

\$1.00

DEC
1961

tv

horizons



serving the television reception industry

Al Bowdy, KCOP Television
915 N. La Brea Ave.
Los Angeles 38, Calif.

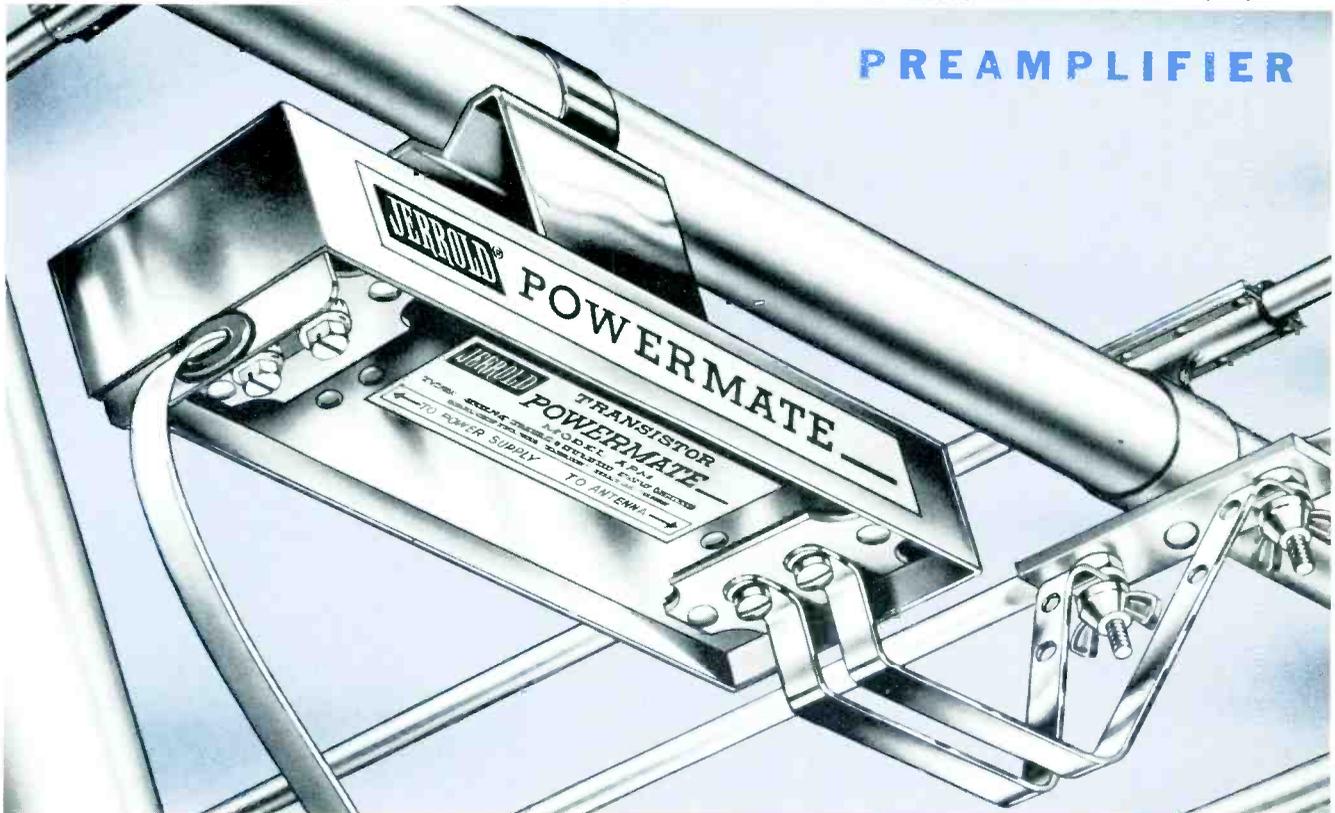
**Servicemen everywhere say,
"OUTPERFORMS THEM ALL!"**

NEW

JERROLD

**TRANSISTOR
POWERMATE**

PREAMPLIFIER



offers highest gain, lowest noise figure

Here's the preamplifier for every TV antenna in your area, whether new or up for years! The exclusive universal bracket of the new JERROLD Transistor POWERMATE permits mounting directly on the antenna boom (for greatest boost before downlead losses) or at *any* other point—along the mast, on the wall or windowsill, behind the set—anywhere your best judgment dictates.

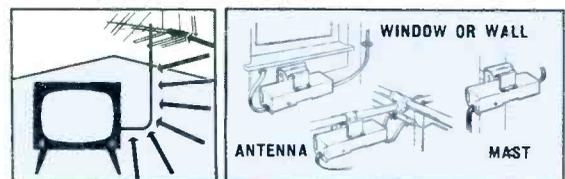
And look at this gain: An average of 13.9db at Channel 13 and 18.25db at Channel 2—by far the highest in the business! This remarkable gain gives any antenna system the lowest System Noise Figure obtainable—the key to better pictures.

See your distributor today, or write for special bulletin describing System Noise Figure. Begin cashing in on your big market for the new JERROLD Transistor POWERMATE!

Model APM-101—\$39.95 list complete with power supply

JERROLD **ELECTRONICS CORPORATION**
Distributor Sales Division, Dept. IDS-193.
The Jerrold Building, Philadelphia 32, Pa.

Jerrold Electronics (Canada) Ltd., Toronto, Ontario
Export Representative: CBS International, New York 22, N.Y.



**NO TUBES, NO BATTERIES,
NO OSCILLATION, NO FEEDBACK**

Mount it on the boom or anywhere along the downlead. Thoroughly neutralized against oscillation; output impedance balanced to prevent radiation back to antenna. Same 300-ohm lead that carries signal also carries 15 volts ac to POWERMATE. No tubes or batteries to replace.

**REMOTE AC POWER SUPPLY
OPERATES 1 OR 2 TV OR FM SETS**

installs on or near receiver, draws less current than an electric clock. No polarity nuisance when attaching to lead, no danger of transistor damage.



Channel

1

INTEC Announces New Sales Policy

A new sales policy of direct sales to CATV system operators at distributor prices has been announced by Ed Schafer, TV Distribution Equipment Manager at Intercontinental Electronics Corporation (INTEC).

In reviewing the present and past situation, Schafer noted "INTEC (in the past) has followed the industry practice of selling to the CATV operators at prices higher than distributor prices. Now it appears that new policies are called for in light of the CATV industry's growth. As a result, INTEC is breaking with tradition and practice, and will now sell all CATV systems at distributor prices."

Schafer continued with "Unlike other manufacturers in the CATV industry, we will not sell at special 'Community TV' prices which in some cases are as much as one-third higher than distributor prices. Nor will we refer you to distributors who carry little or no inventory, and then make a forty percent mark-up on equipment which they order from the factory."

Schafer, formerly with Blonder Tongue before joining INTEC, reviews his reasons for the policy change this way.

"Four major elements have led to this new policy. One is the continuing growth and expansion of the CATV industry. Another is the increase in specialized equipment for CATV use, requiring direct factory assistance. Still another reason is the fact that few distributors stock sufficient quantities in anticipation of CATV system requirements and as a result are unable to give the required service."

"There is no reason why a CATV system operator should have to pay a special premium price when buying direct from a manufacturer, as is frequently the case. Also, why should he have to buy from a distributor whose price includes a mark-up and a representative's commission", Schafer concluded.

INTEC CATV equipment includes fully transistorized amplifiers and pre-amplifiers, conventional amplifiers,

CATV
MATV
Fringe TV
ETV
UHF-TV
Associated
Industries' News

boosters, converters and accessory equipment.

Schafer's comments are expected to draw protest comments from other manufacturers in the field.

Winegard Completes New Plant

The Winegard Company, Burlington, Iowa has just completed its second new plant in four years on an eight acre tract in Burlington. The new facilities will be devoted solely to electronics manufacturing, TV-FM amplifiers and accessories for both home- and large distribution systems.



NEW WINEGARD PLANT

With 15,000 square feet of production area on one floor, the new plant employs 120 people. The building is constructed of architectural steel panels and is completely air-conditioned.

John Winegard, company president, stated "These new facilities will help up keep pace with our rapidly increasing sales of electronic TV and FM reception aids."

Winegard is also planning a large addition to the 35,000 square feet main plant antenna assembly area. This construction is scheduled for the spring of 1962.

Winegard sales for the first nine months of 1961 are reported at fifty-one percent over the same record breaking period in 1960.

Jerrold Names Garrison to TACO

Paul Garrison has been appointed General Manager of Technical Appliance Corporation (TACO) according to an announcement by Sidney Harmon, President of Jerrold Electronics Corporation. TACO is a recently acquired subsidiary of Jerrold.



PAUL GARRISON

Together with Herbert Brown, President of TACO and Tore Lundahl, Executive Vice President, two of the company's original founders, Mr. Garrison will form TACO's top management team.

Garrison was formerly Sales Manager of the Special Products Division at I.T.E. Circuit Breaker Company in Philadelphia.

TELEVISION HORIZONS

PUBLISHED MONTHLY BY HORIZONS PUBLICATIONS
POST OFFICE BOX 3207 • MODESTO, CALIFORNIA

EDITORIAL

Perhaps a lesson is to be learned from this issue of TVH. In the annals of the video reception-transmission-rebroadcast industries, little effort has ever been made to solidify the work of widely separated fields of thought. For example, a man in California and a man in Connecticut independently have developed very-workable Parametric exceedingly low noise UHF amplifiers, capable of working with UHF signals down to the 2 db above ambient noise figure.

Word of the eastern development slowly spreads west, seeping across the Pennsylvania hills where UHF-TV is so paramount.

Word of the western development, contrary to nature and man's westward expansion, spreads east. It does so in jumps because UHF is practically unknown after one leaves the central California valleys, until you arrive in downstate Illinois.

Some place along the Great Lakes the two lines of thought collide, and there before field engineer and technician each is forced to stand upon its own two electrons and prove its merits, stark naked as it were.

What does all of this mean? Simply this. Working alone, in the dark, without the benefit of the prior experience of others, we may achieve for ourselves a brilliant milestone in electronics history. But alone we may also fail, because we either "don't know about or can't find out about" the similar efforts of others. History is studded with "near-misses," made so because the man with the answers never got together with the man with the questions.

It is the sincere hope of Horizons Publications that you will find, in this Directory Annual, "the man with the answers." Please be so kind as to give us your first (and second) impressions of this buyer's guide, so that our next effort, in December of 1962, will reflect the changes and topics that only you know we missed this first time around. In this case we are the people with the answers, and you have the questions. Quite unfortunately we have more answers than you do questions. Let us know which answers you want, so that we all may benefit.

RBC

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TELEVISION HORIZONS . . . Serving an Industry

It's Here!

ameco

INTRODUCES A LINE OF FULLY
TRANSISTORIZED ALL BAND
CATV DISTRIBUTION
EQUIPMENT

The long-awaited breakthrough in transistorized all-band CATV equipment is here!

Ameco's cable-powered, high-gain (40db) transistor all-band amplifiers (40 mc-220 mc) make possible economical, stable, trouble-free system design thought to be years away.

Two mainline amplifiers, both with 40db gain, one with AGC and one with Manual Gain Control; a four output bridging amplifier with 25db gain; a four output terminating amplifier with 35db gain and a fully transistorized regulated power supply capable of cable powering 11 amplifiers completes the line.



AMECO
ATM-40

Fully transistorized all
band amplifier (40-220 mc)

SPECIFICATIONS

	ATA-40	ATM-40	ATB-25	ATT-35
Bandwidth	40-220 mc	40-220 mc	40-220 mc	40-220 mc
Recommended minimum input	+10db	+5db	+20db	+10db
AGC action	15db	none	none	none
MGC action	25db*	10db	6db plug in pads	10db
Maximum gain	40db	40db	25db	40db
Recommended maximum usable gain	30db with 10db AGC action	30db	25db	35db
Maximum output 1 amplifier	50db	50db	45db	49db
Recommended output	40db	40db	40db	40db
Tilt control channel 2-13	15db	15db	15db	15db
Outputs	1	1	4	4
Line isolation	-	-	20db	-

*Coupled with AGC control



AMECO
ATPS-11

Fully transistorized, voltage
regulated power supply

FOR FULL INFORMATION CONTACT:

COMMUNITY AND
CLOSED CIRCUIT
TELEVISION
SYSTEMS

ameco

A DIVISION OF
ANTENNAVISION INCORPORATED
POST OFFICE BOX 11326
PHOENIX, ARIZONA

MANUFACTURER OF QUALITY BUILT PRECISION ENGINEERED EQUIPMENT FOR CATV

SPECIAL HORIZONS REPORT

MOTOROLA CHIEF

CALLS FOR

COMPLETE

RE-VAMPING

OF

ALLOCATIONS

FOR TELEVISION

**"An undercurrent of change is sweeping the VHF-UHF industry.
Find out why one company is urging change-- here."**

A strong call for "fundamental changes" in the government's radio frequency spectrum management policies, to permit the establishment of a broader commercial and educational television system in the United States, has been sounded by Motorola President Robert W. Galvin. Galvin's proposal came during the 12th National Conference of the Institute of Radio Engineers Professional Group on Vehicular Communication.

Mr. Galvin noted that necessary policy changes must be reasserted by the FCC, by Congress, and by the industry. He divided his presentation into three related topics—spectrum management, television allocations and mobile radio assignments, asserting that fundamental realization of the problems presented in these areas plague the advancement of spectrum usage in the United States.

Because of the importance of the subject, Television Horizons is reproducing Mr. Galvin's address in full.

"The ultimate purpose for a conference such as this is improved mobile radio communications.

"Our record in this regard is excellent. The cooperative and progressive attitude of user, service company, manufacturer and government agency has produced tremendous growth in the number of users, licenses and transmitters, the high density use of the spectrum assigned to us, and the variety and quality of uses of two-way radio.

"In our quest to achieve continuing improved communications, the industry and the users live with two general sets of conditions. The first is that set of conditions under our control — the technical, marketing, and economic aspects of our business. Competitive forces continue to assure that these are generally handled well.

"The other set of conditions is one step removed from our control. It relates to those government agency policies and decisions that determine the frequency spectrum available to our use and the rules associated with them. We are fortunate to have enjoyed the objective and enlightened interest of a Federal Communications Commission which has done everything reasonable to encourage mobile two-way communications in the past. But in order for the Commission to continue

to assist us in full measure, the need for certain fundamental changes, and I emphasize fundamental changes, must be reasserted by the Commission, by Congress, and by ourselves starting soon.

"I would like to discuss three related topics regarding agency matters — spectrum management, TV allocations, and mobile assignments.

"Most observers of our nation's spectrum management agree that a redefinition of the roles of two spectrum referees is essential. The Federal Communications Commission and the Interdepartment Radio Advisory Committee have made the best of a most difficult dual headed assignment.

"The problem of dual responsibility, is not one of people or individual agency organizations, but is rather the deficiency of a system as illustrated by these three factors.

"First, commercial users of the spectrum must go to a regulatory agency established by statute — The FCC — whose total job is the objective regulation of a part of the spectrum. In contrast, IRAC is both the user and a regulator. IRAC is not a statutorily established regulatory body but a committee of representatives from twelve government departments or

(Continued on page 52)

TELEPROMPTER **TRANSMISSION COMPANY**

MICROWAVE RELAY SERVICE

A DEPENDABLE COMMON CARRIER
WITH REASONABLE RATES FOR ALL
USERS—

PLEASE DIRECT INQUIRIES TO

TELEPROMPTER

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50 West 44th St., New York 36, N. Y. • JUdson 2-3800

TEPCO TE-2A

VHF TRANSLATOR

DESIGNED TO LAST AND LAST AND LAST. ONLY THE VERY BEST IN PREMIUM QUALITY COMPONENTS, EXTRA HEAVY DUTY—LONG LIFE TUBES AND PRECISION ENGINEERING GOES INTO THIS LOW-COST, HIGH RELIABILITY VHF TRANSLATOR.



The TE-2A VHF translator is designed to exceed FCC requirements and yet provide a low cost unit of good reliability. A comparison of tube types, for example, will reveal more expensive tubes than used in most competitive makes. We believe that the use of premium quality tubes in the main amplifiers is essential even in a low cost translator.

Low Cost • Industrial potted Power transformer for long life • Simple but reliable timer • Electronic and optical coder • High Gain Automatic Cut-off • Double Conversion • Power Adjustment on front panel • 18 gauge electro plated steel chassis and cabinet.

SPECIFICATIONS: Power Output—Maximum of 2 watts peak video and 1 watt average audio; AGC Range—Minimum of 38 db for 2 db output power variation; Cross Modulation—45 db below 1 watt peak video power; Crystals—.0025% accuracy; Stability—Better than .008% over line voltages of 85 to 135 volts and temperatures of -25°C to $+50^{\circ}\text{C}$; Gain—105 db; Power Input—117 volts, 60 cycles, 140 watts; Height—15 inches; Width—17 inches; Depth—9 inches; Weight—34 lbs.

10 WATT AMPLIFIER FOR TE-10A

This unit has been designed primarily for a guarantee against possible obsolescence of the TE-1B should the FCC approve this much power and for future export plans of our company. The unit can be installed in the TE-1B in a few minutes. The unit is for sale only to areas where permitted.

SPECIFICATIONS: Power Output—10 watts peak video power and 5 watts average audio power. Cross Modulation—40 db below 10 watts peak video power; Tube Complement—2—6Q4, 1—6360, 1—6252; Power requirements—To be operated from TE-1B by installing in place of present output amplifier.



TEPCO CORPORATION

P. O. Box 2065

Rapid City, South Dakota

Phone 343 7200

TEPCO TE-1B

VHF TRANSLATOR

ONLY A BROADCAST ENGINEER COULD DESIGN ALL OF THE FEATURES FOUND IN THE TE-1B INTO ONE UNIT! NOTHING IS SACRIFICED. TOP-NOTCH ENGINEERING, THE VERY-BEST IN QUALITY BROADCAST QUALITY COMPONENTS. THE BEST BUY IN VHF TRANSLATORS!

The TE-1B VHF translator is designed for minimum obsolescence and maximum reliability. The low obsolescence feature not only gives assurance that the translator will keep up with improvements in the translator art but greatly reduces "down time" on serious breakdowns. For example, if lightning should damage the input or output sections, these can be replaced in a few minutes at a low cost.



- Low Obsolescence
- High Reliability
- Power supply that will handle a 10 watt amplifier
- Double conversion
- .0025% Crystals
- Highest quality industrial tubes
- Complete regulation of heater and "B" supplies for long tube life
- Power Output Adjustment on front panel
- High Gain Automatic Cut-off
- Timer with 12 hour spring reserve motor
- Electronic and Optical coder for minimum wear
- Temperature controlled crystals (optional)
- Extremely low inter-modulation distortion
- Chassis and cabinet of 16 gauge electro-plated steel

SPECIFICATIONS: Power Output—2 watts video and 1 watt average audio. Power output limited only by capabilities of 6360. For multiple output applications, we do not recommend more than a two output unit using the 6360 even though it is capable of 4 watts peak video power; Cross modulation—Minimum of 45 db below video carrier when operated at 1 watt; AGC range—42 db input signal variation for 2 db output power variation; Crystals—.0025% accuracy; Stability—Better than .005% for line voltages of 85 to 135 volts and temperatures of -25°C to $+50^{\circ}\text{C}$; Gain—108 db; Tube Complement—1st R-F amp. 6922, 2nd R-F amp. 6Q4, 1st mixer 6688, 1st Com. amp. 6688, 2nd Com. amp. 6688, 2nd mixer 6688, 1st output amp. 6Q4, Driver 6Q4, Output 6360, 1st osc. 6922, 1st doubler 6922, 2nd osc. 6922, 2nd doubler 6922; Power requirements—175 watts; Height—27 $\frac{1}{4}$ inches; Width—17 inches; Depth—11 inches; Weight—69 pounds.



