heavy duty 7/16" (not 3/8") elements.
6. Elements reinforced near joints with 6" double tubing.
7. Fewer joints for greater strength.
8. Weatherproof, stripless screw connections.
9. Extra-strong polypropylene insulators.
10. Riveted polypropylene end caps on boom maintain shape under all conditions.
11. U-Ranger has double spot-welded elements for added strength.

UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF ILLINOIS
BEFORE JUDGE HOFFMAN
DEFENDANT EX. NO.
DOROTHY L. BRACKENBURY
OFFICIAL COURT REPORTER



A "Snap" to assemble

There isn't much to say about assembling a Ranger antenna. There just isn't that much to it! Simply:

- Carry it up (one handed) to the mast.
- Snap out the elements.
- Fasten the antenna to the mast with a single U-bolt (two for the ten-element).
- Screw in a stand-off.
- Fasten the downlead to the stripless screws (no cable stripping is required—no extra bracing).
- Now connect the downlead to the set and watch the sharp, crystal-clear pictures on all channels.

To add UHF at any time, fasten the UHF add-on to VHF antenna. Connect the downlead to the UHF antenna instead of the VHF antenna. That's all there is to it!

What is true log periodic?
What it is
What it does

The true log periodic antenna is an outstanding advance over previous antenna designs. It affords reception previously possible only with large commercial antenna installations. The three essential qualities of a good antenna are:

1. Broad, flat bandpass
2. Good match, and
3. High directionality

By comparing these three characteristics, it is easy to understand how this log periodic design outperforms conventional antennas.

1. Broad, Flat Bandpass

The bandwidth of a TV channel is approximately 6 megacycles. For optimum reception, an antenna must receive and pass the entire 6-megacyle bandwidth. Loss of bandwidth will result in poor contrast, color smear or even loss of color.

A CONVENTIONAL ANTENNA receives the complete bandwidth of one or two channels, while reception drops off severely on other channels. This causes variations of picture and color quality between stations. (*This is why there are lowband antennas, highband antennas, and single-channel yagis.*)

BLONDER-TONGUE COLOR RANGER true log periodic antennas receive the complete bandwidth of *all* channels. This is because its unique design adds the output of all its elements to produce a constant output at all channels.

2. Good Match

Ideally an antenna should match the 300-ohm impedance of the TV set at every channel. Practically, this is impossible. However, for best results an antenna should maintain constant impedance over all channels, because changes in impedance cause changes in picture quality.

Since CONVENTIONAL ANTENNAS have better match at certain channels than at others, they automatically produce variations in picture quality between stations.

The BLONDER-TONGUE COLOR RANGER antennas maintain uniform match on all channels and at a value closely approaching the ideal.

3. High Directionality

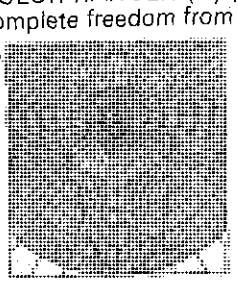
Antennas can cause ghosts. These occur when a signal is received from more than one direction (e.g. reflected from buildings or hills). While even limited ghosting is annoying on black-and white broadcasts, on color broadcasts ghosts cause smear, loss of color intensity and even complete loss of color.

The two directional patterns below reveal the Color Ranger's superior performance.

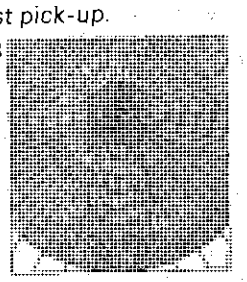
The extra lobes of the CONVENTIONAL ANTENNA'S directional pattern (A) show it will receive considerable signal from several directions. This permits both direct and reflected signals to enter the set, causing ghosts.

The absence of lobes on the BLONDER-TONGUE COLOR RANGER (B) proves its almost complete freedom from ghost pick-up.

A



B



DON'T FORGET . . . a TV distribution system is only as good as its components. Blonder-Tongue makes a complete line of "top-rated" amplifiers, converters, couplers, and splitters to meet every need.

BLONDER-TONGUE

9 Alling Street, Newark, New Jersey 07102

home TV accessories • closed circuit TV • community TV • UHF converters • master TV

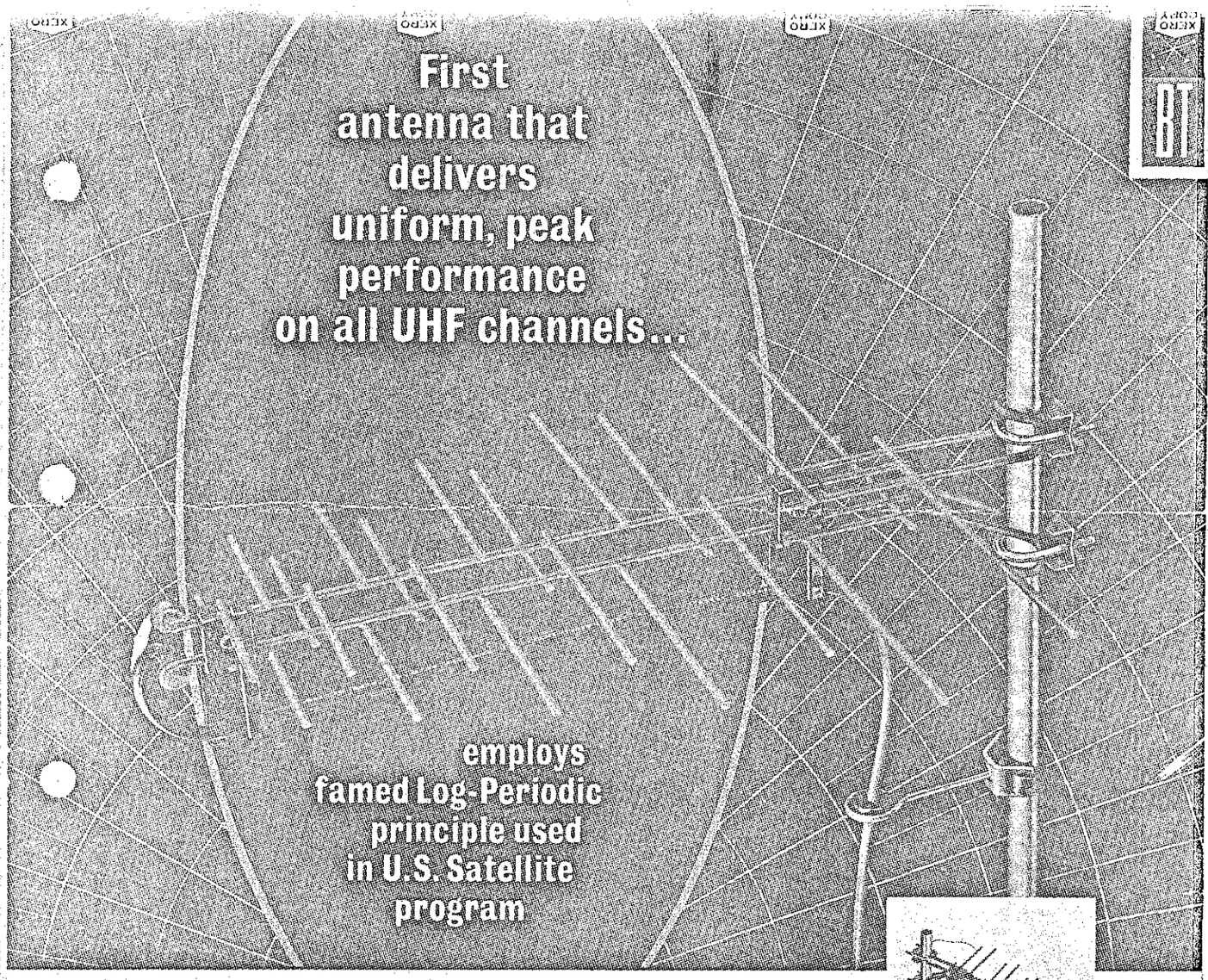
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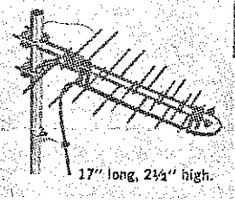
To re-order, refer to No. 52

UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF ILLINOIS
BEFORE JUDGE HOFFMAN

DEFENDANT EX. NO._____
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BLONDER-TONGUE GOLDEN DART ALL-CHANNEL UHF ANTENNA



The logarithmic-periodic principle is recognized as today's most modern approach to TV antenna design. The new Blonder-Tongue Dart takes full advantage of the inherent characteristics of the log-periodic design. Eleven elements are employed. The result: The Dart delivers constant high gain, matched impedance and a uniform polar pattern across the full UHF spectrum.

POLAR PATTERN & 10db GAIN UNIFORM ACROSS ENTIRE UHF SPECTRUM

No matter what UHF channels serve your area—from 14 to 83—the Dart delivers a sharp, clean pattern on every channel. The Dart maintains an excellent front-to-back ratio (more than 20 db)—equal or superior to a stacked bow-tie over the entire UHF range. The elements are arranged to provide a narrow forward beam for sharpest directivity, minimizing ghosts and other interference. An extremely low VSWR (2:1) prevents other causes of ghosts and smears. Finally, good impedance match on all channels—far superior to bow-ties—assures high uniform gain (±1 db across the entire band; ±½ db within any channel) on all channels.

FULL BANDWIDTH, FLAT RESPONSE (± ½ db) ON ALL UHF CHANNELS.

These requisites of good black & white and color reception are maintained. Result: black & white pictures are 'live' with a full tanal range of whites, greys, blacks; and color come through with true fidelity.

COMPLETELY PRE-ASSEMBLED—NOTHING TO SNAP-OUT, NO SCREWS TO TIGHTEN

Take it from the box—mount it—connect your lead, and it's ready to use. Patented stripless screw terminals make connection of twin lead more secure than with other antennas, because the teeth of the phosphor bronze washer grip *both* the insulation and the wire. And wire is fully protected at the point of contact. Polypropylene holders guide the lead-in, keeping the distance between the lead-in and the metal of the antenna uniform at all points to preserve the impedance match. The Dart is the most compact of all UHF antennas—only 17" long. Its low vertical height displacement (2¼") makes it easy to piggyback with any VHF antenna. Complete with 2 U-bolts for secure mast mounting.

RUGGED, UNITIZED WELDED CONSTRUCTION FOR EXCELLENT, PERFORMANCE

Welded construction (no rivets, no soldering) mean no movable joints that can corrode and impair performance. Other features: sturdy zinc coated steel with long lasting mil spec iridite finish; heavy polypropylene insulation used instead of usual polystyrene which has a tendancy to crack. Another advantage is that the Dart is grounded to the mast. If the mast is grounded, *no lightning arrester is needed!*

ENGINEERED BY THE COMPANY WITH THE MOST UHF EXPERIENCE

The same know-how employed in designing and producing more than 2 million UHF converters . . . the experience of having worked in every part of the UHF spectrum . . . has gone into making the finest UHF antenna in the field.

The Blonder-Tongue UHF Dart provides peak performance across the full UHF spectrum to match the high performance standards of Blonder-Tongue UHF converters.

YC-2015
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UNITED STATES DISTRICT COURT
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BLONDER-TONGUE UHF ANTENNAS
GOLDEN ARROW INDOOR/GOLDEN DART OUTDOOR
TECHNICAL SPECIFICATIONS

FEATURES:
GOLDEN DART AND GOLDEN ARROW

PEAK PERFORMANCE ON ALL UHF CHANNELS – delivers sharp, clear pictures on every channel 14 to 83.

PERIODIC DESIGN–Dart uses 11 working elements (the Arrow 10 working elements) to provide constant high gain and matched impedance.

EXCELLENT FOR COLOR AND BLACK & WHITE TV – Full bandwidth, flat response from channel 14 to 83.

MINIMIZES GHOSTS AND OTHER INTERFERENCE – Excellent front-to-back ratio, sharp directivity.

GOLDEN DART

COMPLETELY PRE-ASSEMBLED — Nothing to snap out — no screws to tighten — just take it from the box and it's ready to use. Patented stainless steel stripless screw terminals make connection of twin-lead a snap.

MOST COMPACT OF ALL UHF ANTENNAS — Only 17 inches long. Low vertical height displacement makes it easy to piggy-back with any VHF antenna. (Complete with two U-bolts for secure mast-mounting.)

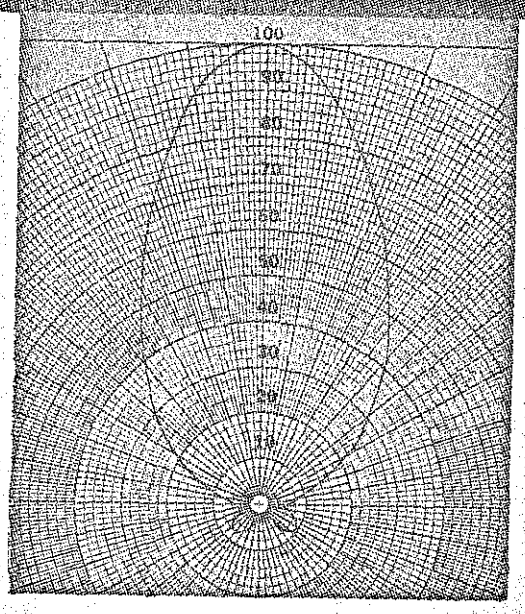
RUGGED, UNITIZED WELDED CONSTRUCTION–No rivets, no soldering–mean no moveable joints that can corrode and impair performance.

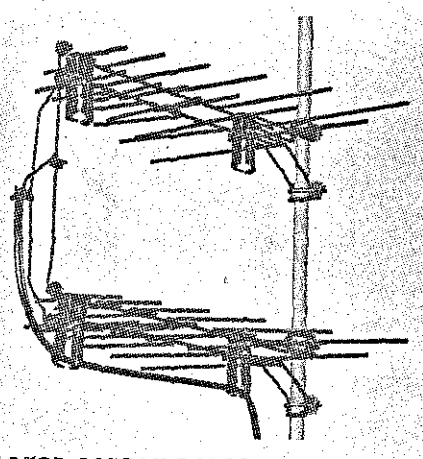
GOLDEN ARROW

RUGGED CONSTRUCTION – Welded construction means durability. Complete with 300-ohm twin-lead with spade lugs for 30-second installation. Connection is far more secure than any other antenna. Won't pull apart. Skid-proof rubber legs.

SPECIFICATIONS
GOLDEN DART AND GOLDEN ARROW

FREQUENCY COVERAGE: .....465 mc-890 mc
VSWR: .....3 or better over entire UHF band
FRONT-TO-BACK RATIO: .....(Arrow) 20 db min.
(Dart) 20 db min. (typical 30.0 db)
HALF POWER BEAM WIDTH (horizontal): .....Approx. 50°
POLARIZATION:.....Horizontal
NUMBER OF ELEMENTS: .....(Arrow) 10 (Dart) 11
MOUNTING: .....(Arrow) Mounts on stand supplied
(Dart) Mast mounting (1-2½" mast); two clamps (supplied)
TRANSMISSION LINE: .....(Arrow) 300-ohm balanced. (4' twinlead supplied)
(Dart) 300-ohm balanced twinlead
CONSTRUCTION: .....(Arrow) steel wire with brass, plate lacquer dip
(Dart) steel with mil spec zinc plate iridite finish (gold color)
SHIPPING WEIGHT: .....(Arrow) 1½ lbs. (Dart) 2 lbs.
SIZE (HWL): .....(Arrow) 12"x6"x8½"
(Dart) 17" x 14" x 3¾"





STACKED GOLDEN DARTS FOR EXTRA GAIN
Two Golden Darts may be stacked easily for extra gain (3 db) and better impedance match (VSWR 2.0). Order model 3519 stacking bars.

RELATED EQUIPMENT

Blonder-Tongue manufactures the world's most complete line of UHF products including a variety of UHF converters for all reception areas. To improve snowy pictures in difficult reception areas, use the mast-mounted Able-U2 UHF amplifier. To combine or split antennas or transmission lines, use the UHF-2 coupler.

The A-107 coupler can be used to combine or split UHF & VHF signals. The new UV-2 is the world's first channel 2 to 83 two-set coupler.

BLONDER-TONGUE
9 Alling Street, Newark 2, New Jersey
home TV accessories • closed circuit TV • community TV • UHF converters • master TV

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Export: Morhan Exporting Corp. N. Y. 3, N. Y. Cable: Morhanex

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To reorder refer to #3520-87

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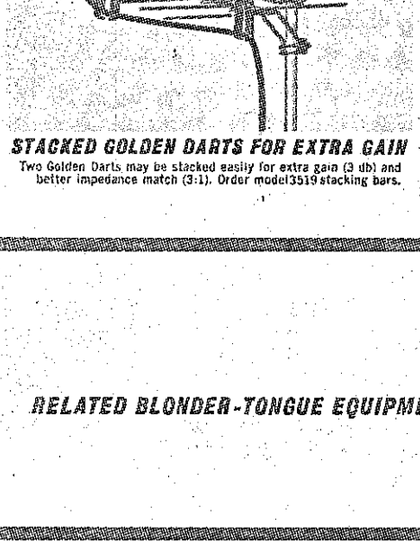
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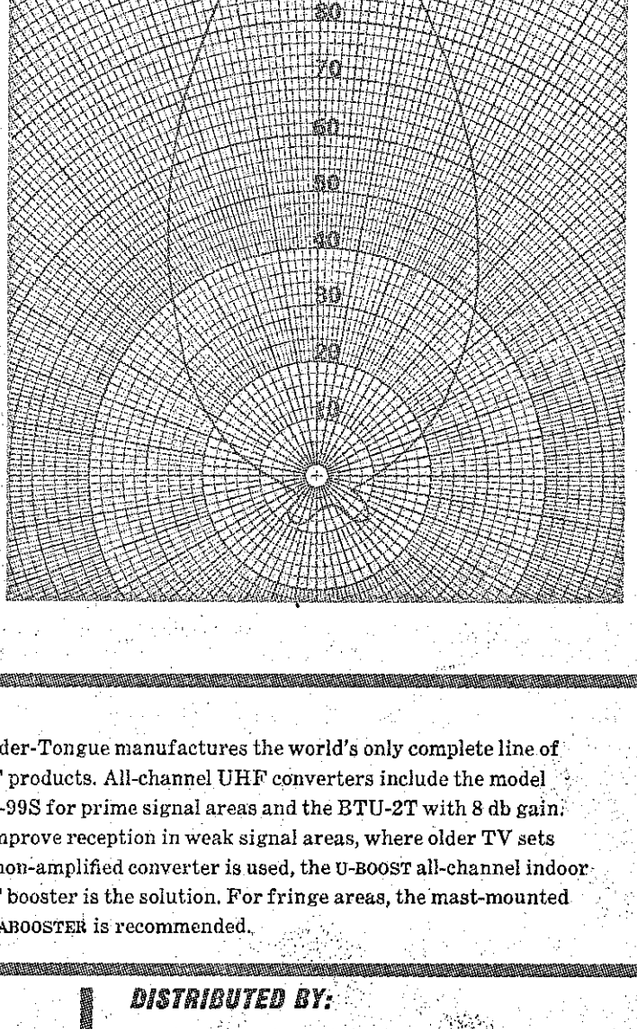
BLONDER-TONGUE CHANNEL 14 TO 83 TV ANTENNA— GOLDEN DART TECHNICAL SPECIFICATIONS

TABLE OF SPECIFICATIONS

FREQUENCY COVERAGE: .....470 mc-890 mc
(Frequency coverage actually extends slightly below and above the above limits).
INPUT MATCH: ..... 2:1 or better over the entire UHF band.
GAIN OVER TUNED DIPOLE: .....(9.2 db at 490 mc)
10.0 db average .....(11.0 db at 700 mc)
(10.5 db at 880 mc)
FRONT-TO-BACK RATIO: .....20 db minimum (typical 24.0 db)
BEAM WIDTH HORIZONTAL: .....(50° at 490 mc)
(half power points) .....(53.5° at 700 mc)
(41.0° at 880 mc)
POLARIZATION: .....Horizontal
NUMBER OF ELEMENTS: .....Eleven
MOUNTING: .....Mast mounting (1"-2½" mast)
Mounts with two clamps (supplied).
TRANSMISSION LINE: .....300 ohms balanced twinlead or tubular.
CONSTRUCTION: .....steel with mil spec zinc plate iridite finish (silver color)
SIZE (NWL): .....2½" x 13⅞" x 17"
ANTENNA WT.: .....1 lb.
SHIPPING WEIGHT: .....2 lbs.



STACKED GOLDEN DARTS FOR EXTRA GAIN
Two Golden Darts may be stacked easily for extra gain (3 db) and better impedance match (3:1). Order model 3519 stacking bars.



RELATED BLONDER-TONGUE EQUIPMENT

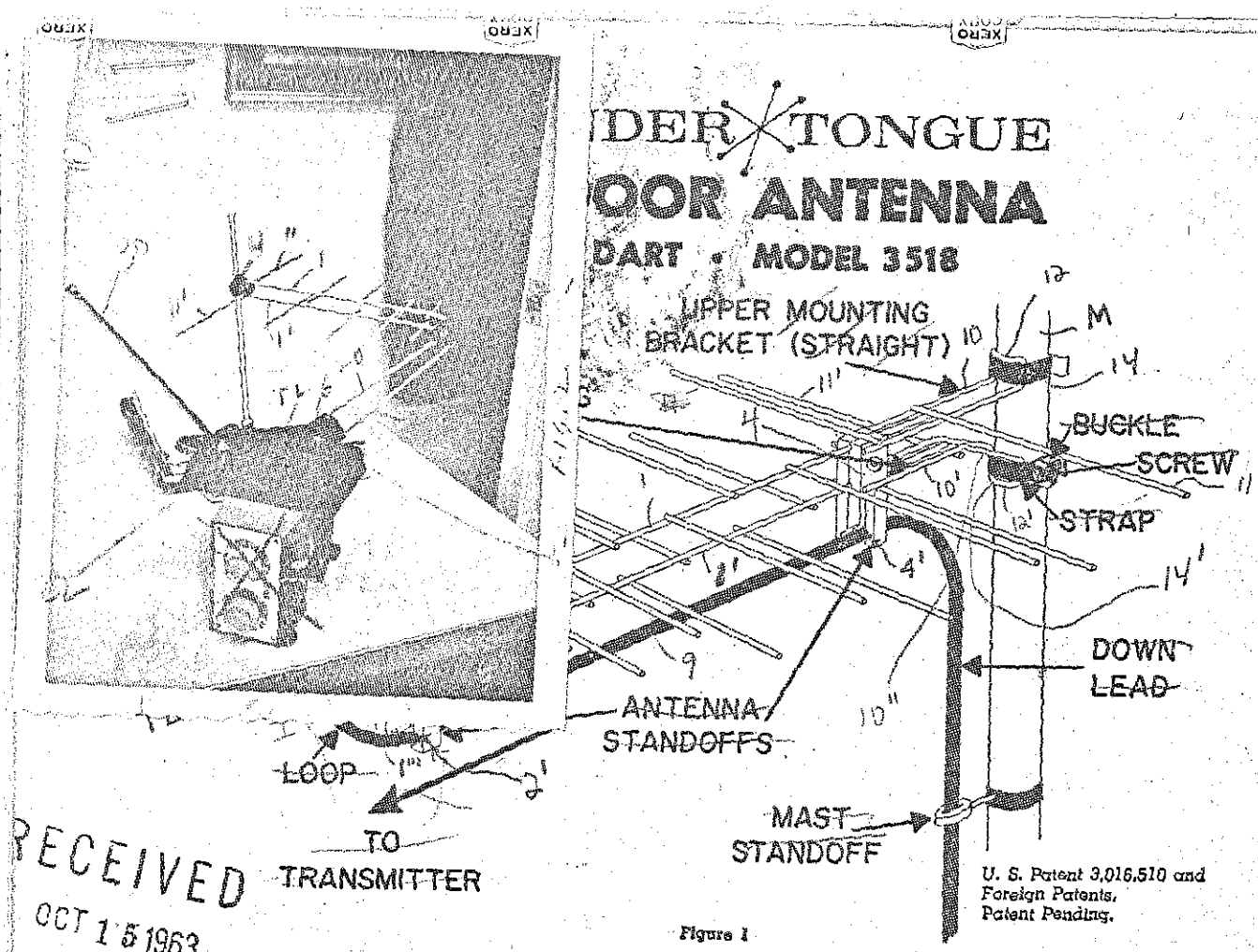
Blonder-Tongue manufactures the world's only complete line of UHF products. All-channel UHF converters include the model BTC-99S for prime signal areas and the BTU-2T with 8 db gain. To improve reception in weak signal areas, where older TV sets or a non-amplified converter is used, the U-BOOST all-channel indoor UHF booster is the solution. For fringe areas, the mast-mounted ULTRABOOSTER is recommended.

engineered and manufactured by
BLONDER-TONGUE
9 Alling St., Newark, 2 N. J.
Canadian Div.: Benco Television Assoc., Ltd., Toronto, Ont.
home TV accessories • closed circuit TV • community TV • UHF converters • master TV

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BLONDER TONGUE
INDOOR ANTENNA
DART • MODEL 3518

U. S. Patent 3,016,510 and Foreign Patents. Patent Pending.

Figure 1

RECEIVED
OCT 15 1963
ES AND RINES
POST OFFICE SQUARE, BOSTON
RECEIVED
OCT 7 1963
RINES AND RINES
POST OFFICE SQUARE, BOSTON

THE DART IS A QUALITY ANTENNA THAT EMPLOYS THE LATEST DEVELOPMENTS IN THE ANTENNA FIELD

Among Its Features

- All joints welded for long life
- Front-to-back ratio over 20 db
- Completely pre-assembled
- Excellent for color TV
- Works with all-channel sets, UHF boosters and UHF converters
- Good match and gain over the full UHF band

F-C-C-1

INSTALLATION INSTRUCTIONS

1. Remove the antenna from the carton.
2. Remove the plastic bag. It contains: (2) stainless steel mounting straps.
3. Place antenna on the pole (as shown in Figure 1). Make sure that the straight mounting bracket is on top. Pull the mounting strap around this mounting bracket and the mast. Then, thread the mounting strap through the buckle (from inside out) and tighten the screw until the unit is secured.
4. Now secure the lower mounting bracket in the same manner. (Bend the loose ends of the straps, around and behind the antenna).
5. Down lead 300Ω connection.
   - A. It is recommended you use low loss foam twinlead. If you use flat twinlead, cut slit 1¼" to 1½" as shown in fig. 2. Slip each side of the twinlead under the sawtooth washers and then tighten the screws so that these washers pierce the twinlead, making contact with the wires inside. Be careful not to strip the threads of the terminal screws by turning them too hard. To attach UHF tubular or encapsulated twinlead, reduce the thickness of the cable by trimming off with a knife about 1/16" from each wide surface.
   - B. If a low loss coaxial downlead is desired, a balun such as Blonder-Tongue CMB-92U can be used. RG11/U foam cable is recommended.
   - C. Form a loop as shown in Figure 1. Slip cable into antenna stand offs, allow no slack in cable. Dress cable as shown, and use additional UHF standoffs alongside the mast. Make sure that the cable will not touch any metal parts of the antenna or the mast.
6. After connecting your antenna properly, orient your antenna towards the transmitter as shown in figure 1 for best picture reception.

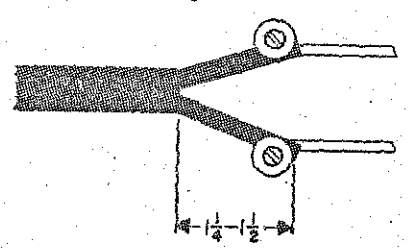


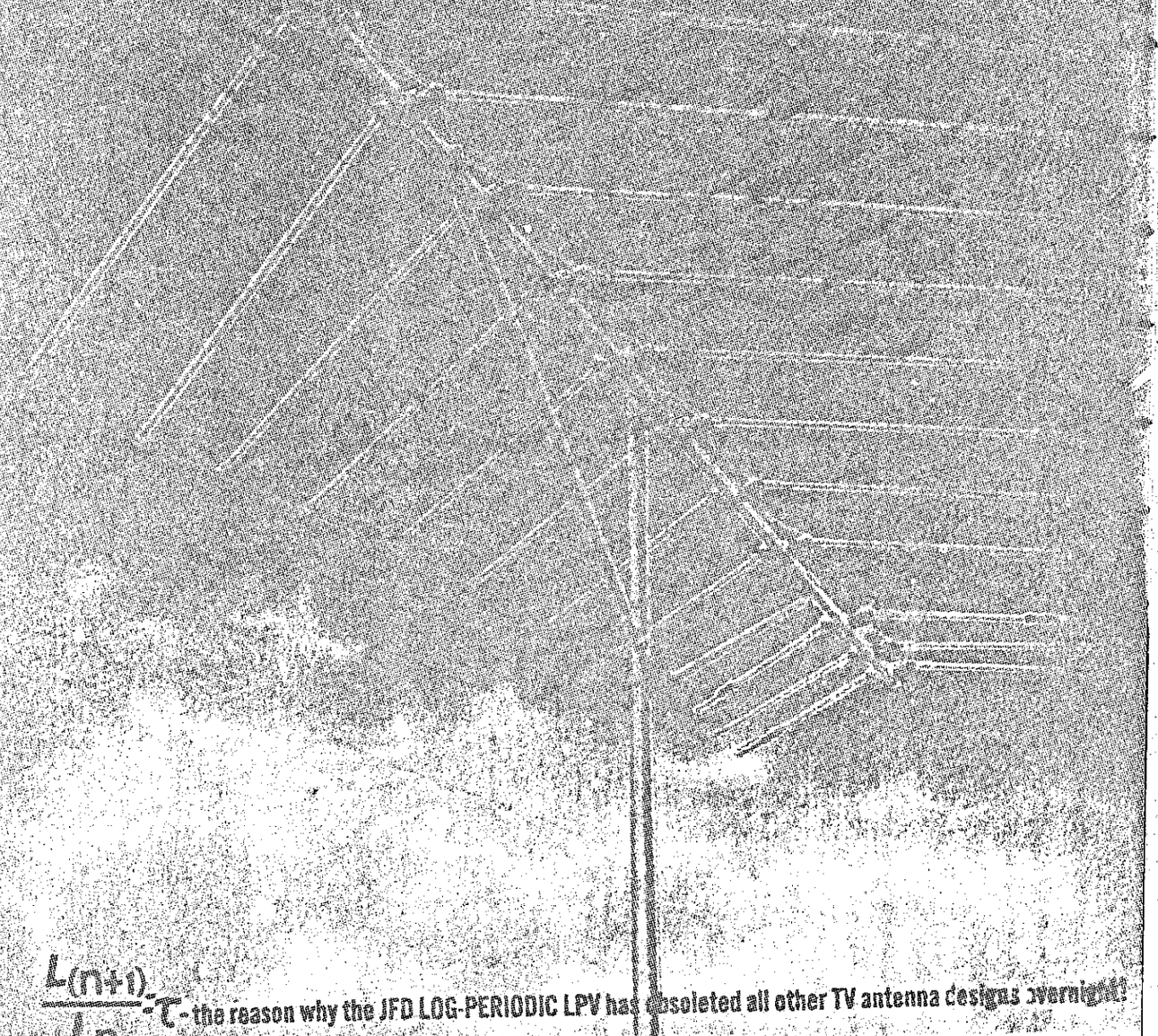
Figure 2

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AT THE MOMENT OF TRUTH — THE FUTURE IS THE PRESENT

THE JFD LOG-PERIODIC LPV IS BEST FOR COLOR, BLACK AND WHITE, DEAR [illegible]



$\frac{L_{(n+1)}}{L_n} = \tau$ - the reason why the JFD LOG-PERIODIC LPV has obsoleted all other TV antenna designs overnight!

LICENSED UNDER ONE OR MORE OF U.S. PATENTS 2,958,081; 2,985,879; 3,011,168 AND ADDITIONAL PATENTS PENDING IN U.S.A. AND CANADA. PRODUCED BY JFD ELECTRONICS CORPORATION UNDER EXCLUSIVE LICENSE FROM THE UNIVERSITY OF ILLINOIS FOUNDATION.

N. Am Journal 12-63

UNITED STATES DISTRICT COURT
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THE FIRST TV/FM ANTENNA BASED ON THE GEOMETRICALLY-DERIVED LOGARITHMIC-PERIODIC SCALE DEVELOPED BY THE ANTENNA RESEARCH LABORATORIES OF THE UNIVERSITY OF ILLINOIS FOR SATELLITE TELEMETRY.

No longer must you sacrifice directivity or gain to obtain broader bandwidth, as with single-channel Yagis and "all-channel" Yagi types. Now the new JFD Log-Periodic LPV breaks through the bandwidth barrier to put an end to cumbersome antenna compromises. The reason?...The patented geometric concept – $\frac{L_{(n+1)}}{L_n} = \tau$. that scientifically formulates individual cells (dipole lengths and spacings) to bring you performance that's **frequency independent** for:



Model LPV17: 18 Active Cells and Director System for areas up to 175 distant. $59.95 list.



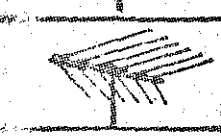
Model LPV14: 15 Active Cells and Director System for areas up to 150 miles distant. $49.95 list.



Model LPV11: 11 Active Cells and Director System for areas up to 125 miles distant. $39.95 list.



Model LPV8: 8 Active Cells and Director System for areas up to 100 miles distant. $29.95 list.



Model LPV6: 6 Active Cells for areas up to 75 miles distant. $21.95 list.



Model LPV4: 4 Active Cells for areas up to 50 miles distant. $14.95 list.

- **HIGHER FORWARD GAIN** Element for element you get two to three times more gain than with similar-priced competitive makes. Flat gain across each channel, too, for vivid color rendition. (More driven elements do it.)
- **SHARPER DIRECTIVITY** Because the LPV has bandwidth to spare. Its narrow unidirectional beam does not change with frequency—does not intercept the ghosts and interference picked up by other broad main-lobed competitive makes.
- **LOWER VSWR** Down to 1.2 to 1—derived from optimum impedance match across the VHF and FM Stereo bands.
- **GOLD ALODIZED** Electrically conductive golden alodizing that is part of the aluminum—assures continuous signal transfer—does not insulate contact points like competitive anodizing.
- **HIGHER FRONT-TO-BACK RATIOS** All elements are fed in phase opposition to reinforce signals arriving from the front end. The crossed harness creates a 180 degree phase shift in the signal path from rear—effectively cancelling out rear pick-up of unwanted signals. (e.g., the LPV11 maintains a front-to-back ratio of 35 db on each VHF channel).



Logarithmically Resonant V-Elements, Operating on the Patented Log-Periodic Cellular Formula, in the Fundamental and Third Harmonic Modes, Provide Flawless COLOR... Black and White TV... FM Stereo!



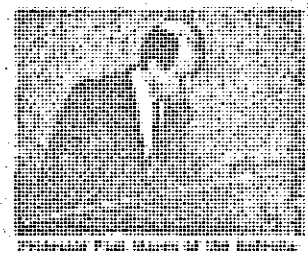
The technical press...the news press ...the consumer press...the trade press—never before have so many so acclaimed a *new TV antenna*!

ADVERTISED IN LOOK

One of America's most vital and widely read magazines—now alerting millions to the *new* Log-Periodic antenna concept.

ADVERTISED IN SUNSET

The favorite "home" magazine of millions.



Professor Paul Mayes of the Antenna Research Laboratories of the University of Illinois, originator of the log-periodic V-dipole antenna concept.

...R NOW FROM YOUR JFD LPV DISTRIBUTOR AND STEP UP INTO THE MODERN LOG-PERIODIC ANTENNA ERA OF ...ORMANCE AND PROFITS!

JFD ***THE BRAND THAT PUTS YOU IN COMMAND OF THE MARKET***

15th Avenue at 62nd Street, Brooklyn 19, N.Y.

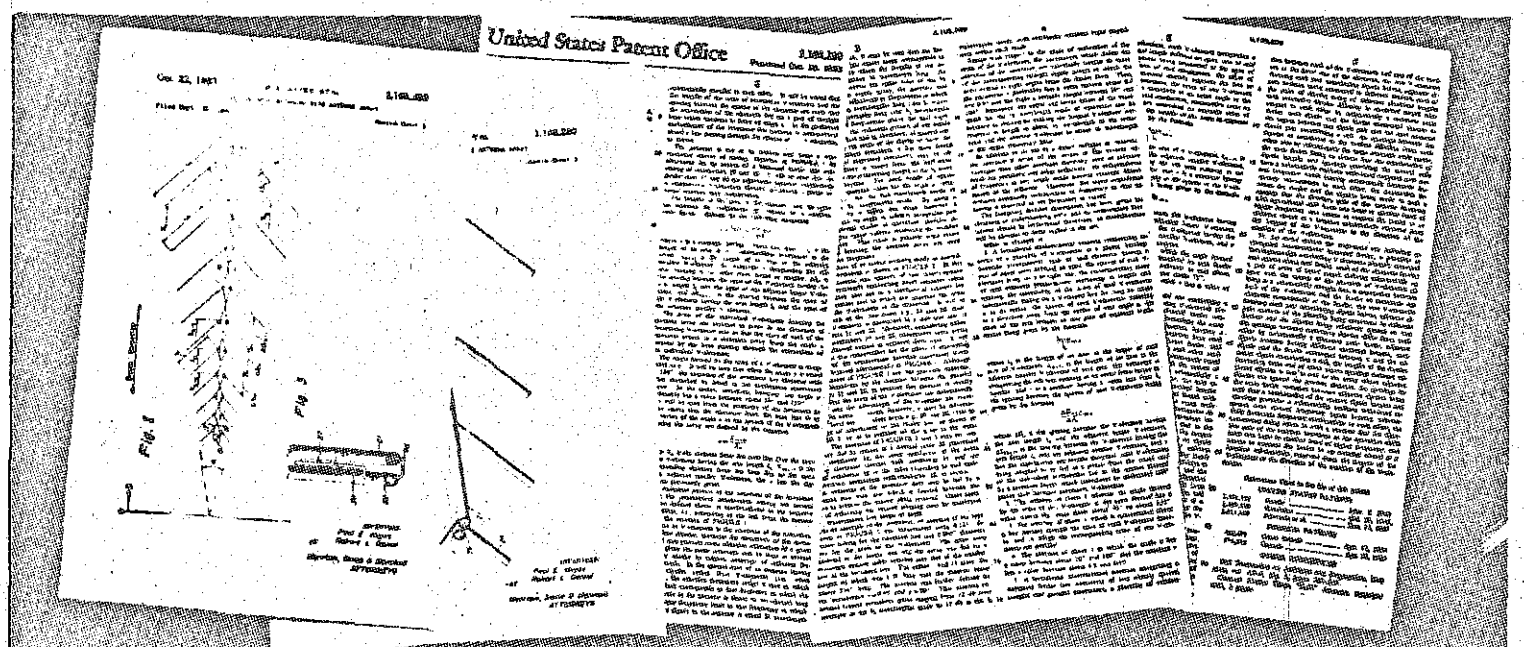
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JFD Canada, Ltd., 51 McCormack Street, Toronto, Ontario, Canada.
401-144 W. Hastings Street, Vancouver 3, B.C.

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UNITED STATES DISTRICT COURT
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UNIVERSITY OF ILLINOIS MAYES-CARRELL PATENT ON LOG-



LOG PERIODIC BACKWARD WAVE ANTENNA ARRAY, U.S. PAT. NO. 3,108,280, OF PAUL E. MAYES AND ROBERT L. CARRELL, ASSIGNORS TO THE UNIVERSITY OF ILLINOIS FOUNDATION

U.S. PATENT DISCLOSES THAT NEW LOG-PERIODIC

(Col. 1, lines 10-12 of Log-Periodic Patent)

Has Unidirectional radiation patterns that are essentially independent of frequency over wide bandwidths."

(Col. 2, lines 62 66 of Log-Periodic Patent)

"increases directivity*** permits more effective utilization of antenna since the same structure can be used in several frequency modes to achieve coverage of different frequency bands."

(Col. 3, lines 73-75; Col. 4, lines 1 and 2)

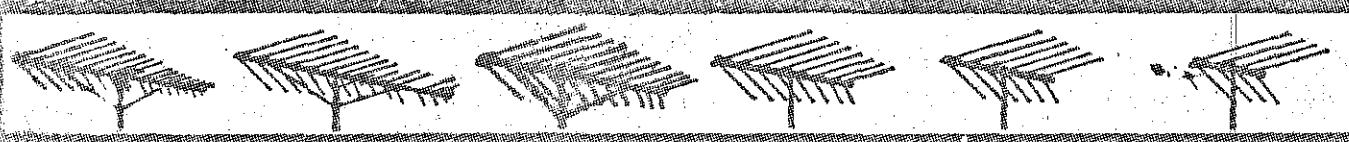
"This antenna exhibited typical directivity gains ranging from 12 db over isotropic in the 3/2 wavelength mode to 17 db in the 7/2 wavelength mode with essentially constant input impedance within each mode."

(Col. 4, lines 21 and 22)

"Moreover, the input impedance remains essentially independent of frequency."

(Col. 4, lines 40-43) "***given by the formula $\frac{L_{(n+1)}}{L_n}=\tau$

ONLY THE JFD LOG PERIODIC LPV OPERATES ACCORDING TO THE PATENTED LOG PERIODIC CELLULAR FORMULA $\frac{L_{(n+1)}}{L_n}=\tau$ TO PROVIDE FLAWLESS COLOR, BLACK AND WHITE TV, & FM STEREO!

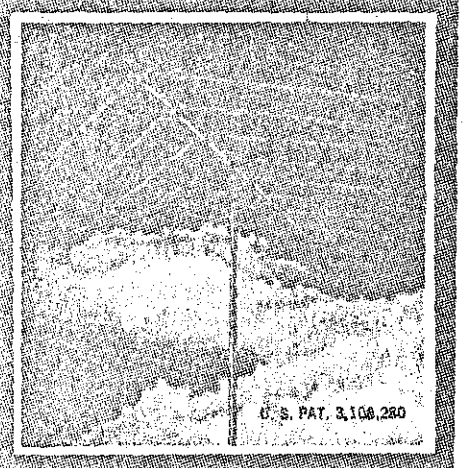


MODEL LPV1	MODEL LPV2	MODEL LPV3	MODEL LPV5	MODEL LPV6	MODEL LPV8
[illegible] RANGE	UP TO 150 MILE RANGE	[illegible] MILE RANGE	UP TO 100 MILE RANGE	UP TO 75 MILE RANGE	UP TO 50 MILE RANGE
[illegible] list	$49.95 list	$38.95 list	$29.95 list	$24.95 list	$14.95 list

UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF ILLINOIS
BEFORE JUDGE HOFFMAN

DEFENDANT EX. NO. _____
DOROTHY L. BRACKENBURY
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FOUNDATION AWARDED PERIODIC V-ANTENNA—JFD LPV



FOR THE RECORD

U.S. DEPARTMENT OF COMMERCE
PATENT OFFICE
WASHINGTON

PAPER No. 9

Applicant: Harry Greenberg

Ser. No.	65,960	MAILED
Filed	October 19, 1960	1962
For	DUAL BAND TELEVISION ANTENNA	PAT. OFF. 65

Please find below a communication from the EXAMINER in charge of this application.

Commissioner of Patents.

Responsive to amendments filed January 2, 1962 and September 12, 1962.

References made of record:

Kandoian 2,929,629 Oct. 28, 1947

IRE Transactions on Antennas and Propagation by D. E. Isbell May 1960 Vol Ap-8 No. 3 pages 260-267 Copy in Scientific Library

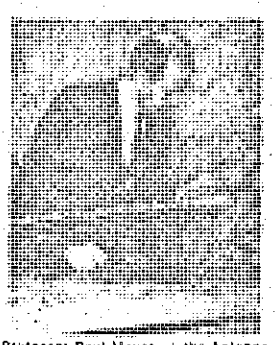
Claims 2, 6, 7, 11-18, 20 and 23 are rejected as substantially met by the Isbell log periodic antenna shown in Fig. 3 of the above cited IRE article. Fig. 3 shows a coplanar array of dipoles of decreasing length in a direction towards the feed with a transposition harness interconnecting the dipoles. The proportional energy radiation away from the feed vertex is described on the top of page 3 of the reference and this action is considered the equivalent of the proportional energy feature stressed in the claims. Regarding claim 11, the recitation "substantially equally spaced" is too vague to set any invention over the Isbell antenna.

Claims 24-27 are rejected as unpatentable over the Isbell article at Fig. 3.

Claims 2, 6, 7, 11-18, 20, and 23-27 are rejected.

Examiner.

DO NOT BE MISLED BY LOG-PERIODIC IMITATIONS OR MISLEADING PATENT CLAIMS



Professor Paul Mayes of the Antenna Research Laboratories of the University of Illinois, originator of the log-periodic V-dipole antenna concept.

THERE IS ONLY ONE GENUINE PATENTED LOG-PERIODIC V-ANTENNA—THE JFD LPV! JFD LPV

Only JFD is licensed exclusively by the University of Illinois Foundation to make the patented Log-Periodic LPV and all other Log-Periodic type TV and FM antennas. No other so-called Log-Periodic antenna can work like the **JFD** Log-Periodic LPV because **only JFD** uses the original **patented** Log-Periodic design formula of the Antenna Research Laboratories of the University of Illinois. Rely on the JFD LPV and see why At the Moment of Truth, The Picture is the Proof—that the LPV works **best!** Now in stock at your JFD distributor.

JFD will be glad to send you a copy of the official Log-Periodic Antenna U.S. Patent for your personal study and comparison.

JFD

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JFD Electronics Southern Inc. Florence, North Carolina
JFD International, 64-14 Woodside Ave., Woodside, N.Y.
JFD Canada, Ltd. 51 McCormack Street, Toronto, Ontario, Canada
401-144 W. Hastings Street, Vancouver, B.C.

LICENSED UNDER ONE OR MORE OF U.S. PATENTS 2,958,081; 2,985,879; 3,011,168; 3,108,280 AND ADDITIONAL PATENTS PENDING. JFD ELECTRONICS CORPORATION UNDER EXCLUSIVE LICENSE FROM THE UNIVERSITY OF ILLINOIS FOUNDATION

UNITED STATES DISTRICT COURT,
NORTHERN DISTRICT OF ILLINOIS
BEFORE JUDGE HOFFMAN

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(5)

Compare WHAT JFD LPV LOG PERIODIC TV & FM ANTENNAS OFFER YOU AGAINST ALL OTHERS!

Compare COMPLETENESS OF LINE!

Only JFD offers you the most *complete* line of all... in step-up models... in VHF (ch. 2-13)... in UHF (ch. 14-83)... in FM/Stereo... in VHF/UHF/FM bands.

Compare ENGINEERING!

JFD leadership in antenna design is an acknowledged fact. JFD Champaign, Illinois R & D facilities include the world's newest and most advanced antenna laboratories. Here a team of scientists, graduate engineers and technicians, under the direction of Dr. Paul E. Mayes, are revolutionizing the state of the antenna art. This priceless scientific know-how and integrity stand behind each JFD Log Periodic you see.

Compare PERFORMANCE!

JFD LPV's are the first and only antennas based on the geometrically-derived *Logarithmic Periodic* scale developed by the Antenna Research Laboratories of the University of Illinois and used in satellite telemetry. Result: frequency-independent performance that delivers a combination of superior gain, 300 ohm impedance match, pinpoint directivity, and front-to-back ratio never before possible across the *entire* band.

Compare COLOR RECEPTION!

JFD Log Periodic response is *flat* across each channel for true, crisp color picture resolution.

Compare CONSTRUCTION!

Life-time stainless-steel take-off terminals that can never corrode, "tank-turret" element brackets, non-breakable heavy-wall Implex A acrylic insulators, twin U-bolts with 6 inch mast grip span; supple, permanently riveted aluminum drive line rod, electrically conductive gold alodizing, plus a host of other exclusive mechanical improvements.

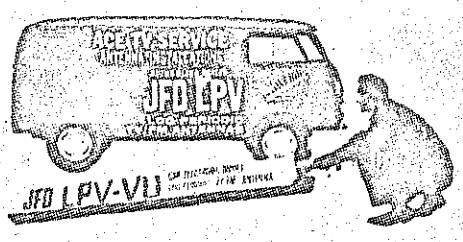
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A versatile selection of indoor and outdoor sales helps . . . advertisements in LOOK, SUNSET and other national and local consumer publications . . . in newspapers . . . on television . . . that sell your best prospects.

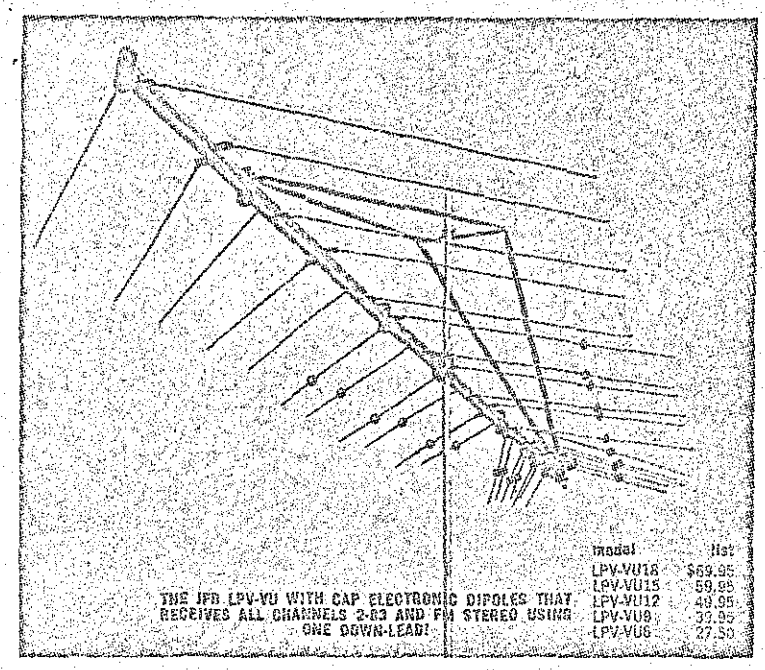
CALL YOUR JFD DISTRIBUTOR TODAY — AND SHARE IN THE PROFITS AND PRESTIGE THAT ONLY JFD LPV LOG PERIODICS CAN BRING YOU!

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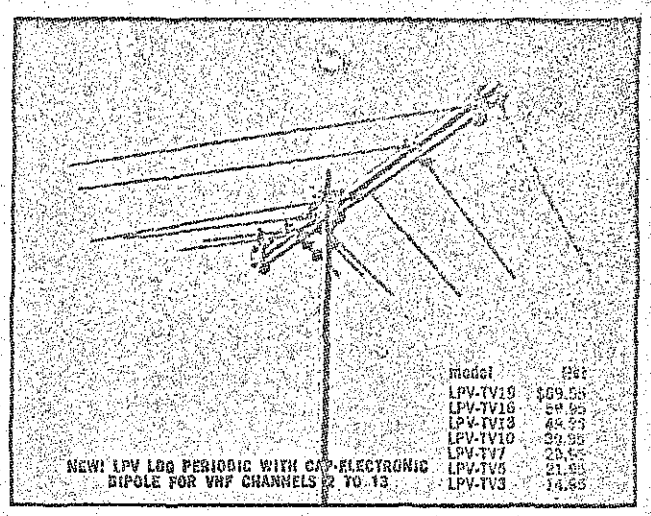


Don't Be 1/2 Set...
With JFD LPV Log



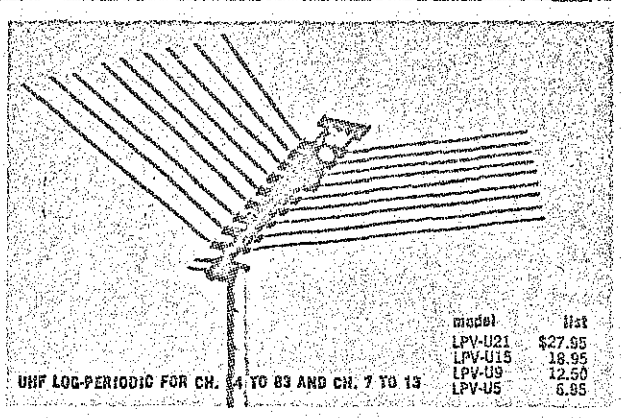
model	list
LPV-VU16	$69.95
LPV-VU15	59.95
LPV-VU12	49.95
LPV-VU9	39.95
LPV-VU6	27.50

THE JFD LPV-VU WITH CAP ELECTRONIC DIPOLES THAT RECEIVES ALL CHANNELS 2-83 AND FM STEREO USING ONE DOWN-LEAD!



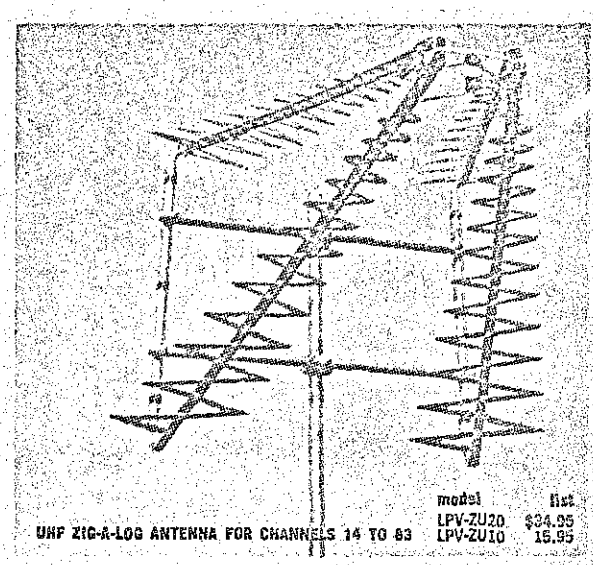
model	list
LPV-TV13	$69.95
LPV-TV10	59.95
LPV-TV8	44.95
LPV-TV10	32.95
LPV-TV7	20.95
LPV-TV5	21.95
LPV-TV3	14.95

NEW! LPV LOG PERIODIC WITH CAP-ELECTRONIC DIPOLE FOR VHF CHANNELS 2 TO 13



model	list
LPV-U21	$27.95
LPV-U15	18.95
LPV-U9	12.50
LPV-U5	6.95

UHF LOG-PERIODIC FOR CH. 14 TO 83 AND CH. 7 TO 13



model	list
LPV-ZU20	$34.95
LPV-ZU10	15.95

UHF ZIG-A-LOG ANTENNA FOR CHANNELS 14 TO 83

Only JFD offers You LPV Log Periodics for VHF (Ch.2-13)...UHF

GET THE LION'S SHARE OF ANTENNA BUSINESS (FLATTEN CATV COMPETITION, TOO) BY FEATURING THE JFD LPV-VU LOG PERIODIC! THIS NEW GENERATION OF 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.

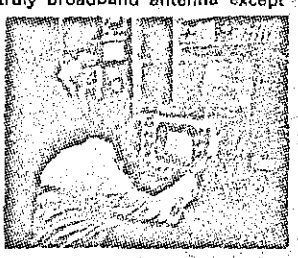
Only the LPV follows the patented frequency independent Log Periodic antenna formula developed by the Antenna Research Laboratories of the University of Illinois. This new log periodic cellular concept provides you with a combination of gain, bandwidth, directivity and impedance match never before possible with conventional antenna designs.



You can actually see the difference in truer color purity, in greater contrast, in finer detail—not on just some of the channels but all of the channels! Small wonder more JFD Log Periodics were installed in the last 12 months than any other brand.

PREFERRED BY MORE N. Y. WORLD'S FAIR PAVILIONS... New York World's Fair exhibitors demand flawless color reception. That's why the House of Good Taste, Masonic Pavilion, Formica House, Eastman Kodak Exhibit, New York City Exhibit, House of Japan and other Fair showplaces chose the JFD LPV. This exclusive preference is pre-selling millions of Fairgoers—opening the door for more LPV sales by you.

WHY THE LOG PERIODIC IS THE MOST DRAMATIC BREAK WITH ANTENNA TRADITION SINCE DR. YAGI INVENTED THE YAGI... Up until the JFD Log Periodic, it was not possible to devise a truly broadband antenna except by "compromise" design that had to give up vital gain to get wider bandwidth... or had to degrade directivity for better impedance. Burdensome parasitics were piled on to try to compensate for gain "suck-outs", ghost-prone polar patterns, and inadequate bandwidth. This pyramided performance complications resulting in signal-sapping standing waves and impedance matches—and yet were only effective at the band edges.



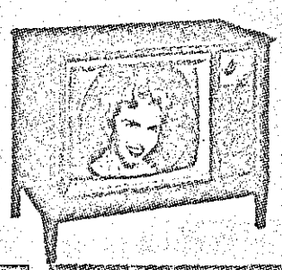
Through the use of the revolutionary new logarithmic periodic formula, the entire frequency range is covered with dipole

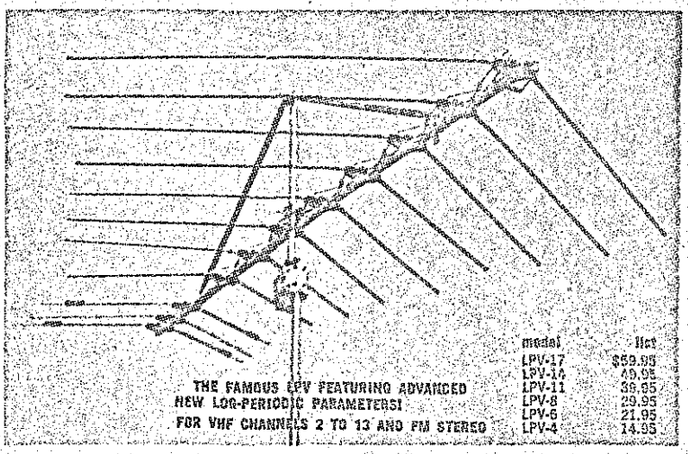
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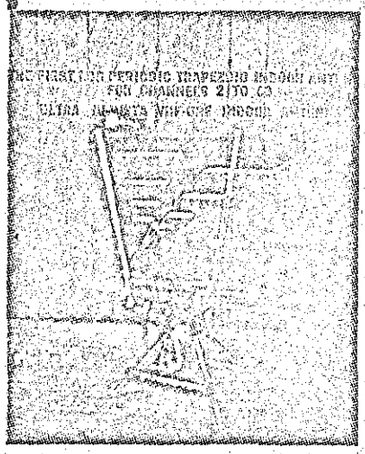
Be All Set—
Periodic TV & FM Antennas

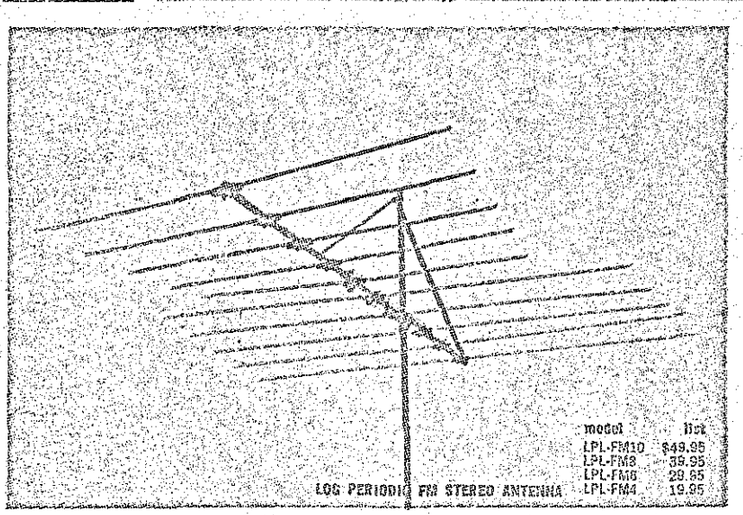




THE FAMOUS LPV FEATURING ADVANCED NEW LOG-PERIODIC PARAMETERS! FOR VHF CHANNELS 2 TO 13 AND FM STEREO

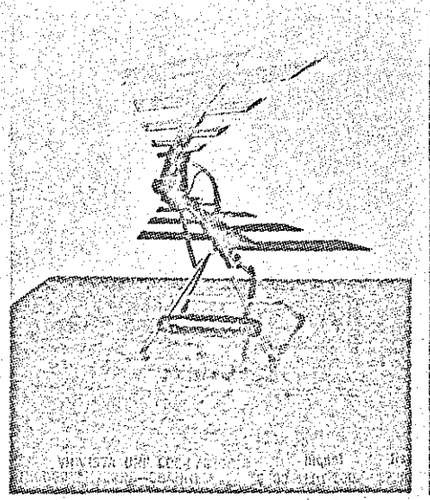
model	list
LPV-17	$59.95
LPV-14	49.95
LPV-11	39.95
LPV-8	29.95
LPV-6	21.95
LPV-4	14.95





LOG PERIODIC FM STEREO ANTENNA

model	list
LPL-FM10	$49.95
LPL-FM8	39.95
LPL-FM6	29.95
LPL-FM4	19.95



(Ch. 14-83)...FM/Stereo...VHF/UHF/FM-COLOR & Black/White

groups (cells) of overlapping resonances. These harmonically resonant V-dipoles result in a frequency-independent performance. The LPV's inherently high gain, sharp directivity, 300 ohm impedance match and flat response are virtually constant across the entire band.

AND ONLY THE JFD LPV HAS IT! . . . The JFD LPV is the product of the world's largest and newest antenna laboratories. Here, in the JFD Champaign, Illinois R & D Research Center, a team of scientists and engineers, under the direction of Dr. Paul E. Mayes, are revolutionizing the state of the antenna art.

MECHANICALLY SUPERIOR! . . . COMPARE CONSTRUCTION! . . . Life-time stainless-steel take-off terminals that can never corrode, "tank-turret" element brackets, tough heavy-wall Implex A acrylic insulators, twin U-bolts with 6 inch mast grip span; supple, permanently riveted aluminum drive line rod; electrically conductive gold alodizing; plus a host of other exclusive mechanical improvements.

FIGHT CATV WITH THE JFD LPV! Keep CATV out of your area with JFD Log Periodics (such as the 82-channel LPV-VU) which provide viewers with more channels—sharper reception—richer color—plus FM stereo. Don't install inferior antennas that open the door to CATV. Install the best to get the best performance—the LPV!

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Now is the time and your JFD distributor is the place to stock up and step up into big-league LPV Log Periodic profits.

SEE WHY AT THE MOMENT OF TRUTH THE PICTURE IS THE PROOF THE JFD LPV LOG PERIODIC WORKS BEST!