TEPCO CORPORATION

P. O. Box 2065

Rapid City, South Dakota

Phone 343 7200

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TELEVISION HORIZONS

AND

HORIZONS PUBLICATIONS

ON THE MOVE

On November 7, 1961 HORIZONS PUBLICATIONS opened offices at 9 Northwest Sixth Street, Oklahoma City, Oklahoma. In mid-January, 1962, all HORIZONS Editorial Offices will be moved permanently to Oklahoma City, from our present Modesto, California homebase. Business Offices will remain in Modesto.

The reasons behind this expansion of facilities and continued growth at HORIZONS are many. Suffice to say that by moving our Editorial Offices to the middle of the continent, we will be better able to serve you, and all HORIZONS magazine readers, with the current up-to-date and factual information you have learned to depend on in all four HORIZONS publications . . .

TELEVISION HORIZONS MAGAZINE

COMMUNICATION HORIZONS MAGAZINE

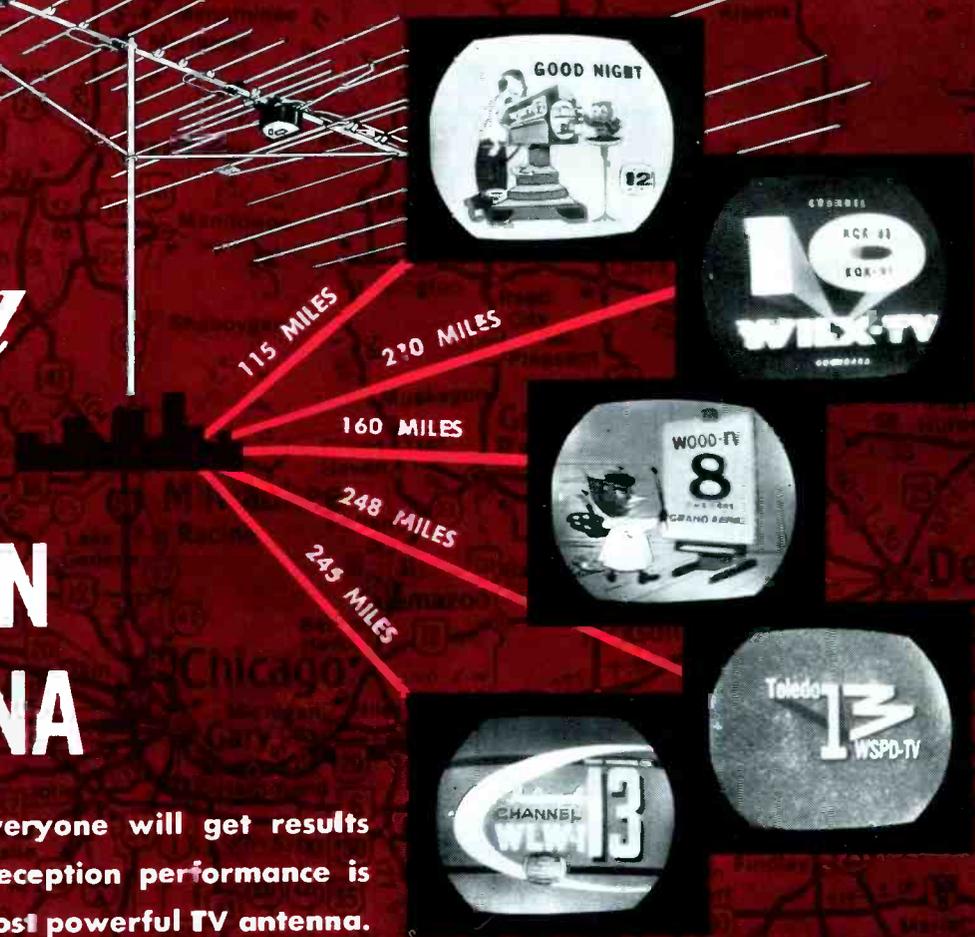
CB HORIZONS MAGAZINE

The Citizens Band Call-Book Handbook Annual

ACTUAL PHOTOS OF TV PICTURES RECEIVED UP TO 248 MILES AWAY

PULLED IN BY A *Winegard* SUPER POWERTRON TV ANTENNA

We can't guarantee that everyone will get results like this but long distance reception performance is not unusual for the world's most powerful TV antenna.



Why the Winegard Super Powertron is the Most Effective Antenna Ever Designed—



IT CAPTURES MORE SIGNAL than any other all-channel antenna ever made. Patented design, electro-lens director system, dual "TAPERED T" driven elements, 30 precision-tuned elements in all.



IT'S THE ONLY TRUE ELECTRONIC ANTENNA. Only the Winegard Powertron is built with the amplifier as part of the driven element—not an "add-on" attachment.



IT ELIMINATES ALL SIGNAL LOSS that normally occurs between the driven element and the amplifier due to transmission and coupling mis-match.



IT BOOSTS WEAK SIGNALS UP OUT OF THE SNOW far better than any other antenna or antenna-amplifier combination made.



ONLY POWERTRON HAS BOTH 300 OHM TWIN LEAD AND 75 OHM COAX TERMINALS ON BUILT-IN AMPLIFIER.



ONLY POWERTRON GIVES YOU YOUR CHOICE OF TRANSISTORS OR TUBES (TUBE MODELS 300 OHM ONLY).



ONLY POWERTRON HAS RANGE AND POLARITY CONTROL SWITCH TO PREVENT OVERDRIVING ON STRONG CHANNELS.



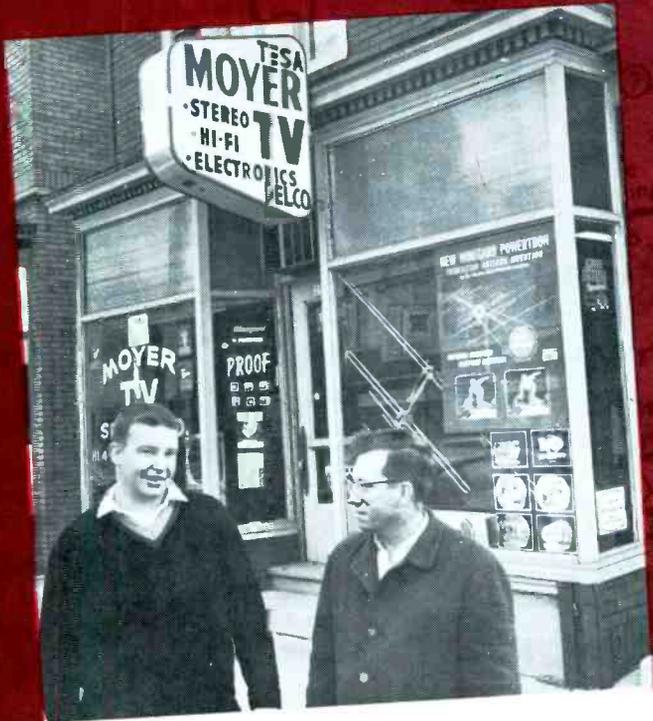
ONLY POWERTRON HAS AC PLUG-IN OUTLET FOR TV SET BUILT INTO THE POWER SUPPLY.



POWERTRON POWER SUPPLY IS ALL AC—SAFE, SHOCKPROOF. Transistorized Model has rectifier and filter in power supply—not in amplifier, where servicing is difficult. No nuisance batteries. Costs 27c to operate for a full year.

Copyright 1963 by THE E. M. GEORGE COMPANY

Read what Charles J. Milton of Moyer TV, Milwaukee, has to say about the Winegard Super Powertron...



Charles Milton and Jim Moyer
In front of Moyer TV

Of course, everyone can't get reception results like Charles Milton has experienced. Each area has its own unique reception characteristics and problems. But one thing we can promise, the Powertron will deliver more clean pictures on your TV screen than any antenna you can own.



MOYER TV & RADIO SERVICE

3111 W. NORTH AVE.

MILWAUKEE 8, WIS.

2913 W. NORTH AVE.

Hilltop 4-0740

TESA-MILW.

Winegard Company
3000 Kirkwood
Burlington, Iowa

Gentlemen:

I would like to thank the Winegard Company for building the Super Powertron SP-44X.

With this antenna, reception at the local station level is perfect in both black and white and color. At medium range, the Powertron outperforms all others. Channel nine from Chicago, about 90 air miles, comes in clear and regularly. This is the Cubs baseball station and the one Milwaukeeans are willing to pay big money to get.

When the "Big Winegard", as it is affectionately called around the shop, is on long range it probes the unknown alone. All other antennas have fallen far behind. I have picked up eleven stations over 100 air miles away. The farthest of these is WWJ, Channel Four, Detroit, an unbelievable 251 miles. I have included a few pictures that I took off the TV with a Rolliflex F 3.5 at one second using Verichrome Pan.

We use the pictures in a window display and I use a set of pictures to explain the advantages of a Winegard to prospective customers. Believe me the pictures work -- and so does the "Big Winegard."

Sincerely,

Charles J. Milton

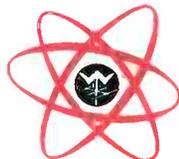
**POWERTRON IS 100%
CORROSION-PROOFED
ANTENNA IS GOLD ANODIZED,
ALL HARDWARE IRRIDIZED,
AMPLIFIER HOUSING OF HIGH
IMPACT POLYSTYRENE.**

PHOTOGRAPH YOUR OWN TV STATION PICTURES AND SEND THEM IN!

If you own a Powertron, chances are you too are experiencing unusual results. Why not photograph the stations you receive and send them in to us. We are always interested in hearing from Winegard antenna dealers and owners. We will be glad to enlarge your camera shots so that you can make your own window or store display like Moyer TV has done. The photos make

great sales persuaders to prospects and can be used in many ways to sell more Powertrons.

If you have never tried a Winegard Electronic Powertron, give it a test and be agreeably surprised. Don't take our word for it—let your eyes and ears and field strength meter tell the story. For full details and spec sheets, ask your distributor or write.



Winegard

ANTENNA SYSTEMS

Winegard Co., 3011-12A Kirkwood St., Burlington, Iowa

GUIDE TO

DIRECTORY PARTICIPANTS

The following firms have submitted Directory data to Horizons Publications for inclusion in this issue of Television Horizons. When writing firms for additional product information, please mention that you saw the listing in "The TVH Directory." This should ensure that your request will receive prompt attention.

- ADLER ELECTRONICS** — 1 Le Fevre Lane, New Rochelle, N.Y.
- ALPAR MFG. CO.** — 220 Demeter Street, Palo Alto, California
- ALTO FONIC CORP.** — 981 Commerce Street, Palo Alto, California
- AMECO** — P. O. Box 11326, Phoenix, Arizona
- BENCO** — 27 Taber Road, Rexdale, Ontario, Canada
- BLONDER TONGUE** — 9 Alling Street, Newark 2, N.J.
- CAS MFG. CO.** — Box 53A, Mineral Wells, Texas
- CHANNEL MASTER** — Ellenville, New York
- COLLINS RADIO** — P. O. Box 1891, Dallas, Texas
- CECO** — Box 824, State College, Pennsylvania
- DANIELS & ASSOCIATES** — The Daniels Bldg., 2930 East Third Ave., Denver 6, Colorado
- EITEL ELECTRONICS** — P. O. Box 1887, Prescott, Arizona
- ELECTRON CORP.** — P. O. Box 5570, Dallas, Texas
- ELECTRONICS, MISSILES & COMMUNICATIONS (EMCEE)** — 262 East Third Street, Mt. Vernon, New York
- ELECTRONICS PRODUCTS MFG. CO.** — E. 730 First Avenue, Spokane 3, Washington
- ELECTRONIC SALES COMPANY (ELSCO)** — 175 Social Hall Avenue, Salt Lake City 11, Utah
- ENTRON** — 4902 Lawrence Street, Box 287, Bladensburg, Maryland
- GREAT WESTERN INC.** — 7717 Ustick Road, Boise, Idaho
- HAMILTON-LANDIS & ASSOCIATES** — 111 Sutter Street, San Francisco, California
- HEATH COMPANY** — Benton Harbor, Michigan
- HOLT ELECTRONICS** — 105 East Spruce Street, Mahanoy City, Pennsylvania
- INTERNATIONAL CRYSTAL CO.** — 20 North Lee, Oklahoma City 2, Oklahoma
- JAMPRO ANTENNA CO.** — 7500 14th Avenue, Sacramento, California
- INTEC** — 300 Shames Drive, Westbury, L.I., New York
- JERROLD ELECTRONICS** — 15th and Lehigh, Philadelphia 32, Pa.
- K & M ELECTRONICS** — 4991 Excelsior Blvd., Minneapolis 16, Minnesota
- KTV TOWER/COMMUNICATIONS CO.** — P. O. Box 294, Sullivan, Illinois
- MID AMERICA RELAY SYSTEMS** — 1903 Davenport St., Sturgis, South Dakota
- MIRATEL, INC.** — Richardson Street, New Brighton 12, Minnesota
- MORELL ELECTRONICS** — 25 Glen Street, Glen Cove, L.I., New York
- PHILCO CORP.** — 4700 Wissachickon Avenue, Philadelphia 44, Pennsylvania
- PRUZAN, JACK CO.** — 1963 1st Avenue South, Seattle 4, Wash.
- RADIO CORPORATION OF AMERICA** — Broadcast and Equipment Division, Front and Cooper Streets, Camden 2, New Jersey
- REGO WIRE (VIKING CABLE)** — 830 Monroe Street, Hoboken, New Jersey
- ROHN MFG. CO.** — 6718 W. Plank Road, Peoria, Illinois
- SIMPLICITY TOOL COMPANY (SITCO)** — 2850 N. Mississippi, Portland 12, Oregon
- SPENCER KENNEDY LABS (SKL)** — 1320 Soldiers Field Road, Boston, Massachusetts
- TECHNICAL APPLIANCE CORP. (TACO)** — Sherburne, New York
- TIMES WIRE AND CABLE** — 358 Hall Avenue, Wallingford, Connecticut
- TELEPROMPTER CORP.** — 311 W. 43rd Street, New York 36, New York
- TEPCO** — 320 E. Blvd., Rapid City, South Dakota
- TOWER CONSTRUCTION CO.** — 2700 Hawkeye Drive, Sioux City 2, Iowa
- WINEGARD** — 3000 Scotten Blvd., Burlington, Iowa

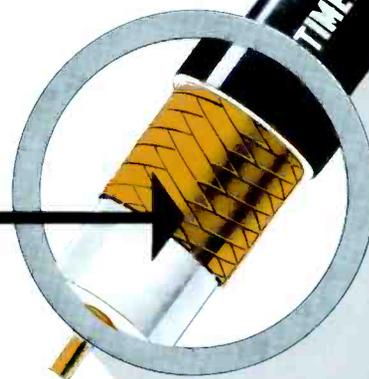
THE JT 400* SERIES

A NEW CONCEPT IN
COMMUNITY TV CABLING

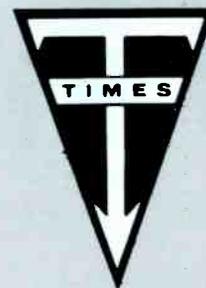
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WHICH MAKE POSSIBLE
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ALL BAND SYSTEMS**

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STRIP BRAID**
(Strip Copper Shield)



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- Make Possible Same O. D. On Single And Double Shielded Versions of Same Type.
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Attenuation Uniformity — Cables Sweep Flat within 0.5 db in 40 db of Cable.

FOR MORE INFORMATION — CONTACT

TIMES WIRE AND CABLE division of the International Silver Company, WALLINGFORD, CONNECTICUT

Tel.: COLony 9-3385

TWX: WALLINGFORD 370

AGC CONTROL UNITS

1

BLONDER TONGUE—model MAC. Broad-band gain control unit used in combination with broadband amplifier capable of delivering minimum of 0.6 volts in each VHF band. Gain from plus 10 db to minus 10 db depending on input level. Less than 1 db change in output level for 10 db input change. **PNS.**

• • •

JERROLD ELECTRONICS—model AGC-213 Bandwidth 0.5 mcs. at —3 db over 5-220 mcs. Used in connection with Jerrold model SCA-213. Has two inputs, 1 for xtal control carrier gen., 1 for video carrier control. Stabilizes and maintains signal levels throughout entire distribution system. **User net price: \$128.50.**

AMPLIFIERS—CATV

2

● Bridging—A

AMECO—model ABL 611, ABL 711 unity gain low band bridging amplifier. Frequency range 52-90 mcs., two type 6922 tubes. Operates from 115 vac, 60 cycles. Mounts



on pole or conventional box. Used as bridging amplifier, unit has unity gain as measured from 0 dbm input on fieldstrength meter. **User net price: ABL 611, \$65.75; ABL 711 \$75.00.**

• • •

AMECO—model ABL 811, ABL 911 four outlet bridging amplifier. Operates from 115 vac, 60 cycles. Frequency range 52-90 mcs., three type 12BY7A tubes. Mounts on pole or conventional box. Four outlet bridging amplifier, 21 db gain. Nominal. Capable of 40 db gain output on four outlets. **User net price: ABL-911 \$130.35; ABL-811 \$124.47.**

• • •

ENTRON-LHB—series bridging amplifier for high-low CATV systems. Operates from 90-130 vac, 60 cycles. 5 tubes, 2 transistors. Frequency range 54-88 mcs., 174-216 mcs. 15 db gain, both low and high band. 10,000 hr. tubes, available with or without regulating transformer, with or without remote powering and with gain to suit the



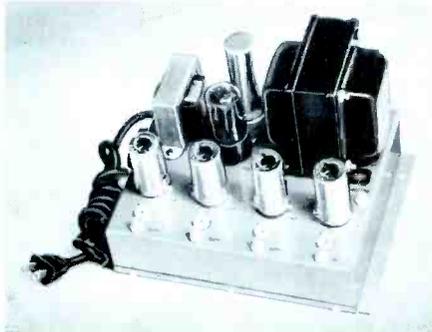
application. Pole box mounting. **User net price: from \$189.50.**

• • •

HOLT ELECTRONICS—model LH-BA4-4 broad band amplifier. Operates from 115 vac, 60 cycles. Frequency range 53-95 mcs. and 173-217 mcs. 12 db gain, low and high bands. Unit requires separate mounting; drives four feeder or trunk lines with up to 12 channels from one line. For consumer and industry use. **User net price: \$79.95.**

• • •

INTEC—model AB-1 bridging amplifier. Operates from 115 vac, 60 cycles. Five tubes including four 12BY7A amplifiers and one 5Y3 rectifier. Frequency range, 53-89 mcs.