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BEFORE JUDGE HOFFMAN

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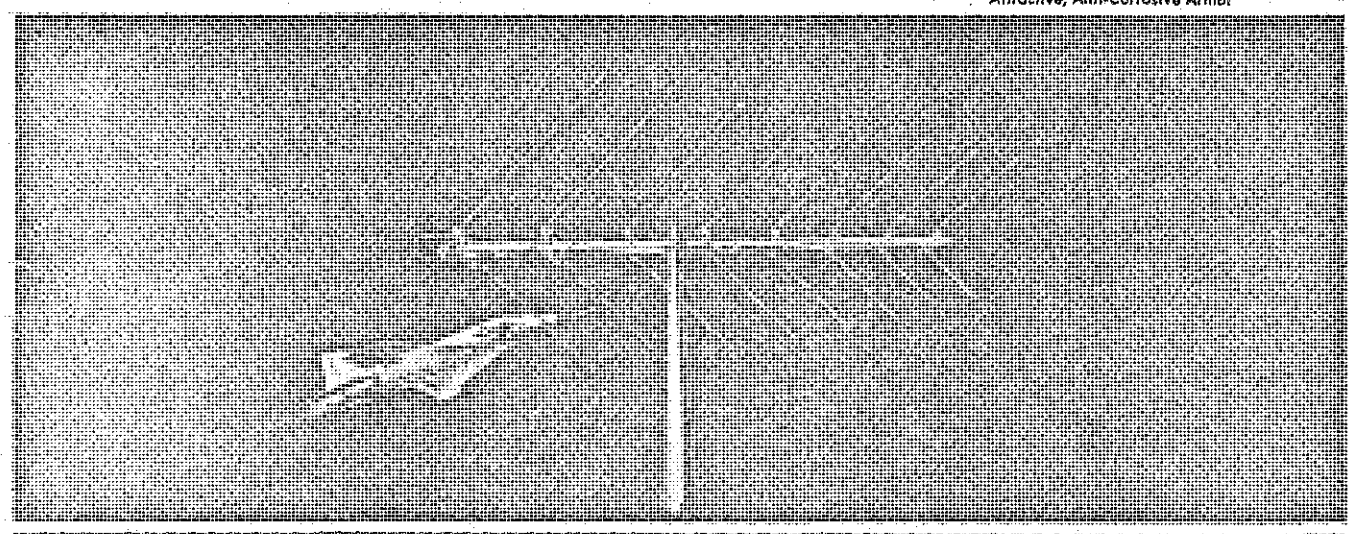
FORM NO. R65-0
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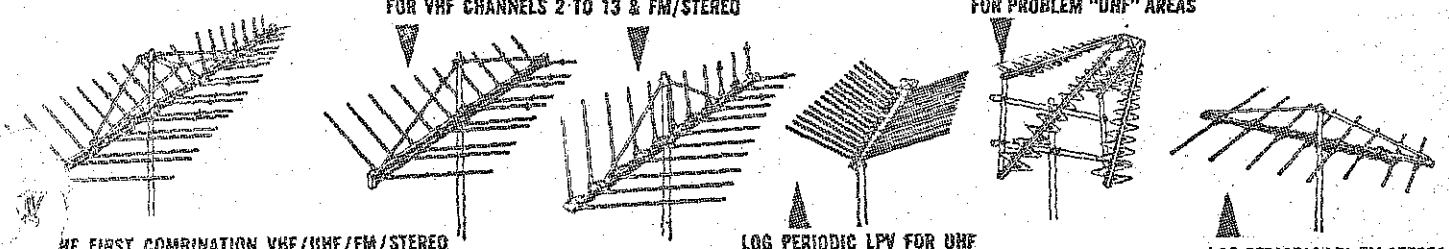
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LOG PERIODIC ZIG-A-LOG FOR PROBLEM "UHF" AREAS



THE FIRST COMBINATION VHF/UHF/FM/STEREO LOG PERIODIC "LPV-VU"—WITH SINGLE LEAD-IN

LOG PERIODIC LPV FOR UHF CHANNELS 14 TO 83 & VHF 7 TO 13

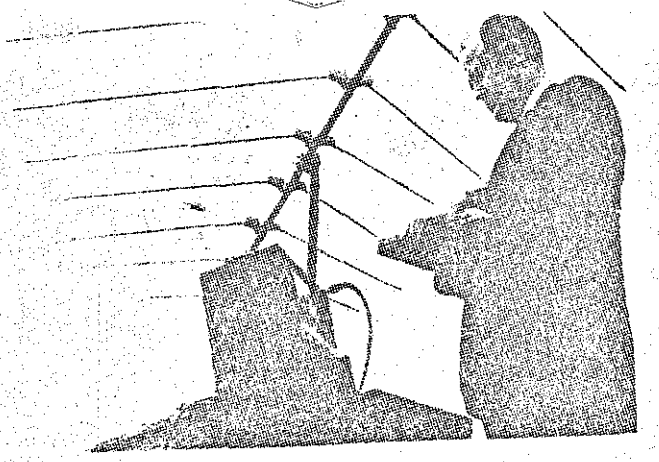
LOG PERIODIC LPL-FM STEREO

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Developed at the JFD Antenna Research Laboratories, Champaign, Illinois under the direction of Dr. Paul E. Mayes, co-inventor of the acclaimed LPV Log Periodic concept.

the REMARKABLE NEW

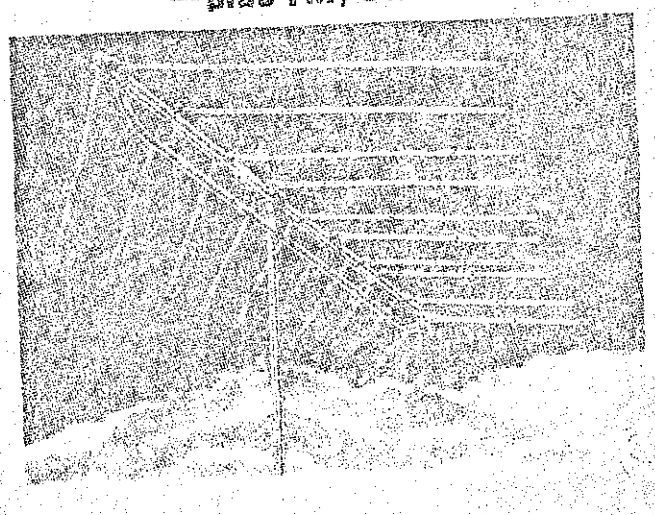
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LOG PERIODIC

for channels 2 to 13 — in magnificent COLOR, better-than-ever black / white — plus FM / Stereo



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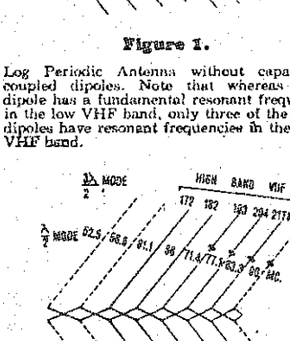


Figure 1.

Log Periodic Antenna without capacitor-coupled dipoles. Note that whereas each dipole has a fundamental resonant frequency in the low VHF band, only three of the eight dipoles have resonant frequencies in the high VHF band.

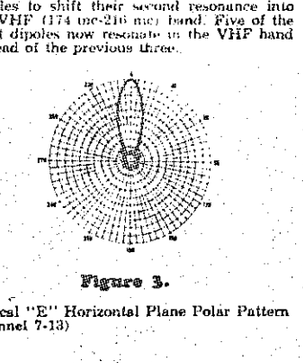


Figure 2.

Increased high band directivity and gain are obtained by adding capacitors of predetermined values at proper locations along the dipoles to shift their second resonance into the VHF (174 mc-216 mc) band. Five of the eight dipoles now resonate in the VHF band instead of the previous three.

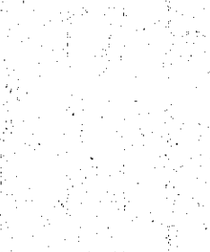


Figure 3.

Typical "E" Horizontal Plane Polar Pattern (channel 7-13)

■ **New capacitor-coupled Cap-Electronic** elements [illegible] the third harmonic mode for highest effective gain. More harmonically resonant elements mean higher signal-to-noise ratios, better ghost rejection, sharper [illegible] high VHF band—where it's most needed, especially in color.

■ **Lo-impedance** twin-boom feeder that insures optimum impedance match to dipoles for increased signal transfer.

■ **Flat frequency response** [illegible] for studio-quality color regardless of channel [illegible]

incorporates new capacitor-coupled element concept for improved response, especially in color, on channels 2 to 13.

The outstanding results of the original JFD LPV log periodic antenna series are well known to everyone who has used these picture proved performers. We thought we could improve on a winner but we knew through continued research and experimentation. The result of these efforts is a new Log Periodic antenna family—the LPV-TV—whose major innovation is the use of capacitor-coupled dipoles and directors which enhance third harmonic mode performance. By introducing unique parallel-plate capacitors into the elements and carefully adjusting their capacitance and location, JFD has created [illegible] models for model, than those previously available in the original log periodic series.

In the original JFD Log Periodic series, the element lengths varied from those resonant on channel 6 (88 mc) to those resonant on channel 2 (54 mc). These same elements are resonant in the 3/2 wavelength mode at approximately three times the frequency. But the 3/2 wavelength mode frequencies of some of these dipoles falls *outside* of the usable VHF spectrum.

Fig. 1 shows how a VHF log periodic with eight conventional V-dipoles might look. The resonant frequencies of the dipole elements in the low VHF band are indicated near midpoint of each dipole. The 3/2 wavelength resonant frequencies are indicated near the ends of each dipole. (Note that only *three* dipoles resonate at frequencies in the high VHF band.)

However, by introducing parallel-plate capacitors into the dipoles and by carefully adjusting the value of this capacitance and its position on the dipole, as shown in Figure 2, the resonant frequencies of two of the dipoles can be shifted in the 3/2 wavelength mode. In this way the dipoles can be made to resonate at 204-217 mc as well as at 183 mc.

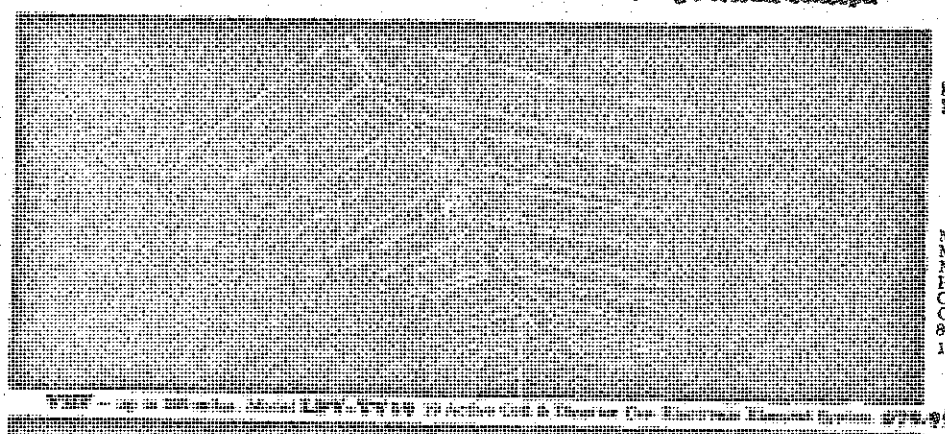
Result: the active gain in the high band includes *five* of the eight original dipoles instead of three, as in Fig. 2, with performance improvement of 66⅔ percent. Low-band performance is also improved, because there is no longer any need to compromise low-band design in advance to accommodate high-band performance. Capacitor-coupling has also made possible dual-band directors that can be accurately tuned for narrower beamwidths and more gain on channels 2 to 6, then accurately and independently retuned for the same characteristics on channels 7 to 13. The new **capacitor-coupled** LPV-TV Log Periodic not only offers *higher* and *more* uniform gain in both the high and low bands, but also *lower* side lobe levels, *narrower* beamwidths and consequently *greatly improved* ghost rejection as evidenced in Fig. 3.

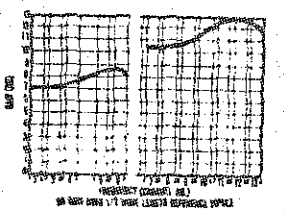
An additional feature of this new series is the use of new low impedance twin crossarms which function as a crossed feeder harness for maximum improved signal transfer on all VHF channels. However, it was not feasible to use this twin boom arrangement on the small LPV-TV3 model.

UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF ILLINOIS
BEFORE JUDGE HOFFMAN

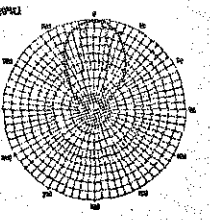
DEFENDANT EX. NO. _____
DOROTHY L. BRACKENBURY
OFFICIAL COURT REPORTER

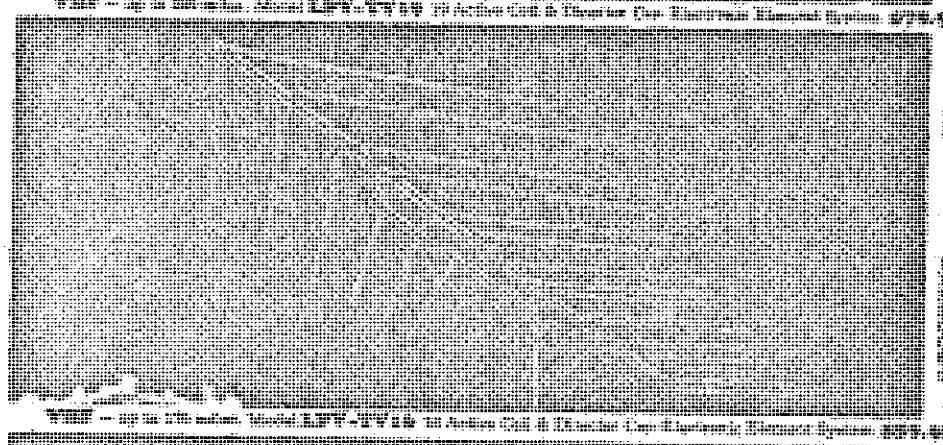
Don't be misled by "blue-sky" claims of log-periodic "look-alikes" or imitations. Only the JFD LPV with patented Log Periodic design, derived from research performed at the University of Illinois Antenna Research Laboratories, fully realizes the superb potential of this remarkable Log Periodic concept.

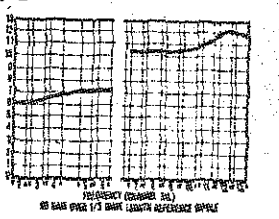




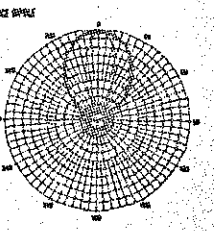
Median VSWR 1.6:1
Median F/B Ratio 23 db
Median ½ Power (E Plane) Beamwidth
Ch. 2-6: 55°
Ch. 7-13: 24°
89" Wide x 200" Long
19 lbs.

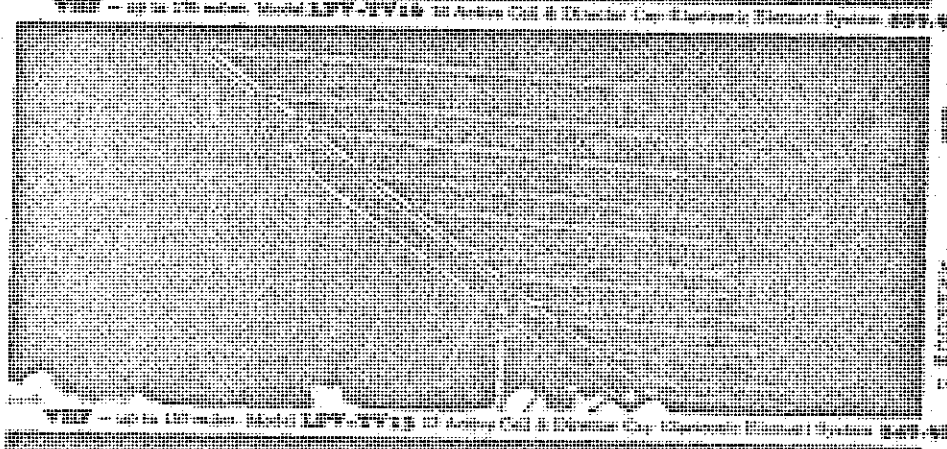


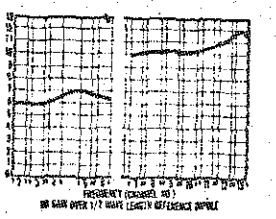




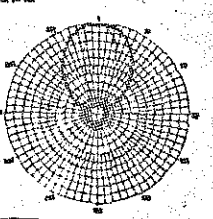
Median VSWR 1.7:1
Median F/B Ratio 19 db
Median ½ Power (E Plane) Beamwidth
Ch. 2-6: 60°
Ch. 7-13: 26°
[illegible]" Wide x 181" Long
[illegible]½ lbs.

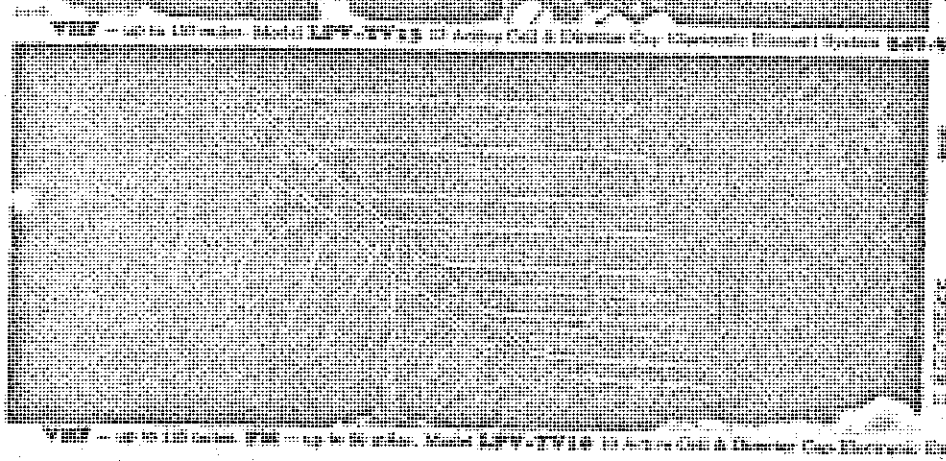


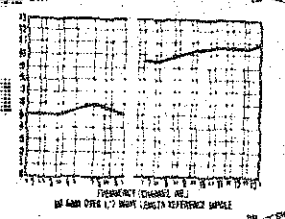




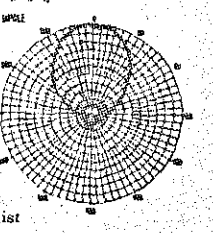
Median VSWR 1.8:1
Median F/B Ratio 19 db
Median ½ Power (E Plane) Beamwidth
Ch. 2-6: 69°
Ch. 7-13: 28°
[illegible]" Wide x 150" Long
[illegible]¼ lbs.







Median VSWR 2.2:1
Median F/B Ratio 16 db
Median ½ Power (E Plane) Beamwidth
Ch. 2-6: 71°
Ch. 7-13: 30°
[illegible]" Wide x 116" Long
[illegible] lbs.

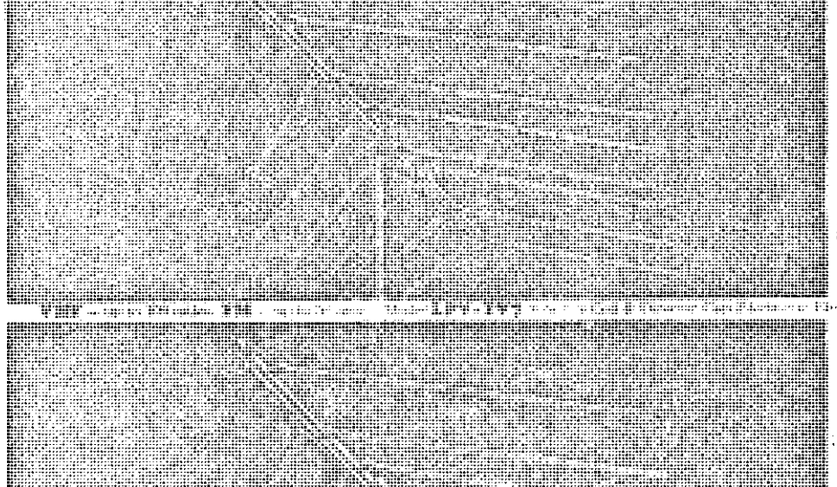


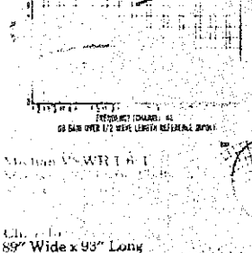
UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF ILLINOIS
BEFORE JUDGE HOFFMAN

DEFENDANT EX. NO._____

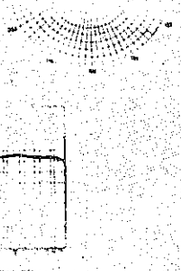
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OFFICIAL COURT REPORTER

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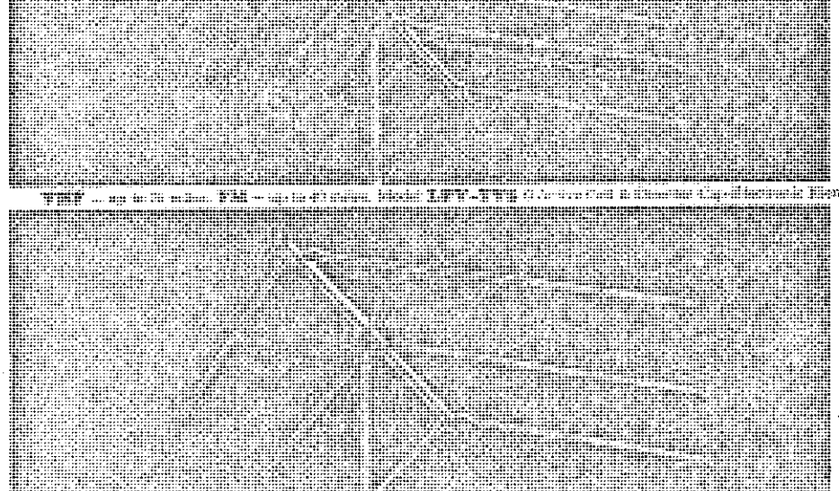


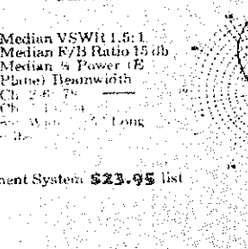


Median VSWR 1.5:1
Median F/B Ratio 15 db
Median ½ Power (E
Plane) Beamwidth
Ch. 2-6: 78°
Ch. 7-13: 36°
89" Wide x 93" Long
7 lbs.

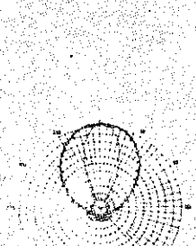


Model LPV-177 ... Element System **$31.95**

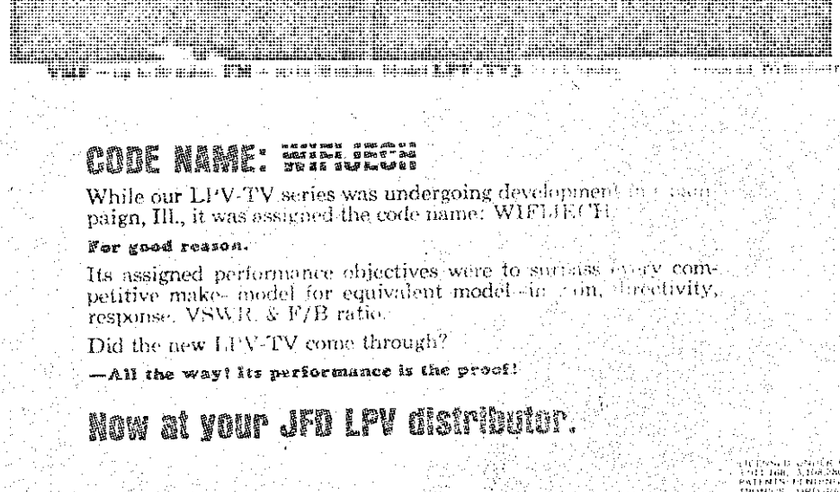


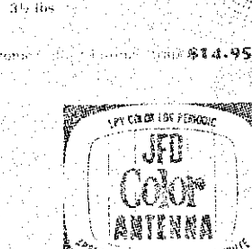


Median VSWR 1.5:1
Median F/B Ratio 15 db
Median ½ Power (E
Plane) Beamwidth
Ch. 2-6: 78° ——
Ch. 7-13: 36°
89" Wide x 93" Long
7 lbs.



Model LPV-772 ... Element System **$23.95** list





Median VSWR 2.2:1
Median F/B Ratio 18 db
Median ½ Power (E
Plane) Beamwidth
Ch. 2-6: 84° ——
Ch. 7-13: 36°
89" Wide x 43" Long
3½ lbs.



Model LPV-772 ... **$14.95** list

CODE NAME: WIFLECH

While our LPV-TV series was undergoing development [illegible] paign, Ill., it was assigned the code name: WIFLECH.

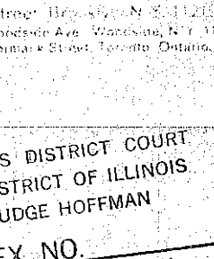
For good reason.

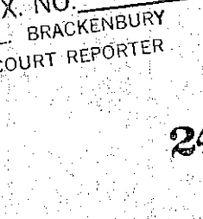
Its assigned performance objectives were to surpass every competitive make- model for equivalent model-in- gain, directivity, response, VSWR & F/B ratio.

Did the new LPV-TV come through?

—All the way! Its performance is the proof!

Now at your JFD LPV distributor.





[illegible] AND ADDITIONAL PATENTS PENDING

JFD ELECTRONICS CORPORATION
15th Avenue at 62nd Street, Brooklyn, N.Y. 11219
JFD International, 15-14 Woodside Ave., Woodside, N.Y. 11377
JFD Canada, Ltd., 51 McCormick Street, Toronto, Ontario, Canada

FORM NO. 1939 LITHO IN USA ©1966, JFD

UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF ILLINOIS
BEFORE JUDGE HOFFMAN

DEFENDANT EX. NO. _____
DOROTHY L. BRACKENBURY
OFFICIAL COURT REPORTER

(10)

224 Illini Union Urbana, Illinois 61803

UNIVERSITY OF ILLINOIS FOUNDATION

April 7, 1966

Hjalmar W. Johnson, President of the University of Illinois Foundation, revealed today that the Foundation had filed [illegible] actions in the Federal District Court in Chicago against Blonder-Tongue Laboratories, Inc., Allied Radio Corporation, Channel Master Corporation, and Electronic Distributors, Inc., charging infringement of one of the Foundation's Log Periodic Antenna patents.

Mr. Johnson stated that the Log Periodic Antenna Inventions constitute one of the most important new developments in the antenna industry and that the Foundation Antenna licensing programs is one of the most important income sources for the Foundation.

Earlier this year the Foundation filed a civil action in the Federal District Court of Iowa against the Winegard Company, charging infringement.

The JFD Electronics Corporation of Brooklyn, New York, has an exclusive license under the patents in the field of receiving antennas for television and FM broadcasting stations, and antennas for amateur and citizens band transmission and reception. All other fields are licensed non-exclusively by the Foundation.

UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF ILLINOIS
BEFORE JUDGE HOFFMAN
DEFENDANT EX. NO._____
DOROTHY L. BRACKENBURY
OFFICIAL COURT REPORTER

JFD SALES BULLETIN

(12)

TO: ALL JFD DISTRIBUTORS April 19, 1966

FROM: ED FINKEL

SUBJECT: UNIVERSITY OF ILLINOIS FOUNDATION SUES:

BLONDER-TONGUE LABORATORIES, INC.

CHANNEL MASTER CORPORATION

JERROLD ELECTRONICS CORP.

FOR LOG PERIODIC ANTENNA BASIC PATENT INFRINGEMENT

The above firms now join Finney Company and Winegard Company in the list of manufacturers being sued by the University of Illinois Foundation for patent violations.

A reprint of the official press release, and the article from Home Furnishings Daily of April 18, 1966, specify the actions taken against the patent violators.

The Foundation is taking vigorous action in the courts to sue all violators of the basic Log Periodic Patents. JFD is the EXCLUSIVE licensee of the Foundation authorized to manufacture antennas under these basic patents.

If emulation is the *sincerest* form of flattery, then JFD and its Franchised Distributors must be selling the finest TV and FM antennas on the market today. The fantastic acceptance and success of the whole JFD LPV antenna line attests to the validity of this conclusion.

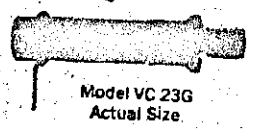
RECEIVED
MAY 23 1966
RINES AND RINES
NO. TEN POST OFFICE SQUARE, BOSTON

UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF ILLINOIS
BEFORE JUDGE HOFFMAN
DEFENDANT EX. NO.
DOROTHY L. BRACKENBURY
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JFD precision trimmer capacitors offer highest reliability... in the industry's broadest product line— over 500 standard models

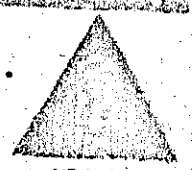
Meet or exceed MIL-C-14409B
SEND FOR JFD CATALOG C-64



Model VC 23G
Actual Size

JFD Modutrim ceramic variable capacitors give you... widest △C...highest stability...smallest size

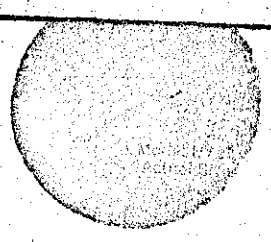
Meet or exceed MIL-C-81A
WRITE FOR BULLETIN MT-65-1



MT Series
Actual Size

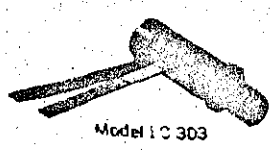
JFD High Q Uniceram fixed capacitors provide exceptional stability in smallest size

Meet or exceed MIL-C-11272B
SEND FOR BULLETIN UNM 64-2



JFD offers most complete and versatile line of LC Tuners, Inductors and Tank Circuits

Meet or exceed MIL-C-14409B.
WRITE FOR CATALOG TI-73



Model LC 303

JFD ELECTRONICS CORPORATION
THE ✓ AMERICA KNOWS BEST!

Components Division

JFD ELECTRONICS CORPORATION, 15th Ave. at 62nd St., Brooklyn, N. Y. 11219
JFD NORTHEASTERN, Ruth Drive, P. O. Box 228, Marlboro, Mass. 07152
JFD NEW YORK-NORTHERN, Damiano Pl., P. O. Box 96, New Hartford, N.Y. 13503
JFD MID-ATLANTIC, P. O. Box 5055, Philadelphia, Pa. 19111
JFD MID-ATLANTIC-MARYLAND, P. O. Box 7676, Baltimore, Md. 21207
JFD MIDWESTERN, 6330 W. Hermione St., Chicago, Ill. 60646
JFD MIDWESTERN-OHIO, P. O. Box 8086, Cincinnati, Ohio 45208
JFD WESTERN, 9 Morlan Place, Arcadia, California 91006
JFD ISRAEL LTD Industrial Area B, Bldg. 23, Azor, Israel
JFD ELECTRONICS, EUROPE S.A. 7 Rue de Rocroy, Paris, 10, France

Variable Trimmer Piston Capacitors ■ Metalized Inductors ■ LC Tuners ■ Ceramic Fixed and Variable Capacitors ■ Fixed and Variable Distributed and Lumped Constant Delay Lines

Home Furnishings Daily
NEW YORK, N. Y.
D. 38,823

OCT 1 1965

UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF ILLINOIS
BEFORE JUDGE HOFFMAN

DEFENDANT EX. NO._____
DOROTHY L. BRACKENBURY
OFFICIAL COURT REPORTER

Home Furnishings Daily
NEW YORK, N. Y.
D. 38,823

SEPT 24 1965

ADVERTISEMENT

Take it from the leader!

A word to the channel-wise dealer is sufficient...

Each day more and more alert dealers are getting the jump on their competition by selling a new 82-channel television *antenna* with every 82-channel "VU" set.

They *know* that old or outdated antennas work only on VHF channels 2 to 13—and can *not* deliver the *82*-channel performance the customer expects with his new set. That's why more dealers are including a new *JFD Color LPV 82-channel Log Periodic TV antenna with* the set sale.

What makes the JFD LPV so special? For one thing, it was designed from research performed at the Antenna Laboratories of the University of Illinois. It is actually *three* antennas in *one* (VHF, UHF, FM), provides superb 82-channel performance yet needs only *one* downlead.

Can you think of a better way to improve referral sales and cut down on nuisance calls—*and* earn a plus *profit* doing it? Start today to tie-in a JFD Color LPV-VU 82-channel Log Periodic with *every* set sale and see!

Call your JFD LPV distributor or write to:
JFD ELECTRONICS CORPORATION
15 Avenue at 62 Street
Brooklyn, N.Y. 11219

manufacturers of the color TV antenna America knows best—the 82-channel Color LPV Log Periodic.



LICENSED UNDER ONE OR MORE OF U.S. PATENTS 2,958,081; 2,985,879; 3,011,168; 3,103,260; 3,150,376, RE. 25,740 AND ADDITIONAL PATENTS PENDING IN U.S.A. AND CANADA. PRODUCED BY JFD ELECTRONICS CORPORATION UNDER EXCLUSIVE LICENSE FROM THE UNIVERSITY OF ILLINOIS

Take it from the leader!

New Color TV antennas are vital to good color reception

Over 80 per cent of the evening programs broadcast by the three major networks will be in glowing color. Will the color sets *you* sell get these broadcasts with the same sharpness of detail, registration of images and balance of hues as transmitted?