Unit gain, 5 db minimum. May be mounted at any indoor location. Matched inputs, separate slope adjustment for each output. Each output isolated from others and mainline. Four outputs. **User net price: \$79.50.**

• • •

INTEC—model AB-2 four output amplifier. Operates from 115 vac, 60 cycles. Frequency range 53-89 mcs., four 6AK5 tubes. Gain 2-3 db at four isolated outputs. Isolated from power source, slope adjustments for each output. Mounts at any indoor location. For the industry or consumer use. Bridging amplifier. **User net price: \$67.50.**

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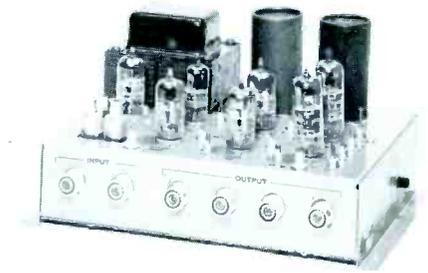
INTEC—model AB-3 fully transistorized bridging amplifier. Operates from 20-30, 50-60, or 120 vac, 60 cycles. Three watt power drain. Frequency range 54-95 mcs. Gain, 25 db. Mounts outdoors or on cable.



Weatherproof enclosure, 20 db gain control range, can be cable powered. Bridging amplifier—four outputs. **User net price: \$225.-**

• • •

INTEC—model AB-4 bridging amplifier. Operates from 115 vac, 60 cycles. Frequency range 54-95 mcs., 175-216 mcs. 20 db gain low and high bands. Can be mounted



at indoor location or in housing. Four separate isolated outputs, separate high and low band gain and slope controls. Provisions for cable powering. Seven tubes, including 4-6922 type. **User net price: \$130.00**

• • •

JERROLD—model AOC-26B low band cascader amplifier. Operates from 115 vac, 60 cycles. Frequency range 53.5-95 mcs. Six tubes including one 6922. Incorporates



automatic overload control, linear tilt control for compensation of losses in long cable runs, extremely flat response, highly cascadable, IFM. Low band gain, 32-34 db. **User net price: \$245.00.**

● Distribution (Chain)—B

AMECO—model AV6, AV7-A broadband amplifier. 7 tubes, operating from 115 vac, 60 cycles. 1-6922, 2-12BY7A, 4-5654. 46 db gain at 88 megacycles. Frequency range



52 to 90 mcs. Mounts on pole or in conventional box. Positive AGC low-band amplifier, switchable to manual gain control. **User net price: AV6A \$245.78; AV7A \$222.95.**

(Continued on page 18)



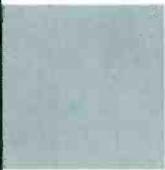
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EQUIPMENT
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HOME TV

ETV

CCTV

MATV

CATV

BLONDER

HOME TV AND UHF

Blonder-Tongue offers the most complete line of products to improve home TV reception—VHF or UHF. Examine Blonder-Tongue UHF converters—the model 99R for prime areas; the model BTU-2S for weak signal areas—and the BT-70 for translator and MPATI area conversions. They're the biggest selling UHF converters in America today because for 10 years they have proved themselves best in action in every UHF area. Consider the transistor home TV signal booster — the AB-4 (mast-mounted) and IT-3 (indoor use). Both are complete home TV amplifier and distribution systems supplying signal to as many as 4 TV/FM sets. Both represent unique engineering achievements from the industry's most experienced manufacturer in transistor RF circuit design. 6 different home boosters—including the only UHF booster plus a host of TV and antenna couplers round out the home TV line.

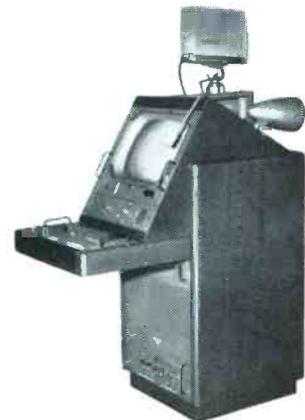


ETV

Only Blonder-Tongue offers a complete line for ETV in which each unit is matched and integrated to bring out the best performance of the other units in the system. With B-T products a school can be equipped to receive educational programs from ground TV stations, from strato-vision, or programs originating from a closed circuit TV camera. Important products include: Lock-Jax, an obsolescence-proof video/RF system that permits any room to be used as a TV studio or TV outlet; a variety of amplifiers, converters, splitters, tapoffs to provide multi-classroom reception.

CCTV

For CCTV there are: Port-A-Studios, portable studio consoles capable of originating complete TV channels; Film Chains to convert 16mm film into video or RF signals; manual and remote controlled transistor TV cameras; direct-view or projection monitors; complete video distribution equipment and accessories to provide flexibility, ease of operation.



TONGUE

MATV

6 broadband amplifiers (transistor and tubed); 11 single channel amplifiers—6 crystal-controlled converters and the most sensibly engineered line of accessories (tapoffs; matching transformers; splitters; traps; filters; mixers etc.)—the most complete product line available today. Each product is engineered to do a specific job best—each matched and integrated to bring out the best in each other. With Blonder-Tongue equipment, there are no compromises — no design to cover the waterfront! Very simply, you can select the amplifier, converter or accessory that's best suited to the job, paying for only the performance features the job requires. Blonder-Tongue master TV products are the heart of installations in the nation's leading motels, hotels, apartments, schools, etc.



CATV

Here's where Blonder-Tongue and its Canadian division, Benco, team up to provide a wide range of products—matched and integrated to bring the finest reception to entire communities via a system that is initially low in cost and that provides long-term maintenance—free performance. The Blonder-Tongue MCSc single-channel amplifier for VHF or FM and the Benco T-AMP-2, a cable powered transistor community system are typical products in the line.

* A word about Blonder-Tongue Services—our application engineering department offers *Free System Layout*. Field engineering is available at minimum cost.



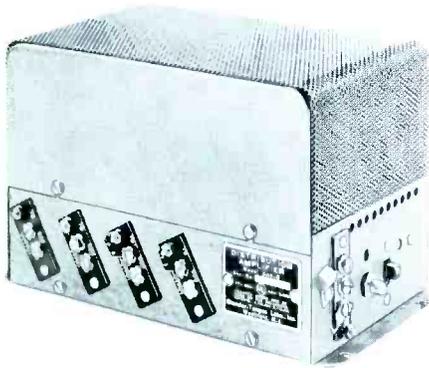
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on the
world's
only
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integrated
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BLONDER TONGUE

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AMECO—model AV6M, AV7M broadband amplifier. 5 tubes, operating from 115 vac, 60 cycles. Frequency range 52-90 mcs. 46 db gain at 88 mcs. Mounts on pole or in conventional box. Cascadable manual gain control mainline amplifier; useful for trunk and feeder main amplifier. 27 db manual gain control. **User net price: AV6M \$206.73; AV7M \$196.33.**

BLONDER TONGUE—model DA-8 broadband distribution amplifier. 4 tubes operating from 115 vac, 60 cycles. Frequency range 54-108 mcs, 174-216 mcs. 4-6J6



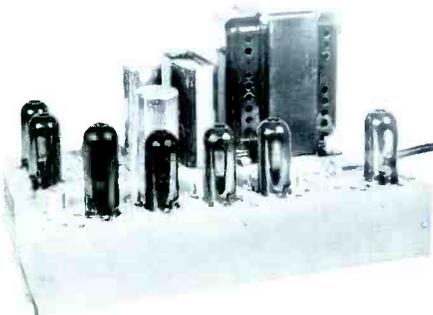
type tubes. 10 db gain low or high band, to each of 8 outlets. Mounts indoors, 300 or 75 ohm outputs. Designed for TV service bench, dealer showroom, or home-apartment use. **User net price: \$60.00**

BENCO—model CA-P distribution amplifier. Unit operates from 115 vac, 60 cycles. VHF, single channel amplifier. Low and high band gain, 65 db with AGC disabled. Output stage, 6939. For non-cascading pur-



poses, 4.5 volt output level. 10 units cascaded, 2 volt output. Mounts in Benco type H weatherproof housing. Has one output only—several CA-P's to be combined by Benco UNIMIX. **For Canadian user net price: Contact Benca Associates.**

ENTRON—model HRA-406 broadband amplifier. 7 tubes-transistors operating from 115 vac, 60 cycles. Frequency range 54-90 mcs, 174-216 mcs. 5 db maximum gain



channel 2, 34 db max. gain channel 13. Mounts in pole box. 10,000 hour long-life tubes, all band amplifier, used as trunkline midsection compensator. Industry use. **User net price: \$299.50.**

HOLT ELECTRONICS—model LBB AGC-50 line amplifier. 5 tubes operating from 115 vac, 60 cycles. Frequency range 52-95 mcs. 50 db gain with automatic gain control. Power drain 45 watts. Unit can be cascaded. **User net price: \$225.00.**

HOLT ELECTRONICS—model LH-B-3-AGC broadband amplifier. 9 tubes operating from 115 vac, 60 cycles. Frequency range low and high band VHF. 40 db gain low band, 46 db gain high band. Automatic gain control, unit can be cascaded. **User net price: \$460.00.**

INTEC—model ABB-5 exceedingly broadband amplifier. 12 tubes operating from 115 vac, 60 cycles. Frequency range 15-230 mcs. 12-6AK5 type tubes. 20 db gain



low and high bands. Rack mounting, manual gain control with self contained power supply. Provision for AGC addition. Loss of emission of a tube does not interrupt system. **User net price: \$180.00.**

INTEC—model ABB-6 exceedingly broadband amplifier. 12 tubes operate from 115 vac, 60 cycles. Frequency range 15-230 mcs. 12 6AK5 type tubes. 20 db gain low



and high bands. Mounts on any flat surface, manual gain control, self contained power supply, provision for AGC addition. Chain amplifier. Loss of a tube does not interrupt system. **User net price \$290.00.**

INTEC—model ABB-8 broadband amplifier. 12 tubes operate from 115 vac, 60 cycles. 12-6AK5 type tubes used over a frequency range of 10-110 mcs. 32 db gain (IFM), manual gain control, self contained power supply, provision for AGC addition. Mounts on any reasonably flat surface. Chain amplifier, loss of tube emission does not interrupt system operation. **User net price: \$190.00.**

INTEC—model ABB-16 broadband amplifier. Three tubes operate from 115 vac, 60 cycles. 2-6922, 1-12BY7A tubes. In-



door or outdoor housing, adjustable slope and gain controls. Distribution amplifier for industry. **User net price: \$120.00.**

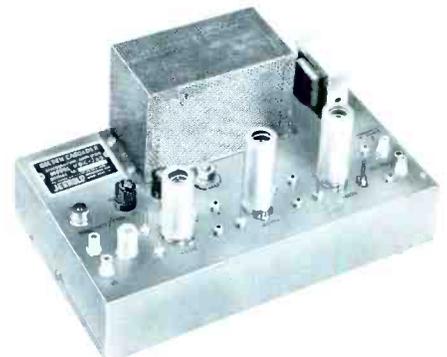
JERROLD—model BDA-213 broadband amplifier. Seven tubes, operates from 115 vac, 60 cycles. Frequency range 54-108 mcs. and 174-216 mcs. Used at head end of distribution systems. 18 db gain low band, 25 db gain high gain. All band dual output line bridging amplifier IFM. Separate gain controls for low and high bands. **User net price: \$151.00.**

JERROLD—model SDX-440 sub channel amplifier. Eight tubes, operates from 115 vac, 60 cycles. Frequency range 4-47 mcs. Used as "drop-in" amplifier installed parallel with broad band trunk line amplifier.



19-25 db gain, compensates for excessive losses in long cable runs; built in tilt control with automatic and manual gain controls. Cascadable, for industry use. **User net price \$219.50.**

JERROLD—model UBC-26B wide band distribution amplifier. Three tubes, operates from 115 vac, 60 cycles. Frequency range 53.5-95 mcs. Used as line bridging am-



plifier, extreme cascaded runs in low band and CCTV systems. 30 db gain. Unit employs unique feedback circuit for high-level outputs with low noise figure, wide band IFM. Variable tilt and gain controls. **User net price: \$174.25.**

SKL—model 211C chain amplifier. 12-5654 type tubes, 33 db voltage gain at 88 mcs. Frequency range 15-100 mcs. Self contained voltage regulated power supply, cup core type transformers at the input and output provide excellent impedance match to the line. Provision to accommodate SKL model 832A Thematic Gain Control. **PNS.**

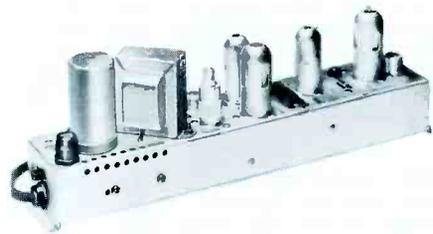
SKL—model 222 wide band amplifier. Unit operates from 115 vac, 60 cycles, 12 tubes (type 6EV5). Frequency range 40-216 mcs. 28 db gain at 216 mcs. Sloped response to square root of frequency. Two position slope



control switch. Choice of gain control, either manual (12 db), thematic (3 db) with external 832 or automatic with external 830 ALC unit (12 db). Regulated power supply. Cascadable mainline unit. **User net price: \$336.00.**

● Head End—C

BLONDER TONGUE—model MCSc head end amplifier. Operates from 115 vac, 60 cycles. Single channel amplifier, available by channel for any VHF frequency from



54-216 mcs. Four tubes, 6DJ8 front end. 46 db gain on low band, 35 db gain on high band. Indoors or outdoors housing. AGC and gain controls. **User net price: \$84.30.**

EITEL ELECTRONICS—model SCS head end amplifier. Operates 115 vac, 60 cycles. Five tubes, available for any single channel 2-13. 6922 loss noise cascade input, stagger tuned 6AK5's following. All AGC controlled. Low band gain 70 db, NF 3 db. Highband gain 55 db, NF 4 db. Can be cascaded. 40 db AGC. Rack or panel mounting. **User net price: \$100.00.**

INTEC—model AL head end or line amplifier. Operates from 115 vac, 60 cycles. 5 stagger tuned 6AK5 type tubes, 1 6AM3



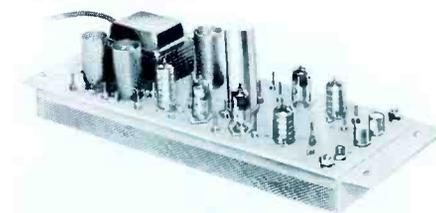
AGC amp detector. Available for any single low band channel. Gain 56 db. Indoor or outdoor housing. AGC, adjustable output level control. **User net price: \$160.00.**

JERROLD—model 2300 head end amplifier. Operates from 115 vac, 60 cycles. 7 tubes including 4-6BQ7A stages. Individual gain controls, and tilt controls for



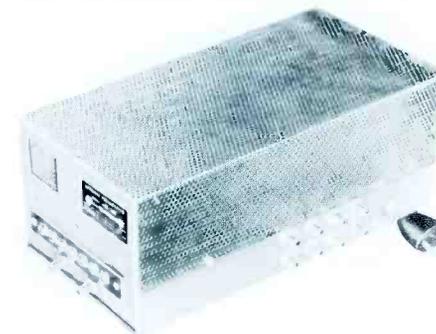
both high and low bands. Response flat for color. For systems at large motels, hotels, apartments, schools, etc. 38 db min. gain. Frequency range 54-88 mcs, 174-216 mcs. **User net price: \$107.70.**

JERROLD—model 2800 head end amplifier. Operates from 115 vac, 60 cycles. 10 tubes including 3 TJ-880 type tubes, developed especially for Jerrold (note: tube type has exceptionally high transconductance, low distortion). Facility to connect automatic overload control, plug in pads to compensate for losses in long cable runs, extended band width providing amplification on FM as well as TV. Covers 54-92 mcs and 174-216 mcs. **User net price: \$178.80.**



JERROLD—model ABD-8 head end and distribution amplifier suitable for up to 8 receivers. Operates from 54-88 mcs and

174-216 mcs. 5 tubes, including 3-6BQ7A type. 10 db gain, low and high band. Suitable for stores, display areas, fringe area TV applications. Self contained power supply. **User net price: \$65.67.**



JERROLD—model ABD-1 head end amplifier. Operates from 115 vac, 60 cycles. Suitable for head end or multiple trunk

line/feeder system application with Jerrold splitters. For small master antenna systems in fringe areas. Frequency range, 54-88 mcs. and 174-216 mcs. Gain, 25 db per channel with 7 channel operation. Cascadable. Self contained power supply. **User net price: \$65.67.**

JERROLD—model DPM, head end antenna mounting single channel amplifier. Operates from remote power supply model RPS-150N, energized from power fed up feed

line. 7 tubes on low band, 7 tubes on high band. 60 db gain both high and low bands. Positive matched, highly stabilized with manual and automatic gain control. **User net price: \$169.00.**

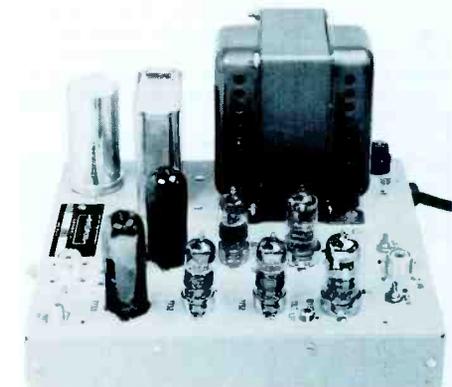


HOLT ELECTRONICS—head end VHF pre-amplifier, Available in either one tube (20 db gain) or 2 tubes (35 db gain) on the low band; 1 tube (15 db gain) or 2 tubes (30 db gain) on the high band. **User net prices range from \$53.00 for one tube units to \$69.95 for two tube units.**

ENTRON—model ADX-40R line extender amplifier for CATV. Operates from 90-130 vac, 60 cycles. Broadband, 54-88 mcs., and 174-216 mcs. 38 db gain both high and

● Line—D

low band. Pole box mounting. 10,000 hour tubes, separate gain controls for high and low. Adjustable tilt, flat frequency response. **User net price: \$149.50.**



ENTRON—model HRA-400 high band long life VHF repeater amplifier. Operates 115 vac, 60 cycles. Frequency range 174-216 mcs. Six tubes, six transistors. Mounts in pole box. 34 db gain at channel 13. 10,000 hour tubes, flat frequency response, ALC, built in band splitting and combining filters. **User net price: \$349.50.**

HOLT ELECTRONICS—model LH-BB AGC line amplifier. Broad band designed to operate 54-88 mcs., 174-216 mcs. Operates 115 vac, 60 cycles. Manual or automatic gain control. 40 db gain channel 6, 46 db gain channel 13. Separate AGC

control circuits for high and low bands.
User net price: PNS.

INTEC—model ABB-3 line amplifier. Operates 115 vac, 60 cycles. Cascade input, self contained power supply. Adjustable slope. Manual gain control. Indoors or outdoors housing. Frequency range 53-89 mcs. Three tubes including 2-6BQ7A. **User net price: \$60.00.**

INTEC—model ABB-4 line amplifier. Operates 115 vac, 60 cycles. Broadband 53-89 mcs., 173-217 mcs. Cascode input, self contained power supply, adjustable



slope, manual gain control 0.3 volts output per channel. 37 db gain, low and high band. Seven tubes including 4-6BQ7 type. **User net price: \$120.00.**

INTEC—model ABB-9 fully transistorized line amplifier. Operates 9-18 vdc, 115 vac. Four transistors, frequency range 53-100 mcs. Gain of 35 db. gain, indoor or outdoor housing. Manual gain control. Adjustable tilt. Weatherproof enclosure. Cable powering provision, test points. 5 db noise figure. Built in standby power source automatically supplies emergency battery power for up to 25 hours when commercial power fails. **User net price: \$245.00.**

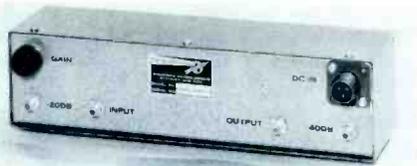
INTEC—model ABB-10 fully transistorized line amplifier. Operates from 9-18 vdc, 115 vac. Frequency range 53-100 mcs. 35 db gain. Outdoor or indoor mounting, Auto-



matic gain. Adjustable tilt. Weatherproof enclosure. Cable powering provision. Test points, 5 db noise figure. Built in standby dc power source. **User net price: \$295.00.**

INTEC—model ABB-11 fully transistorized line amplifier. Operates from 9-18 vdc or 115 vac. Frequency range 53-100 mcs. Four transistors. 35 db gain. Indoor or outdoor housing. Manual gain control, adjustable tilt, weatherproof enclosures, cable powered. **User net price: \$175.00.**

INTEC—model ABB-12 fully transistorized line amplifier. 9-18 vdc, or 115 vac. Frequency range 53-100 mcs. Six transistors. 35 db gain. Indoor or outdoor mounting. Automatic gain control. Adjustable tilt.