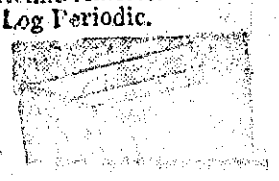
You can help your customers receive studio-quality pictures with a new antenna that is designed and built with *color* performance characteristics in mind—*the Color LPV Log Periodic by JFD.*

Only JFD Color LPV Log Periodics are designed according to a patented space-age geometric formula developed by the Antenna Research Laboratories of the University of Illinois. It is reason why more dealers and installers rely on the LPV to transform sensitive color signals into the glorious color pictures their customers expect.

Imagine how you will improve referral sales and cut down on nuisance calls! Makes sense, doesn't it, to *protect* each color set sale with a JFD LPV antenna tie-in—and earn an *extra* profit doing it?

See your JFD LPV distributor or write to:
JFD ELECTRONICS CORPORATION
15 Avenue at 62 Street
Brooklyn, N.Y. 11219

manufacturers of the color TV antenna America knows best—the 82-channel Color LPV Log Periodic.



LICENSED UNDER ONE OR MORE OF U.S. PATENTS 2,958,081; 2,985,879; 3,011,168; 3,103,260; 3,150,376, RE. 25,740 AND ADDITIONAL PATENTS PENDING IN U.S.A. AND CANADA. PRODUCED BY JFD ELECTRONICS CORPORATION UNDER EXCLUSIVE LICENSE FROM THE UNIVERSITY OF ILLINOIS

(17.)

POPULAR ELECTRONICS
NEW YORK, N.Y.
MONTHLY 430,000
+4/66
+5/66
DEC 1965

for brilliant 82-channel TV performance—
COLOR or black & white, plus FM/Stereo

INSTALL THE NEW JFD® LPV COLOR
LOG PERIODIC TV ANTENNA

LIFE

Now you can enjoy the best reception ever on any VHF, UHF or FM/Stereo station—from one antenna, using one down-lead—with the patented new JFD COLOR LPV Log Periodic.

Why cripple your reception with inefficient antenna "hodge-podges?" Choose a powerful space-age JFD LPV . . . see and hear the spectacular difference!

DON'T BE MISLED BY IMITATIONS—NO OTHER ANTENNA WORKS LIKE THE JFD LPV BECAUSE . . .

- Only the LPV is designed according to the original log periodic patented design of the University of Illinois Antenna Research Laboratories.
- Only the LPV combines frequency-independent design with capacitor-coupled electronic dipoles for . . .
- Higher, more uniform gain and narrower directivity on channels 2 to 83—and FM.

SEE YOUR JFD LPV DEALER TODAY!

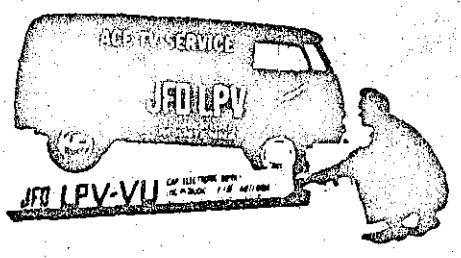
JFD ELECTRONICS CORPORATION • 1462 62nd Street • Brooklyn, N. Y. 11219
world's largest manufacturer of TV & FM antennas

CIRCLE NO. 19 ON READER SERVICE PAGE

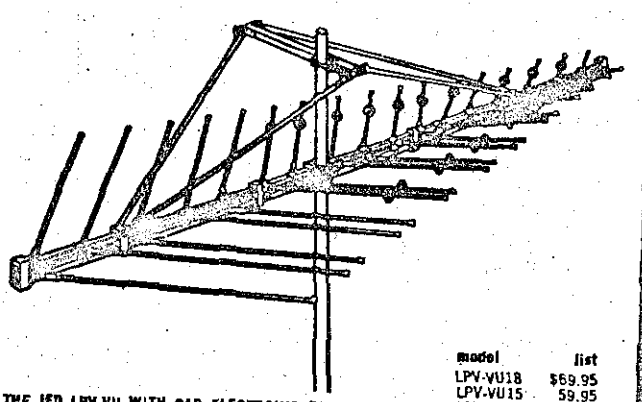
UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF ILLINOIS
BEFORE JUDGE HOFFMAN

DEFENDANT EX. NO._____
DOROTHY L. BRACKENBURY
OFFICIAL COURT REPORTER

(18)

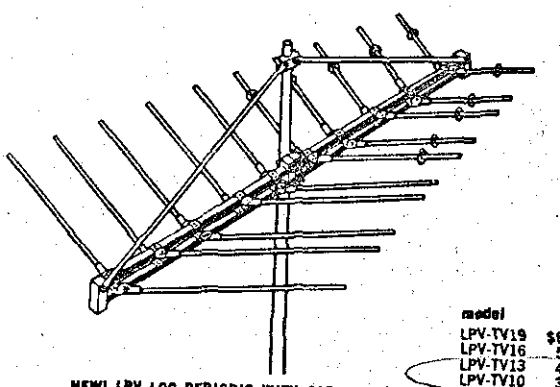


Don't Be 1/2 Set... With JFD LPV Lo



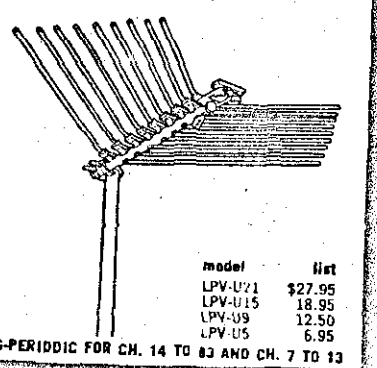
THE JFD LPV-VU WITH CAP ELECTRONIC DIPOLES THAT RECEIVES ALL CHANNELS 2-83 AND FM STEREO USING ONE DOWN-LEAD!

model	list
LPV-VU18	$69.95
LPV-VU15	59.95
LPV-VU12	49.95
LPV-VU9	39.95
LPV-VU6	27.50



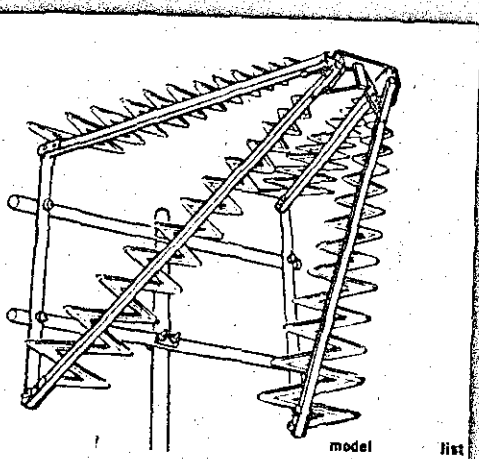
NEW! LPV LOG PERIODIC WITH CAP-ELECTRONIC DIPOLE FOR VHF CHANNELS 2 TO 13

model	list
LPV-TV19	$69.95
LPV-TV16	59.95
LPV-TV13	49.95
LPV-TV10	39.95
LPV-TV7	29.95
LPV-TV5	21.95
LPV-TV3	14.95



model	list
LPV-U21	$27.95
LPV-U15	18.95
LPV-U9	12.50
LPV-U5	6.95

UHF LOG-PERIODIC FOR CH. 14 TO 83 AND CH. 7 TO 13



model	list
LPV-ZU20	$34.95
LPV-ZU10	15.95

UHF ZIG-A-LOG ANTENNA FOR CHANNELS 14 TO 83

Only JFD offers You LPV Log Periodics for VHF (Ch.2-13)...UHF

GET THE LION'S SHARE OF ANTENNA BUSINESS (FLATTEN CATV COMPETITION, TOO) BY FEATURING THE JFD LPV-VU LOG PERIODIC! THIS NEW GENERATION OF 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.

O. y the LPV follows the patented frequency independent Log Periodic antenna formula developed by the Antenna Research Laboratories of the University of Illinois. This new log periodic cellular concept provides you with a combination of gain, bandwidth, directivity and impedance match never before possible with conventional antenna designs.

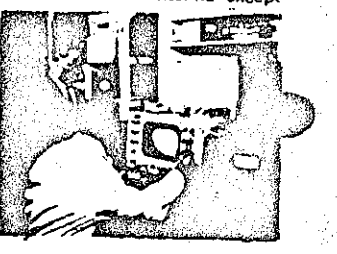


You can actually **see** the difference in **truer** color purity, in **greater** contrast, in **finer** detail—not on just some of the channels but **all** of the channels! Small wonder **more JFD Log Periodics** were installed in **the last 12 months** than any other brand.

PREFERRED BY MORE N. Y. WORLD'S FAIR PAVILIONS . New York World's Fair exhibitors demand flawless color reception. That's why the House of Good Taste, Masonic Pavilion, Formica House, Eastman Kodak Exhibit New York City Exhibit, House of Japan and other Fair showplaces chose the JFD LPV. This exclusive preference is pre-selling millions of Fairgoers opening the door for more LPV sales by you.

WHY THE LOG PERIODIC IS THE MOST DRAMATIC BREAK WITH ANTENNA TRADITION SINCE DR. YAGI INVENTED THE YAGI . Up until the JFD Log Periodic, it was not possible to devise a truly broadband antenna except by "compromise" design that had to give up vital gain to get wider bandwidth or had to degrade directivity for better impedance. Burdensome parasitics were piled on to try to compensate for gain "suck-outs", ghost-prone polar patterns and inadequate bandwidth. This pyramided performance complications resulting in signal sapping standing waves and impedance matches—and yet were only effective at the band edges.

Through the use of the revolutionary new logarithmic periodic formula, the entire frequency range is covered with dipole



PAGE 2

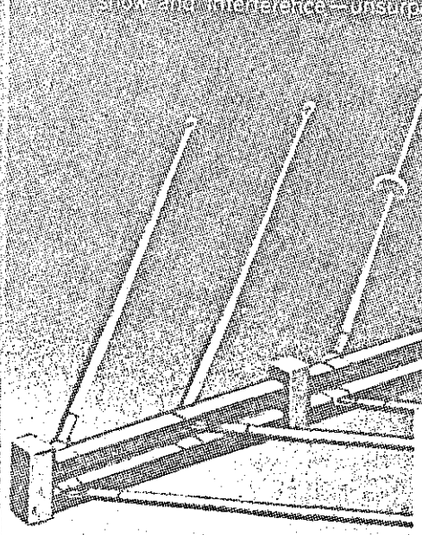
UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF ILLINOIS
BEFORE JUDGE HOFFMAN

DEFENDANT EX. NO. _____

DOROTHY L. BRACKENBURY
OFFICIAL COURT REPORTER

Two antennas in 1—Sears LPV Antenna gives you tremendous reception on both VHF and UHF channels

Engineers adapted the design of a powerful satellite tracking antenna to give you a TV antenna unsurpassed for ability to block out ghosts, snow and interference—unsurpassed for color and black-and-white

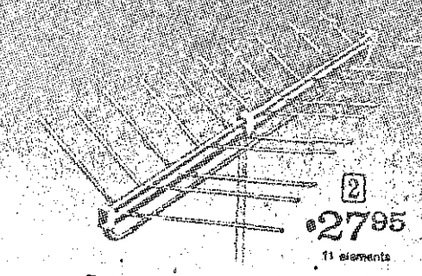


1 Special capacitors double station-pulling power of the elements to give you photo-sharp black-and-white pictures . . lifelike color.

And, you get superb FM/FM-stereo with the 3 smallest sizes (15 and 18-element sizes not designed for FM). Gold-color alodined finish resists power-robbing corrosion. Boom bracing on 15 and 18-element sizes. Preassembled.

Catalog Number	Maximum range in miles, VHF	UHF	FM	Elements	Shpg. wt.	Price
57 K 6979N	75	25	30	6	10 lbs.	$19.9
57 K 6980N	100	40	40	9	11 lbs.	29.9
57 K 6981N	125	65	50	12	13 lbs.	37.
57 K 6982N	150	90	. .	15	15 lbs.	44.
57 K 6983N	175	90	. .	18	18 lbs.	52

Order mast or mast kit on facing page.



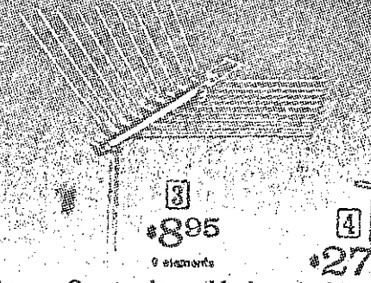
2 $27.95 — 11 elements

Get superb color or black-and-white reception on all VHF channels

2 Improved to block out ghosts, snow and interference as well as our all-channel antenna. For black and white or color . . plus FM on all but 3 largest sizes. Gold-color alodined finish. Preassembled. No boom bracing on first 3 sizes.

Catalog Number	Range, miles VHF	FM	Elements	Wt. lbs.	Price
57 K 6602N	50	30	4	7	$9.95
57 K 6603N	75	40	6	11	14.95
57 K 6604N	100	50	8	12	19.95
57 K 6605N	125	50	11	22	27.95
57 K 6606N	150	. .	14	25	34.95
57 K 6607N	175	. .	17	28	44.94
57 K 6608N	200	. .	18	31	54.95

*Allow 10 lbs. postage (postal regulations).



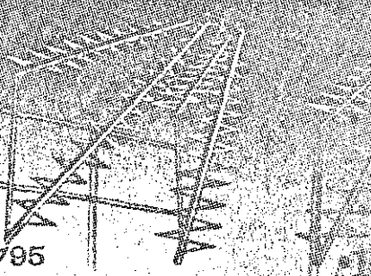
3 $8.95 — 9 elements

Great color or black and white on all UHF plus VHF channels 7 to 13

3 Pinpoints hard-to-get stations in cluttered city or hilly areas because it is extremely directional. And, gives you 30% to 50% more station-pulling power than ordinary UHF antennas. Gold-color alodined finish resists corrosion that can gradually rob you of clear, sharp pictures. Elements are solid aluminum.

For easier installation, it's preassembled . . elements just fold out.

Catalog No.	Max. range	Elements	Wt. lbs.	Price
57 K 6973L	25 miles	5	5	$5.50
57 K 6974L	40 miles	9	10*	8.95
57 K 6975N	60 miles	15	7	13.95
57 K 6976N	80 miles	21	9	18.95



4 $27.95

Zagy UHF Antennas for long-range color or black-and-white reception

4 Up to 90 miles range. Special LPV design performs huge parabolic-dish antennas . . gives you photo-sharp pictures even in far-fringe areas.

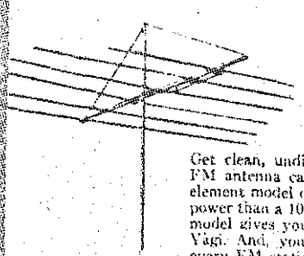
Gold-color alodined finish resists corrosion that robs unprotected antennas of station-pulling power. Preassembled. *$1 monthly.*

57 K 6986L—Shpg. wt. 5 lbs. . . . . Cash $27.95

5 Up to 60 miles range. Same LPV design as antenna above for good reception on widely spaced stations. Outperforms 4-bay bow-tie-and-screen antennas. Corrosion-resistant gold-color alodined finish. Shipped completely assembled.

57 K 6985L—Shipping weight 4 pounds . . $13.95

*Allow 10 lbs. postage (postal regulations). Order mast or mast kit for (2), (3), (4), (5) from facing page.

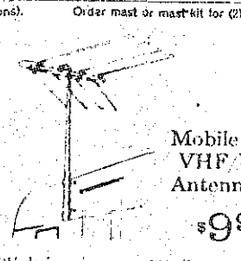


LPV Antenna for FM/FM-stereo radio

$15.95 6 elements

Get clean, undistorted reception no ordinary FM antenna can equal. *Here's proof:* our 10-element model delivers up to 58% more signal power than a 10-element Yagi . . our 4-element model gives you the reception of a 6-element Yagi. And, you get the same great power on every FM station. Gold-color alodined. Boom bracing on all but 57 K 6719N. Preassembled. Order mast, opposite page.

Catalog Number	Maximum range	Elements	Wt. lbs.	Price
57 K 6719N	75 miles	4	5	$9.95
57 K 6720N	125 miles	6	6	15.95
57 K 6721N	150 miles	8	8	29.95
57 K 6722N	175 miles	10	9	39.95



Mobile home VHF/UHF Antenna Kit

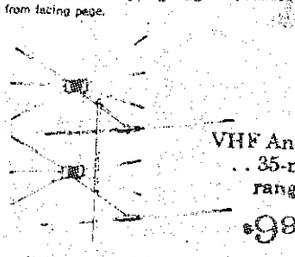
$9.95

LPV design gives you 50-mile range on VHF . . 30 miles on UHF. Gold-color alodined finish resists signal-robbing corrosion.

Frame mounts permanently antenna and upper mast, slides out and folds for travel. Aluminum with cadmium-plated hardware.

Mast is 6-ft. aluminum; 25 ft. lead in wire. Shipped partially assembled.

57 K 6929L—Allow 10 lbs. postage . . . $9.95



VHF Antenna . . 35-mile range

$9.95

Conical type. Gold-color alodined aluminum. Preassembled. Order mast, opp. page.

57 K 6911L—Allow 10 lbs. postage . . . $9.95

Like above but single bay . . local area.

57 K 6910L—Allow 10 lbs. postage . . . $5.40

SHIPPING NOTE FOR BOTH PAGES

"N" items (as 57K6979N) sent freight (rail or truck) or express.

UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF ILLINOIS
BEFORE JUDGE HOFFMAN

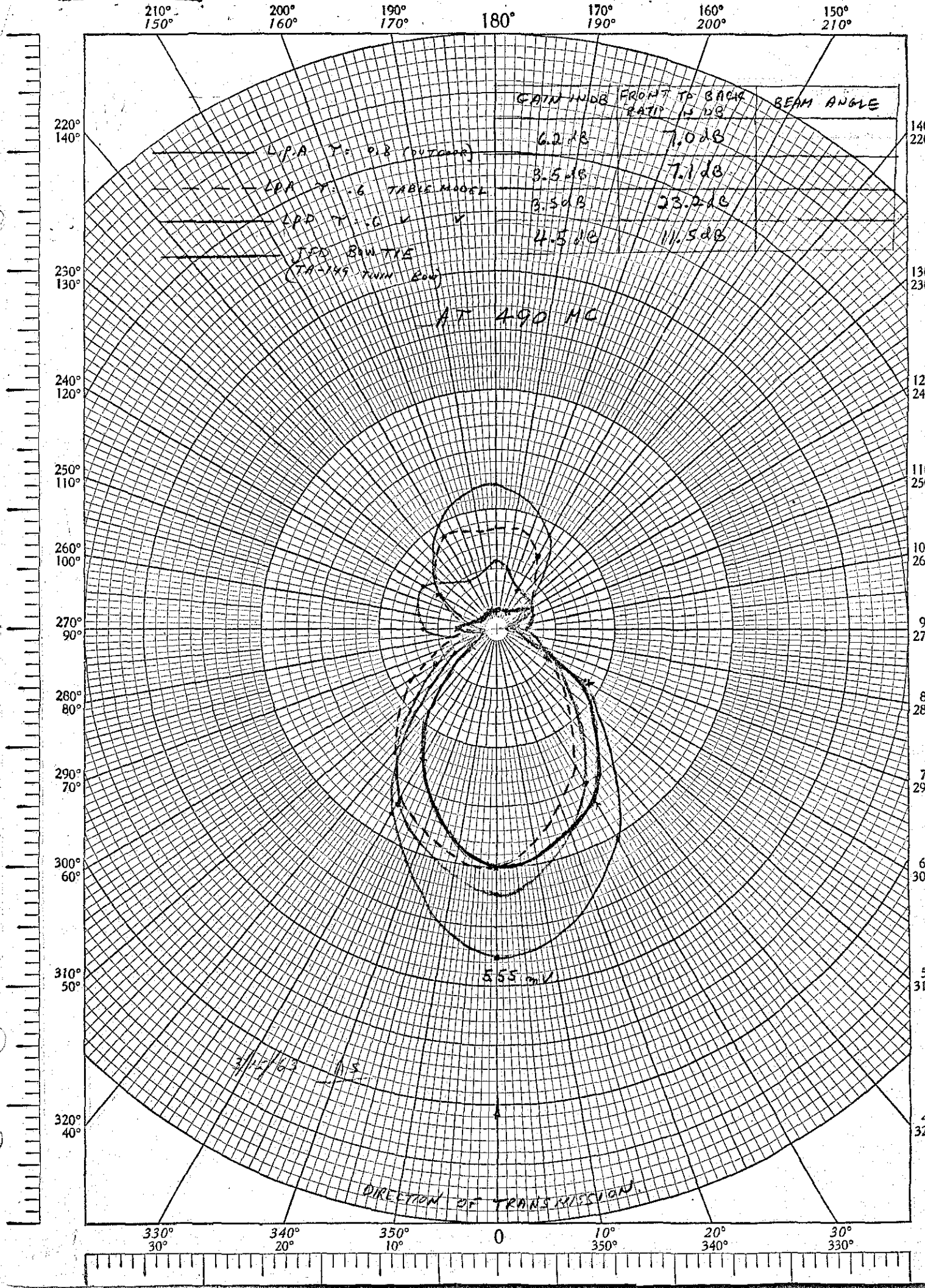
DEFENDANT EX. NO.
DOROTHY L. BRACKENBURY
OFFICIAL COURT REPORTER

MATCH RATIO OF ANTENNAS

900
465
435

	465 MC	500 MC	550 MC	600 MC	650 MC	700 MC	750 MC	800 MC	850 MC	900 MC
ANTENNA #1	2.8:1	2.5:1	3.6:1	2:1	1.7:1	2:1	2.5:1	2.5:1	2.2:1	10:1
ANT #2	2.7:1	2:1	2.8:1	3.8:1	2.5:1	2.5:1	2.2:1	2.7:1	2.1:1	5:1
" #3	(γ=0.8 α=40°)	3.1:1	5:1	2:1	5:1	5:1	1.7:1	2.5:1	3.5:1	3.5:1
" #4	7:1	2.9:1	2.5:1	4:1	2.5:1	2.2:1	2.2:1	1.9:1	2.2:1	2:1
" #5	2.P.V. 8:1	2.5:1	2.8:1	3.2:1	3:1	4:1	4:1	4:1	7:1	7:1
#I	Taped at 1.5" separation of A-K end.									
LPV INDOOR	3.5:1	7:1	3.3:1	8.3:1	4:1 2:1	2.2:1	4:1	3.6:1	2.3:1	3:1
#II										12:1
LPV OUTDOOR	2.5:1	2.6:1	3.2:1	3.3:1	2.5:1	2.5:1	2.3:1	5.2:1	2.5:1	10:1

UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF ILLINOIS
BEFORE JUDGE HOFFMAN
DEFENDANT EX. NO.
DOROTHY L. BRICKENBURY



POLAR CO-ORDINATE
KEUFFEL & ESSER CO.
359-31G
MADE IN U.S.A.

UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF ILLINOIS
BEFORE JUDGE HOFFMAN
DEFENDANT EX. NO. _____
DOROTHY L. BRACKENBURY
OFFICIAL COURT REPORTER

ROOF MOUNTS AND KITS

JFD Cat. No.	Description	List Price
BR1SS	2 Rivet Y mt. & U-bolt. 2-10' stnls. steel straps	3.67

CHIMNEY MOUNTS AND KITS

JFD Cat. No.	Description	List Price
BR2	Z-mt. w/2-10' hot dipped galv. straps	2.44
BR2SS	Z-mt. w/2-10' stnls. steel straps	3.05
BR3	Z-mt. w/2-12' hot dipped galv. straps 3 3/4" wd.	2.78
BR3SS	Z-mt. w/2-12' stnls. steel straps 3/4" width	3.89
BR5SS	Econ. Snap-in mt. w/2-10' stnls. steel straps	3.75
BR6	Snap-in mt. w/ 2-12' hot dipped galv. straps 3/4"	3.19
BR6SS	Snap-in mt. w/ 2-12' stnls. steel straps 3/4"	4.58
BR7-12	Triple Rivet Y-Mt. with 2-12' galv. steel straps	3.94
BR7-12SS	Triple Rivet Y-Mt. w/2-12' stnls. steel straps	5.14
BR7-18S	Triple Rivet Y-Mt. w/2-18' stnls. steel straps	6.25
BR4S	2-10 ft. lengths steel strpg. replcmt. kit w/hdwe.	1.53
BR4SS	2-10 ft. lengths of stnls. steel strpg. replcmt. kit w/hdwe.	2.50

VENT PIPE MOUNTS

JFD Cat. No.	Description	List Price
BR9	Vent Pipe Mt. Up to 1 1/2" Mast	2.72

TUBULAR AND STANDARD WALL MOUNTS

JFD Cat. No.	Description	List Price
BR10	8" Snap-in Wall Mt.	2.47
BR11-12	12" Tub. Wall Mt.	3.56
BR11-15	15" Tub. Wall Mt.	5.97
BR11-18	18" Tub. Wall Mt.	6.81
BR11-24	24" Tub. Wall Mt. Up to 1 1/2" Mast	9.03
BR16	18" Adjust. Wall Mt. Up to 1 1/2" Mast	6.39
BR17	Comb. Adjust. 18" & 3 1/2" Wall Mt.	5.00
BR46-4	4" Wall Mt. For 1 1/4"-1 1/2" Mast.	.89
BR46-8	7" Wall Mt. For 1 1/4"-1 1/2" Mast.	1.94

EAVE MOUNTS

JFD Cat. No.	Description	List Price
BR47-28	28" Adjust. Eave Mt.	3.89
BR47-36	36" Adjust. Eave Mt.	4.17
BR47-48	48" Adjust. Eave Mt.	5.83

ROOF AND FOOT MOUNTS

JFD Cat. No.	Description	List Price
BR13	Univ. Foot Mt. For 1 1/4" Mast.	.67
BR14	Mast Base Mt. Up to 1 1/2" od.	.86

COMBINATION UNIVERSAL SWIVEL MOUNT

JFD Cat. No.	Description	List Price
BR18-1 1/2	1 1/4"-1 1/2" od Univ. Base Mt.	2.03
BR18-1 3/4	1 1/2"-1 3/4" od Univ. Base Mt.	2.03
BR18-2	1 3/4"-2" od Univ. Base Mt.	2.44
BR18-2 1/4	2"-2 1/4" od Univ. Base Mt.	2.61

AAA GOLD ALODIZED BASE MOUNT

JFD Cat. No.	Description	List Price
PM550	Peak Mt. Inc. 5' 1 1/4" steel mast w/4 alum. leg braces.	5.25
PM600 AAA Gold Alod.	1 univ. alum. tri-mt. w/5ft. 1 1/4" alum. mast. Goes up in minutes-stays up for good. No fuss, no muss and a profitable plus for you.	5.50
PM600-K AAA Gold Alod.	1 univ. alum. tri-mt. w/5 ft. 1 1/4" alum. mast, 50 ft. twin lead, 3 wood screw-eyes, 2 mast stand-offs and 3 self-sealing drive-in nails.	8.10

DEALER PRICE SCHEDULE

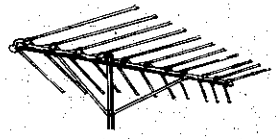
FORM NO. D-64 EFFECTIVE: **NOV. 1, 1964**

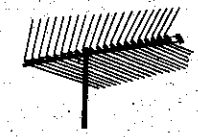
JFD

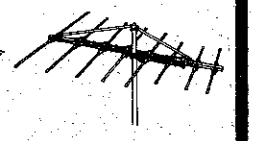
GOLD ALODIZED* TV/FM ANTENNAS, REPLACEMENT TV ANTENNAS, UHF CONVERTERS, AMPLIFIERS, COUPLERS AND TRAPS, MASTS, HARDWARE AND ACCESSORIES

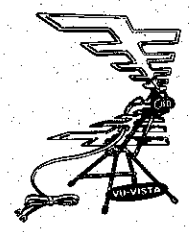
*Attractive, Anti-corrosive, Armor

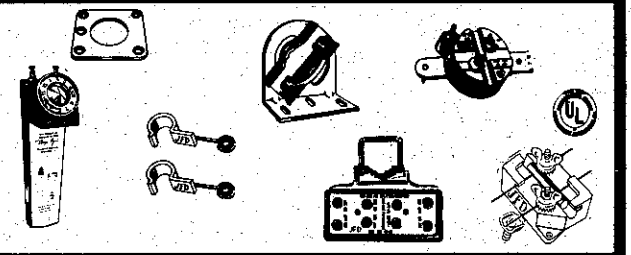

Log Periodic VHF/UHF/FM LPV-VU

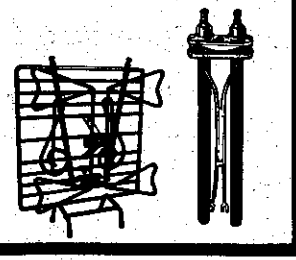

Log Periodic VHF LPV

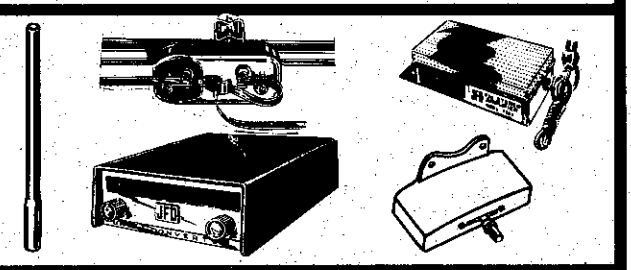

Log Periodic UHF LPV


Log Periodic FM/FM Stereo









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JFD GOLD ALODIZED LPV LOG PERIODIC ANTENNAS

DEVELOPED BY THE UNIVERSITY OF ILLINOIS* ANTENNA RESEARCH LABORATORY, PROVED-OUT IN AIR FORCE SATELLITE TELEMETRY

—THIS HISTORIC NEW PRINCIPLE ENDS THE "ERA OF COMPROMISE" IN TV ANTENNA DESIGN

- IT COULD ONLY HAVE BEEN PRODUCED by such massed resources as those of a prominent university, the military, and the country's leading antenna manufacturer.
- BECAUSE ITS GAIN IS INDEPENDENT OF FREQUENCY, the end-fired log-periodic LPV functions with total efficiency across the entire band—**is comparable on any channel to a tuned Yagi cut to that channel.**
- ON VIRTUALLY EVERY COUNT IT OUTPERFORMS PREVIOUS WIDE-BAND ARRAYS: in gain, in directivity, in bandpass, in front-to-back ratio. Develops gain as high as 7 db on low band and 10 db on high band in the 11-element model. Shows flat response across all 12 channels — with greater gain on the high band, where it's needed most. Result: An all-channel, all-purpose antenna with unprecedented power, a decisive end to snow and ghosts, and the truest color reception yet—as well as vivid sharpness in black-and-white. And the basic log-periodic LPV principle can be adapted to any future UHF antenna needs.
- NOT A "CATCH-ALL COMPROMISE"—the log-periodic LPV signals a halt to the endless piling-on of narrow-band elements and trimmers. Derived from an antenna geometry that repeats the electrical properties of the antenna periodically with the logarithm of the frequency, it is essentially **frequency-independent.** (Actually, the basic log-periodic design is capable of receiving a range as broad as 54 to 890 mcs. or broader.)
- DEVELOPED TO MEET THE AIR FORCE'S RIGOROUS STANDARDS OF RELIABILITY, RUGGEDNESS, HIGH PERFORMANCE—built to uncompromising JFD specifications—of AAA† Gold Bond Alodized aircraft aluminum for **enduring good looks.** 100% PREASSEMBLED FLIP-QUICK CONSTRUCTION—with new JFD "tank-turret" aluminum brackets that align and double-lock elements instantly, permanently in place.
- RECEIVES FM, TOO—delivers drift-free, distortion-free FM stereo.

antenna with unprecedented power, a decisive end to snow and ghosts, and the truest color reception yet—as well as vivid sharpness in black-and-white. And the basic log-periodic LPV principle can be adapted to any future UHF antenna needs.