Weatherproof enclosure, cable powered
User net price: \$215.00.

INTEC—model ABB-13 trunk line amplifier. Operates 115 vac, 60 cycles, or 50 vac. Frequency range 174-216 mcs. Seven tubes including 2-6DJ8/6922 type. 37 db



gain. Automatic overload control, built in input and output mixing networks, built in cable powering provision. **User net price: \$225.00.**

INTEC—model ABB-14 trunk line amplifier. Operates on 115 vac, 60 cycles. Frequency range 54-95 mcs. Six tubes includ-



ing 2-6922/6DJ8 type. 35 db gain. Automatic overload control, adjustable slope, cascable. Indoor or outdoor housings. **User net price: \$170.00.**

INTEC—model ABB-15 line amplifier. Operates 115 vac, 60 cycles. Frequency range 24.5-42.5 mcs. Sub-channel gain



figures, 24 db. Indoor or outdoor housing. Automatic overload control. Self contained power supply. Five tubes, including 2-6FV6 type. **User net price: \$150.00.**

INTEC—model ABB-17 line amplifier. Operates 115 vac, 60 cycles. Frequency range 53-95 mcs, 173-217 mcs. 35 db gain, both low and high bands. Indoor or



outdoor housings. Seven tubes including 4 type 6922/6DJ8. Adjustable slope and gain control. 0.3 volts output per channel or 2 volts composite. **User net price: \$120.00.**

JERROLD—model SCA-213 all-band cascader amplifier. Operates 115 vac, 60 cycles. Frequency range, 6-220 mcs. 12 tubes, all of the 6CY5 type. Gain measured as 29 db at 216 mcs. Rack, cabinet or wall



mounting. Extra large bandwidth, flat response, plug in equalization pad, provision for plug-in automatic gain control unit (Jerrold Model AGC-213). Highly cascable for trunk line or extension service. **User net price: \$315.00.**

SKL—model 251 main line all transistorized amplifier. Operates 28 vdc, frequency range 20-100 mcs. Noise figure 8 db at 100 mcs. Cable powered with ALC unit to compensate for temperature changes. Gain 17-25 db. Cascadable. **User net price: PNS.**

SKL—models 252, 253 distribution amplifiers. Operate from 28 vdc powered through the coaxial line. Frequency, 20-100 mcs. Noise figure 8 db at 100 mcs. **User net price: PNS.**

SKL—model 211C low band amplifier. Operates 115 vac, 60 cycles. Frequency range, 20-88 mcs. 12 tubes, all of the 5654 type. Gain 33 db at 88 mcs. Rack or cabinet mounting. Choice of gain control—either manual, or automatic using exter-



nal 830 ALC or thermatic using external 832A Thermatic Gain Control. Regulated power supply. Cascadable mainline unit. Often employed by telephone companies because of low maintenance operation. **User net price: \$298.00.**

(Continued on page 22)

*SENSIBLE PRICES exclude distributor's mark-up and representative's commission.

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EQUIPMENT	FEATURES	SPECIFICATIONS
<p>TRANSISTORIZED LOW BAND BRIDGING AMPLIFIER</p>  <p style="text-align: right;">AB-3</p>	<p>Fully Transistorized Four Isolated Outputs Built-in Cable Powering High Gain Weatherproof Enclosure High Output Level Low Power Consumption</p>	<p>54-95 Mc Bandwidth 25 db minimum gain at each output 20 db Gain Control Range 0.25 Volts Output per channel for 5 channels at each output 3 db Slope Adjustment Cable Powered Voltage: 20-30 and 50-60 volts switch-selectable</p>
<p>TRANSISTORIZED BROAD BAND AMPLIFIER</p>  <p style="text-align: right;">ABB-9 ABB-10</p>	<p>Fully Transistorized Built-in Battery Standby Power Source Automatic Emergency Switch-over to Battery Supply Low Noise Input Cable Powering Provisions Weatherproof Enclosure</p>	<p>53-100 Mc Bandwidth 35 db Gain at 88 Mc 5 db Noise Figure 4 db Gain Control Range 10 db Overload Control Range (ABB-10)</p>
<p>TRANSISTORIZED BROAD BAND AMPLIFIER</p>  <p style="text-align: right;">ABB-11 ABB-12</p>	<p>Fully Transistorized Cable Powered Low Power Consumption Low Noise Input Weatherproof Enclosure Designed for Continuous Commercial Service</p>	<p>53-100 Mc Bandwidth 35 db Gain at 88 Mc 5 db Noise Figure 4 db Gain Control Range 10 db Overload Control Range (ABB-12)</p>
<p>VHF SINGLE CHANNEL TRANSISTORIZED PREAMPLIFIER</p>  <p style="text-align: right;">AP-3</p>	<p>Fully Transistorized High Gain Cable Powered Battery Operation, if required Completely Weatherproof Low Noise</p>	<p>6 Mc Bandwidth Gain: 40 db low band 35 db high band Noise Figure: 5 db at Channel 6 8 db at Channel 13 0.5 Watt Power Consumption (115 VAC) Storage Battery Operation, 9 VDC@18 MA</p>
<p>HIGH and LOW BAND BRIDGING AMPLIFIER</p>  <p style="text-align: right;">AB-4</p>	<p>High Gain High Output Four Isolated Outputs Built-in Cable Powering Circuitry Minimum Main Line Loss</p>	<p>Bandwidth: 54-95 Mc and 175-216 Mc 20 db minimum Gain at 95 and 216 Mc at each output Separate Gain Controls for high and low bands — 4 db range plus input pads 0.25 Volts Output per Channel for 5 low channels and 4 high channels at each output 0-3 db Adjustable Slope</p>
<p>HIGH and LOW BAND BROAD BAND AMPLIFIER</p>  <p style="text-align: right;">ABB-17</p>	<p>High Gain High Output Cascade Input for High Signal-to-Noise Ratio Adjustable Slope and Gain Controls Self-contained Power Supply</p>	<p>Bandwidth: 53-95 and 173-217 Mc 35 db Midband Gain, High and Low Band 0.3 Volts output per Channel or 2 Volts Composite 15 db Gain Control Range 0-4 db Adjustable Slope</p>



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Edgewood 4-8300 (Area Code 516)

PHILCO—new 2500 voice channel coaxial cable repeater capable of 20 mcs. bandwidth passage. Costs are said to be equivalent to a typical 240 voice channel microwave system. System now under development. For further information contact **Leo G. Sands** Manager of Philco's Industrial Products Division, 4700 Wissahickon, Philadelphia 44, Pa.

Line Extender—D-1

AMECO—model AV-2, AV-3 line extender amplifier. Operates from 115 vac, 60 cycles. Frequency range 52-90 mcs. Three tubes including 1-6922/6DJ8 type. Gain measured at 88 mcs.—30 db. AV-2 model is pole mounting; AV-3 model is box mounting. **User net price: AV-2, \$127.63; AV-3, \$120.00.**

• • •

ENTRON—model LHX-6201 line extension amplifier. Operating voltage, 40-60. Frequency range 54-88 mcs., 174-216 mcs. Unit uses two transistors, 6 tubes. Low band gain 15 db, high band gain 22 db. 10,000 hour long life tubes, tilt control high and low bands, local power not required. **User net price: \$189.50.**

• • •

JERROLD—model WLA-88 line extension amplifier. Operates 115 vac, 60 cycles. Frequency range 54-88 mcs. Two tubes. Channel 2 gain—17 db; Channel 6 gain—23 db. Mounts outdoors on pole or flush on wall. Low noise cascode circuitry, stabilized voltages, built-in power line filter, twist lock AC plug. Useful for extending feeder lines, or relieving overtaxed feeder lines. Weatherproof housing. **User net price: \$98.50.**

• • •

SKL—model 209B line extension amplifier. Operates 115 vac, 60 cycles. Frequency range 20-216 mcs. 10 tube operation, utilizing 6CY5 type tubes. Gain—27 db at 216 mcs. Noise figure under 14 db over entire band. Cabinet mounting. 10 db manual gain control. Low cost distribution amplifier with mainline dependability. **User net price: \$128.00.**

• Sub Channel—E

See Pre Amp-F

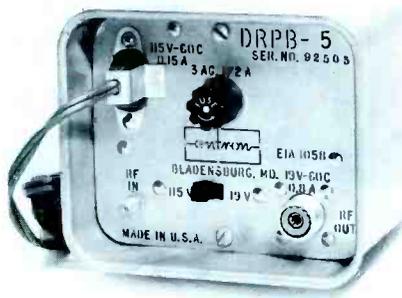
• Pre Amp—F

AMECO—model AP-4 r.f. pre-amplifier. Operates from 115 vac, 60 cycles. Self contained power supply. Available with ventilated all-weather housing. Single channel operation, 30 db minimum gain. Two tubes, 6922 front end. Operates with signal levels as low as 30 microvolts. Power is fed to the amplifier via the coaxial cable. **User net price: PNS.**

• • •

EITEL—model VHF-AMPA single channel r.f. preamplifier. Operates from 115 vac 60 cycles. Available for any single channel 2-13. Uses 1-6922 low noise cascode stage. New units will employ RCA 6CW4 Nuvtor. Gain—low or high band—30 db. Noise figure 4 db. Power supply remote, fed up cable to amplifier. **User net price: \$75.00.**

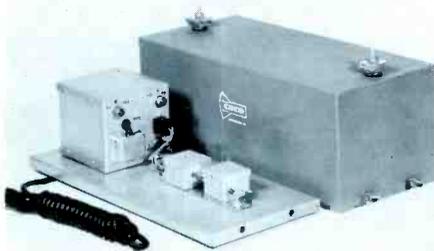
ENTRON—model DRPB single channel pre-amplifier. Operates from 115 vac, or 19 volts. Available for any VHF channel, 2-13.



Gain—30 db, low or high bands. Mounts at antenna mast. 10,000 hour long-life tubes. local or remote powering, weatherproof enclosure. **User net price: \$85.00.**

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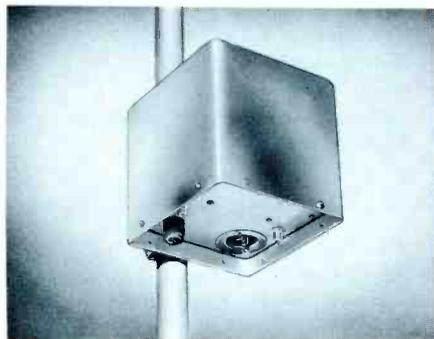
CECO—model PRV (series) VHF preamplifiers. Operates from 115 vac, or 24 vac. Four tubes, 7077 ceramic triode grounded cathode, 6AM4 grounded grid for cascode input followed by two 6AK5W pentode amplifiers. Available any VHF channel. Low



band gain, 40 db; low band noise figure, 3 db. High band gain, 35 db; high band noise figure, 4 db. Three models available, two in weatherproof housings, one for rack and panel. One cable powered. **User net price: \$295.00.**

• • •

INTEC—model AP-1 preamplifier. Operates 115 vac, 60 cycles. Available with 6 mcs. bandwidth for any VHF channel, and FM. Three tubes, include 1-6922 cascode



amplifier. Low band gain, 40 db; high band gain, 37 db. Mast mounting. Noise figure 4.8 db at channel 6 (88 mcs). Operates on signals down to 100 microvolts. Weatherproof. **User net price: \$80.00.**

• • •

INTEC—model AP-2 single tube-super low noise preamplifier. Operates 115 vac, 60 cycles, remote power supply, feed unit mounted at mast. Tube 416B/6280 type. Gain, 22 db low band VHF, 22 db high



band VHF, 18 db up to 630 mcs. Noise figure 3.5 db at 216 mcs., 5.0 db at 500 mcs. Weatherproof enclosure. **User net price: \$450.00.**

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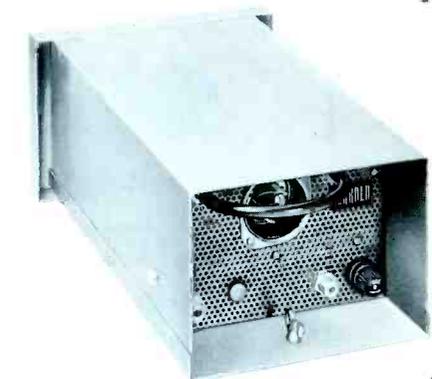
INTEC—model AP-3 remote locating single channel preamplifier. Operates 115 vac, 60 cycles. Power supply may be located up to 600 feet from the preamplifier. Transis-



torized. Low band gain 40 db; high band gain 35 db. Mast mounting. 5 db noise figure at 88 mcs. 8 db noise figure at 216 mcs. Supplied with power supply, weatherproof housing. **User net price: \$90.00.**

• • •

JERROLD—model HDX-713 hi-band pre-amplifier. Operates 115 vac or 24 vac, Two tubes including 1-6DJ8/6922. 20 db gain. Mounts in the feeder line or at the antenna.



Incorporates low band by-pass filter. Remote power supply CPS-4, available for cases where a 24 vac source is required. **User net price: \$74.50.**

• • •

SKL—model 450A single channel preamplifier. Operates from 105 vac to 125 vac. Six tubes in low band unit, 8 in high band. Frequency range, any standard 6 mcs channel from 2-13. Low band gain, 35 db; noise



figure 6 db. High band gain, 35 db; noise figure 9 db. Rack, cabinet or bench mounting. Gain is controlled automatically when used with 451A control amplifier. **User net price: \$348.00.**

SKL—model 901 channel power amplifier. Operates from 115 vac, 60 cycles. Utilizes 1-6EV5 preamplifier, 1-6939 driver stage, 1-6360 output stage. 35 db minimum gain, low band. Bench or cabinet mounting. Designed as amplifier for single channel operation. **User net price: \$195.00.**

● Single Channel—G

See Line Amplifiers

BENCO—model CA, CA sub single channel line amplifier. Unit operates 115 vac, 60 cycles. Seven tubes, 60 db gain low or high band. Mounted in Benco type H weatherproof housing. Recommended output levels for cascading, 0.4 volts; maximum output distribution, 1.0 volts. AGC controlled. Matched dual input and outputs to be linked with other CA amplifiers. **For Canadian user net prices: Contact Benco Associates.**

BENCO—model HTA power amplifier for high level distribution systems. Unit is driven by Benco type CA single channel amplifier, peak power output of 8.9 watts. Unit uses 2—12BY7 drivers; 1—6252

double tetrode output stage. Low band gain 26 db; high band gain, 26 db. **For Canadian User net price: Contact Benco.**

BLONDER TONGUE—model CAP single channel preamplifier. Operates 115 vac, 60 cycles. Frequency range 54-216 mcs. Unit uses 7 type 6AK5 tubes. Minimum low and high band gain, 60 db. Indoor or outdoor



housings. 3 volts output. Used for final output stage. **User net price: \$185.00.**

INTEC—model AHP-3 single channel high output amplifier. 6 mcs bandwidth for any VHF channel. Unit can drive 4500 feet of RG11/U cable. Built-in adjustable sound trap to permit reduction of sound carrier level. **User net price: \$300.00.**

INTEC—model ALA 6 mcs. bandwidth hi-channel amplifier. High band gain, single channel, 50 db. 8 tubes, including 6 type 6AK5 stagger tuned amplifiers. AGC, adjustable output level control. 1.5 volt output. **User net price: \$155.00.**

● FM—H

CAS—model CATV-FM head-end. Operates from 115 vac, 60 cycles. Frequency range

88-108 mcs. FM crystal controlled tuner converts FM to 10.7 mcs. (does not demodulate) or other frequencies specified for later conversion back to FM. Unique system of double conversion, eliminating need for demodulation and remodulation processes. Rack mounting. **User net price: \$140.00 per strip.**

JERROLD—model 406AFM, FM band pre-amp. Operates 115 vac, 60 cycles. 25 db minimum gain, 88-108 mcs. Mounts indoors. Self contained power supply, UL approved. **User net price: \$41.97.**

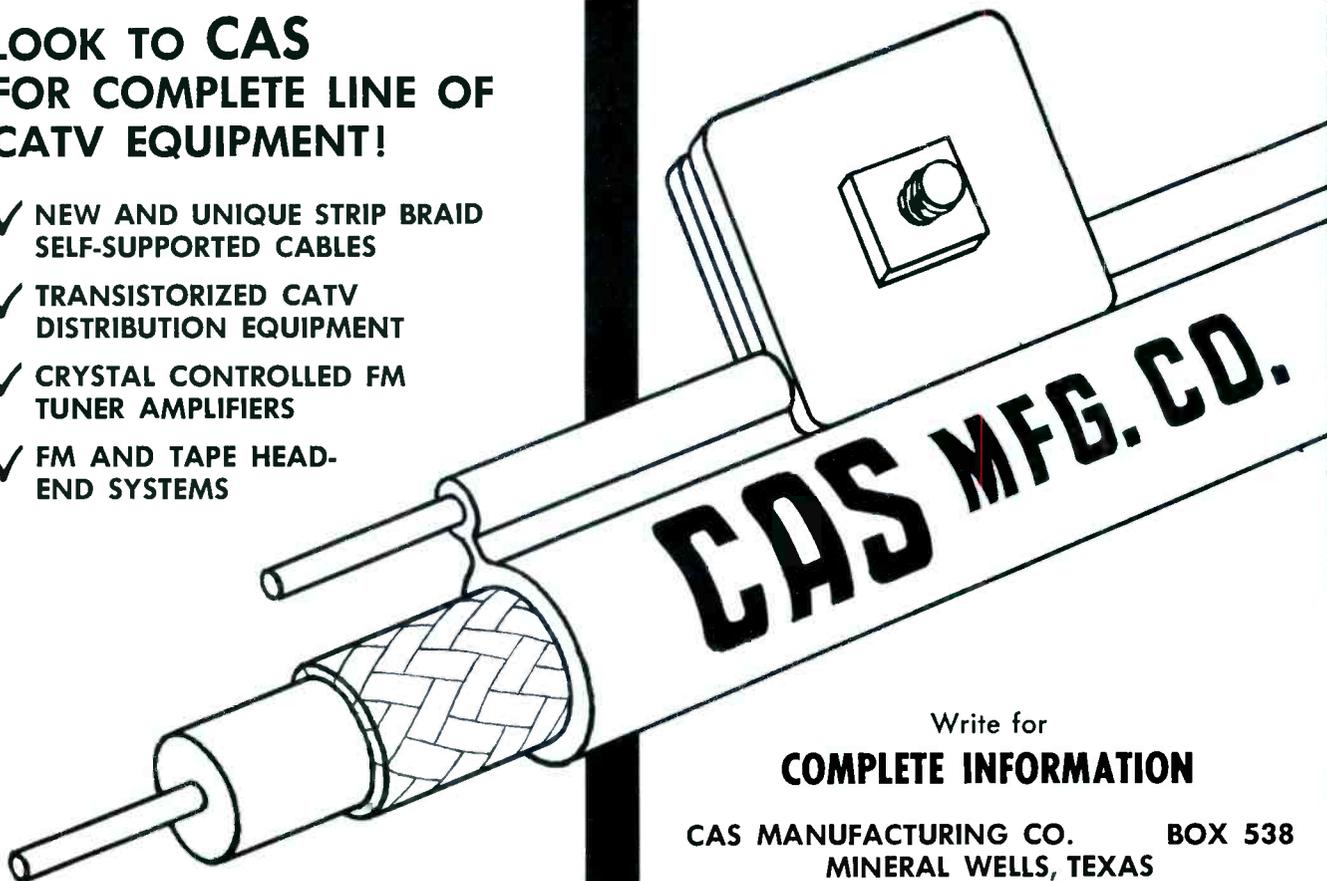
JERROLD—model DSA-FM, FM Band pre-amp. Operates from 24-32 v fed from remote 115 vac power supply. Operates 88-108 mcs. Mounts at antenna. Single cable carries signal and power. Weatherproof housing with irridite finish. **User net price: \$59.70.**

JERROLD—model FMX FM preamplifier. Operates 115 vac, covers 88-108 mcs. FM band, utilizes 6DJ8/69 22 frame grid tube.



LOOK TO CAS FOR COMPLETE LINE OF CATV EQUIPMENT!

- ✓ NEW AND UNIQUE STRIP BRAID SELF-SUPPORTED CABLES
- ✓ TRANSISTORIZED CATV DISTRIBUTION EQUIPMENT
- ✓ CRYSTAL CONTROLLED FM TUNER AMPLIFIERS
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20 db gain. Mounts indoors, between antenna and receiver. Printed circuitry, compact design, quick installation. **User net price: \$18.95.**

● Terminating—1

ENTRON—model LHT-1204 terminating amplifier. Operates from 40-60 vac, frequency range 54-88 mcs, 174-216 mcs. Mounts in pole line box. 10,000 hour tubes.



adjustable tilt on high and low bands. Regulating transformer, remotely powered. **User net price: \$209.50.**

AMPLIFIER POWER SUPPLIES 3

BENCO—model T-PWR power supply for up to 75 Benco T-Amps, with 35 vac (at 70 degrees cable temperature). Works only in conjunction with T series oscillator and amplifiers. Mounts directly to utility pole. Operates from 115 vac, 60 cycles. 17 transistors and diodes. **For Canadian user net price: Contact Benco Associates.**

BLONDER TONGUE—Unipak universal power supply takes up to three Unistrips or a combination of unistrips and univerters. Several Unipaks may be combined to take any number of amplifiers and converter combinations. Operates 115 vac, 60 cycles.

BLONDER TONGUE—model Minipak power supply, for use with one unistrip amplifier or for one uniververter. Operates from 115 vac, 60 cycles.

AMPLIFIERS— TRANSISTOR 4

● Broadband—A

AMECO—broadband model ABT-25 transistor amplifier. Operates 21 vdc. Frequency range, 40-220 mcs. Nine transistors. Gain, 25 db at channel 13. Messenger mounted box for housing, or conventional box. Four outputs, useful as bridging or distribution amplifier, or for line extensions. **User net price: \$261.20.**

AMECO—model ATA-40 all transistor broadband amplifier. Power supply remote, cable powered. Frequency range, 40-220 mcs. 25 db MGC, 15 db AGC. 15 db tilt control, with 40 db overall gain. Recom-

mended max. usable gain: 30 db with 10 db AGC action. Unit powered with ATPS-11 or ATPS-4 Ameco power supplies. **User net price: \$42.50.**

AMECO—model ATM-40 full transistorized broadband amplifier. Operates from remote cable powered supply. Frequency range 40-220 mcs. 10 db MGC, no AGC.



40 db overall unit gain. 15 db tilt control. Unit power with AMECO model ATPS-11 or ATPS-4 power supplies. **User net price: \$295.30.**

AMECO—model ATT-35 transistorized amplifier. Unit operates from remote power supply, cable powering. Frequency range, 40-220 mcs. 40 db maximum gain. 10 db MGC, no AGC. Unit powered with Ameco model ATPS-11 or ATPS-4 power supplies. **User net price: \$275.40.**

BLONDER TONGUE—model T-Amp transistorized broadband CATV system. Operates from cable powered supply. Frequency range 8-88 mcs. Cable mounting



units, includes amplifier, oscillator, power, branching amps, terminating units. Complete AGC controlled transistor CATV system. Cost depends on type and size system.

CAS—model PLO-4 power supply for transistorized model TR-95A amplifiers. Operates from 115 vac, output 24 vdc. Operates up to 4 TR-95A amplifiers, maximum power drain 15 watts. **User net price: \$45.00.**

CAS—model TR-4W 4-way bridging amplifier. Operates from model PLO-4 supply, 24 vdc. Operates 50-100 mcs. L transistor, 1 diode. 6 db gain, 8 db noise figure over operating range. Unit provides a four-way bridge with 6 db gain. **User net price: \$48.00.**

CAS—model TR-95A broadbanded amplifier. Operates from cable power, fed from PLO-4 power supply, 24 vdc. Mounts to messenger. Weatherproof housing. Temper-

ature compensation for gain and tilt. Three transistors, 1 diode and 1 thermistor. Frequency range, 54-95 mcs. Used as line amplifier or bridging amplifier. **User net price: \$95.00.**

CAS—model TR-100 EX line extender amplifier. Operates from 24 vdc. Frequency range, 10-100 mcs. 18 db gain at 88 mcs. 8 db noise figure at 88 mcs. Used to extend lines of TR-95A amplifier. **User net price: \$29.50 to \$35.00.**

INTEC—model AB03 bridging amplifier. Operates from 20-30, 50-60, or 115 vac. Frequency range 54-95 mcs. Gain, 25 db. Mounts outdoors or on cable. Full transistorized (six) with weatherproof enclosure, 20 db gain control range. Can be cable powered. Four outputs. **User net price: \$225.00.**

INTEC—model ABB-9 fully transistorized line amplifier. Operates from 9-18 vdc, 115 vac, with cable powering provision. Frequency range 53-100 mcs. 35 db gain across range. Indoor or outdoor (weatherproof enclosure) mounting. Manual gain control, test points. 5 db noise figure. Built-in standby DC power source for up to 25 hours operation should commercial AC power fail. **User net price: \$245.00.**

INTEC—model ABB-10 line amplifier. Operates 9-18 vdc, 115 vac. Frequency range 53-100 mcs. 35 db gain. Indoor or outdoor housing. Weatherproof enclosure. Cable powering provision, with built-in standby DC power source should commercial mains fail, for additional 25 hours of operation. AGC. Test points. 5 db noise figure. Six transistors. **User net price: \$295.**

INTEC—model ABB-11 line amplifier. Operates 9-18 vdc, 115 vac. Frequency range 53-100 mcs. 35 db gain. Four transistors. Manual gain control, adjustable tilt, indoor or weatherproof outdoor enclosure. Cable powered. **User net price: \$175.00.**

INTEC—model ABB-12 line amplifier. Operates 9-18 vdc and 115 vac. Frequency range 53-100 mcs. 35 db gain. Six transistors. AGC, adjustable tilt. Indoor or weatherproof outdoor enclosure mounting. Cable powered. **User net price: \$215.00.**

● Single Channel—B

INTEC—model AP-3 preamplifier. Operates 115 vac, with remote power supply located up to 600 feet from the preamp. 6 mcs bandwidth for any VHF channel. Gain-40 db on low band, 35 db on high band. 5 db noise figure at channel 6, 8 db noise figure at channel 13. Supplied with power supply. Completely weatherproof. Battery power supply box available for operation at 9 vdc. **User net price: \$98.00.**

SKL—model 271 antenna channel preamplifier. Operates 28 vdc. Bandwidth 6 mcs. Noise figure channels 2-6, 6 db; noise figure channels 7-12, 8 db. Response within band, plus or minus 1 db. Primary powering through output connector, along cable. **User net price: PNS.**



WHY JERROLD BUILDS MORE CATV SYSTEMS on a "turn-key"* basis than all other manufacturing-contractors combined!

There's ample reason: Jerrold simply gives the owner more—takes every bit of responsibility along the way:

Check this typical Jerrold CATV "turn-key" package:

1. Antenna-site signal survey.
2. Pole-line survey (and assistance in dealing with utilities).
3. Complete systems engineering.
4. All equipment and materials, both construction and electronic—from the "antenna shack" to the "house drop".
5. Construction by the largest, most highly skilled force in the industry.
6. Activation of the new system.
7. *Thorough* checkout.
8. Training of your personnel in system operation and management.

9. Delivery of the fully operating system—on schedule.
10. COMPLETE FINANCING—*on terms to meet your needs.*

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If you want the peace of mind that comes of dealing with a thoroughly integrated organization that knows your needs—leave it to Jerrold.

"turn-key": *You order the system built—we turn the key over to you when it's running full-tilt.*

Some of the New CATV Systems Built by Jerrold in 1960

Chippewa Falls, Wisc.

Eau Claire, Wisc.

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Glasgow, Mont.

Haskell, Texas

Johnstown, Pa.

Manhattan, Kan.

Maysville, Ky.

Mountain Home, Ark.

Munising, Mich.

Ocala, Fla.

Roswell, N.M.

Salisbury, Md.

Somerset, Ky.

Stamford, N.Y.

JERROLD®

ELECTRONICS CORPORATION

Community Systems Division 1SS-5

Headquarters Office, The Jerrold Building

Philadelphia 32, Pa. Telephone 215—Baldwin 6-3456

SKL—model 272 channel amplifier. Operates from external power supply, dc voltage along cable. Bandwidth 6 mcs. Output level stability (when controlled by model 273 channel control amplifier), 2 db. Noise figure, 11 db. Response within bandwidth, plus or minus 2 db. Unit filters, reamplifiers and delivers the signal at a stabilized level to the model 276 converter or model 273 channel control amplifier. **User net price: PNS.**

AMPLIFIERS—UHF 5

● Single Channel—A

CECO—model PRU (series) preamplifier. Operates 115 vac, 60 cycles. Unit available in two designs, single unit design has 10 db minimum gain; double stage design has 20 db minimum gain. Grounded grid high Q cavity circuit, type 7077 or GL-6299 ceramic triodes. Unit mounts at antenna terminals. Weatherproof enclosure, provides lowest noise figure available. Noise figure ranges from 5.5 db (plus-minus 1 db) channels 14-40 to 6.5 db (plus-minus 1 db) channels 61-83. **User net prices vary from \$295.00 to \$495.00.**

HOLT ELECTRONICS—single 6299 type tube UHF preamplifier. 12 db gain. Other information not available. **User net price: \$175.00.**

HOLT ELECTRONICS—two tube UHF preamplifier. 24 db gain. Uses type 6299 tubes (2). No other information available. **User net price: \$295.00.**

INTEC—model AP-2 ultra low noise UHF preamplifier. Operates 115 vac, remote power supply furnished. Unit operates up to 630 mcs. with 416B/6280 type tube. Noise figure 5.0 db at 500 mcs. Weatherproof enclosure. Available for any 6 mcs. bandwidth. 18 db gain. **User net price: \$450.00.**

ANTENNAS 6

● VHF Receiving—A

Consumer—A-1

CHANNEL MASTER—model Super Fan antenna. Ruggedized for durability, super assembled for speedy assembly. Line-Lok eliminates strain on twin-lead terminals by absorbing all transmission line strain. Reinforced elements. Available with connecting-stacking bars for two and four bay installations. Butted or seamless tubing. **List prices vary from \$8.61 for one bay to \$10.42 for one bay.**

CHANNEL MASTER—Maverick VEE model 316 A. Competitive priced with many advanced mechanical features including super ssembled, double wall thickness at stress points, new line tension reliever. 100% all aluminum. **List price \$3.58.**

CHANNEL MASTER—Maverick 319. Double reflector elements for superior front

to back ratios, longer-extended conical elements for improved low-band performance. Super-ssembled for fast installation. **Single stack model 319, list \$9.03. Double stack unit, with stacking kit, \$18.75.**

CHANNEL MASTER—Rainbow. 100% aluminum construction, "snap-lock" pre-assembly. High-impact molded insulators. Triple powered high band elements. Choice of narrow spaced stacking bars (60 inches) or wide spaced stacking bars (90 inches). **Single stack list price \$19.44. Stacking bars \$2.22 list.**

CHANNEL MASTER—Skyblazer all-channel fringe area antenna. 100% super-ssembled. New impedance compensating inductance coil for more powerful low band performance. Coil does not resonate at high band frequencies. **List price \$21.53.**

CHANNEL MASTER—model Color Prince antenna for intermediate signal areas. Three driven elements. Heavy duty brackets at all points. 100% aluminum and lightweight. In-line design combination hi-band, low-band yagi. **List price \$15.28.**

CHANNEL MASTER—model Color King "semi-traveling wave-yagi" configuration. Controlled impedance dipole system. Impedance compensating inductance coil. Ruggedized construction. One piece construction. **List price \$22.92. Booster kit available (four additional director elements), list \$6.94.**

CHANNEL MASTER—model Hi-Bander channel 7-13 yagi. Available in 6 elements or 10 elements. Twin-tuned dipole with special phasing system. Flat gain across hi-band for color. Fully assembled, snap-lock construction. **Model 673—6 elements, list price \$6.94. Model 1673—10 elements, list price \$9.86.**

CHANNEL MASTER—10 element Z-Match and Challenger series. Number of features including "Super-Nest" double U-bolt mast clamp, "line-Lok" stress reliever support, reinforced elements, reinforced dipole, and super-ssembled. Prices vary according to number of elements (5 or 10) and channel.

CHANNEL MASTER—Crossfire series. New line of high gain VHF antennas for extreme fringe and difficult signal area reception. 9 driven elements and two directors on the low band, 27 driven elements and 12 directors on the high band. Front to back ratios to 16:1 on low and high bands. Protected against atmospheric corrosion, salt air corrosion, galvanic corrosion and stress corrosion. **List prices PNS.**

TACO—model number 707-5 911 VHF channels, IFM. Fringe area yagi antenna line. Seven elements on 81 inch boom. Ruggedized construction, forward gain 4.5 db to 11 db as measured by dipole comparison. 10-20 db front-to-back ratio as measured on polar recorder. 300 ohm impedance, available plain or anodized. Guaranteed for 12 months. **User net price: \$16.17.**

TACO—model 707-6 fringe area yagi antenna line. Covers all VHF TV channels, IFM. 9 elements on 102 inch boom. Ruggedized construction. Forward gain 5.5 db to 11.5 db, as measured by comparison against free space dipole. Front-to-back ratio 12-20 db as measured by polar recorder. 300 ohm impedance. Available plain or anodized, guaranteed for twelve months. **User net price: \$22.77.**

TACO—model 707-8 yagi antenna line. Covers all VHF channels, IFM. 10 elements on 125 inch boom. Ruggedized construction. Forward gain 6.5-12 db as measured against dipole in free space. Front-to-back ratios measured on polar recorder: 15-20 db across spectrum. 300 ohm feed impedance. Available plain or anodized, guaranteed 12 months. **User net price: \$32.97.**

CATV-MATV-Translator—A-2

EITEL ELECTRONICS—model VHF-Y5 line of ruggedized transmitting-receiving yagi antennas. Five elements, boom length depends on channel. Models available for frequency range 54-220 mcs. 9 db gain, measured against free space dipole. 50, 75, 400 ohm feed impedances available. **User net price: PNS.**

SITCO—model number 94 heavy duty construction yagi line for off-the-air pick up in extreme fringe areas. Available for all low-band channels. Quad array totaling 32 elements. Boom length carries from 157 inches for channel 6 to 230 inches for channel 2. 8 elements per single yagi, 4 yagis per configuration. Forward gain 20.0 db as measured against dipole in free space. Front-to-back ratio 12.7 to 1, as measured on relative field strength basis. 300 ohm feed impedance. **User net prices vary from \$408.00 each at channel 2 to \$282.00 each at channel 6.**

SITCO—model 102 heavy duty 48 element high band (7-13) Quad array. Used for off-the-air pick up in extreme fringe areas. Cut to channel. Boom length varies from 97 inches at channel 13 to 116 inches at channel 7. 20 db forward gain, as measured against dipole in free space. Front-to-back ratio 17.0 to 1 db. 300 ohm feed impedance. **User net prices vary from \$141.20 each for channel 7 to \$124.80 each at channel 13.**

SITCO—model 9312 HD cut-to-channel high band yagis. Off-the-air extreme fringe area reception. 12 elements on booms varying from 97 inches at channel 13 to 116 inches at channel 7. Ruggedized heavy duty construction. 15 db gain per 12 element yagi. 15.7 to 1 front to back ratio. 300 ohm feed impedance. **User net prices vary from \$23.80 each for channel 7 to \$20.85 each for channel 13.**

SITCO—model 718 HD hi-band cut to channel yagi antenna. Off-the-air pick up in extreme fringe areas. 8 elements, on booms varying from 64 inches for channel 13 to 76 inches for channel 7. Ruggedized heavy duty construction. Forward gain, 13 db. Front-to-back ratio 12.3 to 1. 300 ohm feed impedance. **User net price: All channels, \$18.95.**

SITCO—model 848 HD low-band cut to channel yagi series. 8 elements, on boom lengths that vary from 157 inches for chan-

nel 6 to 230 inches for channel 2. Ruggedized heavy duty construction. 14.0 db gain. 9.2 to 1 front-to-back ratio. 300 ohm feed impedance. **User net prices vary from \$54.75 for channel 2 to \$35.80 for channel 6.**

TACO—manufactures a complete line of ruggedized heavy duty construction 10 element yagi antennas designed for extreme fringe area off-the-air reception areas. Information not supplied to TVH for Directory.

● UHF Receiving—B

Consumer—B-1

CHANNEL MASTER—model Dyna-Lite all aluminum UHF corner reflector, mfg. No. 4120-A. All aluminum construction, for rust protection. Factory pre-assembled. Free space terminals, high impact molded plastic insulator. **List price: \$6.25.**

CHANNEL MASTER—model Maverick Multi-Bow 4 bay bowtie and screen, mfg. number 4220B. Free space terminals, free space cross over bars, connecting rods extra heavy gauge wire. Rigid and rugged. Vertical crossarm is gripped and locked by brackets on both sides. Supersembled. **List price: \$8.19.**

TACO—model 3040 fringe area UHF-TV antenna. 12 elements, bow tie, with screen. Covers frequency range 574-890 mcs. 36 inch vertical height. Forward gain, 16-19 db gain. Front-to-back ratio, 20 db. 300 ohm nominal feed impedance. Full wave bow tie elements. **User net price: \$20.10.**

TACO—model 3044 fringe area UHF-TV receiving antenna. Covers frequency range 574-890 mcs. Four element bow-tie array with screen. 36 inch boom. Forward gain 10.5 to 13 db. Front-to-back, 20 db. 300 ohm nominal feed impedance. Full wave bow-tie elements. **User net price: \$5.25.**

Translator—B-3

CHANNEL MASTER—model 425 UHF Para-Scope parabolic antenna. Six foot dish with twin bow-tie (with screen) pick up point. Gain 14.5 to 19.1 db across the UHF-TV spectrum, peaking at the translator channels. Signal striking the screen is reflected directly to the twin-bow ties. Pre-assembled, lightweight construction. Requires six foot mast section. **List price: \$46.33.**

CHANNEL MASTER—model 426 translator antenna peaked for channels 70-83. 16 element delta-weld yagi with corner reflector. **List price: \$10.42.**

TACO—manufactures a line of translator (channels 70-83) UHF antennas. No information supplied by the manufacturer.