- MORE, FAR MORE, THAN JUST A "FRINGE" SOLUTION, the log-periodic LPV achieves superior reception in **all** multi-channel areas. It is the first true "universal" antenna. And it will open key profit opportunities to you in the months ahead—not only because it puts better reception within the reach of virtually every TV set-owner, but because it enables you for the first time to **meet all antenna needs with a single antenna line.**
- **Corrosion-proof stainless steel take-off terminals for twin lead.**

Licensed under one or more of U.S. patents 2,958,081; 2,985,879; 3,011,168; 3,108,-280; 3,150,376 and additional patents pending in U.S.A. and Canada. Produced by JFD Electronics Corporation under exclusive license from the University of Illinois Foundation.

LOG-PERIODIC

$$LPV\ \frac{L_{(n+1)}}{L_n} = \tau$$

*Antenna Research Laboratory

Harmonically resonant V-elements operating on the Log-Periodic Cellular Principle in the Fundamental and Third Harmonic Modes!

FOR THE BEST PICTURE, COLOR AND BLACK & WHITE-USE THE BEST ANTENNA	MODEL	DESCRIPTION	LIST PRICE		Suggested Dealer Prices 1-4	5-11	12 & UP
 up to 175 miles	LPV17	18 Active Cell and director system	59.95		35.97	32.37	29.98
 up to 150 miles	LPV14	15 Active Cell and director system	49.95		29.97	26.97	24.98
 up to 125 miles	LPV11	11 Active Cell and director system	39.95		23.97	21.57	19.98
 up to 100 miles	LPV8	8 Active Cell and director system	29.95		17.97	16.17	14.98
 up to 75 miles	LPV6	6 Active Cell system	21.95		13.17	11.85	10.98
 up to 50 miles	LPV4	4 Active Cell system	14.95		8.97	8.07	7.48

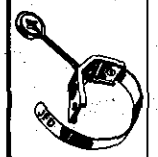
2-in-1 MAST STRAP FOR COMBINATION SCREWEYE

JFD	Cat. No. Twin Lead Insulator	Cat. No. Universal Insulator	Description	Minimum Pkg.		List Price
	GG100 Galvanized		With nut insert in buckle For 2-in-one screweye	100		.12
	SS100 Stainless		With nut insert in buckle For 2-in-one screweye	100		.15

2-in-1 COMBINATION STANDOFFS Combination Wood & Machine Screweye

	For VHF	For UHF-VHF				
	W3	Y3	3 1/2" Two-in-One Standoff	100		.05
	W5	Y5	5 1/2" Two-in-One Standoff	100		.08
	W7	Y7	7 1/2" Two-in-One Standoff Wood & machine screweye	100		.09
	IW7	IY7	7 1/2" Inline Wood & machine screweye	100		.22

NUT BUCKLE COMPLETE WITH MACHINE THREAD SCREWEYES

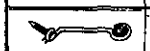
	NUT3(galv)	NUT3U	3 1/2" Machine Screw Eye with NUT Buckle and galvanized strap	100		.15
	NUT7(galv)	NUT7U	7 1/2" Machine Screw Eye with NUT Buckle and galvanized strap	100		.19
	SNUT3 Stainless	SNUT3U	3 1/2" Machine Screw Eye with NUT Buckle and ss. strap	100		.21
	SNUT7 Stainless	SNUT7U	7 1/2" Machine Screw Eye with NUT Buckle and ss. strap	100		.24

U. S. Patent No. 2909170

IMP BUCKLES AND STRAP

	IMP100(galv) Galvanized		IMP buckle with 9" galvanized strap-100 to carton	100		.12
	SIMP100 Stainless (ss)		IMP buckle with 9" stainless steel strap -100 to carton	100		.15

IMP SCREWEYES

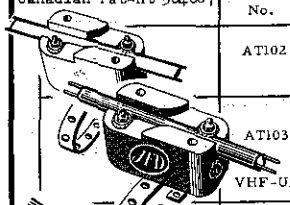
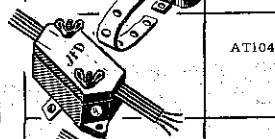
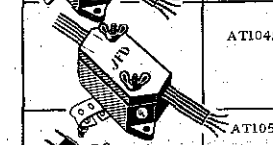
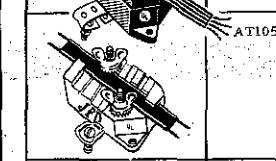
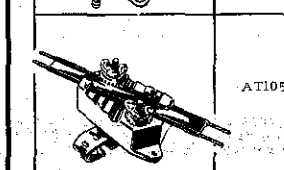
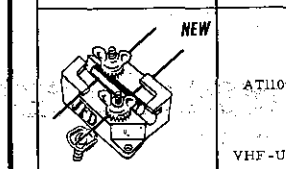
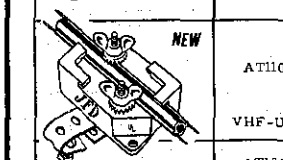
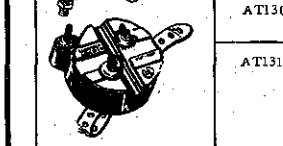
	T3	U3	3 1/2" Wood Screweye	100		.044
	T5	U5	5 1/2" Wood Screweye	100		.08
	T7	U7	7 1/2" Wood Screweye	100		.09
	IT7	IU7	7 1/2" Inline Double Wood Screweye	100		.22
	SPT125	SPU125	1 1/4" od Mast Snap-On	100		.12
	HN1	HNU	3 1/2" Hot Nail Masonry Drive-In Screweye	100		.16
	NT1	NU1	4" Drive-In Nail #8 wire	100		.09
	NT2	NU2	4" Drive-In Nail #6 wire	100		.10
	DT1	DU1	5 1/2" Single Drive-In Masonry Nail	100		.20

PAL STAND-OFFS

	PAL213		3 1/2" PAL Wood Screw Eye	100		.13
	PAL217		7 1/2" PAL Wood Screw Eye	100		.16
	PAL2177		7 1/2" Inline Double PAL Screw Eye	50		.31
	PAL125		1 1/4" od Mast Snap-On PAL	100		.24

U.S. Patent No. 2654857
U.S. Patent No. D159330
Canadian Patent 501067

LIGHTNING ARRESTERS UL APPROVED

	Cat. No.	Description			List Price
	AT102	Jumbo Arrester VHF			3.00
	AT103 VHF-UHF	Jumbo Arrester VHF-UHF			3.00
	AT104	4-wire Rotator Arrester			2.25
	AT104S	4-wire Rotator Arrester w/strap			2.50
	AT105	Little Giant			1.25
	AT105S	Little Giant w/strap			1.50
	NEW AT110 VHF-UHF	3-in-1 Arrester VHF-UHF Redesigned to fit all heavy duty leads including Belden 8285			2.00
	NEW AT110S VHF-UHF	3-in-1 Arrester w/strap VHF-UHF Redesigned to fit all heavy duty leads including Belden 8285			2.25
	AT130	Economy Arrester packed in bulk			.70
	AT131	Economy Arrester w/strap packed individually			.75

JFD

NOW — THE ANTENNA AMERICA KNOWS BEST IN THE KIT THAT SELLS BEST!

JFD LOG-PERIODIC TV/FM ANTENNA KITS!

$\frac{L_{(n+1)}}{L_n} = \tau$ —FEATURING HARMONICALLY RESONANT V-ELEMENTS OPERATING ON THE LOG-PERIODIC CELLULAR PRINCIPLE IN THE FUNDAMENTAL AND THIRD HARMONIC MODES

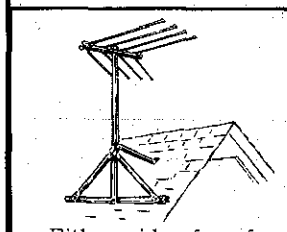
Take the tremendous popularity of the nation's most demanded antenna, add premium-quality installation accessories and you've got the antenna combination that zooms sales—the JFD Log-Periodic LPV TV/FM Antenna Kit.
You have your choice of any one of three Log-Periodic LPV antennas — the dramatic new antenna concept developed by the Antenna Research Laboratories of the University of Illinois and adapted for TV/FM reception by JFD. Regardless of location . . . local, suburban, or near fringe, there is a Log-Periodic LPV kit that will give your customer spectacular reception results in COLOR, black and white, and FM stereo.

Versatile is the word for the JFD 3-way Tri-Mount and Mast. Goes up in minutes on flat, slanted or vertical surface...on eave, end, or peak of roof. Needs no guy wires. Made of lustrous gold Alodized aluminum.

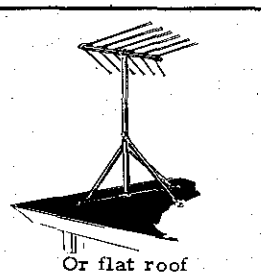
- Deliver **More** Yet Cost No More!
- Engineered for Maximum Picture Power — **Color** and Black and White
- Styled to Improve Home Appearance
- Provides Superb FM Stereo
- Complete Ready-to-Install Kit
- Ideal for Attics, Mobile Homes, Cottages
- **Corrosion-proof stainless steel take-off terminals for twin lead.**

Licensed under one or more of U.S. patents 2,985,881; 2,985,892; 3,013,169; 3,108,280; 3,150,376 and additional patents pending in U.S.A. and Canada. Produced by JFD Electronics Corporation under exclusive license from the University of Illinois Foundation.

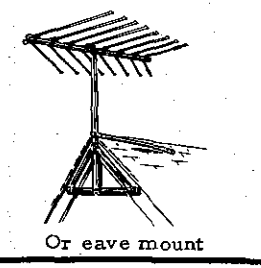
MODEL	DESCRIPTION	LIST PRICE		Suggested Dealer Prices 1	2-11	12 & UP
LPV4PM	4 Active Cells for LOCAL USE UP TO 50 MILES FROM TRANSMITTER.	21.95		13.17	11.85	10.98
LPV6PM	6 Active Cells for up to 75 miles from transmitter.	29.95		17.97	16.17	14.93
LPV8PM	8 Active Cells and director system for up to 100 miles from transmitter.	37.95		22.77	20.49	18.98


Either side of roof

- One LPV4 Log-Periodic LPV Gold Alodized TV/FM antenna
- Gold Alodized Aluminum Universal Tri-mount with 5 ft. Gold Mast.
- 50 ft. twin lead
- 3 wood screw-eyes
- 2 mast stand-offs
- 3 self-sealing drive-in nails


Or flat roof

- One LPV6 Log-Periodic LPV Gold Alodized TV/FM antenna
- Gold Alodized Aluminum Universal Tri-mount with 5 ft. Gold Mast.
- 50 ft. twin lead
- 3 wood screw-eyes
- 2 mast stand-offs
- 3 self-sealing drive-in nails


Or eave mount

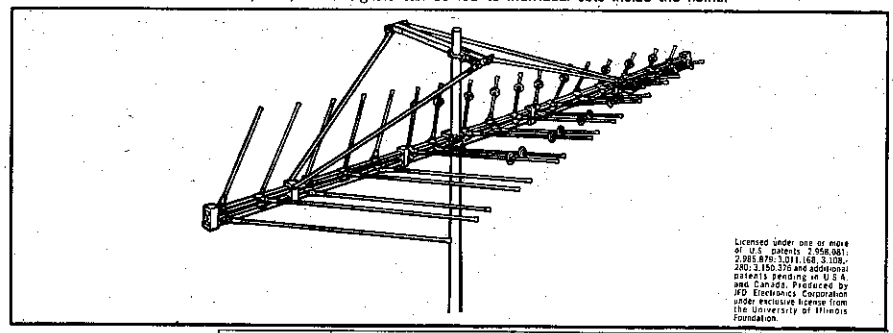
- One LPV8 Log-Periodic LPV Gold Alodized TV/FM antenna
- Gold Alodized Aluminum Universal Tri-mount with 5 ft. Gold Mast.
- 50 ft. twin lead
- 3 wood screw-eyes
- 2 mast stand-offs
- 3 self-sealing drive-in nails

JFD NEW! VHF/UHF/FM CAP ELECTRONIC LOG PERIODIC FOR CHANNELS 2 TO 83 PLUS FM-FM STEREO

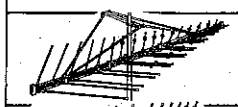
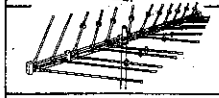
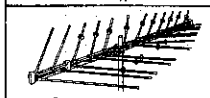
again JFD advances the state-of-the-antenna art by teaming the new capacitor-coupled dipole concept to the matchless log periodic configuration.

- **the first single combination antenna that provides high gain performance across the entire VHF-UHF-FM band**
- **only one downlead into the home**
- **operates on unique patented frequency independent log periodic concept of the University of Illinois Antenna Research Laboratories**
- **twin booms for extra strength and rigidity**
- **factory assembled for fast and easy installation**
- **includes JFD AC80 Splitter for feeding separate signals to VHF and UHF terminals of TV set and to FM tuner terminals**
- **gold alodized aluminum—corrosion-proof stainless steel terminals for twin lead**

Never before an antenna like this. Tomorrow's antenna today. Only JFD patented frequency independent log periodic design makes possible this universal VHF-UHF-FM antenna that operates with such amazing efficiency across every TV and FM band. Delivers stunningly sharp color or black and white pictures on **every** channel—plus living FM stereo—all through one downlead to your home. Solid aluminum bus bar transformers maintain maximum signal transfer under severest weather changes. Trussed top suspension boom brace permits use with rotators. So advanced in design it includes JFD AC80 VHF-UHF Signal Splitters so separate UHF, VHF, & FM signals can be fed to individual sets inside the home.



Licensed under one or more of U.S. patents 2,958,081; 2,985,879; 3,011,168; 3,109,-180; 3,150,376 and additional patents pending in U.S.A. and Canada. Produced by JFD Electronics Corporation under exclusive license from the University of Illinois Foundation.

	MODEL	DESCRIPTION	LIST PRICE	Suggested Dealer Prices 1	2-11	12 & UP
	LPV-VU18	18 Active Cells VHF-up to 175 miles UHF-up to 90 miles FM-up to 75 miles	69.95	41.97	37.77	34.98
	LPV-VU15	15 Active Cells VHF-up to 150 miles UHF-up to 90 miles FM-up to 60 miles	59.95	35.97	32.37	29.98
	LPV-VU12	12 Active Cells VHF-up to 125 miles UHF-up to 65 miles FM-up to 50 miles	49.95	29.97	26.97	24.98
	LPV-VU9	9 Active Cells VHF-up to 100 miles UHF-up to 40 miles FM-up to 40 miles	39.95	23.97	21.57	19.98
	LPV-VU6	6 Active Cells VHF-up to 75 miles UHF-up to 25 miles FM-up to 30 miles	27.50	16.50	14.85	13.75

INDOOR MULTIPLE SET COUPLERS — SERVICE-SAVER

	MODEL	DESCRIPTION	LIST PRICE	
	BC2	2-set TV or TV/FM Indoor Coupler	3.20	Standard of the industry. Low loss multiple set couplers. High inter-set isolation. 300 ohm impedance. Packaged with hardware for indoor mounting. New NO STRIP terminals.
	BC3	3-set TV or TV/FM Indoor Coupler	3.65	
	BC4	4-set TV or TV/FM Indoor Coupler	4.25	
	RA2	2-set TV or TV/FM Economy Coupler	1.65	The most popular low cost coupler for use in high signal-strength areas. 300 ohm impedance.
	TT2	2-set TV or TV/FM Economy Bifilar coil Coupler	3.95	The finest TV or TV/FM two set coupler. Low loss Ferrite-core transformer provides excellent inter-set isolation and minimum insertion loss.

OUTDOOR MATCHING TRANSFORMERS — SERVICE-SAVER

	AC50	72-300 ohm Matching Trans.	3.95	Accurately matches 72 ohm unbalanced coaxial cable to balanced 300 ohm twin-lead. Low loss design so that two transformers can be used back-to-back where the shielded coaxial cable is used to reduce spurious noise. Packaged with hardware for indoor and outdoor mounting. New, heavy duty, NO STRIP terminals.

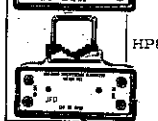
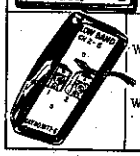
ANTENNA SWITCHING DEVICES — SERVICE-SAVER

	AS1	3-way Antenna Switch	3.95	
	AS2	2-way Antenna Slide Switch	2.95	
	AS3	3-way DeLuxe Antenna Switch	4.95	Perfect for fringe area multiple antenna installations. Low capacity switches for minimum insertion loss.
	AS4	4-way DeLuxe Antenna Switch	5.95	

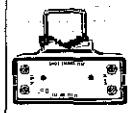
ATTENUATOR SWITCHES — SERVICE-SAVER

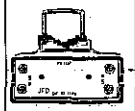
	AS5	3 Position Lever Switch Attenuator. 0-15-25 db attenuation.	4.95	Ideal where adjustable attenuation is required to relieve overloaded TV set. 300 ohm impedance. Indoor mounting hardware.

INTERFERENCE ELIMINATORS — SERVICE-SAVER

	HP50	High pass filter.	5.50	Passes all frequencies above 54 mc. Specifically designed to eliminate interference from amateur radio stations, citizens band, police, etc. Sharp cutoff below 54 mcs. Indoor mounting hardware. 300 ohm impedance, New, NO STRIP terminals.
	HP88	Mid-Frequency Interference Eliminator 90-160 mc.	5.95	Sharp, band stop filter. Eliminates interference from amateur radio stations, police, etc. 300 ohm impedance. Indoor mounting hardware. New NO STRIP terminals.
	WT26	Lo-band Inter. Elim. Ch. 2-6	5.50	Capacitively tuned wave traps for narrow rejection characteristics shuts out interfering signals. Completely variable notch frequency. Indoor mounting hardware.
	WT713	Hi-band Inter. Elim. Ch. 7-13	5.50	

JFD SINGLE CHANNEL TV AND FM TRAPS — SERVICE-SAVER





MODEL	DESCRIPTION	LIST PRICE
TR2	TV Channel 2	8.95
TR3	TV Channel 3	8.95
TR4	TV Channel 4	8.95
TR5	TV Channel 5	8.95
TR6	TV Channel 6	8.95
TR7	TV Channel 7	9.95
TR8	TV Channel 8	9.95
TR9	TV Channel 9	9.95
TR10	TV Channel 10	9.95
TR11	TV Channel 11	9.95
TR12	TV Channel 12	9.95
TR13	TV Channel 13	9.95
TR-FM	FM Trap 88 to 108 mcs.	6.25

These single channel traps are designed to be used in areas where a strong local channel overloads the set causing it to be inoperative on the desired weaker channel. Can be connected before antenna amplifier to eliminate local channel overloading of the amplifier. Packaged with hardware for indoor or outdoor mounting. New, heavy duty NO-STRIP Terminals. 300 ohm impedance.

The TR-FM performs the same function as above where strong FM stations interfere with weaker TV channels. Packaged with hardware for indoor and outdoor mounting. New, heavy duty, NO-STRIP terminals. 300 ohm impedance.

TV-FM SIGNAL SEPARATOR



SS-TVFM	TV-FM Signal Separator Ideal for LPV antenna which brings in TV & FM signals	5.95

Takes a combined TV and FM signal and separates them for input to TV set and FM set. Also can be used to combine separate TV antenna, FM antenna into one downlead. Packaged with hardware for indoor and outdoor mounting. New, heavy-duty NO-STRIP terminals. 300 ohm impedance.

OUTDOOR ANTENNA COUPLERS HI-LO VHF-UHF — SERVICE-SAVER



AC10	VHF Hi-Lo (2-6)-(7-13) Coupler	4.00

Combines the output of any Ch. 2 to 6 antenna and any Ch. 7-13 antenna into one downlead. Combination of RLC high-pass and low-pass filters. 300 ohm impedance. 2 db, or less, insertion loss. Packaged for outdoor mounting. New, heavy duty NO-STRIP terminals.



AC20	VHF-UHF (2-13)-(14-83) Coupler	5.25

Used to combine the output of a separate UHF antenna and a separate VHF antenna in one downlead. Also used to separate a combined VHF-UHF signal into separate UHF and VHF signals for connection to the TV set. Low insertion loss. Packaged with hardware for indoor and outdoor mounting. New, heavy-duty, NO STRIP terminals. 300 ohm impedance.



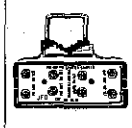
AC22 *NEW*	2-set VHF-UHF Coupler/Splitter for VHF & VHF-UHF sets.	8.95

For the two set VHF-UHF household. Couples two VHF-UHF sets or 1-VHF set to a 2nd VHF-UHF set together from one downlead with minimum loss. 300 ohm impedance. Packaged with hardware for indoor mounting. New, NO STRIP terminals.



AC30	VHF Hi-Lo (2-6)-(7-13) to UHF (14-83) Coupler	5.95

Combine any Hi-Lo VHF or VHF-UHF system of antennas into one downlead. Combination of RLC High-pass and low-pass filters. 300 ohm impedance. 2 db, or less, insertion loss. Packaged for outdoor mounting. New, heavy-duty, NO-STRIP terminals.



AC80 *NEW*	VHF-UHF-FM Coupler/Splitter for VHF and VHF-UHF sets.	8.95

Designed specifically for use with the LPV-VU-FM series of antennas. Separates the combined VHF, UHF and FM signals for input to their respective terminals on the TV set and FM set. Can also be used to combine the outputs of separate VHF, UHF and FM antennas into one downlead. Low insertion loss. 300 ohm impedance. Packaged with hardware for outdoor and indoor mounting. New, heavy duty, NO STRIP terminals.

OUTDOOR MULTIPLE SET COUPLERS — SERVICE-SAVER



AC40	2-set TV or TV/FM Outdoor Coupler	4.00
AC60	3-set TV or TV/FM Outdoor Coupler	4.50
AC70	4-set TV or TV/FM Outdoor Coupler	5.25

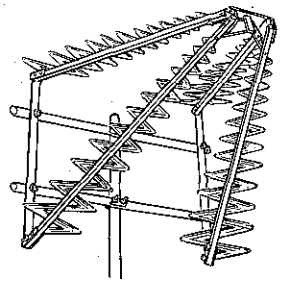
Ideal for running the downleads to a multiple set installation on the outside of the house. Low insertion loss and maximum inter-set isolation. 300 ohm impedance. Packaged with U-Bolt and hardware for mast mounting. New, heavy duty, NO STRIP terminals.

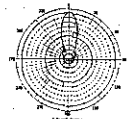
JFD NEW! GOLD ALODIZED ZIG-A-LOG UHF LOG PERIODIC TV ANTENNAS

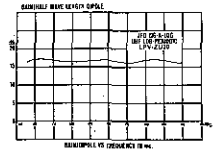
UHF ZIG-A-LOG

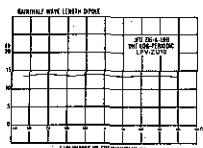
LOG-PERIODIC
PLANAR
HELICAL
FOR CHANNELS 14 to 83

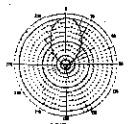
- **Patent pending frequency independent Log-Periodic cells** that perform with incredible broad band efficiency over the wide 1.9-to-1 range of UHF frequencies (470 mc-890 mc).
- **Meandering narrow-width geometrically-tapered planar helical elements** (in axial mode)—to achieve the acutely sharp directivity and high gains without sidelobes. Will overcome "snow," "ghosts," and "interference" which affect UHF reception.
- **Front fed to produce backfire performance** with resulting front-to-back ratio which is superior even to large screen reflectors and parabolics.
- **Corrosion-proof stainless steel take-off terminals for twin lead.**











For Deep Fringe Areas (up to 90 miles)

Cat. LPV-ZU20 $37.50, List
Zig-A-Log Log-Periodic Planar Helical in Axial Mode "E" Horizontal Plane Stacked Array

EQUALS GAIN OF PARABOLIC!

To satisfy locations requiring higher gain and directivity two Zig-a-Logs are combined into an ultra-sensitive and directive side-by-side stacked array. Provides gain comparable to larger parabolic reflectors—greatly reduced wind, snow and ice loading area.

DESIGNED EXPRESSLY FOR RECEPTION OF STATIONS IN ONE DIRECTION—UP TO 90 MILES

GAIN: 16 to 17 db.

DIRECTIVITY:
"E" Horizontal Plane Pattern:
25° ±2° Average Beamwidth
"H" Vertical Plane Pattern:
38° ±2° Average Beamwidth
Beamwidths are sufficiently wide to ease orientation—hold on transmitter beam.

VSWR: Under 2:1.

FRONT-TO-BACK RATIO: 28:1 average
EXCELLENT 300 OHM IMPEDANCE MATCH *AT ALL UHF FREQUENCIES*

OVERALL DIMENSIONS: 31" H x 29" W x 43" D

WEIGHT: 6 lbs.

For Fringe Areas (up to 60 miles)

Cat. LPV-ZU10 $17.95, List
Zig-A-Log Log-Periodic Planar Helical

Matches Performance of 8-Bay Bowtie-Reflector! . . . (without the wind loading of a large screen!)

Because of its extended length (in less space) the gain of the LPV-ZU10 Zig-a-Log is better than an 8-bay stack of bowties in front of a screen reflector.

MINOR LOBE LEVELS AVERAGE 19.1 db BELOW MAXIMUM DIRECTIVITY, GUARANTEES MAXIMUM GHOST REJECTION.

GAIN: 13.5 to 14. db.

DIRECTIVITY:
"E" Horizontal Plane Pattern:
48° ±3° Average Beamwidth
"H" Vertical Plane Pattern:
31° ±2° Average Beamwidth

VSWR: Under 1.8:1

FRONT-TO-BACK RATIO: 35:1 average

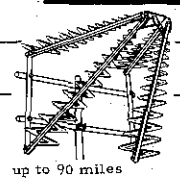
EXCELLENT 300 OHM IMPEDANCE MATCH AT ALL UHF FREQUENCIES.

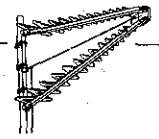
All size and spacing dimensions were precisely calculated according to Log-Periodic formulas to produce the best 300 ohm match ever achieved in TV antenna design on UHF frequencies 470 mc to 890 mc. This assures 100 per cent transmission of every decibel of gain of the Zig-a-Log to the down-lead.

OVERALL DIMENSIONS: 31" H x 8" W x 43" D

WEIGHT: 4 lbs.

Licensed under one or more of U.S. patents 2,808,601; 2,985,879; 3,017,638; 3,058,-280; 3,158,870 and additional patents pending in U.S.A. and Canada. Produced by JFD Electronics Corporation under exclusive license from the University of Illinois Foundation.


up to 90 miles


up to 60 miles

MODEL	DESCRIPTION	LIST PRICE	Suggested Dealer Prices 1	2-11	12 & UP
LPV-ZU20	E-plane stacked Zig-A-Log (equal to or better than 12-bay bowtie or large parabolic)	37.50	22.50	20.25	18.75
LPV-ZU10	1-bay Zig-A-Log (equal to or better than 8-bay bowtie)	17.95	10.77	9.69	8.98

JFD NEW! GOLD ALODIZED UHF LOG PERIODIC TV ANTENNAS

Licensed under one or more of U.S. patents 2,792,981; 2,985,879; 3,011,168; 3,118,148; 3,267,476 and 3,150,376 and additional patents pending in U.S.A. and Canada. Produced by JFD Electronics Corporation under reference license from The University of Illinois Foundation



the first UHF antenna design based on the patented Log-Periodic LPV formula of the *Antenna Research Laboratories of the University of Illinois!*

FOR UNEQUALLED COLOR-BLACK AND WHITE TV ON CHANNELS 14 TO 83

—PLUS VHF HIGH BAND PERFORMANCE!



EXCLUSIVE FREQUENCY INDEPENDENT STACKING FOR +3 db UHF GAIN AND +1½ db VHF, 7 to 13 GAIN

Frequency independent Log Periodic stacking preserves the LPV-U's excellent impedance match and maintains constant gain and uniform operation.

No. J187 Stacking Transformer $3.00 List

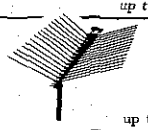
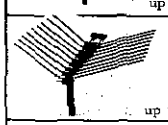


EXCLUSIVE DUO-ORIENTING STACKING — ELIMINATES NEED FOR ROTORS

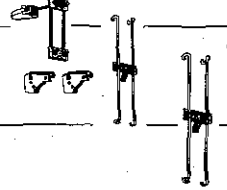
Any two LPV-U's (same or different) can be oriented in different directions, when mounted together with special J185 Special stacking transformer without a rotor.

No. J185 Duo-Orienting Stacking Transformer $2.50, List

- **30% to 50% more effective** gain and directivity than corner reflectors and grid screen bowtie-reflectors.
- **Excellent front-to-back ratios** and 300 ohm impedance match maintain exceptionally **flat** response across **entire** UHF band.
- Also deliver superior reception on **VHF Channels 7 to 13**—an exclusive JFD feature.
- ***Pinpoint horizontal beam* sharpness** seeks out desired UHF channels — shuts out ghosts and interference.
- Elements made of indestructible **gold alodized solid aluminum** rod that knows no climate, stays like new.
- **Factory-preassembled — not a single screw to tighten**—*just unpack and* mount on mast in seconds.
- ***Rigidized* one-piece** construction — all parts are fixed in position.
- **Bantam-sized inline design** offers least wind and ice loading area.
- Can be stacked for **additional +3 db UHF and +1½ db Channels 7 to 13 gain where needed.**

	MODEL	DESCRIPTION	LIST PRICE	Suggested Dealer Prices 1	2-11	12 & UP
 up to 80 miles	LPV-U21	21 Active Cells (VHF Channels 7-13) (UHF Channels 14-83)	27.95	16.77	15.09	13.98
 up to 60 miles	LPV-U15	15 Active Cells (VHF Channels 7-13) (UHF Channels 14-83)	18.95	11.37	10.23	9.48
 up to 40 miles	LPV-U9	9 Active Cells (VHF Channels 7-13) (UHF Channels 14-83)	12.50	7.50	6.75	6.25
 up to 25 miles	LPV-U5	5 Active Cells (VHF Channels 7-13) (UHF Channels 14-83)	6.95	4.17	3.75	3.48
	LPV-U5-Ind.		7.65	4.59	4.13	3.82

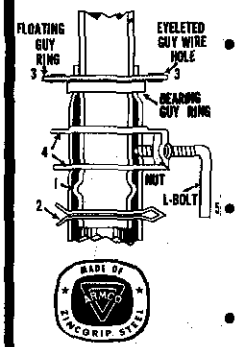
LPV-U STACKING TRANSFORMERS

	J185	Duo-orienting stack transformers for any 2 LPV-UHF antenna.	2.50	1.50	1.35	1.25
	J187	Freq. Indep. stack transformers for LPV-U5, U9, U15	3.00	1.80	1.62	1.50
	J188	Freq. Indep. stack transformers for LPV-U21	2.50	1.50	1.35	1.25

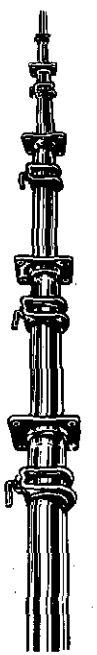
JFD STEEL AND ALUMINUM TUBING

COMPARE THESE OUTSTANDING FEATURES WITH ANY OTHER MAKE!

SEE WHY JFD TELESCOPING TUBING IS YOUR BEST BUY!



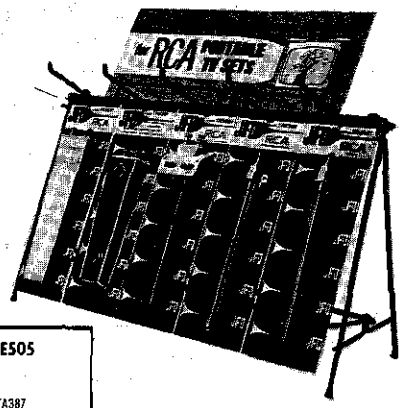
- ARMCO HOT DIP GALVANIZED ZINC-GRIP HIGH CARBON STEEL TUBING
  ARMCO'S 50 years of experience assures matchless quality throughout. The hot dip zinc coating bonds itself to both inside and outside of tempered steel surfaces. Actually self-sealing, it closes surrounding zinc over scratches or breaks preventing any rust.
- INTERLOCKING SECTIONS WITH BEADED SAFETY RING
  No slipping, twisting, or shaking. No pulling out of sections from one another. Safety knurls maintain tight fit.
- HEAVY DUTY COTTER PIN SUPPORT
  Notched expanded bottoms of each section rests on heavy-duty supporting cotter fastener -- automatically line up locking bolts with T-nuts.
- HEAVY GAUGE GUY RING WITH EYE-LETTED HOLES
  New, improved square guy ring with eyeletted holes prevents chafing or tearing of guy wires. Floats freely on bearing below --never binds.
- NEW DOUBLE-DECK THRUST BEARING (AND SCREW EYE SUPPORT)
  Double-deck design doubles strength and endurance. Threaded hole takes standard wood screw eye stand-off.
- POWERFUL L-BOLT LOCK
  Extra husky L-bolt locks mast sections easily and securely. Cleanly machined threads keep antenna trouble-free during and after installation.