WINEGARD—manufactures a line of translator (channels 70-83) UHF antennas. No information supplied by the manufacturer.

● Amplified—C

CHANNEL MASTER—model 0020 JET-ROD antenna mounted transistorized signal amplifier and set coupler. An electronic boost to any TV and FM antenna for 1,2,3 or 4 receivers. Designed to match Channel Master Crossfire line of antennas. **List price: PNS.**

TACO—model G990-5, 7 element yagi antenna for low-high band VHF, and FM. Includes mast mounting preamplifier. Forward gain, 20-29 db (includes amplifier). Front to back ratio, 10-20 db. 300 ohm impedance. Amplifier matched to antenna. **User net price: \$47.85.**

TACO—model G990-6 9 element antenna for low and high band TV and FM. Includes antenna mounting transistorized amplifier, matched to antenna. 21-29 db gain (includes amplifier). Front to back ratio 12-20 db. 300 ohm nominal feed impedance. **User net price: \$55.05.**

TACO—model G990-8 10 element antenna for low and high band VHF-TV and FM. Includes antenna mounting preamplifier, matched to antenna. Forward gain 22-30 db. Front to back ratio, 15-20 db. 300 ohm nominal feed impedance. Multiple fed elements. **User net price: \$65.85.**

WINEGARD—models P55X, P44X fringe area low and high band antennas. Frequency range 54-88 mcs, 174-216 mcs. 21 elements, 129 inch boom. Forward gain 26.2 db (includes antenna mounted am-



plifier), front-to-back ratio 26:1. 300 ohm feed impedance, through tapered T section. All transistorized models SP55X, P55X and P55 have both 75 and 300 ohm output at the antenna. Power supply mounts at set with 75 and 300 ohm input/outputs, and three position gain switch. Maximum signal level with transistor type 10,000 uV. Tube types SP44X, P44X and P44 are 300 ohm only, with maximum signal input of 60,000 uV. **User net price: \$91.90.**

WINEGARD—model PY-2 thru PY-13 high gain cut-to-channel with transistorized pre-amplifier mounting at the antenna. Frequency range, 54-108 mcs. (IFM) and 174-216 mcs. 8 elements on low band models, 12 on high band models. Boom length varies from 90 to 144 inches. Forward gain is 28 db (includes amplifier), front to back ratio is 30:1. Each antenna contains a complete built-in mixing coupler, allowing the mixing of several antennas on different channels to a common down lead. Remote power supply will drive up to 8 inter-

(Continued on page 30)

Directory Reading Instructions

Refer to page 8 for a detailed break-down of Directory sections. Generally speaking, the complete Directory is arranged in an alphabetical order. Twenty-eight master sections are included, with nearly 100 sub-sections. The first section in the Directory is "AGC Control Systems," while the "Translators" and "Transmitting Antennas" bring up the latter portions of the Directory. Sub-sections within Master Sections further break-down such broad divisions as "Amplifiers — CATV" (which is section number 2) into the various types of amplifiers, i.e., "bridging, distribution, head end" etc.

In some instances you will note that a few sub-sections listed on page 8 as appearing "do not appear." These sub-sections were originally set up to accommodate units known to be manufactured. However, when no data was received on units in these particular sub-sections, no listings could be completed. Thus do not become alarmed if sub-sections go from "A" to "D" with no B and C listings as shown on page 8.



A number of abbreviations appear from time to time in the text:

PNS—Price not supplied

NIP—No longer in production

VHF—Very High Frequency
(channels 2-6, 7-13)

UHF—Ultra High Frequency
(channels 14-83)

IFM—Includes FM band,
88-108 mcs.

NOTE: Blonder Tongue/Benco prices quoted in this Directory are for United States residents only. Canadian residents should contact Benco for Canadian price quotations.

ANNOUNCEMENT:

TACO joins JERROLD

to bring you an antenna line that will put new power
in TV/FM reception...and in your antenna sales

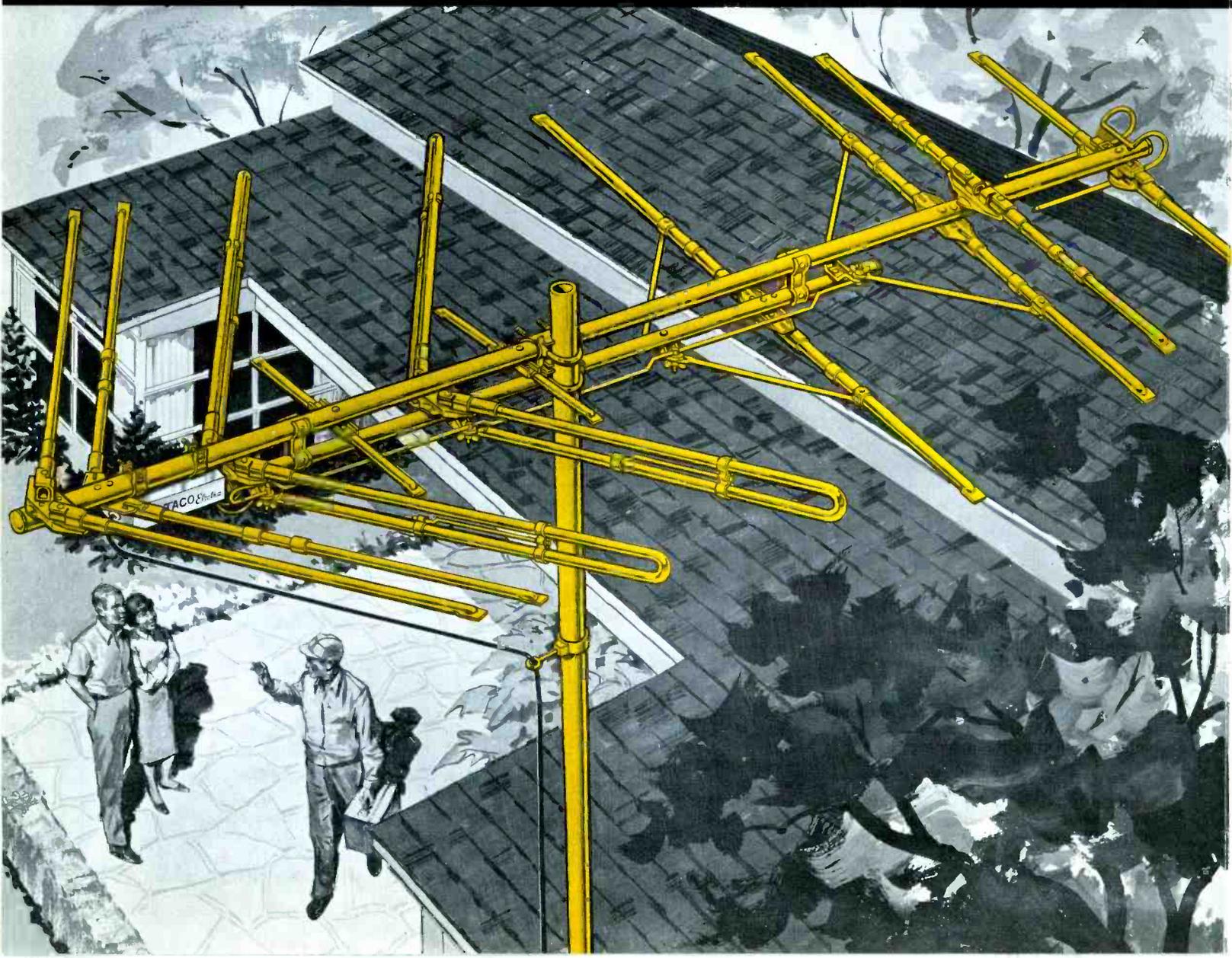
This news is of the greatest importance to you if you sell and install home television antennas.

There's a great new leader in the antenna business. TACO, internationally recognized by industry, the military, and the TV serviceman as the manufacturer of the best-performing, most rugged of antennas, is now a part of JERROLD ELECTRONICS CORPORATION, the industry's leader in TV/FM reception aids.

How does this news affect you? How will the new Taco-

Jerrold combination help you sell more antennas—better antennas—than ever before?

Here's how: By giving you, in the T-BIRD and the T-BIRD ELECTRA, the very best antenna line in the business today—a line having all the quality and precision that Taco builds into tough satellite-tracking, defense, and commercial antennas... a line that's tops in engineering, in performance, in pricing, in packaging, in promotion, and in aids to you.



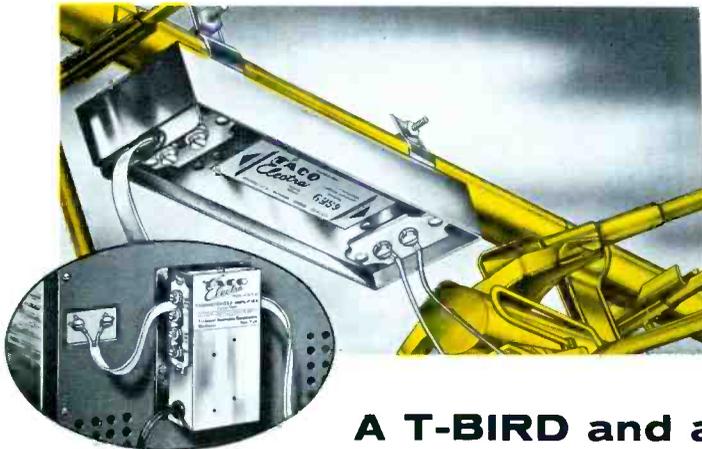
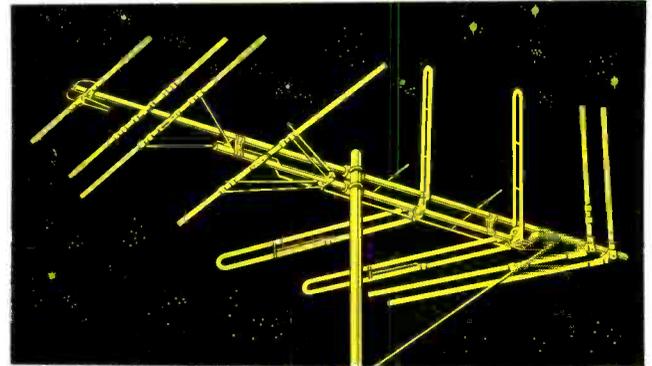
HOW THE NEW



ELECTRA

combines the leading talents in electronics and antenna design

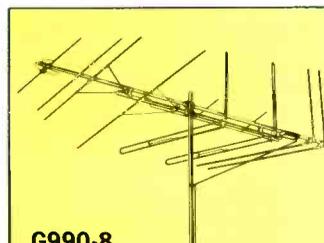
- Built rugged like all TACO antennas, the T-BIRD and T-BIRD ELECTRA use 7/16" tubing, sturdiest in the industry.
- "Delta" ("T"-match) feed system gives sharpest forward pattern — on every channel. Better than 10:1 front-to-back ratio.
- 100% rustproof. Gold-anodized and iridited (a conductive coating). Exclusive stainless-steel U-bolts.
- Engineered to eliminate unnecessary elements or harnesses that add weight and invite wind damage.
- Chrome-alloy aluminum used throughout—twice as strong as other antennas.
- Complete pre-assembly makes installation fast, sure and permanent.



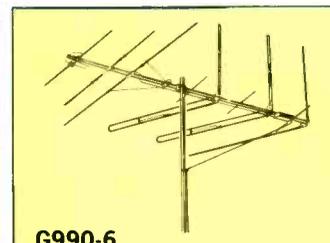
- TACO transistor preamplifier, designed by Jerrold, is matched to perform ideally with T-BIRD ELECTRA.
- Highest gain on both high and low channels, lowest System Noise Figure.
- No batteries, no polarity problems when connecting download.
- Remote a-c power supply feeds two sets.
- No maintenance worries—put up the T-BIRD ELECTRA and forget it!
- Every TACO antenna carries, in writing, a one-year warranty.

A T-BIRD and a T-BIRD ELECTRA for every home

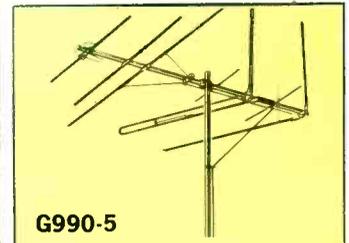
With six models of T-BIRD (non-powered) and three models of T-BIRD ELECTRA (powered) antennas, TACO gives you the right antenna for every suburban-to-fringe-area requirement. Performance, reliability, and long life found in no other antenna at any price.



G990-8
The world's most powerful electronically-amplified antenna. Gets pictures and sound where others fail. Supplies the finest signal source for multi-set installations.
List \$109.75



G990-6
Just right for installations not requiring the ultra-powerful gain of the G990-8. Will provide sparkling clear, sharp pictures in black-and-white or color, on one, two, or more sets.
List \$91.75



G990-5
Lowest-price T-BIRD ELECTRA. Offers all the inherent advantages of transistor amplification plus a matched system of amplifier and antenna. Brings in stations beyond the reach of ordinary antennas.
List \$79.75

WATCH TACO GO!

The new T-BIRD and T-BIRD ELECTRA are without doubt the line to watch in the big months ahead. When you're handling the TACO line, you'll be watching from the driver's seat. So don't be passed by—get all the facts on T-BIRD and T-BIRD ELECTRA antennas — the line that's making antenna history! Ask your distributor, or write for details.



TECHNICAL APPLIANCE CORPORATION

A Subsidiary of Jerrold Electronics Corporation

DEPT. TVH-12, SHERBURNE, NEW YORK

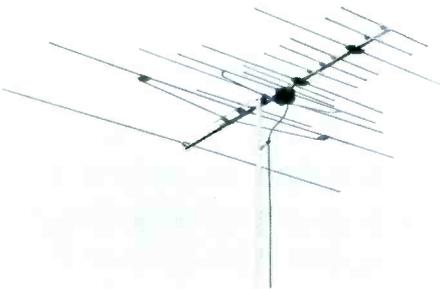
coupled antennas. Power supply has both 75 and 300 ohm input and output. **User net price: \$49.50 to \$69.50 plus \$14.30 for power supply.**

WINEGARD—models SP55X, SP44X high gain all channel amplified yagi antennas. Frequency range, 54-88 mcs., 174-216 mcs. 30 elements on 15' 3" boom. Forward gain, 29.5 db over half wave dipole (includes amplifier gain). Front to back ratio, 30:1. 300 ohm feed impedance through tapered "T" driven element. Antenna gold



anodized. All transistorized antenna models SP55X, P55X, P55 have 75 and 300 ohm output at the antenna. Maximum input signal, 10,000 uV. Power supply has 75 and 300 ohm input-output. 3 position gain switch. All tube models SP44X, P44X, P44 have balanced 300 ohm input at antenna, maximum input signal of 60,000 uV. 300 ohm input-output. **User net price: \$104.95.**

WINEGARD—model P55 and P44 high gain VHF yagi antenna with antenna mounting preamplifier. Frequency range 54-88 mcs. and 174-216 mcs. 14 elements, 78 inch boom. Ruggedized construction. Forward gain 24.1 db (includes antenna mounting preamplifier). Front to back ra-



tion, 24 db. Feed impedance 300 ohms through Tapered T driven element. Amplifier and antenna integral unit. Antenna gold anodized. All transistorized models have 75 and 300 ohm outputs at antenna and 75/300 ohm input-output at remote power supply. 10,000 uV maximum signal, with three position gain switch. Tube types 300 ohm only, maximum signal input of 60,000 uV. **User net price: \$74.95.**

● FM—D

CHANNEL MASTER—models 4403, 4400, 4401, 4402 FM antennas. Includes turn-style omni-directional (4403—**list price: \$9.03**), same antenna with installation kit (**list price: \$13.75**), model 4402 10 element FM yagi (**list price: \$27.65**) and model 4401 5 element yagi (**list price: \$16.50**). Yagis available with stacking bars at no cost.

TACO—multiplexer series of antennas, a line of 3, 5 and 10 element gammatuned 72 ohm yagis. Each model is cut to channel on a specific frequency upon order to satisfy the requirements of multi-plex reception. A full year written warranty, built-in coax connector and quick-rig construction. **User net price: PNS.**

CABLES— COAXIAL

7

● Drop Lines—A

CAS—model 9101 RG 59/U foam type cable. Frequency range (swept) 10-220 mcs. HMW jacket. Loss per 100 feet 1.92 db at channel 6. **User net price: \$27.50 per 1,000.**

CAS—model 9112 RG 59/U foam type cable, with messenger support. Frequency range 10-220 mcs., swept. With messenger support. Loss per 100 feet at channel 6, 1.92 db. **User net price: \$38.00 per 1,000 feet.**

ENTRON—line of coaxial cables for drop, feeder and trunk line applications. Detailed information not supplied.

TIMES WIRE—model JT-202 television transmission cable. Frequency range 20-220 mcs. Cable sweeps flat within .5 db in 40 db of cable. Long life Xelon jacket. Foamed poly dielectric. Loss per 100 feet 2.65 db at 100 mcs. **User net price: Depends on quantity.**

TIMES WIRE—model JEL and JT television transmission cable. Frequency range 20 to 220 mcs. Cable sweeps flat within .5 db in 40 db of cable. Long life Xelon jacket. Price depends on quantity.

TIMES WIRE—model number JEL-105 television transmission cable. Frequency range 20-220 mcs. Long life Xelon jacket. Price depends on quantity.

TIMES WIRE—model JEL-105ms television transmission cable. Long life Xelon jacket. Frequency range 20-220 megacycles. Price depends on quantity.

TIMES WIRE—model JT-205 television transmission cable. Long life Xelon jacket. Frequency range 20-220 mcs. Price depends on quantity.

TIMES WIRE—model JT-205 MS television transmission cable. Long life Xelon jacket. Frequency range 20-220 mcs. Price depends on quantity.

TIMES WIRE—model RG-59/U (black) television transmission cable. Frequency range 20-220 mcs. Price depends on quantity.

TIMES WIRE—model RG-59/U MS television transmission cable. Frequency range 20-220 mcs. Price depends on quantity.

TIMES WIRE—model RG-59/U television transmission cable (gray). Frequency range 20-220 mcs. Price depends on quantity.

VIKING CABLE—model 59U (single) and 59UD (double). Single and double shielded coaxial cables. Loss per 100 feet, channel



6, 3.5 db. Non-contaminating polyethylene jacket. **User net price: 59U—\$27.00 per 1,000 feet; 59UD—\$54.00 per 1,000 feet.**

VIKING CABLE—59 UM (regular) and F59-UM (foam) television transmission cable. 59U coaxial cable with built-in messenger wire, regular and foam dielectric. Swept



from 54-216 mcs. Loss per 100 feet 3.5 db at channel 6 for solid dielectric; 2.9 db per 100 feet foam dielectric. E-Z strip feature, figure 8 construction. **User net prices: 59-UM—\$38.00 per 1,000 feet. F59UM—\$42.00 per 1,000 feet.**

VIKING CABLE—model F59 single and FD-59 double shielded television transmission cable. Swept from 54-216 mcs. Non-con-



taminating polyethylene jacket. Loss per 100 feet at channel 6, 2.9 db. **User net price: F59—\$30.00 per 1,000 feet; FD59—\$58.00 per 1,000 feet.**

VIKING CABLE—model VK11S (single) and VK11D (double) television transmission cable. Swept, 54-216 mcs. Loss per 100 feet at channel 6, 1.3 db. Flat strip braid shield,



same O.D. for single and double shielded types. Non-contaminating poly jacket. **User net prices: VK11S—\$75.00 per 1,000 feet; VK11D—\$96.00 per 1,000 feet.**

● Feeder Lines—B

CAS—model 9210 RG/11U self supporting strip braid television transmission cable. Used for trunk and feeder lines. Loss per 100 feet, 1.32 db at channel 6. Swept from

10-220 mcs. Has extruded No. 9 steel mes-sanger. Low loss strip braid. **User net price: \$77.50 per 1,000 feet.**

• • •

TIMES WIRE—model JEL-100 television transmission cable. Frequency range 20-220 mcs. Used for transportation, trunk and feeder lines. Cable sweeps flat within .5 db in 40 db of cable. Long life Xelon jacket. **User net price: Depends on quantity.**

• • •

TIMES WIRE—model JEL-101 television transmission cable. Frequency range (swept) 20-220 mcs. Cable sweeps flat within .5 db in 40 db of cable. Long life Xelon jacket. **User net price: Depends on quantity.**

• • •

TIMES WIRE—model JEL-101A television transmission cable. Swept, 20-220 mcs. Cable sweeps flat within .5 db in 40 db of cable. Long life Xelon jacket. Trunk or feeder line. **User net price: Depends on quantity.**

TIMES WIRE—model JEL-103 television transmission cable. Cable sweeps flat within .5 db in 40 db of cable. Trunk and feeder lines. Long life Xelon jacket. **User net price: Depends on quantity.**

• • •

TIMES WIRE—model JEL-104 television transmission cable. Trunk and feeder lines. Cable sweeps flat within .5 db in 40 db of cable. Long life Xelon jacket. **User net price: Depends on quantity.**

• • •

TIMES WIRE—model JEL-104A television transmission cable. Trunk and feeder cable. Cable sweeps flat within .5 db in 40 db of cable. Long life Xelon jacket. **User net price: Depends on quantity.**

• • •

TIMES WIRE—model JEL-106 television transmission cable. Trunk and feeder lines. Cable sweeps flat within .5 db in 40 db of cable. Long life Xelon jacket. **User net price: Depends on quantity.**

• • •

TIMES WIRE—model JT-200 television transmission cable. Cable sweeps flat within .5 db in 40 db of cable. Foam poly dielectric. Long life Xelon jacket. Loss per 100 feet, 1.44 db at channel 13. **User net price depends on quantity.**

• • •

TIMES WIRE—model JT-200D television transmission cable. Cable sweeps flat within .5 db in 40 db of cable. Frequency range 20-220 mcs. Foamed poly dielectric. Long life Xelon jacket. Loss per 100 feet, 1.44 db at channel 13. **User net price: Depends on quantity.**

• • •

TIMES WIRE—model JT-201 television transmission cable. Cable sweeps flat within .5 db in 40 db of cable. Long life Xelon jacket. Frequency range, 20-220 mcs. Foamed poly dielectric. Loss per 100 feet, 1.44 db at 11 mcs. Trunk and feeder line. **User net price: Depends on quantity.**

• • •

TIMES WIRE—model JT-201A television transmission cable. Frequency range 20-220 mcs. Cable sweeps flat within .5 db in 40 db of cable. Long life Xelon jacket. Foam poly dielectric. Loss per 100 feet, 1.44 at channel 13. **User net price: Depends on quantity.**

TIMES WIRE—model JT-203 trunk and feeder line cable. Swept from 20-220 mcs. Long life Xelon jacket. Foamed poly dielectric. Loss per 100 feet, 2.20 db at 100 mcs. **User net price: Depends on quantity.**

• • •

TIMES WIRE—model JT-204 television transmission cable, for trunk and feeder lines. Cable sweeps flat within .5 db in 40 db of cable. Long life Xelon jacket. Foamed poly dielectric. Loss per 100 feet, 1.44 db at 100 mcs. **User net price: Depends on quantity.**

• • •

TIMES WIRE—model JT-204A trunk and feeder line cable. Cable swept from 20-220 mcs. Long life Xelon jacket. Foamed poly dielectric. Loss per 100 feet, 1.44 db at 100 mcs. **User net price: Depends on quantity.**

• • •

TIMES WIRE—model JT-211 television transmission cable. Cable sweeps flat within .5 db in 40 db of cable. Trunk and feeder line. Long life Xelon jacket. Foam poly dielectric. Loss per 100 feet at 100 mcs., 2.20 db. **User net price: Depends on quantity.**

• • •

TIMES WIRE—model JT-301 television transmission cable. Cable sweeps flat within .5 db in 40 db of cable, 20-220 mcs. Long life Xelon jacket. Foamed poly dielectric. Loss per 100 feet at 100 mcs., 1.44 db. **User net price: Depends on quantity.**

• • •

TIMES WIRE—model JT-304 television transmission cable. Cable swept from 20-220 mcs. Long life Xelon jacket. Foamed poly dielectric. Loss per 100 feet at 100 mcs., 1.44 db. Trunk and feeder cable. **User net price: Depends on quantity.**

• • •

TIMES WIRE—model JT-400D transportation trunk and feeder line. Cable sweeps flat from 20-220 mcs. within .5 db in 40 db of cable. Long life Xelon jacket. Foamed poly dielectric. Loss per 100 feet at 100 mcs., .3 db. **User net price: Depends on quantity.**

• • •

TIMES WIRE—model JT-400S transportation trunk and feeder line. Cable sweeps flat within .5 db in 40 db of cable from 20-220 mcs. Loss per 100 feet at channel 13 is 1.3 db. Long life Xelon jacket. Foamed poly dielectric. **User net price: Depends on quantity.**

• • •

TIMES WIRE—model JT-404D trunk and feeder line cable. Cable sweeps flat within .5 db of 40 db of cable. Long life Xelon jacket. Foamed poly dielectric. Frequency range 20-220 mcs. Loss per 100 feet at channel 13, 2.2 db. **User net price: Depends on quantity.**

• • •

TIMES WIRE—model JT-404S trunk and feeder line television transmission cable. Cable sweeps flat within .5 db in 40 db of cable, over 20-220 mcs. Long life Xelon jacket. Foamed poly dielectric. Loss per 100 feet at channel 13, 2.2 db. **User net price: Depends on quantity.**

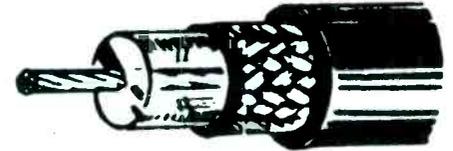
TIMES WIRE—model JT-408D trunk and feeder television transmission cable. Cable swept flat 20-220 mcs. within .5 db for 40 db of cable. Long life Xelon jacket. Foamed poly dielectric. Loss per 100 feet, 1.6 db at channel 13. **User net price: Depends on quantity.**

• • •

TIMES WIRE—model JT-408S trunk and feeder line cable. Cable swept from 20-220 mcs. within .5 db in 40 db of cable. Long life Xelon jacket. Foamed poly dielectric. Loss per 100 feet at channel 13, 1.6 db. **User net price: Depends on quantity.**

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VIKING CABLE—model 11U single, 11U double coaxial cable. Swept over frequency range of 54-216 mcs. Loss per 100 feet at



88 mcs., 1.8 db. Non-contaminating poly jacket. **User net prices: 11U single, \$62.00 per 1,000 feet. 11U double shield, \$96.00 per 1,000 feet.**

• • •

VIKING CABLE—model F11 single and FD11 double shielded coaxial cable. Foam type cables. Loss per 100 feet at 88 mcs.,



1.40 db. Non-contaminating poly jacket. **User net prices: F11 (single), \$69.00 per 1,000 feet. FD11 (double), \$99.00 per 1,000 feet.**

• • •

VIKING CABLE—models VK108S (single) and VK108D (double) strip braid coaxial cable for main line and feeder line use. Loss per 100 feet, 1.0 db at 88 mcs. Lower loss and larger diameter than RG-11/U type coaxial cable. O.D. is same for single and double shielded types. Non-contaminating poly jacket. **User net prices: VK108S (single), \$104.00 per 1,000 feet. VK108D (double), \$126.00 per 1,000 feet.**

● Trunk Lines—C

BENCO—model BAL-11F 75 ohm coaxial trunkline and distribution cable. Unicellular, poly dielectric, seamless aluminum tubing (sheath). Loss per 100 feet at 200 mcs.: 1.65 db. Frequency range, 10-250 mcs., swept. Virtually radiation proof. **For Canadian user net prices: Contact Benco Associates.**

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BENCO—model BAL-11FP trunkline and distribution cable. 75 ohm, coaxial, unicellular, poly dielectric, seamless aluminum tubing with black p.v.c. cover. Designed for coastal areas, or buried installations. Corrosion proof. Loss per 100 feet at 200 mcs.—1.65 db. Frequency range, 10-250 mcs. **For Canadian user net price: Contact Benco Associations.**

BENCO—model BAL-14F trunkline and deadrun coaxial cable. Unicellular poly dielectric, seamless aluminum tubing. Loss per 100 feet at 200 mcs.—1.16 db. Frequency range, 10-250 mcs.—swept. Radiation proof. Also available in model BAL-14FP corrosion proof with black p.v.c. cover. **For Canadian user net price: Contact Benco Associates.**

CAS—model 9212 self supporting low loss strip braid coaxial cable. Built-in messenger line. Swept operating range, 10 to 220 mcs. Loss per 100 feet at channel 6, 1.01 db. Primary use, trunk line. **User net price: \$105.50 per 1,000 feet.**

TIMES WIRE—model JT-404 DR trunkline specially coded television transmission cable. Cable sweeps flat within .5 db in 40 db of cable, over range of 20-220 mcs. Cable has extruded in jacket ridge for easy identification of trunk versus feeder. Loss per 100 feet at channel 13 is 2.2. Long life Xelon jacket. Foamed poly dielectric. User net price depends on quantity.

MORELL ELECTRONICS—a line of solid copper welded sheath coaxial cable designed to last for indefinite period of time. "Never needs replacement." Loss at channel 13, 2.25 db per 100 feet. Write manufacturer for full data.

VIKING CABLE—models VK100S (single) and VK100D (double) strip braid coaxial cable for main line, long run use. Loss per 100 feet, 0.77 db at 88 mcs. Frequency range, swept from 54-216 mcs. Lowest loss and larger diameter than RG11/U type. Same O.D. for single and double shield types. Non-contaminating poly jacket. **User net prices: VK100S (single), \$200.00 per 1,000 feet. VK100D (double), \$230.00 per 1,000 feet.**

CABLES-- OPEN LINE 8

VIKING CABLE—model 450W and 300W open wire TV line. No. 18 gauge copper-weld parallel wires with styrene separators. Available with spacers placed 6 inches or 12 inches along length of line. 450W is 450 ohm type. 300W is 300 ohm type. **User net prices: Model 450W, with 6 inch spacers, \$15.00 per 1,000 feet; with 12 inch spacers, \$13.00 per 1,000 feet. Model 300W, with 6 inch spacers, \$15.00 per 1,000 feet; with 12 inch spacers, \$13.00 per 1,000 feet.**

CABLE GROUND- ING BLOCKS 9

VIKING CABLE—model 920 grounding block. For indoor installation. Holds RG-59/U cable and ground wire. Eliminates necessity of cutting coax cable. Works on pressure principle. Die cast zinc block. VIKO plated. Size, 1 1/8 inches by 1 inch by 3/4 inch. Packed 50 to a shipping carton, complete with screws. **User net price: \$.60 each.**

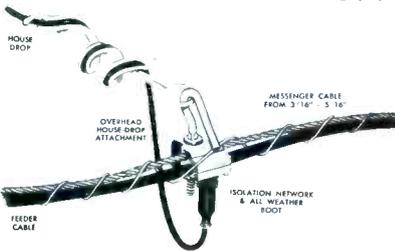
CABLES--POWER 10

GREAT WESTERN—long haul remote location powering cable for mountain top antenna installations. Armoured cable, center conductor, 4 separate strands, all solid number 12 copper. Second conductor, 11 separate strands, each solid number 16 copper. 10,000 volt breakdown with 15 amp capacity. Cable available (brand new) in 1,000 foot spools. Tensile strength in excess of 6 tone. **User net price: \$.34 per foot.**

CABLE TAPS 11

● Pressure—A

VIKING CABLE—model 901 and 900 all weather capacitive type pressure taps. Special features. Saves time, money and labor. Eliminates cable cutting. VIKO plated. Available within all ranges of attenuators. Each supplied as complete unit, i.e. pressure tap, attenuator, cable couplings, pro-



ductive neoprene boot. Complete attenuation range from (highest) 41 db at channel 2 to lowest (7 db) at channel 13 available. Insertion loss varies from .04 db at channel 2 to 1.3 db at channel 13. **User net price: Model 900 (single), \$2.75 each complete. Model 901 (double) \$2.75 each complete.**

● Resistive—B

VIKING CABLE—models 921 and 922 all weather resistive type taps. Special features. Saves time, money and labor by eliminating cable cutting when making a tap. VIKO plated. Available with all ranges of attenuators. Supplied as complete unit in-



cluding pressure tap, attenuator, boot, etc. Attenuation ranges available vary from 41.5 db (highest) at channel 2 to 28.5 (lowest) at channel 13. Insertion loss varies from .2 db to .05 db. **User net prices: Model 921 (single), \$2.95 each. Model 922 (double), \$2.95 each.**

CARRIER GENERATOR EQUIPMENT 12

JERROLD—model CCG (*) (specify channel number) crystal-controlled carrier generator. Provides constant level carrier signal for automatic gain control unit; high output is constant within plus/minus 1 db for AC line variations between 90 and 135 volts. Has plug-in attenuator pads for cable equalization. Gain can be varied manually over a range of 10 db. Operates on any frequency between 6 and 220 mcs. Unit has three tubes, operates from 115 vac, 60 cycles. **User net price: \$155.00.**

JERROLD—model CGS Stand-By Carrier Generator. Energized from separate power supply, model RPS-150, which operates from 115 vac, 60 cycles. Unit manufactures crystal-controlled carriers, sync signal triggering, video carrier modulation control, immune against false triggering by noise and RF signals other than horizontal sync information. Unit provides artificial video and sound carriers during "off-the-air" periods for system maintenance, adjusts TV system levels during non-viewing hours. Six tubes. **User net price: \$250.00.**

SKL—model 448 Pilot Carrier Generator. Used at head end to provide pilot carrier signal for system level control. Fixed frequencies, 31-75 mcs., 34 mcs., 74-25 mcs., 77 mcs. and 182.25 mcs. Mounts on model 452 power supply. Variable output from 35 to 50 dbmv. **User net price: \$145.00 without power supply, add \$200.00 for voltage stabilized power supply.**

SKL—model 451A Channel Control Amplifier. Used to provide stable system input levels, can be used alone as an ALC preamp. Also used as a control amplifier with one or more 450 preamps. Frequency range-standard 6 mcs. through channels 2-13. Low band gain 35 db, high band gain 25 db. 6 db noise figure on low band, 9 db noise figure on high band. Rack, bench or cabinet mounting. 10 tubes, operates from 105-120 vac, 60 cycles. **User net price: \$379.00.**

CLOSED CIRCUIT EQUIPMENT 13

● Origination, Local—A

Cameras—A-1

BLONDER TONGUE—model TVC-1B video camera. 1.0 volt peak-to-peak. 600 line resolution. With RF modulator, double side-band 0.9 volt RF output, on channels 2-13. 100 watts power drain. **PNS.**

BLONDER TONGUE—model TTVC-1 transistorized camera. Automatic light compensation, 2,000 to 1. Video output, 1.25 volts peak-to-peak. 650 line resolution. With RF modulator, 50 millivolts, crystal controlled, double side band RF output on channels 2-13. 13 watts power drain. **PNS.**

Control Consoles—A-2

BLONDER TONGUE—TV console consisting of TTVC-1, DVM-17, two flood lights, audio video modulator, RF output includes video and sound. Other data not supplied. **PNS.**

FROM A TO 'Z'

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Film Chains—A-3

BLONDER TONGUE—model FC-1 Vidicon 16 mm film chain. Includes transistor camera and film projector. Other data not supplied. **PNS.**

Modulators—A-4

INTERNATIONAL CRYSTAL CO.—model CM-2A music modulator. Unit is designed to take an audio signal and convert it to standard FM carrier plus video carrier on any of the 12 VHF channels. Unit is factory adjusted to specified frequency. Crystal oscillator develops video carrier. Carrier is modulated by a 4.5 mcs. FM oscillator. Lower sideband reduced by more than 40 db. Mounts in standard relay rack. **User net price: PNS.**

FM Tuners—A-5

INTERNATIONAL CRYSTAL CO.—model TD-2A crystal controlled F.M. tuner. Five tube tuner designed for fixed frequency operation. Each unit is factory adjusted to frequency specified by customer. Low level output, high impedance, designed to operate into a standard audio amplifier output. Unit operates from 105-125 vac. 60 cycles. Input frequency range, 50-100 mcs. Input level, 60 uV. I.F. frequency, 10.7 mcs. Output frequency response—50 to 10,000 cps, plus or minus 2 db. NIP. **User net price: PNS.**

CONVERTERS 14

● VHF to VHF—A

BLONDER TONGUE—model Univerter, VHF to VHF converter. Voltage and frequency stabilized circuit provides reliable operation. Most low to high and high to low conversions possible in one conversion. High to high or low to low requires double conversions, as per Benco conversion chart. **PNS.**

BLONDER TONGUE—model CO-2 and CO-2-FM crystal controlled converters. Model CO-2, lo to high, high to lo, lo to lo, high to high conversions. Sub-channel conversions also possible. Model CO-2-FM converts FM signal from commercial FM band to un-used VHF channel. Also generates video carrier frequency. **PNS.**

BLONDER TONGUE—model MLC crystal controlled VHF converter. Low VHF channels to low VHF channels. Amplified. 75 ohm input and output. Mixing output, will convert to adjacent channels. **PNS.**

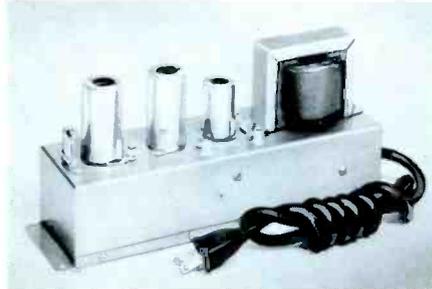
BLONDER TONGUE—model MVC crystal controlled high VHF channels to low VHF channels converter. Amplified. 75 ohm input and output. Mixing output. **PNS.**

EITEL ELECTRONICS—model AMCCPA VHF converter. Lo to high or high to lo conversions. Operates 115 vac, 60 cycles. Three tubes including 6922 cascade stage. Low band unit gain 30 db, noise figure 3 db. High band unit 30 db gain, noise figure

4 db. Unit mounts at antenna. Can be used with VHF translators as a preconversion unit. **User net price: \$150.00.**

HOLT ELECTRONICS—crystal controlled VHF converters. 20 db gain. No other information supplied. **User net price: \$169.95.**

INTEC—model CV-1 crystal controlled fixed VHF to fixed VHF converter. 9-15 db gain on all conversions. Three tubes, oper-



ates from 115 vac, 60 cycles. Input signal level can be as low as 600 uV. Power drain 15 watts. Conversions possible not supplied. **User net price: \$160.00.**

SKL—model 276 crystal controlled transistorized VHF converter. Operates from 28 vdc. Matched input and output. Converts any VHF channel to any other VHF channel with single or double step conversion. Gain, unity to plus/minus 3 db. Rack mounting on panel. Maximum reliability through use of solid state apparatus. User net price not announced.