Model No.	Height	Section Gauges	Outer Dimensions
ECONOMY HI-CARBON STEEL TUBING			
M20	20 ft.	18-18	1-1/4"-1-1/2"od
M30	30 ft.	18-18-20	1-1/4"-1-1/2"-1-3/4"od
M40	40 ft.	18-18-20-20	1-1/4"-1-1/2"-1-3/4"-2"od
M50	50 ft.	18-18-20-20-18	1-1/4"-1-1/2"-1-3/4"-2"-2-1/4"od
DELUXE HEAVY-DUTY HI-CARBON STEEL TUBING			
TM20	20 ft.	16-16	1-1/4"-1-1/2"od
TM30	30 ft.	16-16-18	1-1/4"-1-1/2"-1-3/4"od
TM40	40 ft.	16-16-18-18	1-1/4"-1-1/2"-1-3/4"-2"od
TM50	50 ft.	16-16-18-18-18	1-1/4"-1-1/2"-1-3/4"-2"-2-1/4"od
HI-TEST CARBON PERMA-LOK STEEL TUBING			
M516	5 ft.	16	1-1/4"od
M518	5 ft.	18	1-1/4"od
M520	5 ft.	20	1-1/4"od
M1016	10 ft.	16	1-1/4"od
M1018	10 ft.	18	1-1/4"od
M1020	10 ft.	20	1-1/4"od
M1516	10 ft.	16	1-1/2"od
ECONOMY LOCK SEAM STEEL TUBING			
M55	5 ft.	20	1-1/4"od
M100	10 ft.	20	1-1/4"od
HI-TENSILE STRENGTH ALUMINUM MAST			
A519 Silver Al.	5 ft.	.042 (19 ga.)	1-1/4"od
A719 Silver Al.	7 1/2 ft.	.042 (19 ga.)	1-1/4"od
A1016 Silver Al.	10 ft.	.058 (16 ga.)	1-1/4"od
A1019 Silver Al.	10 ft.	.042 (19 ga.)	1-1/4" od
GAN519 Gold Alod.	5 ft.	.042 (19 ga.)	1-1/4"od
GAN719 Gold Alod.	7 1/2 ft.	.042 (19 ga.)	1-1/4"od
GAN1016 Gold Alod.	10 ft.	.058 (16 ga.)	1-1/4"od
GAN1019 Gold Alod.	10 ft.	.042 (19 ga.)	1-1/4"od

PLUS—SPECIAL EXACT REPLACEMENT ANTENNA MERCHANDISING KITS FOR RCA, PHILCO, GE, ADMIRAL, MOTOROLA, SYLVANIA AND WESTINGHOUSE TV DEALERS

Here is a smart and timely profit maker for franchised television dealers! Specially packaged, specially priced, these JFD Kits talk the language of "mainline" TV dealers. Each kit features a handsome FREE self-selling counter or window display of the portable TV antennas most in demand by individual brand—with cross-reference wall chart, sales plan and streamer.



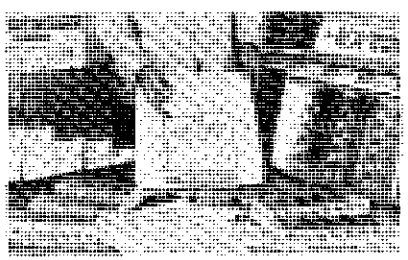
BUY THESE 5 ANTENNAS—THE DISPLAY IS FREE

RCA 505 DEALER KIT No. RCA505 Dealer Net $15.95 One Each of 5 Antennas Nos. TA357, TA359, TA369, TA398, TA413 Plus JFD merchandising helps.	**GE 505 DEALER KIT No. GE505** Dealer Net $18.95 One Each of 5 Antennas Nos. TA442, TA360, TA362, TA363, TA387 Plus JFD merchandising helps.	
ZENITH 505 DEALER KIT No. ZEN505 Dealer Net $17.95 Consisting of Nos. 2-TA373, 1-TA388, 2-TA402 Plus JFD merchandising helps.	**ADMIRAL 505 DEALER KIT No. ADM505** Dealer Net $13.95 One Each of 5 Antennas Nos. TA155, TA361, TA370, TA371, TA399 Plus JFD merchandising helps.	**SYLVANIA 505 DEALER KIT No. SYL505** Dealer Net $16.95 One Each of 5 Antennas Nos. TA442, TA381, TA382, TA397, TA408 Plus JFD merchandising helps.
PHILCO 505 DEALER KIT No. PHI505 Dealer Net $15.95 One Each of 5 Antennas Nos. TA385, TA386, TA390, TA391, TA407 Plus JFD merchandising helps.	**MOTOROLA 505 DEALER KIT No. MOT505** Dealer Net $12.95 Consisting of Nos. 1-TA359, 2-TA364, 2-TA379 Plus JFD merchandising helps.	**WESTINGHOUSE 505 DEALER KIT No. WES505** Dealer Net $14.95 One Each of 5 Antennas Nos. TA155, TA366, TA367, TA374L, TA374R Plus JFD merchandising helps.

DEALER KIT No. PA500

1 Each of 5 Antennas

Here is the original kit that established tens of thousands of service-dealers in the profitable new field of portable and tote-able antenna replacements. Made up of 5 basic JFD Exact Replacement Antennas plus a set of sales helps, the PA500 Exact Replacement Antenna Kit costs only $15.00—the best investment any dealer can make in the future of his business.



JFD ANTENNA MODEL	SUGG. RETAIL	DEALER NET
TA154	$3.95	2.37
TA155	4.95	2.97
TA359	4.50	2.70
TA442	3.95	2.37
TOTAL	25.00	
		11.95 SPECIAL DEALER NET

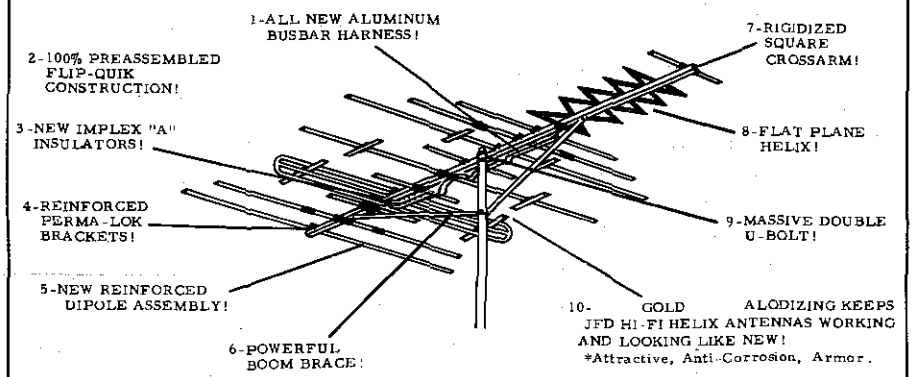
"EXACT REPLACEMENT PORTABLE TV ANTENNA HEADQUARTERS" STREAMERS PLUS OUTLINE OF COMPLETE DEALER SALES PROMOTION PLAN.

JFD AAA GOLD ALODIZED HI-FI HELIX COLORTENNAS

U. S. Patent No. 2923007

	MODEL	DESCRIPTION	LIST PRICE	Suggested Dealer Prices 1	2-11	12 & UP
For local reception	MX200	13 Work. Elmts. Metro-Helix	13.20	7.92	7.13	6.60
	MX211 AAA Gold Bond Alod.	14 Work. Elmts. Mini-Helix	14.95	8.97	8.07	7.48
50 miles	JX311 AAA Gold Bond Alod.	15 Work. Elmts. Junior-Helix	18.75	11.25	10.12	9.38
75 miles	RX511 AAA Gold Bond Alod.	17 Work. Elmts. Super-Helix	21.95	13.17	11.85	10.98
100 miles	SX711 AAA Gold Bond Alod.	23 Work. Elmts. Star-Helix	30.50	18.30	16.47	15.25
	SX711-S AAA Gold Bond Alod.	2-Bay SX711G 46 Work. Elmts. Star-Helix	63.50	38.10	34.29	31.75
125 miles	PX911 AAA Gold Bond Alod.	26 Work. Elmts. Power-Helix	37.50	22.50	20.25	18.75
150 miles	VX1111 AAA Gold Bond Alod.	31 Work. Elmts. Satellite-Helix	49.50	29.70	26.73	24.75

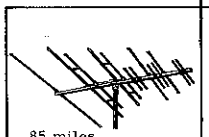
10 ELECTRONIC AND MECHANICAL DESIGN ADVANCES THAT DELIVER MORE OF WHAT YOU ARE LOOKING FOR!



JFD — AAA GOLD ALODIZED HI-FI BANSHEE BROAD BAND ANTENNAS

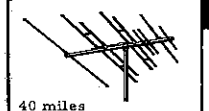
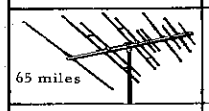
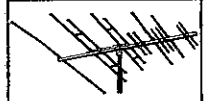
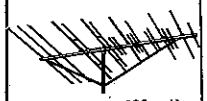
Heavy Duty Dipoles

Features heavy-duty dipole assembly (1" and 3/8" od) plus all features illustrated below.

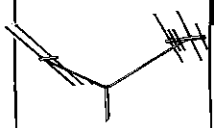
	MODEL	DESCRIPTION	LIST PRICE	Suggested Dealer Prices 1	2-11	12 & UP
 85 miles	For up to 85 miles AN400 AAA Gold Bond Alod.	19-Work. Elmts. Heavy-Duty Banshee	27.65	16.59	14.93	13.83
 125 miles	For up to 125 miles ANS400 AAA Gold Bond Alod.	30-Work. Elmts. Heavy-Duty Banshee	41.00	24.60	22.14	20.50

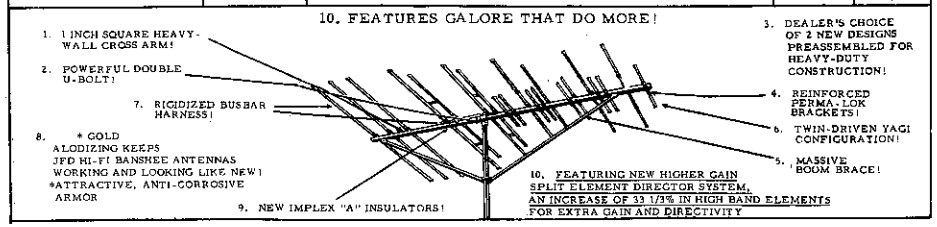
Completely Preassembled Dipoles

Features completely preassembled construction (1/2" and 3/8" od dipoles), plus all features below.

 40 miles	Local reception up to 40 miles AN250 AAA Gold Bond Alod.	13-Work. Elmts. Pre-assembled Banshee	23.60	14.16	12.74	11.80
 65 miles	For up to 65 miles AN350 AAA Gold Bond Alod.	17-Work. Elmts. Pre-assembled Banshee	25.70	15.42	13.88	12.85
 85 miles	For up to 85 miles AN450 AAA Gold Bond Alod.	19-Work. Elmts. Pre-assembled Banshee	27.65	16.59	14.93	13.83
 125 miles	For up to 125 miles ANS450 AAA Gold Bond Alod.	30-Work. Elmts. Pre-assembled Banshee	41.00	24.60	22.14	20.50

BOOSTER PAK

	ANDP400 AAA Gold Bond Alod	Booster-Pak.. Converts 19 elmt. Banshee AN400 to 30 work elmts. ANS400	14.60	8.76	7.88	7.30
	ANDP450 AAA Gold Bond Alod	Booster-Pak Converts 19 elmt Banshee, AN450 to 30 work. elmts. ANS450	14.60	8.76	7.88	7.30



JFD GOES ALL THE WAY WITH NEW *FREE* SELF-SELLING CONSUMER DISPLAYS

FOR EXACT PORTABLE TV ANTENNA REPLACEMENTS

DEALER KIT No. PA530
2 Each of 15 Antennas—(30 Total Antennas)

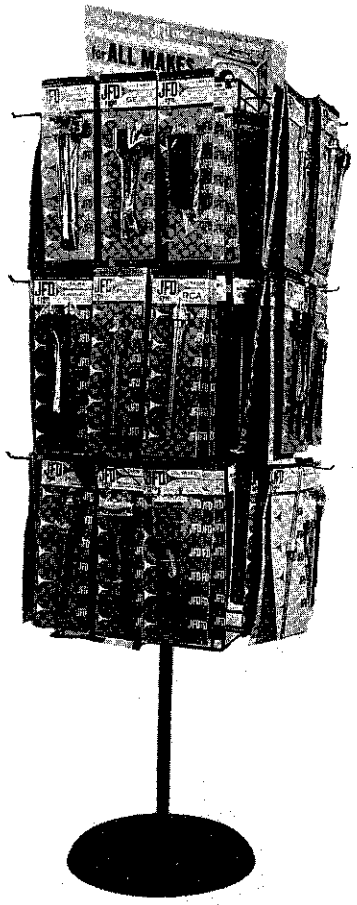
Here is just what profit-minded dealers need to make more money in the booming exact replacement antenna market:

1. Two each of 15 models most in demand plus...
2. A FREE self-merchandising display rack.

Thousands of this unique self-selling display are now in use. Entirely self-supported, this compact display sells silently and effectively from all angles.

Each packs tremendous sales power in very little area -- only four square feet of floor space! The display is shipped to you pre-assembled. All you do is attach the handsome sign that comes with the display.

If you want to get into the thriving portable TV antenna market in a big way -- the JFD PA530 Merchandiser Kit is the smart, economical way to do it!



SUGGESTED RETAIL: $202.55

DEALER NET: 101.28

YOUR PROFIT $101.27

2 each of the following. No UHF antennas—plus the option of replacing slow-moving numbers with fast-selling ones.

Model	Sugg. Retail	Dealer Net Each	Model	Sugg. Retail	Dealer Net Each
TA155	$4.95	$2.48	TA371	$6.25	$3.13
TA359	4.50	2.25	TA373	8.25	4.13
TA360	7.65	3.83	TA385	6.25	3.13
TA361	5.50	2.75	TA386	4.25	2.13
TA362	9.75	4.88	TA387	7.65	3.83
TA363	9.75	4.88	TA398	4.95	2.48
TA369	8.25	4.13	TA402	6.95	3.48
TA370	6.25	3.13			
			Total	$202.30	$101.28

REFER TO "JFD EXACT REPLACEMENT ANTENNA GUIDE" FOR COMPLETE CROSS REFERENCE LISTINGS; JFD VS. MANUFACTURERS ANTENNA NUMBERS, FORM # 634.

JFD EXACT REPLACEMENT TV ANTENNAS

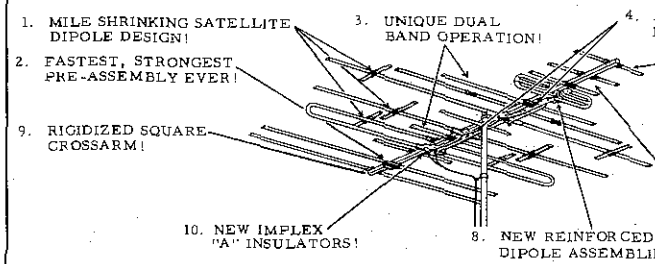
Skin-Packed Model	Box-Packed Model	TV Set Mfr.	Sugg. Inst. Price	Sugg. Retail Price	Suggested Dealer Resale Prices 1-4	5-11	12-Up
TA464	TA464-BX	ADMIRAL	9.95	6.95	4.17	3.75	3.48
TA465	TA465-BX	EMERSON	9.95	6.95	4.17	3.75	3.48
TA466	TA466-BX	RCA	9.95	6.95	4.17	3.75	3.48
TA467	TA467-BX	ZENITH	12.25	9.25	5.55	4.99	4.63
TA468	TA468-BX	GENERAL ELECTRIC	10.65	7.65	4.59	4.13	3.83
TA469	TA469-BX	GENERAL ELECTRIC	10.65	7.65	4.59	4.13	3.83
TA470	TA470-BX	GENERAL ELECTRIC	10.65	7.65	4.59	4.13	3.83
TA471	TA471-BX	GENERAL ELECTRIC	10.65	7.65	4.59	4.13	3.83
TA472	TA472-BX	EMERSON	9.95	6.95	4.17	3.75	3.48
TA473	TA473-BX	SYLVANIA	12.75	9.75	5.85	5.26	4.88
TA474	TA474-BX	SYLVANIA	10.65	7.65	4.59	4.13	3.85
TA475 UHF	TA475-BX	GENERAL ELECTRIC	5.95	2.95	1.77	1.59	1.48
TA476	TA476-BX	GENERAL ELECTRIC	10.65	7.65	4.59	4.13	3.83
TA543 UHF	TA543-BX	EMERSON	4.50	1.50	.90	.81	.75

GENERAL ELECTRIC, HOTPOINT, MAGNAVOX, PHILCO, RCA, PACKARD BELL, ZENITH

JFD AAA GOLD ALODIZED HI-FI FIREBALL BROAD BAND ANTENNAS

MODEL	DESCRIPTION	LIST PRICE			Suggested Dealer Prices 1	2-11	12 & UP
FB201 AAA Gold Bond Alod. (25 miles)	4-Work. Elmts. Fireball	8.20			4.92	4.43	4.10
FB490 AAA Gold Bond Alod. (50 miles)	9-Work. Elmts. Fireball	15.97			9.58	8.62	7.99
FB500 AAA Gold Bond Alod. (75 miles)	9-Work. Elmts. Twin-Driven Fireball	16.67			10.00	9.00	8.34
FB510 AAA Gold Bond Alod. (100 miles)	14-Work. Elmts. Twin-Driven Fireball	27.50			16.50	14.85	13.75
FB520 AAA Gold Bond Alod. (125 miles)	24 Work. Elmts. Triple-Driven Fireball	37.50			22.50	20.25	18.75

11 ELECTRICAL AND MECHANICAL REASONS WHY JFD HI-FI FIREBALLS ARE THE BEST BUY!



AAA* GOLD ALODIZED

...AT NO EXTRA COST...TO KEEP LOOKING LIKE NEW, WORKING LIKE NEW! EXCEEDS REQUIREMENTS OF MIL-C-5541 and MIL-S-5002 GOVERNMENT SPECIFICATIONS *

JFD AAA GOLD ALODIZING immerses your antenna in a gleaming golden electro-chemical bath that actually becomes a permanent part of the aluminum. This costly iridescent finish beautifies the antenna . . . protects it by preventing corrosion or discoloration from atmospheric gases or salt air . . . fights off dust and soot that impairs antenna performance.

And your lustrous gold alodized coating will never flake, peel or chip. It is as flexible and durable as the aluminum to which it is bonded . . . actually heals itself from damage.

*Attractive, Anti-Corrosion, Alodine treated.

JFD AAA GOLD ALODIZING is unlike other anodized films that insulate antenna contact points. Instead, it is electrically conductive to insure maximum signal transfer to antenna terminals.

The same alodized coating (less the gold color) meets Military Specifications for use on almost all spacecraft.

* Salt Spray and color fastness data available on request.

JFD

AAA GOLD ALODIZED — VHF ALL-CHANNEL CONICAL YAGIS

MODEL	DESCRIPTION	LIST PRICE	Suggested Dealer Prices 1	2-11	12 & UP
JET213	1-Bay Super Jet For 65-70 miles Performance-proved in over 250,000 installations out where the fringe begins. Flat-plane multi-element yagi-design.	13.90	8.34	7.51	6.95
JET213-S	2-Bay Super-Jet For 80-90 miles Features: 1" sq. alum. boom; tubular alum. dowels; double U-bolt, capped ends, 600 ohm dipole, wide-spacing.	28.50	17.10	15.39	14.25
JET513	1-Bay Pip-Jet For 65-70 miles The popular-priced companion to the mighty Super-Jet. A great buy	11.25	6.75	6.07	5.63
JET513-S	2-Bay Pip-Jet For 80-90 miles Features: tubular aluminum dowels, 1" sq. alum. boom; capped ends, and other quality JFD construction features.	23.05	13.83	12.45	11.53

AAA GOLD ALODIZED — 5 EL LO-BAND WIDE-SPACED YAGIS

5Y2	Channel 2	13.75	8.25	7.42	6.88
5Y3	Channel 3	13.05	7.83	7.05	6.53
5Y4	Channel 4	12.35	7.41	6.67	6.18
5Y5	Channel 5	11.40	6.84	6.16	5.70
5Y6	Channel 6	10.70	5.78	6.78	5.35

1" sq. Al. crossarm-600 ohm dipoles. 1/2" sleeve reinforced elmts., Al. brackets.
Recommended for areas: 50-85 miles from transmitter, under normal receiving conditions. 25-60 miles distant from station where terrain or atmosphere hinders signals.

AAA GOLD ALODIZED — 5 EL HI-BAND WIDE-SPACED YAGIS

5Y7	Channel 7	5.85	3.51	3.16	2.93
5Y8	Channel 8	5.85	3.51	3.16	2.93
5Y9	Channel 9	5.85	3.51	3.16	2.93
5Y10	Channel 10	5.85	3.51	3.16	2.93
5Y11	Channel 11	5.85	3.51	3.16	2.93
5Y12	Channel 12	5.85	3.51	3.16	2.93
5Y13	Channel 13	5.85	3.51	3.16	2.93

1" sq. Al. crossarm-600 ohm dipoles. 1/2" sleeve reinforced elmts., Al. brackets.
Recommended for areas: 50-85 miles from transmitter, under normal receiving conditions. 25-60 miles distant from station where terrain or atmosphere hinders signals.

AAA GOLD ALODIZED — 6 EL LO-BAND PACE-SETTER YAGI

6Y26	Channel 2 thru 6	21.15	12.69	11.42	10.58

1" sq. Aluminum Crossarm - 600 ohm dipoles. 1/2" sleeved Aluminum Brackets. Reinforced elements.
The perfect antenna answer in locations where good reception is wanted on more than one low band channel within a 30-65 mile radius of transmitters.

AAA GOLD ALODIZED — 10 EL LO-BAND WIDE-SPACED YAGIS

10Y2	Channel 2	27.80	16.68	15.01	13.90
10Y3	Channel 3	26.35	15.81	14.23	13.18
10Y4	Channel 4	24.30	14.58	13.12	12.15
10Y5	Channel 5	24.30	14.58	13.12	12.15
10Y6	Channel 6	22.94	13.76	12.38	11.47

1" sq. Al. crossarm-600 ohm dipoles. 1/2" sleeve reinforced elmts., Al. brackets.
Performance proved: In locations 100-150 miles distant from transmitters over uniform terrain. In rolling or irregular country 50-100 miles distant.

REFER TO "JFD EXACT REPLACEMENT ANTENNA GUIDE" FOR COMPLETE CROSS REFERENCE LISTINGS; JFD VS. MANUFACTURERS ANTENNA NUMBERS, FORM # 634.

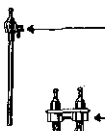
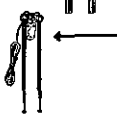
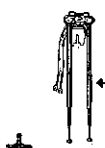
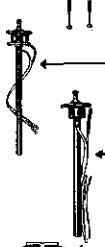
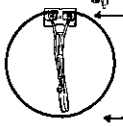
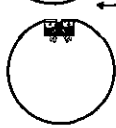
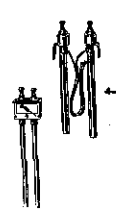
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EXACT REPLACEMENT TV ANTENNAS

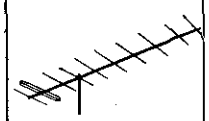
Skin-Packed Model	Box-Packed Model	TV Set Mfr.	Sugg. Inst. Price	Sugg. Retail Price	Suggested Dealer Resale Prices 1-4	5-11	12-Up
TA450	TA450-BX	EMERSON	9.95	6.95	4.17	3.73	3.48
TA451	TA451-BX	GENERAL ELECTRIC	9.95	6.95	4.17	3.75	3.48
TA452	TA452-BX	GENERAL ELECTRIC	9.95	6.95	4.17	3.75	3.48
TA453	TA453-BX	GENERAL ELECTRIC	9.95	6.95	4.17	3.75	3.48
TA454	TA454-BX	GENERAL ELECTRIC	9.95	6.95	4.17	3.75	3.48
TA455	TA455-BX	GENERAL ELECTRIC	9.95	6.95	4.17	3.75	3.48
TA456	TA456-BX	GENERAL ELECTRIC	9.95	6.95	4.17	3.75	3.48
TA457	TA457-BX	WESTINGHOUSE	9.95	6.95	4.17	3.75	3.48
TA458 UHF	TA458-BX	WESTINGHOUSE	4.25	1.25	.75	.68	.63
TA459	TA459-BX	GENERAL ELECTRIC	11.25	8.25	4.95	4.45	4.13
TA460	TA460-BX	SYLVANIA	9.95	6.95	4.17	3.75	3.48
TA461	TA461-BX	RCA	9.95	6.95	4.17	3.75	3.48
TA462	TA462-BX	ADMIRAL	10.65	7.65	4.59	4.13	3.83
TA463	TA463-BX	ADMIRAL	11.25	8.25	4.95	4.45	4.13

REFER TO "JFD EXACT REPLACEMENT ANTENNA GUIDE" FOR COMPLETE CROSS REFERENCE LISTINGS; JFD VS. MANUFACTURERS ANTENNA NUMBERS, FORM # 634.

JFD EXACT REPLACEMENT TV ANTENNAS

	Skin-Packed Model	Box-Packed Model	TV Set Mfr.	Sugg. Inst. Price	Sugg. Retail Price	Suggested Dealer Resale Prices 1-4	5-11	12-UP
	TA440	TA440-BX	GENERAL ELECTRIC	12.95	9.95	4.17	3.75	3.48
	TA441	TA441-BX	WESTINCHOUSE	12.25	9.25	5.55	4.99	4.63
	TA442	TA442-BX	DUMONT TRAVLER EMERSON MUNTZ OLYMPIC SILVERTONE SENTINEL SONORA GENERAL ELECTRIC HOTPOINT HOFFMAN SYLVANIA	6.95	3.95	2.37	2.13	1.98
	TA443	TA443-BX	WESTINGHOUSE	7.25	4.25	2.55	2.29	2.13
	TA444	TA444-BX	OLYMPIC	10.65	7.65	4.59	4.13	3.83
	TA445	TA445-BX	OLYMPIC	10.65	7.65	4.59	4.13	3.83
	TA446 UHF	TA446-BX UHF	GENERAL ELECTRIC	5.95	2.95	1.77	1.59	1.48
	TA447 UHF	TA447-BX UHF	ADMIRAL MOTOROLA PHILCO	5.95	2.95	1.77	1.59	1.48
	TA448	TA448-BX	ZENITH	9.95	6.95	4.17	3.75	3.48
	TA449	TA449-BX	ADMIRAL	12.25	9.25	5.55	4.99	4.63

JFD AAA GOLD ALODIZED 10 EL HI-BAND PACE-SETTER YAGIS

	MODEL	DESCRIPTION	LIST PRICE	Suggested Dealer Prices 1	2-11	12 & UP
 100-150 miles	10Y7	Channel 7	11.10	6.66	5.99	5.55
	10Y8	Channel 8	11.10	6.66	5.99	5.55
	10Y9	Channel 9	11.10	6.66	5.99	5.55
	10Y10	Channel 10	11.10	6.66	5.99	5.55
	10Y11	Channel 11	11.10	6.66	5.99	5.55
	10Y12	Channel 12	11.10	6.66	5.99	5.55
	10Y13	Channel 13	11.10	6.66	5.99	5.55

Performance proved: In locations 100-150 miles distant from transmitters over uniform terrain. In rolling or regular country 50-100 miles distant from transmitter. 1" sq. crossarm - 600 ohm dipoles. 1/2" sleeved reinforced elements and aluminum brackets.

AAA GOLD ALODIZED 10 EL PACE-SETTER BROAD-BAND YAGI


75-125 miles

10Y26 — Channels 2 thru 13 — 31.95 — 19.17 — 17.25 — 15.97

No better antenna for fringe areas where two or more low band channels are on the air. Pulls in crisp, steady pictures over 75-125 miles where terrain is even and 50-100 miles where conditions are poor. 1" sq. crossarm - 600 ohm dipoles. 1/2" sleeved reinforced elements and aluminum brackets.

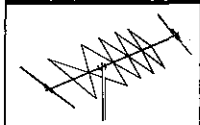
AAA GOLD ALODIZED 10 EL PACE-SETTER HI-BAND YAGI


50-100 miles

10Y713 — Channels 7 thru 13 — 14.60 — 8.76 — 7.88 — 7.30

Engineered for multi-high-band channels 50-100 miles under favorable receiving circumstances and 30-80 miles under adverse conditions. 1" sq. crossarm - 600 ohm dipoles. 1/2" sleeved reinforced elements and aluminum brackets.

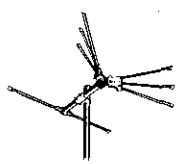
AAA GOLD ALODIZED VHF CHANNEL 7 thru 13 YAGI-HELIX



YH713 — Yagi-Helix Channels 7 thru 13 — 12.95 — 7.77 — 6.99 — 6.48

This is it for moderate to strong areas with two or more high band channels. Features famous JFD high gain helix design.

AAA GOLD ALODIZED VHF ALL-CHANNEL JETENNA CONICAL

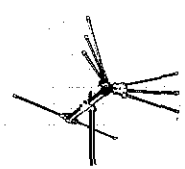


Assembles Faster! Performs Better! 3,000,000 in use today! The famous conical with the original time-saving labor-saving "jet-action" preassembly that made antenna history. Now...faster-than-ever... stronger than ever...more sensitive than ever.

JET160	1 Bay JeTenna	11.55	6.93	6.24	5.78
JET161	2 Bay JeTenna	24.75	14.85	13.36	12.38

AAA Gold Bond Alod.

Seamless aluminum element series



JET660 AAA Gold Bond Alod.	1 Bay JeTenna	8.60	5.16	4.64	4.30
JET661 AAA Gold Bond Alod.	2 Bay JeTenna 1" Sq. boom tub. dowels	17.95	10.77	9.69	8.98

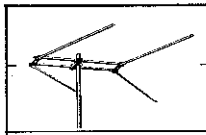
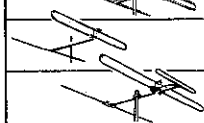
Butt-seam aluminum element series

JET661-SR AAA Gold Bond Alod.	2 Bay JeTenna solid rod 61ST6 alum. elem.	22.05	13.23	11.91	11.03

Solid aluminum element series

JFD

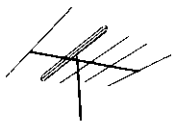
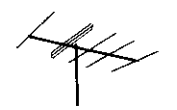
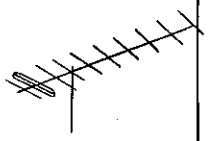
AAA GOLD ALODIZED — URBAN ALL-CHANNEL ANTENNAS

	MODEL	DESCRIPTION	LIST PRICE	Suggested Dealer Prices 1	2-11	12 & UP
	P800 Bulk	1 Bay Economy V Beam	4.85	2.91	2.62	2.48
	Q800 Bulk	1 Bay Deluxe V Beam w/built in Lightning Arr.	5.70	3.42	3.08	2.85
	QC4 Bulk	1 Bay Folded Dipole	5.30	3.18	2.86	2.65
	QC5 Bulk	2 Bay Folded Hi-Lo	7.75	4.65	4.18	3.88
	QC10 Bulk	1 Bay HF Folded Dipole	2.25	1.35	1.21	1.13
	QC150 Bulk	1 Bay Inline Hi-Lo	7.20	4.32	3.89	3.60

AAA GOLD ALODIZED — VHF-UHF V ANTENNA

	UN103	2 Bay Redwood	5.14	3.08	2.77	2.57

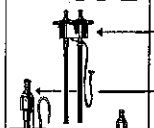
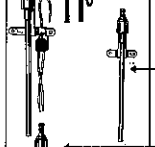
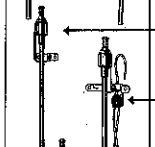
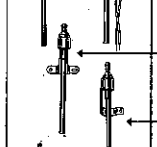
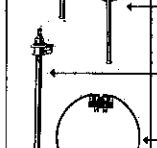
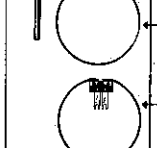
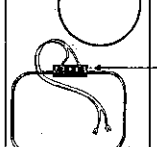
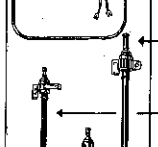
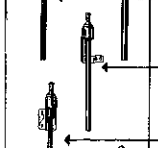
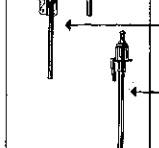
AAA GOLD ALODIZED — ECONOMY YAGIS

 50-75 miles		For 50-75 miles over flat country.				
	5Z2	5 El. (Ch. 2)	12.50	7.50	6.75	6.25
	5Z3	5 El. (Ch. 3)	12.25	7.35	6.61	6.13
	5Z4	5 El. (Ch. 4)	11.70	7.02	6.32	5.85
	5Z5	5 El. (Ch. 5)	10.30	6.18	5.56	5.15
	5Z6	5 El. (Ch. 6)	10.15	6.09	5.48	5.06
		600 ohm dipole, 1" round boom, improved element brackets.				
 50-75 miles	5Z7	5 El. (Ch. 7)	5.25	3.15	2.83	2.63
	5Z8	5 El. (Ch. 8)	5.25	3.15	2.83	2.63
	5Z9	5 El. (Ch. 9)	5.25	3.15	2.83	2.63
	5Z10	5 El. (Ch. 10)	5.25	3.15	2.83	2.63
	5Z11	5 El. (Ch. 11)	5.25	3.15	2.83	2.63
	5Z12	5 El. (Ch. 12)	5.25	3.15	2.83	2.63
	5Z13	5 El. (Ch. 13)	5.25	3.15	2.83	2.63
		600 ohm dipole, 1" round boom, improved element brackets.				
 100-125 miles		For 100-125 miles over flat country.				
	10Z2	10 El. (Ch. 2)	24.30	14.58	13.12	12.15
	10Z3	10 El. (Ch. 3)	23.60	14.16	12.74	11.80
	10Z4	10 El. (Ch. 4)	22.80	13.68	12.31	11.40
	10Z5	10 El. (Ch. 5)	21.95	13.17	11.85	10.98
	10Z6	10 El. (Ch. 6)	21.10	12.66	11.39	10.55
		600 ohm dipole - 1" round boom, boom braced, improved high-tension element brackets.				
 100-125 miles	10Z7	10 El. (Ch. 7)	8.50	5.10	4.59	4.25
	10Z8	10 El. (Ch. 8)	8.50	5.10	4.59	4.25
	10Z9	10 El. (Ch. 9)	8.50	5.10	4.59	4.25
	10Z10	10 El. (Ch. 10)	8.50	5.10	4.59	4.25
	10Z11	10 El. (Ch. 11)	8.50	5.10	4.59	4.25
	10Z12	10 El. (Ch. 12)	8.50	5.10	4.59	4.25
	10Z13	10 El. (Ch. 13)	8.50	5.10	4.59	4.25
		600 ohm dipole - 1" round boom, improved high-tension element brackets.				

REFER TO "JFD EXACT REPLACEMENT ANTENNA GUIDE" FOR COMPLETE CROSS REFERENCE LISTINGS; JFD VS. MANUFACTURERS ANTENNA NUMBERS, FORM # 634.

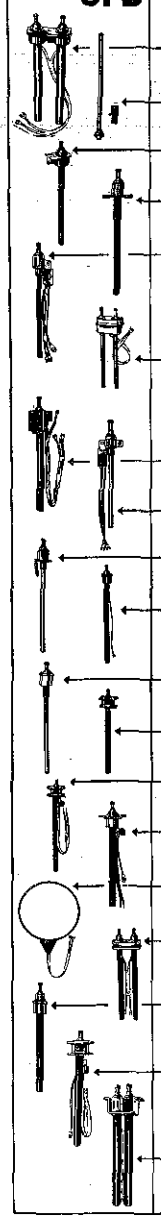
JFD

EXACT REPLACEMENT TV ANTENNAS

	Skin-Packed Model	Box-Packed Model	TV Set Mfr.	Sugg. Inst. Price	Sugg. Retail, each	Suggested Dealer Resale Prices 1-4	5-11	12-up
	TA424	TA424-BX	ZENITH	11.25	8.25	4.95	4.45	4.13
	TA425	TA425-BX	PHILCO	12.25	9.25	5.55	4.99	4.63
	TA426	TA426-BX	PHILCO	9.95	6.95	4.17	3.75	3.48
	TA427	TA427-BX	PHILCO	9.95	6.95	4.17	3.75	3.48
	TA428	TA428-BX	PHILCO	12.25	9.25	5.55	4.99	4.63
	TA429	TA429-BX	PHILCO	9.95	6.95	4.17	3.75	3.48
	TA430	TA430-BX	PHILCO	9.95	6.95	4.17	3.75	3.48
	TA431	TA431-BX	WESTINGHOUSE MOTOROLA PHILCO	9.25	6.25	3.75	3.37	3.13
	TA432 UHF	TA432-BX	RCA	5.95	2.95	1.77	1.59	1.48
	TA433 UHF	TA433-BX	GENERAL ELECTRIC	5.95	2.95	1.77	1.59	1.48
	TA434 UHF	TA434-BX	OLYMPIC	5.95	2.95	1.77	1.59	1.48
	TA435	TA435-BX	ADMIRAL VIKING	9.95	6.95	4.17	3.75	3.48
	TA436	TA436-BX	ADMIRAL VIKING	9.95	6.95	4.17	3.75	3.48
	TA437	TA437-BX	PHILCO	9.95	6.95	4.17	3.75	3.48
	TA438	TA438-BX	PHILCO	9.95	6.95	4.17	3.75	3.48
	TA439	TA439-BX	GENERAL ELECTRIC ZENITH	9.95	6.95	4.17	3.75	3.48

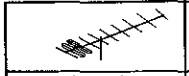
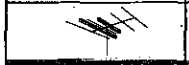
REFER TO "JFD EXACT REPLACEMENT ANTENNA GUIDE" FOR COMPLETE CROSS REFERENCE LISTINGS; JFD VS. MANUFACTURERS ANTENNA NUMBERS, FORM # 634.

JFD EXACT REPLACEMENT TV ANTENNAS

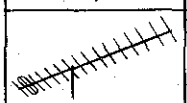
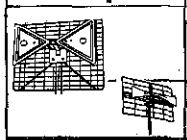


Skin-Packed Model	Box-Packed Model	TV Set Mfr.	Sugg. Inst. Price	Sugg. Retail, each	Suggested Dealer Resale Prices 1-4	5-11	12-up
TA405	TA405-BX	PHILCO	11.25	8.25	4.95	4.45	4.13
TA406	TA406-BX	SILVERTONE	7.25	4.25	2.55	2.29	2.13
TA407	TA407-BX	PHILCO	9.25	6.25	3.75	3.37	3.13
TA408	TA408-BX	SYLVANIA	7.95	4.95	2.97	2.67	2.48
TA409	TA409-BX	AIRLINE CORONADO W. T. GRANT BRADFORD TRUETONE WELLS GARDNER	12.25	9.25	5.55	4.99	4.63
TA410	TA410-BX	GENERAL ELECTRIC	12.75	9.75	5.85	5.26	4.88
TA411	TA411-BX	GENERAL ELECTRIC	10.65	7.65	4.59	4.13	3.83
TA412	TA412-BX	ADMIRAL VIKING	12.25	9.25	5.55	4.99	4.63
TA413	TA413-BX	RCA	7.95	4.95	2.97	2.67	2.48
TA414	TA414-BX	SYLVANIA	11.25	8.25	4.95	4.45	4.13
TA415	TA415-BX	MOTOROLA MAGNAVOX RCA	9.95	6.95	4.17	3.75	3.48
TA416	TA416-BX	PACKARD BELL	9.95	6.95	4.17	3.75	3.48
TA417	TA417-BX	OLYMPIC	12.25	9.25	5.55	4.99	4.63
TA418	TA418-BX	WELLS GARDNER	12.25	9.25	5.55	4.99	4.63
TA419 UHF	TA419-BX	UHF SILVERTONE CLIPS ON	6.50	3.50	2.10	1.89	1.75
TA420	TA420-BX	WESTINGHOUSE	11.25	8.25	4.95	4.45	4.13
TA421	TA421-BX	AIRLINE WESTINGHOUSE	9.95	6.95	4.17	3.75	3.48
TA422	TA422-BX	MUNTZ SYMPHONIC	12.25	9.25	5.55	4.99	4.63
TA423	TA423-BX	SYMPHONIC PHILHARMONIC TRUETONE	12.75	9.75	5.85	5.26	4.88

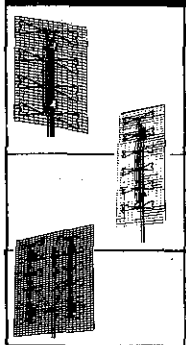
AAA GOLD ALODIZED — ECONOMY YAGIS

	MODEL	DESCRIPTION	LIST PRICE	Suggested Dealer Prices 1	2-11	12 & UP
	11Z713	10 El. Ch. 7-13 1" round boom, 600 ohm dipole, improved high tension brackets.	10.97	6.58	5.92	5.49
	6Z713 AAA Gold Bond Alod.	6 El. Ch. 7-13 1" round boom, 600 ohm dipole, improved high tension brackets.	7.65	4.59	4.13	3.83

AAA GOLD ALODIZED — UHF ANTENNAS

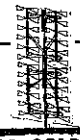
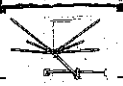
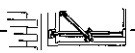
 25-50 miles	UHF202	4-Bow Stack Super-sensitive cardioid dipoles, new IMPLEX "A" insulators.	8.20	4.92	4.43	4.10
 75-100 miles	UHF208	8-Bow Stack Super-sensitive cardioid dipoles, new IMPLEX "A" insulators.	20.84	12.50	11.25	10.42
75-125 miles	UHF212	12 Bow Stack Super-sensitive cardioid dipoles, new IMPLEX "A" insulators.	35.14	21.08	31.63	17.57
 50-75 miles	UHF352	Alum. 12-El., Ultra-Yagi (Specify Channel No.) Wide-Spaced, all aluminum, free stacking transformers.	5.40	3.24	2.92	2.70
 100-125 miles	UHF356	Alum. 16-El Ultra-Yagi (Specify Channel No.) Wide-Spaced, all-aluminum, free stacking transformers.	8.20	4.92	4.43	4.10
 25-50 miles	UHF410	Alum. Corn. Reflect. Quantity net 250 per order, per location All Aluminum, preassembled, IMPLEX "A" insulators, deluxe.	7.60	4.56	4.10	3.80
 25 miles	UHF600	Bow Flector Aluminum dipole, preassembled IMPLEX "A" insulator, free stacking transformer.	5.40	3.24	2.92	2.70
20 miles	UHF615	Bow Tie Reflector Economy version of UHF600.	3.20	1.92	1.73	1.60

UHF TRANSLATOR MPATI ANTENNAS



Powerful reception channels 70 thru 83. Features powerful cardioid dipole, IMPLEX "A" insulators, ruggedized preassembled construction, broadband stacking for extra gain on translator channels. MPATI models are especially adapted to meet requirements of Strato-Vision programs.

TR1204 MPATI1204 50-75 miles	4-Bow Translator Educational TV antenna version of TR1204.	8.75	5.25	4.72	4.38
TR1206 MPATI1206 50-100 miles	6-Bow Translator Educational TV antenna version of TR1206.	10.95	6.57	5.91	5.48
TR1212 MPATI1212 75-100 miles	12-Bow Translator Educational TV antenna version of TR1212.	24.95	14.97	13.47	12.48

	MODEL	DESCRIPTION	LIST PRICE	Suggested Dealer Prices 1	2-11	12 & UP
	TR1224 MPAT1224 125-150 miles	24-Bow Translator Educational TV antenna version of TR1224.	49.50	29.70	26.73	24.75
AAA GOLD ALODIZED		**WINDOW ANTENNAS**				
	C119	Window Conical (Fits standard sash windows). Approved by N. Y. C. & Chicago Housing Authorities.	9.73	5.84	5.26	4.83
	EX30	Extends C119 base to fit 6 ft. span.	3.75	2.25	2.02	1.88
	EX119	Extends C119 base to fit 5 ft. span.	2.75	1.65	1.48	1.38
AAA GOLD ALODIZED		**STACKING TRANSFORMERS**				
	BT2-BT6	Makes Stacked Low Band Yagi. Specify Channel Desired.	1.75	1.05	.94	.88
	BT7-BT13	Makes Stacked High Band Yagi. Specify Channel Desired.	1.25	.75	.67	.63
42 3/4" 	J160	Makes JET161, JET661 (Butt Seam Aluminum)	1.50	.90	.81	.75
80 1/2" 	J162	Makes 4 Bay Jet Conical (Must be used with JC164 Stacking Trans.)	4.00	2.40	2.16	2.00
56" 	J163	Makes JET213-S	1.50	.90	.81	.75
34 1/2" 	JC164	For use with J162 to make short stacked 4-Bay JET (2-JC164's req).	1.10	.66	.59	.55
80 1/2" 	J165	Makes wide stacked JET213-S (Peaks channels 2-6).	4.00	2.40	2.16	2.00
51 9/16" 	J166	Makes stacked JET513-S	1.50	.90	.81	.75
42 3/4" 	J168	Makes stacked FB500-S	3.00	1.80	1.62	1.50
68" 	J169	To regular stack VX1111, high front-to-back ratio, FB500	1.75	1.05	.94	.88
96" 	J170	Makes wide stacked SX711-S, PX911-S and FB500-S. (Favors Ch. 2 thru 6)	4.00	2.40	2.16	2.00
23 5/8" 	J174	Converts UN103 into UN105	1.10	.66	.59	.55
92" 	J175	Makes stacked 5Y26-S, 10Y26-S	3.00	1.80	1.62	1.50
32" 	J178	Makes stacked 5Y713-S, 10Y713-S	1.50	.90	.81	.75
56" 	J179	Makes JX311-S, RX511-S, SX711-S. Also short-stacks old PX911 when attached to bazooka bar term. at rear.	2.50	1.50	1.35	1.25

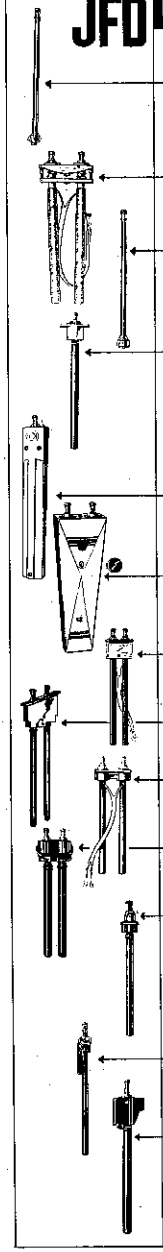
REFER TO "JFD EXACT REPLACEMENT ANTENNA GUIDE" FOR COMPLETE CROSS REFERENCE LISTINGS; JFD VS. MANUFACTURERS ANTENNA NUMBERS, FORM # 634.

JFD EXACT REPLACEMENT TV ANTENNAS

Skin-Packed Model	Box-Packed Model	TV Set Mfr.	Sugg. Inst. Price	Sugg. Retail, each	Suggested Dealer Resale Prices 1-4	5-11	12-up
TA388	TA388-BX	AIRLINE WELLS GARDNER TRAVLER	9.25	6.25	3.75	3.37	3.13
TA389	TA389-BX	EMERSON DUMONT	10.65	7.65	4.59	4.13	3.83
TA390	TA390-BX	PHILCO TRAVLER AMC SONORA TRUETONE	9.95	6.95	4.17	3.75	3.48
TA391	TA391-BX	PHILCO	9.95	6.95	4.17	3.75	3.48
TA392	TA392-BX	PHILCO	6.50	3.50	2.10	1.89	1.75
TA393	TA393-BX	DUMONT EMERSON	12.25	9.25	5.55	4.99	4.63
TA394	TA394-BX	OLYMPIC TRUETONE	12.25	9.25	5.55	4.99	4.63
TA395 UHF	TA395-BX	GENERAL ELECTRIC HOTPOINT	11.25	8.35	4.95	4.45	4.13
TA396	TA396-BX	AIRLINE	7.95	4.95	2.97	2.67	2.48
TA397	TA397-BX	SYLVANIA	10.65	7.65	4.59	4.13	3.83
TA398	TA398-BX	RCA	7.95	4.95	2.97	2.67	2.48
TA399	TA399-BX	ADMIRAL	9.25	6.25	3.75	3.37	3.13
TA400	TA400-BX	AIRLINE	9.95	6.95	4.17	3.75	3.48
TA401	TA401-BX	HOFFMAN SYMPHONIC	7.95	4.95	2.97	2.67	2.48
TA402	TA402-BX	ZENITH	9.95	6.95	4.17	3.75	3.48
TA403	TA403-BX	MAGNAVOX	9.95	6.95	4.17	3.75	3.48
TA404	TA404-BX	MAGNAVOX SILVERTONE SYLVANIA	7.25	4.25	2.55	2.29	2.13

REFER TO "JFD EXACT REPLACEMENT ANTENNA GUIDE" FOR COMPLETE CROSS REFERENCE LISTINGS; JFD VS. MANUFACTURERS ANTENNA NUMBERS, FORM # 634.

JFD EXACT REPLACEMENT TV ANTENNAS



Skin-Packed Model	Box-Packed Model	TV Set Mfr.	Sugg. Inst. Price	Sugg. Retail Price	Suggested Dealer Resale Prices 1-4	5-11	12-UP
TA375	TA375-BX	MOTOROLA SETCHELL CARLSON	7.25	4.25	2.55	2.29	2.13
TA376	TA376-BX	PACKARD BELL	12.75	9.75	5.85	5.26	4.88
TA377	TA377-BX	AIRLINE, TRUETONE AMC FIRESTONE SONORA TRAVLER TONECREST	7.25	4.25	2.55	2.29	2.13
TA378	TA378-BX	AIRLINE CORONADO DUMONT HOFFMAN TRUETONE	8.50	5.50	3.30	2.97	2.75
TA379	TA379-BX	MOTOROLA GENERAL ELECTRIC	10.65	7.65	4.59	4.13	3.83
TA380	TA380-BX	ZENITH GENERAL ELECTRIC	9.25	6.25	3.75	3.37	3.13
TA381	TA381-BX	SYLVANIA NATIONAL RADIO	11.25	8.25	4.95	4.45	4.13
TA382	TA382-BX	SYLVANIA	12.25	9.25	5.55	4.99	4.63
TA383	TA383-BX	SILVERTONE	12.25	9.25	5.55	4.99	4.63
TA384	TA384-BX	SILVERTONE	12.25	9.25	5.55	4.99	4.63
TA385	TA385-BX	CORONADO PHILCO SILVERTONE SONORA TRAVLER TRUETONE	9.25	6.25	3.75	3.37	3.13
TA386	TA386-BX	PHILCO	7.25	4.25	2.55	2.29	2.13
TA387	TA387-BX	GENERAL ELECTRIC HOTPOINT	10.65	7.65	4.59	4.13	3.83

	MODEL	DESCRIPTION	LIST PRICE	Suggested Dealer Prices 1	2-11	12 & UP
82"	J182 AAA Gold Bond Alod.	To stack all Banshee type antennas.	4.00	2.40	2.16	2.00
42 3/4"	JC160 AAA Gold Bond Alod.	Makes JET661G or any stacked conical.	1.10	.66	.59	.55
42 3/4"	ZIPJC AAA Gold Bond Alod.	Makes stacked ZIP conicals.	.70	.42	.38	.35

AAA GOLD ALODIZED ZIP CONICALS

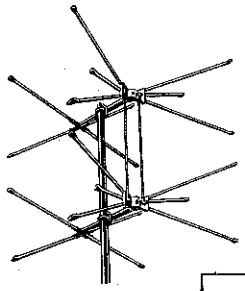
	ZIP1	1-Bay 6-El.	4.05	2.43	2.19	2.03
	ZIP12	2-Bay 6-El.	8.70	5.22	4.70	4.35
	ZIP121	2-Bay 6-El.	9.20	5.52	4.97	4.60
	ZIP2	1-Bay 6-El. w/HF El.	4.20	2.52	2.27	2.10
	ZIP22	2-Bay 6-El. w/HF El.	8.90	5.34	4.81	4.45
	ZIP221	2-Bay 6-El. w/HF El.	9.45	5.67	5.10	4.73
	ZIP3	1-Bay 6-El. w/HF Dir.	4.50	2.70	2.43	2.25
	ZIP32	2-Bay 6-El. w/HF Dir.	9.55	5.73	5.16	4.78
	ZIP321	2-Bay 6-El. w/HF Dir.	10.10	6.06	5.45	5.05
	ZIP4	1-Bay 8-El.	4.85	2.91	2.62	2.43
	ZIP42	2-Bay 8-El.	10.30	6.18	5.56	5.15
	ZIP421	2-Bay 8-El.	10.85	6.51	5.86	5.43
	ZIP5	1-Bay 8-El. w/HF El.	4.95	2.97	2.67	2.48
	ZIP52	2-Bay 8-El. w/HF El.	10.45	6.27	5.64	5.23
	ZIP521	2-Bay 8-El. w/HF El.	11.00	6.60	5.94	5.50
	ZIP6	1-Bay 8-El. w/HF Dir.	5.10	3.06	2.75	2.55
	ZIP62	2-Bay 8-El. w/HF Dir.	10.80	6.48	5.83	5.40
	ZIP621	2-Bay 8-El. w/HF Dir.	11.35	6.81	6.13	5.68

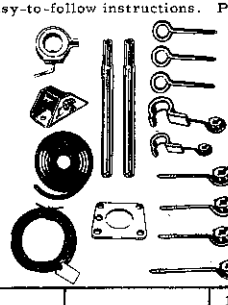
	MODEL	DESCRIPTION	LIST PRICE			Suggested Dealer Prices 1	2-11	12 & UP	
	ZIP9	1-Bay 8-El. Fan Front	4.50			2.70	2.43	2.25	
	ZIP92	2-Bay 8-El. Fan Front	9.55			5.73	5.16	4.78	
	ZIP921	2-Bay 8-El. Fan Front	10.10			6.06	5.45	5.05	

JFD

ZIP CONICAL ROOF MOUNT KITS
AAA GOLD ALODIZED

CUSTOM-made kits to suit your local needs, prepackaged in eye-catching 2-color consumer carton, are available on special order.
Complete with performance-proved all-aluminum ZIP conical, shown below, steel mast, lightning arrester, transmission line, screweyes, mast stand-offs, and base mount or chimney mount with easy-to-follow instructions. Perfect for the do-it-your selfers.





* The ZIP Conical of your choice as shown below.
* 1 - 5 ft. 1-1/4 gold alodized alum. mast for single bay, or two 5 ft. gold alodized alum. masts for two bay ZIPS.
* 1 - 50 ft. Twin lead.
* 1 - All-angle Base Mt.
* 1 - BR25 1-1/4 Guy Ring Clamp.
* 1 - 25 ft. - TW620 - 6/20 Guy Wire for single bay kits, or 50 ft. for stacked array antennas.
* 3 - BR33 - 3 Steel Guy Hooks.
* 1 - SPT125 Mast Snap-on for single Bay - 2 for stacked.
* 3 - T3 3" Screw eyes.
* 1 - T7 7" Screw eye.
* 1 - Inst. Sheet.

	MODEL	DESCRIPTION	LIST PRICE			Suggested Dealer Prices 1	2-11	12 & UP	
	ZIP11-RM	1-Bay ZIP11 Conical plus kit above	9.70			5.82	5.24	4.85	
	ZIP121-RM	2-Bay ZIP121 Conical plus kit above	16.25			9.75	8.77	8.13	
	ZIP21-RM	1-Bay ZIP21 Conical plus kit above	9.85			5.91	5.32	4.93	
	ZIP221-RM	2-Bay ZIP221 Conical plus kit above	16.40			9.84	8.86	8.20	
	ZIP421-RM	1-Bay ZIP41 Conical plus kit above	10.55			6.33	5.70	5.28	
	ZIP421-RM	2-Bay ZIP421 Conical plus kit above	17.65			10.59	9.53	8.83	
	ZIP51-RM	1-Bay ZIP51 Conical plus kit above	10.55			6.33	5.70	5.28	
	ZIP521-RM	2-Bay ZIP521 Conical plus kit above	17.90			10.74	9.67	8.95	
	ZIP91-RM	1-Bay ZIP91 Conical plus kit above	10.30			6.18	5.56	5.15	
	ZIP921-RM	2-Bay ZIP921 Conical plus kit above	16.95			10.17	9.15	8.48	

REFER TO "JFD EXACT REPLACEMENT ANTENNA GUIDE" FOR COMPLETE CROSS REFERENCE LISTINGS; JFD VS. MANUFACTURERS ANTENNA NUMBERS, FORM # 634.

JFD

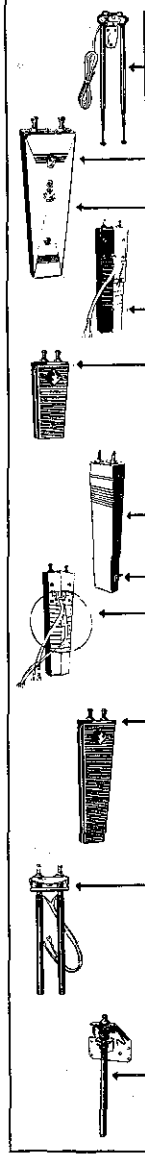
EXACT REPLACEMENT TV ANTENNAS

Skin-Packed Model	Box-Packed Model	TV Set Mfr.	Sugg. Inst. Price	Sugg. Retail, each	Suggested Dealer Resale Prices 1-4	5-11	12-up
TA362	TA362-BX	GENERAL ELECTRIC HOTPOINT	12.75	9.75	5.85	5.26	4.88
TA363	TA363-BX	GENERAL ELECTRIC HOTPOINT	12.75	9.75	5.85	5.26	4.88
TA364	TA364-BX	MOTOROLA PHILCO	6.50	3.50	2.10	1.89	1.75
TA365	TA365-BX	DELMONICO MOTOROLA PHILCO SILVERTONE	6.50	3.50	2.10	1.89	1.75
TA366	TA366-BX	WESTINGHOUSE AIRLINE	10.65	7.65	4.59	4.13	3.83
TA367	TA367-BX	WESTINGHOUSE	10.65	7.65	4.59	4.13	3.83
TA368	TA368-BX	AIRLINE CORONADO FIRESTONE HOFFMAN SILVERTONE SONORA TRAVLER TRANS AMERICAN TRUETONE	13.45	10.45	6.27	5.64	5.23
TA369	TA369-BX	RCA	11.25	8.25	4.95	4.45	4.13
TA370	TA370-BX	ADMIRAL VIKING FAIRBANKS MORSE	9.25	6.25	3.75	3.37	3.13
TA371	TA371-BX	ADMIRAL	9.25	6.25	3.75	3.37	3.13
TA372	TA372-BX	WESTINGHOUSE AIRLINE	11.25	8.25	4.95	4.45	4.13
TA373	TA373-BX	ZENITH	11.25	8.25	4.95	4.45	4.13
TA374L	TA374L-BX	WESTINGHOUSE	8.50	5.50	3.33	2.97	2.75
TA374R	TA374RBX	WESTINGHOUSE	8.50	5.50	3.33	2.97	2.75

REFER TO "JFD EXACT REPLACEMENT ANTENNA GUIDE" FOR COMPLETE CROSS REFERENCE LISTINGS; JFD VS. MANUFACTURERS ANTENNA NUMBERS, FORM # 634.

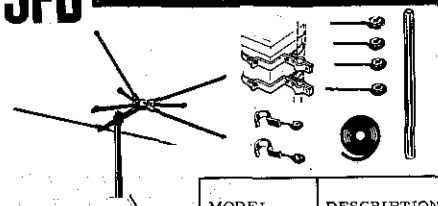
JFD EXACT REPLACEMENT TV ANTENNAS

PLEASE NOTE that all INSTALLED PRICES AND SUGGESTED RETAIL PRICES FOR Exact Replacement TV antennas are in conformance with recent recommendations of the Federal Trade Commission.

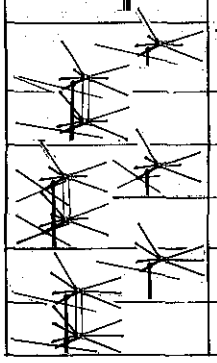


Skin-Packed Model	Box-Packed Model	TV Set Mfr.	Sugg. Inst. Price	Sugg. Retail, each	Suggested Dealer Resale Prices 1-4	5-11	12-up
TA142	TA142-BX	DUMONT GENERAL ELECTRIC HOTPOINT SILVERTONE	6.95	3.95	1.77	1.59	1.48
TA154	TA154-BX	ADMIRAL DUMONT	6.95	3.95	2.37	2.13	1.98
TA155	TA155-BX	ADMIRAL WESTINGHOUSE DUMONT	7.95	4.95	2.97	2.67	2.48
TA254	TA254-BX	RCA	7.95	4.95	2.97	2.67	2.48
TA355	TA355-BX	EMERSON RCA ZENITH GENERAL ELECTRIC HOTPOINT	7.75	4.75	2.85	2.56	2.38
TA356	TA356-BX	RCA	13.45	10.45	6.27	5.64	5.23
TA357	TA357-BX	RCA	13.45	10.45	6.27	5.64	5.23
TA358 U VHF F	TA358-BX	RCA	13.45	10.45	6.27	5.64	5.23
TA359	TA359-BX	DUMONT MAGNAVOX MOTOROLA PACKARD BELL PHILCO RCA SETCHELL CARLSON SILVERTONE	7.50	4.50	2.70	2.43	2.25
TA360	TA360-BX	ANDREA EMERSON GENERAL ELECTRIC HOTPOINT MUNTZ SILVERTONE PHILCO SPARTON DOMINION ELECTROHOME	10.65	7.65	4.59	4.13	3.83
TA361	TA361-BX	ADMIRAL	8.50	5.50	3.30	2.97	2.75

JFD AAA GOLD ALODIZED ZIP CONICAL CHIMNEY MOUNT KITS



* The ZIP Conical of your choice as shown below.
* 1 - 5 ft. 1-1/4 gold alodized alum. mast for single bay, or two 5 ft. alum. masts for two bay ZIPS.
* 1 - 50 ft. 80/20 Twin Lead.
* 1 - BR2 Z-Chimney mount with straps.
* 2 - SPT125 Mast Snap-on.
* 3 - T3 3" Screw eyes.
* 1 - T7 7" Screw eye.
* 1 - Inst. Sheet.

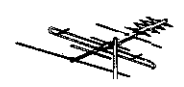


MODEL	DESCRIPTION	LIST PRICE			Suggested Dealer Prices 1	2-11	12 & UP
ZIP21-CH	1-Bay ZIP21 Conical plus kit above	11.00			6.60	5.94	5.50
ZIP221-CH	2-Bay ZIP221 Conical plus kit above	17.65			10.59	9.53	8.83
ZIP51-CH	1-Bay ZIP51 Conical plus kit above	12.35			7.41	6.67	6.18
ZIP521-CH	2-Bay ZIP521 Conical plus kit above	19.30			11.58	10.42	9.65
ZIP91-CH	1-Bay ZIP91 Conical plus kit above	11.25			6.75	6.07	5.63
ZIP921-CH	2-Bay ZIP921 Conical plus kit above	18.50			11.10	9.99	9.25

DELUXE TENNA PAKS

AAA GOLD ALODIZED

For up to 50 miles



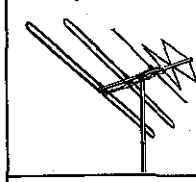
JX311-TP



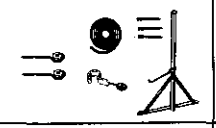
24.50		14.70	13.23	12.25

* 1 Bay JX311 Gold Bond Alodized Junior-Helix antenna.
* 1 Gold Bond Alodized aluminum 5 ft. Tri-mount mast.
* 50 ft. 80/20 Transmission line.
* 2-3 1/2" wood screw-eye stand-offs.
* 1 mast stand-off.
* 3-self-sealing drive-in-nails.

For up to 30 miles



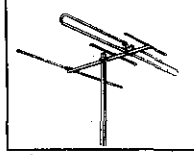
MX200-TP



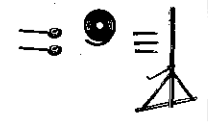
14.95		8.97	8.07	7.48

* 1-Bay MX200 Gold Bond Alodized Metro-Helix antenna.
* 1 Gold Bond Alodized aluminum 5 ft. Tri-mount mast.
* 50 ft. 80/20 Transmission Line.
* 2-3 1/2" wood screw-eye stand-offs.
* 1 mast stand-off.
* 3-self-sealing drive-in nails.

For up to 25 miles



FB201-TP



13.75		8.25	7.42	6.88

* 1-FB201 antenna.
* 1 Gold Bond Alodized aluminum 5 ft. Tri-mount mast.
* 1- 50 ft. 80/20 Twin-lead.
* 2-3 1/2" wood screw-eyes.
* 1 mast stand-off.
* 3- Self-sealing drive-in nails.

JFD NEW! LOG PERIODIC FM STEREO/FM ANTENNAS

■ FIRST **FULL**-WAVELENGTH L-DIPOLE Log Periodic antenna—achieves the highest gain ever in an FM antenna. (Patents Pending)

Ahead-of-the-industry JFD research pays off again with the most significant advance in FM antenna design in the last ten years—the Log Periodic for FM and FM Stereo.

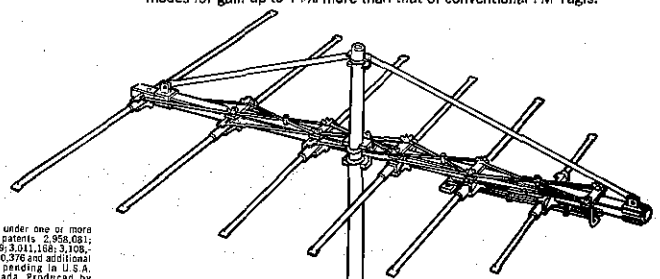
This new series overcomes especially the power loss and range limitations of multiplexed FM Stereo . . . offers the directivity needed to seek out distant stations . . . and enhances the high fidelity quality of budget priced systems. Fulfills the expected thrill of more expensive stereo systems.

Adapted by the JFD Research and Development Laboratories in Champaign, Illinois from the famous Log Periodic antenna discovery of the University of Illinois Antenna Research Laboratories, the new FM/FM Stereo LPL Log Periodics . . .

1. Deliver up to 41 per cent more gain than the best 10-element FM Yagi.
2. Really flat response across the 88-108 mc FM/FM Stereo band.
3. Highest front-to-back ratios.
4. Quality gold alodized aircraft aluminum.
5. Excellent mechanical construction from the strong over-head boom supports, ideal for rotor installations.
   - Corrosion-proof stainless steel take-off terminals for twin lead.

plus

our newest antenna design innovation—the frequency independent dipole "L" cell which operates on the fundamental **and harmonic** modes for gain up to 41% more than that of conventional FM Yagis.

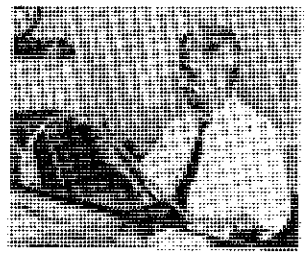


Licensed under one or more of U.S. patents 2,958,081; 2,985,879; 3,011,168; 3,108,280; 3,156,376 and additional patents pending in U.S.A. and Canada. Produced by JFD Electronics Corporation under exclusive license from the University of Illinois Foundation.

	MODEL	DESCRIPTION	LIST PRICE		Suggested Dealer Prices 1	2-11	12 & UP
up to 175 miles	LPL-FM10	10 cell system (58% more gain than best 10-element Yagi)	49.95		29.97	26.97	24.98
up to 150 miles	LPL-FM8	8 cell system (31% more gain than best 10-element Yagi)	39.95		23.97	21.57	19.98
up to 125 miles	LPL-FM6	6 cell system equal to best 10 element Yagi.	29.95		17.97	16.17	14.98
up to 75 miles	LPL-FM4	4 cell system equal to best 5-element Yagi.	19.95		11.97	10.77	9.98

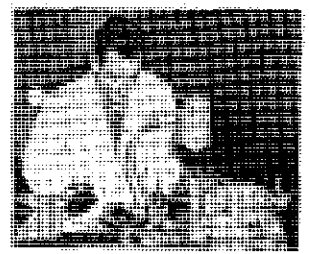
JFD THE INDOOR TV ANTENNA AMERICA KNOWS BEST

	MODEL	DESCRIPTION
	TA151	Celeste VHF antenna with 4-sec. alum. dipoles, weighted mahogany base. Packed in 3 color carton.
	TA152	Packed in 4 color vinyl bag.
	TA188 UHF	UHF Gold Loop (Aluminum) Packed in 3 color carton.
	TA190 NEW	Attachable VHF converter antenna
	TA191 NEW UHF	Attachable UHF converter antenna
	TA192 NEW VHF-UHF	Combination of TA190-191 For VHF-UHF reception. Ideal for use with your UHF converter. Attach on back of converter in seconds.
	TA303	Polaris (Unique electronic design automatically orients antenna electronically for maximum signal pick-up by means of 6 position control switch. 13"-40" brass dipoles. Heavy wtd. cast base. Mahogany Ball only. Packed in 3 color carton.
	TA305 VHF-UHF	NU-VU (VHF-UHF antenna with separate leads. Brass dipoles. Packed in 2 color carton.)
	TA707-M TA707-IV TA708-M	Jet (Mahogany base) Vinyl Bag Jet (Ivory base) Aluminum Dipoles (TA707 in 3 color carton.)
	TA720-M TA720-IV	Jet (Mahogany base) Vinyl Bag Jet (Ivory base) Brass Dipoles
	TA880-M TA880-IV	Jet (Mahogany base) Vinyl Bag Jet (Ivory base) Chromed Dipoles All-new from new sculptured base to handy 3-color poly carrier. 13"-38" dipoles. "Tip-proof" base. 4-section dipoles.
	TA900-M TA900-IV	Astro-Jet (Mahogany base) } Vinyl Astro-Jet (Ivory base) } Bag Aluminum Dipoles
	TA990-M TA990-IV TA990-M	Astro-Jet (Mahogany base) } Astro-Jet (Ivory base) } Vinyl Bag Brass Dipoles All-new design featuring sensitive electronic tuning channel selector and 3-color poly package. 13"-38" 4 section dipoles. "Tip-proof" base. (TA990-M in 3 color carton).
	TA995-M VHF-UHF	ASTRO-JET VHF-UHF Brass Dipoles Separate VHF-UHF Leads. Packed in 3 color carton.



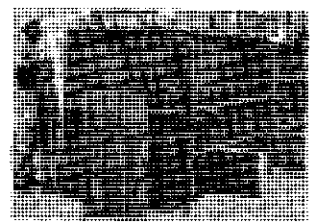
The millions of JFD indoor TV antennas now in use best speak for their outstanding performance.

Since the beginning of television, JFD has helped servicemen and installers satisfy the reception needs of their customers with the finest indoor antennas.



This is to be expected of JFD. Almost every TV receiver manufacturer today uses JFD antennas as original equipment. These leaders know they can rely on JFD for quality and economy.

JFD indoor antennas are made in the world's largest TV antenna plant -- JFD Electronics-Southern, Inc. in Oxford, North Carolina.



The automated JFD plant makes possible efficient, high-speed production of the greatest variety of television, radio, citizen's band, amateur and communication antennas now available. That is why when you sell a JFD Indoor TV antenna you get the best in performance and profits.

88% OF ALL PORTABLE TV MANUFACTURERS USE JFD TELESCOPING ANTENNAS

JFD

MAGIC GENIE & MERLIN BEHIND-THE-SET SWITCH INDOOR ANTENNA

MODEL	DESCRIPTION
MG150*	MAGIC GENIE VHF (Honey Blonde)
MG350*	MAGIC GENIE VHF Swirl Mahogany *without Turret
MG650** VHF-UHF	MAGIC GENIE VHF-UHF (Honey Blonde)
MG850** VHF-UHF	MAGIC GENIE VHF-UHF (Swirl Mahogany) **with Turret VHF-UHF.

NOW VHF-UHF



U.S. Patent No. 2810909 D182360

ONLY THE JFD MAGIC GENIE HAS SO MANY EXCLUSIVE SELLING FEATURES!
Obsoletes old-fashioned top-of-the-set indoor antennas. Set new trends in style, convenience, performance. New "Turret" design on MG650 and MG850 offers unlimited 360° universal dipole adjustment for maximum signal pick-up on VHF and UHF. More powerful 4-section triple chromed elements-38" long for better reception in "problem" locations. UNIVERSAL Mounting-mechanical or adhesive-for quick-as-a-wink installation on any size TV set-metal, composition or wood.

MODEL	DESCRIPTION
L10	Merlin-VHF (Blonde)
L20	Merlin-VHF (Mahogany)



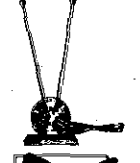
U. S. Patent No. D182360 2810909

NEW MERLIN DESIGN OFFERS TOP VALUE!
12 position switch. 38" dipoles. 4 section chromed elements. Smartly styled to beautify decor by getting rid of top-of-the-set indoor antenna look. The perfect "thrift" companion to the deluxe Magic Genie.

TOP-OF-THE-SET INDOOR ANTENNAS

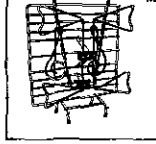


NEW





NEW



MODEL	DESCRIPTION
LPT100 UHF	Vu-Vista Gold Alodized Indoor UHF Log-Periodic Trapezoid TV Antenna for Ch. 14 to 83. Tunes itself electronically (without switches) to desired UHF channel. Packed in 3 color carton.
TA138	Panorama (Mahogany) Panorama (4 Section Alum. dipoles. Packed in 3 Color carton.
TA149 UHF	Sonata (Polished Brass Plated Grid, Ebony UHF twin bow.) Plastic Tipped Legs will not mar furniture. Packed in 3 Color carton.
TA150 VHF-UHF	VHF-UHF Sonata VHF-UHF 4 section, 38" VHF dipoles. Polished Brass with stacked UHF bowties for superb VHF-UHF performance. (Packed in 3 Color carton.)

Licensed under one or more of U.S. patents 2,958,081; 2,985,879; 3,011,168; 3,108,280; 3,150,378 and additional patents pending in U.S.A. and Canada. Produced by JFD Electronics Corporation under exclusive license from the University of Illinois Foundation.

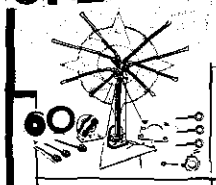
MORE JFD INDOOR TV ANTENNAS ARE IN USE TODAY THAN ANY OTHER MAKE!

WHY DON'T YOU SWITCH TO JFD -- THE BRAND THAT PUTS YOU IN COMMAND OF THE INDOOR ANTENNA MARKET!

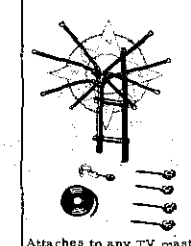
JFD

AAA GOLD ALODIZED FM STEREO ANTENNAS

STEREO-CONE All-Directional FM Antenna Kits.
STEREO-CONE -- A new concept in FM Antenna Design!

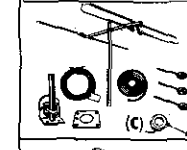


MODEL	DESCRIPTION	LIST PRICE	Suggested Dealer Prices 1	2-11	12 & up
AFM100G	Stereo-Cone Kit with Roof Mount for all-new installations. * One preassembled Stereo Cone (in gold alodized aluminum.) * One 5' gold alodized aluminum mast. * One universal base mount for wall or roof installation. * Galvanized steel guy wire, ring standoffs and mounting hardware. * 50ft. 60 mil. 300 ohm lead.	15.95	9.57	8.61	7.98

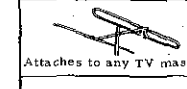


Attaches to any TV mast

MODEL	DESCRIPTION	LIST PRICE	Suggested Dealer Prices 1	2-11	12 & UP
AFM150	Stereo-Cone attach-it Kit for existing TV Antenna Installations. Contents: * One gold alodized Stereo-Cone Turnstile FM Antenna. * Two gold alodized mast extensions. * Two sets of U-bolts for mounting.	11.95	7.17	6.45	5.98
AFM175	Stereo-Cone "attach-it" all-directional Deluxe FM Antenna Kit for existing TV Antenna Installations. Contents: * One preassembled gold alodized all directional Stereo-Cone Turnstile FM Antenna. * Two gold alodized mast extensions. * Two sets of U-bolts for mounting to mast. * 50 ft. 80 mil. 300 ohm twin lead. * Three 3 1/2" wood screw eyes. * One 7 1/2" wood screw eye. * One mast stand-off.	13.95	8.37	7.53	6.98



AFM200	Stereo-Folded Dipole and Reflector Kit for All-New Installations. Contents: * One preassembled Hi-Fi FM gold alod. aluminum antenna, model AFM200, * One 5 ft. gold alodized aluminum mast. * One universal base mount for wall or roof installation. * Galvanized steel guy wire, guy ring, stand-offs, and mounting hardware. * 50 ft. polyethylene 300 ohm transmission line.	13.85	8.31	7.48	6.93



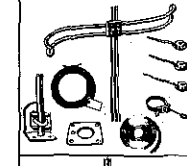
Attaches to any TV mast

AFM250	Stereo-Folded Dipole and Reflector Antenna only.	8.60	5.16	4.64	4.30

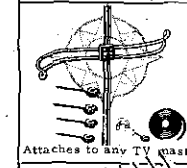


Attaches to any TV mast

AFM350 up to 100 miles	Stereo 6-Element Wide-Spaced Yagi for fringe FM areas - 9 db gain - flat across FM band. 1" sq. crossarm - 1/2" sleeved elements, aluminum brackets.	23.50	14.10	12.69	11.75



AFM400	Stereo All-Directional "S" Kit with roof mount for all-new TV antenna installations. Contents: * One preassembled all-directional "S" FM antenna * One 5 ft. gold alodized aluminum mast. * One universal base mount for all-new wall or roof installations. * Galvanized steel guy wire, ring, standoffs and mounting hardware. * 50 ft 80 mil twin lead.	11.95	7.17	6.45	5.98



Attaches to any TV mast

AFM450	Stereo All-Directional "S" Kit for existing TV. Antenna Installations. Contents: * All-Directional "S" FM antenna.	6.95	4.17	3.75	3.48
AFM475	Stereo-All-Directional Deluxe "S" Kit for existing TV Antenna Installations. Contents: * All-directional "S" FM Antenna. * Three 3 1/2" wood screw eyes. * One 7 1/2" wood screw eyes. * One mast stand-off. * One 50 ft. Twin Lead.	8.95	5.37	4.83	4.48



Attaches to any TV mast

AFM650 up to 125 miles	Stereo 10-Element Wide-Spaced Yagi for deep fringe FM areas - 12 db gain - flat across FM band. 1" sq. crossarm - 1/2" sleeved elements, aluminum brackets.	32.50	19.50	17.55	16.25

JFD NEW! VHF, UHF TV & FM AMPLIFIERS, POWER SUPPLIES (Less Antennas)

BOTH TRANSISTOR & NUVISTOR TV MODELS FEATURE:

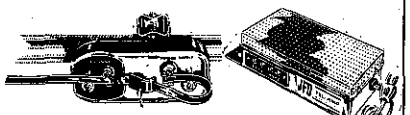
- "OFT" Offset Free-Space Terminal design eliminates chief causes of signal loss—the accumulation of dirt, moisture and ice around antenna terminals which siphon off clarity and brilliance of picture over the years.
- Amplifier that mounts on any crossarm up to 18 db of noise-free additional gain.
- Printed circuit sealed against atmospheric effects with exclusive "Poly-U" sealant.
- New AC power supply, located at set, housed in compact gold-colored cabinet. Also serves as multi-set coupler feeding each of two-sets with amplified signal.
- No need for extra wiring. No metallic rectifiers to burn out.
- Built-in FM trap (in VN-2, VT-2 Tele-Amps) prevents FM station interference.
- Silicone sealed hi-impac amplifier housing prevents moisture entrance or accumulation.
- Fully protected against lightning, static discharges and voltage surges.

NUVISTOR TELE-AMPS ALSO FEATURE:

- Excellent signal handling capabilities. For use in high signal strength areas.
- Protected by Slo Blo Fuse.
- Less than 3 watts, 117 V. A. C. power consumption.

TRANSISTOR TELE-AMPS ALSO FEATURE:

- Ideal for areas where local signals cause cross-modulation and oscillation.
- No tubes to replace. No heat problems.



Tele-Amp Amplifier — Power Supply

FIRST IN RELIABILITY!

	MODEL	DESCRIPTION	LIST PRICE	Suggested Dealer Prices 1	2-5	6 & UP
NEW ILLUSTRATED ABOVE	VUT-3 Tele-Amp Consisting of 3-Transistor A-3 Amp, PHV Power Supply	All-band amplification (VHF/UHF/FM) for fringe areas.	49.95	29.97	29.22	28.47
		FIRST IN RELIABILITY!				
ILLUSTRATED ABOVE	VN-2 Nuvist-Amp Consisting of 2-Nuvistor N-2 Amp, PNV Power Supply	For a very high signal strength area. VHF bands. Built-in FM Trap.	39.95	23.97	23.37	22.77
		FIRST IN RELIABILITY!				
ILLUSTRATED ABOVE	VT-2 Tele-Amp Consisting of 2-Transistor A-2 Amp, PTV Power Supply	For combined fringe and near-fringe operation. VHF bands. Built-in FM Trap.	39.95	23.97	23.37	22.77
		FIRST IN RELIABILITY!				
ILLUSTRATED ABOVE	VT-1 Mono-Amp Consisting of 1-Transistor A-1 Amp, PTV Power Supply	For fringe area reception, VHF-FM bands.	34.95	20.97	20.45	19.92
		FIRST IN RELIABILITY!				
ILLUSTRATED ABOVE	UHT-1 Consisting of 1-Transistor H-1 Amp, PTH Power Supply	UHF frequencies only.	39.95	23.97	23.37	22.77
		FIRST IN RELIABILITY!				
ILLUSTRATED ABOVE	FT-1 Consisting of 1-Transistor F-1 Amp, PTV Power Supply	For FM Amplification only.	34.95	20.97	20.45	19.92
		FIRST IN RELIABILITY!				

JFD NEW! ALL-TRANSISTOR UHF CONVERTERS

COMPARE THE FACTS... REASONS WHY JFD UHF CONVERSION IS BEST:

EXCLUSIVE... JFD SPACE-AGE ALL-TRANSISTOR CIRCUITRY MAKES OTHER TUBE CONVERTERS OBSOLETE

Performance of	JFD All-Transistor	vs.	Tube Types
Station Pulling Power	25% more gain pulls in tough-to-get channels		Make "A" requires an antenna mounted preamplifier. Best other make advertises only 8 db . . . 25% less gain even with extra expensive amplifying stages.
Picture and Sound Clarity	High signal-to-noise ratio delivers extra brilliance		Tubes cause microphonics, cathode and grid irregularities, and filament noises that cause lines, hum, and interference.
Tuning Sharpness	Drift-free, heatless, solid-state conversion and amplification that is frequency stabilized		Hard-to-keep-in-tune multiple stages required to overcome tube nonlinearity and filament heat changes.
Long Life Reliability	Same type as used by missiles and satellites for trouble-free performance		Constant and costly tube replacement. More complicated power supply.
Best Use of Power	Works at safer, low voltages and power levels		High voltage and power required results in more complex power supply. (NOTE: most failures occur first in power supply.)
Heating	Transistors do not need filament heating		Continuous high heat ages all components.

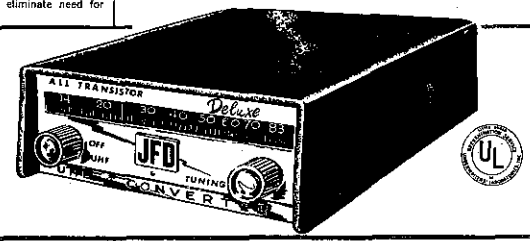
Model CR2-J

Highest Gain For Fringe Area Reception (Even Without Antenna-Mounted Pre-Amp)

The **CR2-J** Converter features a two-transistor tuned circuit in both the oscillator and IF amplifier stages. With the VHF set tuned to either channel 5 or 6, the **JFD/UHF** Converter selects and amplifies all UHF channels for the most powerful reception under all conditions, every time — even in fringe areas. Not only are microphonic and other tube noises eliminated, but the inherent high signal-to-noise level of the transistors improves sound and picture fidelity. Tube filaments, heating and other sources of drift and potential trouble are also eliminated. The total absence of heat lessens component aging and wasteful power drains. Instant warm-up and low power working levels are two more **JFD** solid-state advantages. Excellent 300 ohm input impedance match assures full signal conversion. Deluxe gold trim, built-in dial light, an AC power receptical on back to eliminate need for extension cord.

ELECTRONIC SPECIFICATIONS

1. Transistor complement ..... 2 transistors — 1 diode
2. Operating voltage . 117v. 60 cycle
3. Input frequency .... 470 mc to 890 mc with 6 mc overtravel at each end
4. Input impedance .. 300 ohms
5. Output impedance .. 300 ohms
6. Output frequency .. VHF channels 5 or 6 (other to suit local conditions where needed)
7. Noise figure, average tuner amplifier. 11.5 (tuner only)
8. Overall gain ..... 10 db typical
9. Radiation ..... 350 microvolts per meter maximum typical — meets and exceeds all FCC specifications
10. Oscillator drift .... 250 kc maximum
11. RF pass band ..... 5.5 mc at 3 db minimum. 20 mc at 3 db maximum
12. Line cord ..... UL approved
13. AC convenience outlet ..... American standard female socket
14. 300 ohm twin lead.. 36" length of trimmed and tinned lead packaged with each unit



USES FAMOUS GI TUNER

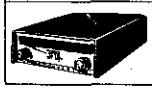
Model CR1-J

For Normal Reception, The Absolute Best Buy In UHF.

True transistor economy is achieved in this efficient unit. Although amplifying stages required for weak signal reception are not present, for normal reception Model CR1-J is the value scoop of the industry. Solid-state advantages of extremely low noise, drift-free tuning, no heating, and instant warm-up are all high quality features surpassing older, more expensive designs. VHF TV is tuned to an unused channel and UHF Converter is tuned to receive all channels from 14 through 83. Excellent 300 ohm impedance match between UHF Converter and VHF input assures maximum signal transfer. Silver trim.

ELECTRONIC SPECIFICATIONS

1. Transistor complement . . . 1 transistor in the oscillator circuit plus 1 diode mixer
2. Operating voltag 117v. 60 cycle
3. Input frequency . 470 mc to 890 mc with 6 mc overtravel at each end
4. Input impedance. 300 ohms
5. Output impedance . . . . . 300 ohms
6. Output frequency. VHF channels 5 or 6 (other to suit local conditions where needed.)
7. Noise figure, average tuner amplifier . . . . . 11.5 (tuner only)
8. Overall gain . . . Does not provide for amplification of the converted UHF signal
9. Radiation . . . . 350 microvolts per meter maximum typical — meets and exceeds all FCC specifications
10. Oscillator drift . . . 250 kc maximum
11. RF pass band . . . 5.5 mc at 3 db minimum 20 mc at 3 db maximum
12. Line cord . . . . . UL approved
13. 300 ohm twin lead . . . . . 36" length of trimmed and tinned lead packaged with each unit

	MODEL	DESCRIPTION	LIST PRICE	Suggested Dealer Prices 1	2-11	12 & UP
	CR2-J	2 Transistor and diode	39.95	27.95	26.95	25.95
	CR1-J	1 Transistor and diode	29.95	19.95	19.65	19.25

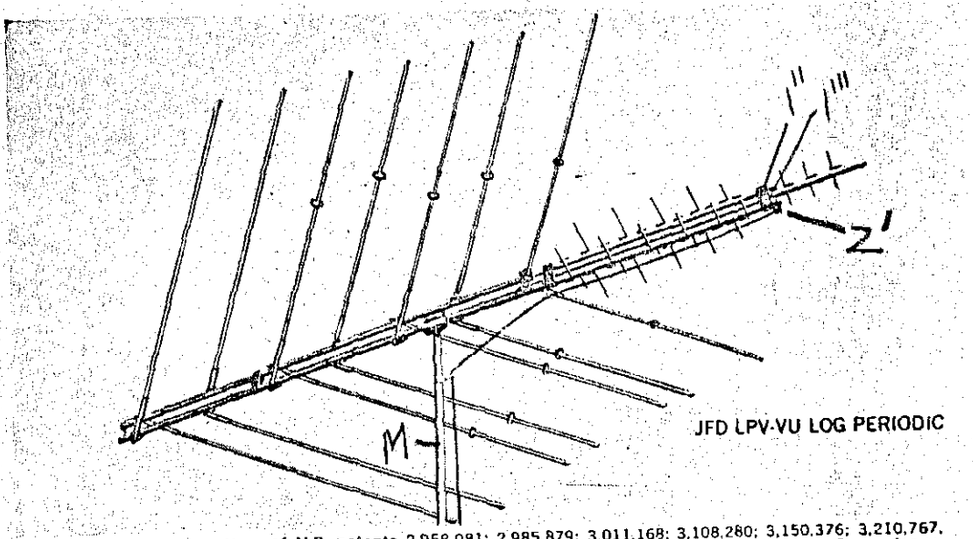
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tuned passes

Back in 1962, we invented a new kind of TV antenna.



JFD LPV-VU LOG PERIODIC

Licensed under one or more of U.S. patents 2,958,081; 2,985,879; 3,011,168; 3,108,280; 3,150,376; 3,210,767, RE. 25,740 and additional patents pending in U.S.A. and Canada. Produced by JFD Electronics Co. under exclusive license from the University of Illinois Foundation.

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tion. PERFECTION CONQUERED

We did not improve on an old antenna. We started from scratch to design a new one. *Really new.*

It wasn't easy. And it wasn't cheap. But it worked like mad.

We called it the LPV Log Periodic. Its performance caught our competitors with their charts down. But it wasn't long before they came up with LPV copies in every way—except in performance.

Meanwhile back at the JFD labs in Champaign, Illinois, our scientists and engineers continued their "assault on perfection." In 1963, they again shattered antenna precedent by coming up with the *first* combination VHF/UHF/FM log periodic antenna, the LPV-VU. Instead of three different antennas, installers now needed only *one* LPV-VU and *one* downlead.

Our competitors scoffed at the idea. They said it couldn't be done. Until the "eye-popping" results started to roll in. Then there was a mad scramble for the LPV-VU bandwagon.

These "me-too" antennas looked like the LPV-VU Log Periodic. Sounded like it, too. But their charms were skin-deep.

Only the JFD LPV-VU delivered deluxe 82-channel log periodic performance. Because only the JFD LPV-VU followed the genuine patented log periodic concept of the University of Illinois Antenna Research Laboratories. Thanks to the protection of clever, different LPV-VU U.S. patents issued and pending—more than those of any other antenna.

You would think by now our Research and Development people in Champaign would leave well enough alone. But no. These "Young Turks" have gone and done it again. This time it's a new all-band log periodic design—the LPV-CL Color Laser. (Must be that "assault on perfection" bug they've still got up their polinear recorder.)

Why did we call it the Color Laser?

Well, engineers tell us that laser light beams with their tremendous bandwidth capacity are the communications carrier of the future. And we believe that our new VHF/UHF/FM Color Laser with its extreme bandwidth, among other unique characteristics, is the antenna of the future—only it's available to you *now*. How does the Color Laser deliver *unsurpassed natural color, black and white* across 82 channels, and FM, too?

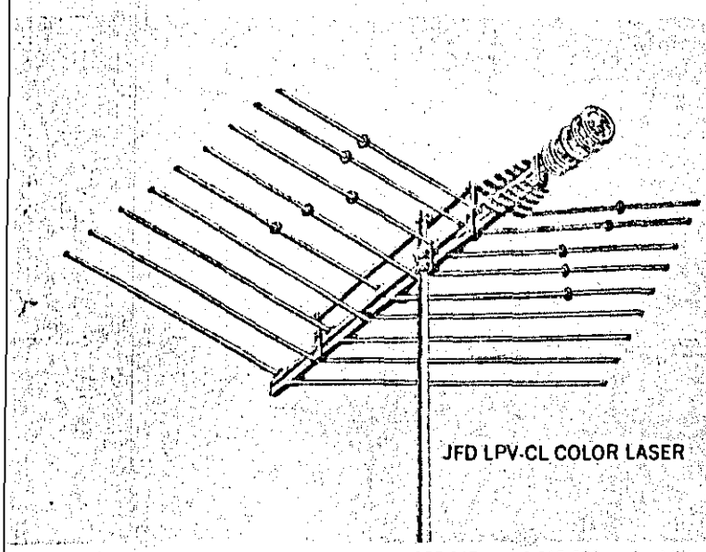
Three reasons: (1) *Patented "VHF "cap-electronic" Log Periodic V Design,* (2) *a new broad band UHF "zoned" trapezoid driver,* (3) *a new disc-on-rod UHF director system.* And there are patents issued and pending on all three.

We've also spun off the LPV "cap-electronic" Log Periodic section of the Color Laser. It forms the heart of a great new VHF antenna series we've named the LPV-TV.

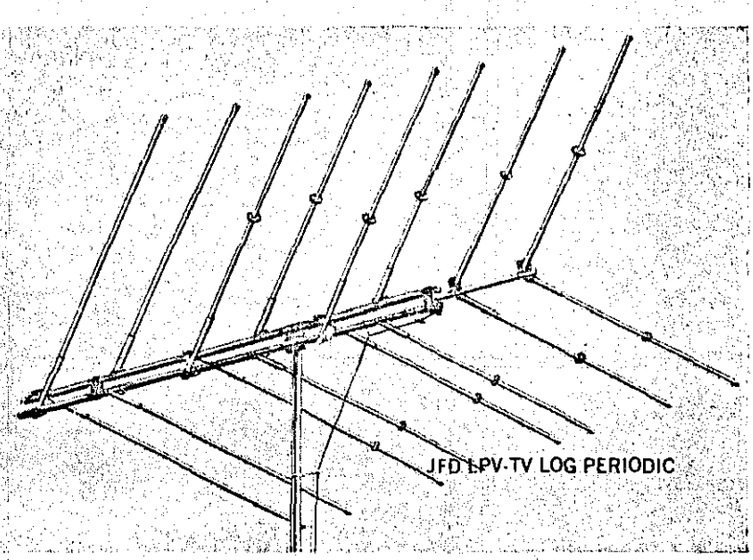
This "assault on perfection" of ours involved a complete new mechanical design, as well. Results: "fast-lok" element brackets, "hot" twin booms (no lossy harnesses or transformers), new super-strength double U-bolt profiles, *high reliability cylindrical capacitors,* plus our electrically conductive gold alodized aluminum.

If you're the breed of professional contract installer or self-servicing appliance dealer who *never* settles for less than the best, we have a suggestion. Use a JFD LPV-CL Color Laser or LPV-TV Color Log Periodic on your next installation. See what it feels like to install the *best* of all in performance and customer satisfaction.

You will also see why our research and development people have now changed their watchword from "assault on perfection" to "perfection *conquered*".



JFD LPV-CL COLOR LASER



JFD LPV-TV LOG PERIODIC

Licensed under one or more of U.S. Patents 2,955,287 and 3,015,821 and additional patents pending.

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