SKL—model 446 head end converter. Converts any VHF channel to any VHF channel. Some conversions are done in two steps, to avoid spurious responses. Temperature compensated with regulated power supply. Tube



unit, employs two tubes for single conversion, 4 for double conversion. Gain varies from plus 2 db to minus 4 db for single-double conversions, low or high band. **User net price: \$145.00 per converter less power supply. 1 power supply will operate two converters.**

BENCO—model CO-2, VHF to VHF converter. Unit operates from 115 vac, 60 cycles. Mounted in Benco type H housing. Crystal controlled, frequency accuracy to .006%. Unit usually connects between PA and CA amplifiers at head end of system. Three tubes. 0-20 db conversion gain depending on conversion. **For Canadian user net prices: Contact Benco Associates.**

● UHF to VHF—C

BENCO—model CO-3 UHF converter. Unit operates on 115 vac, 60 cycles. Three tubes, 1 diode. UHF to VHF conversion, .0025% stability over 0-100 degree (F). Unit operates with input signals ranging from 20-120 uV, depending on conversion. Benco Type H

weatherproof housing. Noise figure: 7-10 db from low to high end of UHF band. Maximum input, 2000 uV. Frequency accuracy, .006%. **For Canadian user net price: Contact Benco Associates.**

BLONDER TONGUE—model CO-3 crystal controlled UHF to VHF converter. Built-in UHF preamplifier. **User net price: PNS.**

BLONDER TONGUE—model MUC-UHF to VHF converter. Amplifier, 15-30 db gain. Crystal controlled. 300 ohm input, 75 ohm output. Mixing output. **User net price: PNS.**

BLONDER TONGUE—UC-2 UHF to VHF amplified converter. Stable indoors. 300 ohm input, 75 ohm output. Mixing output. **User net price: PNS.**

EITEL ELECTRONICS—model UHF-AMCCPA crystal controlled UHF converter. Any UHF input to any VHF output. Converter mounts at antenna with remote power supply. UHF injection supplied at antenna. Mixer is 1N82A UHF diode. ECC/6DL4 is used as UHF pre-amp. 6CW4 nuvistor is 1st VHF amplifier. Unit custom built to meet FCC accepted stability standards for UHF to VHF conversion ahead of VHF-output translators. **User net price: \$350.00.**

HOLT ELECTRONICS—model UHF-3 crystal controlled converter-stabilizer with built-in pre-amp. 12 db gain. 75 ohms input and output. Input signal level, 600 to 25,000 uV. Unit operates from 115 vac, 60 cycles. Selenium power supply. **User net price: \$275.00.**

HOLT ELECTRONICS—model UHF-4 crystal controlled converter. 24 db gain, conversion of any UHF channel to any VHF channel. Input signal level, 300 uV to 5000 uV. 75 ohm input-output. 6 mcs. bandwidth. Unit operates from 115 vac, 60 cycles. **User net price: \$375.00. Same unit, without converter (UHF preamp only) \$275.00.**

JERROLD—model 503-HX UHF converter, operates from 115 vac, 60 cycles. Stock factory tuned for MPATI channels 72 and 76; can be supplied to cover any UHF chan-



nel between 70 and 83. Oscillator/power supply mounts indoors. Converter-mixer mounts at antenna. Mixer is cavity tuned K3A (Kemtron). **User net price: \$228.00.**

● Sub Channel to High—E

JERROLD—model CDX-713 sub-to-high channel converter. Unit is powered from Jerrold supply model BDA-26. Frequency



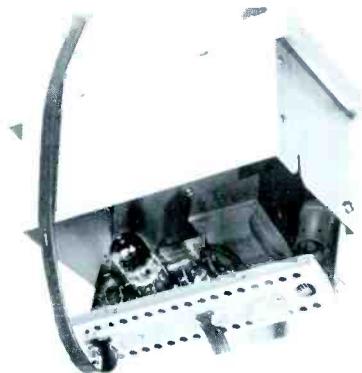
range 4-47 and 174-216 mcs. 15 db gain. Locates at bridging amplifier location in distribution systems. Converts signals in the 4-47 mcs. region to VHF channels 7-13 and then amplifies the converted signal to an appropriate distribution level. Plug in pads for cable equalization. **User net price: \$115.50.**

CONSUMER FRINGE TV 15

● Amplifiers—A Mast, Antenna Mounting—A-1

Also See Section 6C

BLONDER TONGUE—model AB-2 broadband amplifier, mounts at antenna or on mast. Operates from 115 vac, 60 cycles with remote power supply. Frequency range



54 to 216 mcs. 1 type 6DJ8 tube. 10 db gain, low and high bands. Built for consumer use. **User net price: \$32.40.**

BLONDER TONGUE—model AB-3 antenna or mast mounting preamplifier. Broadband from 54-216 mcs. Operates from 115 vac, 60 cycles, with remote set-side power supply. 25 db gain, low and high bands. Power supply can be used up to one mile from amplifier. **User net price: \$64.50.**

BLONDER TONGUE—model AB-4 antenna or mast mounting preamplifier. Broadband from 54-216 mcs. 12 db gain on low band, 10.5 db gain on high band. Battery powered from remote power supply. Connection taps for up to four TV/FM receivers. **User net price: \$19.00.**

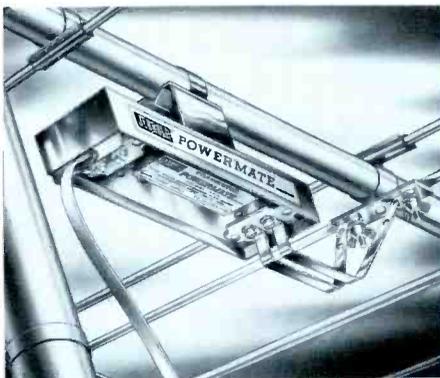
JERROLD—model DSA-202 De-Snower TV-FM antenna-mast mounting preamplifier. Powered from 115 vac, 60 cycle operating remote supply. Frequency range,



54-108 mcs., 174-216 mcs. Unit uses two type 6DJ8 tubes. 20 db minimum gain, low and high band. Rotary switch on remote power supply allows for varying lengths of line runs. Lightweight aluminum housing with iridite finish. Sliding front panel for easy access to unit for servicing. **User net price: \$53.97.**

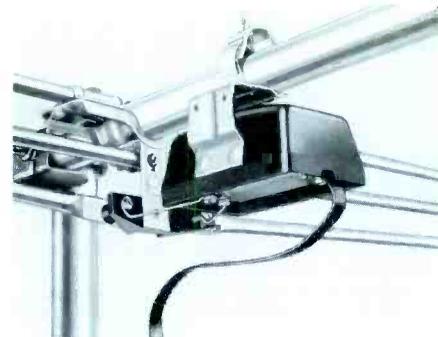
JERROLD—model DSA (denotes channel number) single channel VHF preamplifier, mounts on mast or at antenna. Bandwidth 6 mcs. for any TV channel. Remote 115 vac, 60 cycle operating power supply supplies 24-32 vdc to unit. Switch allows dc voltage change to compensate for cable runs. 28 db gain, any VHF channel. Weatherproof housing with iridite finish. **User net price: \$59.70.**

JERROLD—model APM-101 antenna or mast mounting TV preamplifier. Remote 115 vac, 60 cycle power supply supplies 15 vdc to unit through transmission cable. Transistorized, uses a pair of 2N1742's.



Gain, 18.25 db at channel 2; 13.9 db gain at channel 13. Unit mounts on antenna boom and connects directly into dipole or driven element for maximum transfer of signal energy. Neutralized to prevent self oscillation. Positive match to eliminate feed-back to antenna. **User net price: \$26.63.**

WINEGARD—model MA-300 mast mounting RF amplifier. Single transistor unit. Frequency range of 54-108 mcs., 174-216 mcs. Low band gain, 19 db. Low band noise figure, 3.9 db to 4.5 db. High band gain, 14.5 db. High band noise figure, 4.25 db to 5.0 db. Three way mounting bracket permits amplifier to mount on mast, antenna boom or side of house. Amplifier has high pass filter input and ferrite 300 ohm input-output balancing Xmf's. Power supply includes built-in two set coupler. Power supply mounts at or near set. 115 vac,



power is fed up to amplifier on feedline. **User net price: \$34.95.**

Set Mounting—A-2

BLONDER TONGUE—model B-24C 1 tube broadband indoor mounting television amplifier. Frequency range 54 to 216 mcs.



Stripless terminals. Four set coupler is integral part of amplifier. For home use. Low band gain 11db, hi-band gain 8db. **User net price: \$15.95.**

BLONDER TONGUE—model BTA, 1 tube broadband amplifier. Frequency range 54-216 mcs. Low and high band gain, 8 db.



Mounts indoors. Stripless terminals. Single 6DJ8 tube. Operates from 115 vac, 60 cycles. **User net price: \$10.95.**

BLONDER TONGUE—model IT-3 broadband amplifier. Single transistor. Frequency range, 54-216 mcs. 18 db gain on low band, 9 db gain on high band. Includes four



set coupler, striplless terminals. Consumer use. Mounts indoors. **User net price: \$19.80.**

JERROLD—model 406A single channel preamplifier. Operates from 115 vac, 60 cycles. Uses two tubes, 28 db gain. Mounts indoors, UL approved. Self contained power supply. For low noise preamplification in weak signal areas. **User net price: \$41.97.**

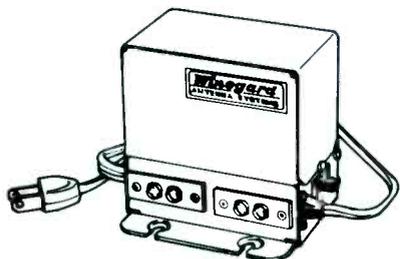
JERROLD—model ABD-8 indoor mounting distribution amplifier. Up to 8 receivers can be connected to a common master antenna, for home or showroom. Self contained power supply. Operating voltage, 115 vac, 60 cycles. 5 tubes. 10 db gain. Cascadable. Frequency range 54-88 mcs. and 174-216 mcs. **User net price: \$65.67.**

WINEGARD—model AT-6, 1 transistor VHF TV (IFM) amplifier. Unit is self contained, operates from 115 vac, 60 cycles. 16 db gain on low band, 14 db gain on high



band. 300 ohm output. with 75 ohm tap. 3 position gain control. Drives up to six TV and/or FM receivers. Preamplifier application. **User net price: \$34.95.**

WINEGARD—model WBC4X Booster-Coupled. Operates from 110 vac, 60 cycles. 1 6DJ8 type tube. Frequency range, 54-108



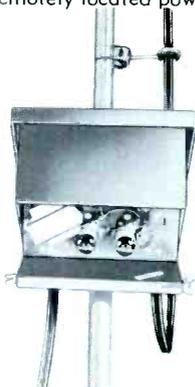
mcs., 174-216 mcs. Low band gain, 12.5 db; high band gain, 12.5 db. Unit mounts indoors, with self contained power supply. Four set coupler, with up to 6 db gain when fully loaded. **User net price: \$27.50.**

JERROLD—model DE-Snowder DSA-132. TV preamplifier, operates through remotely located power supply on 115 vac, 60 cycles. 24-32 fed up feed line from power supply. Five tubes, including 3-6BQ7A type. Frequency range, 54-88 mcs., 174-216 mcs. Low and high band gain, 25db. Unit mounts on antenna mast, and power supply can be located "at considerable distance" from receiver. Remote power supply compensates for long line power losses. Weatherproof housing, iridite finish. **User net price: \$71.70.**

outlet a minimum of 0.5 db. **User net price:**

● Pre Amplifiers, UHF—B

BLONDER TONGUE—UHF amplifier model UB. Operates from 115 vac, 60 cycles, through remotely located power supply. Two



tubes, EC88/6DL4 types. Operates channels 70-83. Minimum gain, 15 db. Amplifier mounts on mast near antenna. **User net price: \$51.00.**

BLONDER TONGUE—UHF amplifier model UB Stratobooster. Operates from 115 vac, 60 cycles. Two tubes, type EC86/6DL4. Frequency range, channels 72 and 76; designed for MPAT test area. 18 db minimum gain. Unit mounts on mast with remote power supply. **User net price: \$62.25.**

● Couplers—C

CHANNEL MASTER—model 0036 Matchmaker two-set coupler. No wires to strip. Interlocked coil forms. Indoor or outdoor installation. Sealed against moisture. Impedance isolation between sets and antenna as well. Works on diplexer principle. **List price: \$5.42.**

CHANNEL MASTER—model 0038 Tele-Tie two-set TV coupler. Uses wheatstone bridge circuit. **List price: \$3.95.**

JERROLD—model HSA-43 amplified coupler. Unit employs 6DJ8 type tube, provides 5 db gain on each of two outputs, unity sig-



nal transfer on third output. Operating range, 54-98 mcs., 174-216 mcs. Mounts indoors near 115 vac outlet. **User net price: \$17.95.**

JERROLD—model HSA-44 amplified four set coupler. Uses single 6DJ8 type tube. Operates from 115 vac, 60 cycles. Operating range, 54-98 mcs., 174-216 mcs. Connects four TV or FM receivers to common antenna, amplifying signal output to each **\$18.95.**

JERROLD—model MF-2, MF-4 two and four set couplers. Designed to connect 2, 3 or 4 TV receivers to common antenna in fringe



area. Transformer type isolation with positive matching. Flat across channels 2-6, 7-13. **User net price: MF-2—\$2.70. MF-4—\$3.45.**

● Baluns—D

ELECTRONIC PRODUCTS Mfg. Co.—model TVB-470/72C balun transformer. Special design ruggedized outdoors mounting VHF-TV balun transformer which transforms 72 ohm impedances from unbalanced coax to 470 ohm balanced feed points. Useful when making long runs between antenna and receiver and/or amplifiers from remotely located antenna. Allows use of low-cost, low loss 470 ohm open wire line without transfer energy loss. **User net price: \$15.00.**

● Antenna Mixing Transformers—E

JERROLD—model TX (*) antenna mixing networks. Precision engineered 6 mcs. band pass filter with high rejection of unwanted channels and negligible insertion loss on desired channel. Mounts on antenna mast or in-doors. Mixes cut-to-channel antennas



with broadband antenna; mixes or separates VHF and UHF signals; mixes or separates TV and FM signals; separates individual channels on broadband antenna. Allows up to 9 antennas to be grouped on single down lead. **User net price: \$3.57.**

● Filters—F

JERROLD—model HQ-91 and HQ-92 tunable interference "Trap-Ease." Unit locates at receiver, has hi-Q wound coils allowing the user to tune out and eliminate strong local adjacent channel interference on weak more distant stations, normally blocked by the strong-local transmitter. Does not affect

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TYPE	O. D. (NOM.) Inner Cond.	O. D. (NOM.) Dielectric	O. D. (NOM.) Shield	O. D. (NOM.) 2nd Shield	O. D. (NOM.) Jacket	Attenuation Channel 6 (db/100 ft.)	Attenuation Channel 13 (db/100 ft.)	Shipping Weight Lbs/M Feet
VK11	.064	.285	.296	—	.407	1.31	64	2.2
VKD11	.064	.285	.296	.307	.407	1.31	73	2.2
VK108	.081	.373	.389	—	.460	1.01	89	1.6
VKD108	.081	.373	.389	.400	.460	1.01	101	1.6

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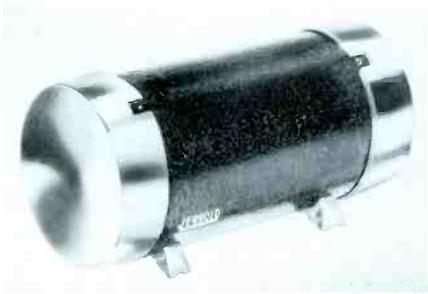
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reception of regularly viewed channels. **User net price: \$11.97.**

BENCO—model Filter Matic trap. Two position adjacent channel trap affording maximum allowable rejection of strong-overpowering adjacent channels. Unit allows re-



ception of weak station adjacent to one, or two, strong local channels. Unit mounts behind receiver, in series with antenna feed line. **User net price: PNS.**

DROP ACCESSORIES-- CATV 16

● Attenuators—A

BLONDER TONGUE—model MAT variable attenuator. 0-45 db in 3 db steps. 75 ohm input and output. UHF type connectors. **User net price: PNS.**

BLONDER TONGUE—model VAT variable step attenuator. Steps of 3, 6, 9, 14, 20 and 23 db. 75 ohm input and output. Benconnectors. **User net price: PNS.**

BLONDER TONGUE—model SA-3 variable attenuator. 0-38 db, in steps of 6 db, 12 db and 20 db. 75 ohm input and output. QD connectors. **User net price: PNS.**

BLONDER TONGUE—model SA-7 variable attenuators. 0-62 db in steps of 1 db. 75 ohm input and output. UHF type connectors. **User net price: PNS.**

JERROLD—models A-72 and A-21 variable attenuators. Switch type. Frequency range, 0-250 mcs. Matched to 75 ohms with VSMR of less than 1.05:1. Will handle up to 500 milliwatts of power. Model A-72 attenuates from 0-82 db in steps of 1 db. Model A-21 attenuates from 0-21 db in 3 db steps. Two

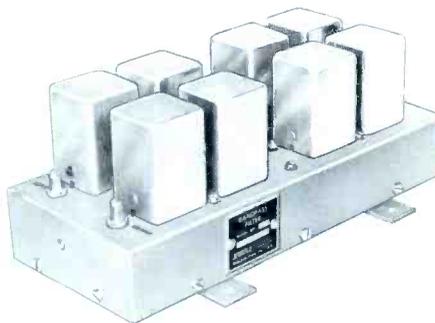
F-59 connectors included with each unit. **User net price: PNS.**

● Filters and Traps—D

BLONDER TONGUE—a wide range of feed through outlets including 75 and 300 ohm plug and screw down types, wall mounting, panel board mounting, flush mounting, ect.

JERROLD—a wide range of flush mounting 300 ohm and 75 ohm plugs and mounting accessories.

JERROLD—model BPF (*) high "Q" band-pass filter. Pass band, 5.5 mcs. Unit incorporates six high "Q" bridged-T trap networks and HF trimmers for stability. Wide TV channel pass-band with high rejection



of adjacent channels. Adjacent channel carrier rejection, sound 22 db, video 24 db. Insertion loss, 7 db maximum (built-in 30 db pad). Available for channels 03, 05, 2, 3, 4, 5 and 6. **User net price: \$200.00.**

BLONDER TONGUE/BENCO—model MWT-2 low band/FM trap and model MWT-3 high band trap. Model MWT-2 can be used for any frequency between 54 and 108 mcs. Model MWT-3 can be used for any frequency between 134 and 216 mcs. **PNS.**

● Housings—E

BLONDER TONGUE—model BH-1 indoor fully ventilated housing. Perforated mounting surface. Keyed slots for vertical and horizontal mounting. Provision for locking. 20 inches by 27 inches by 101 inches. **PNS.**

BLONDER TONGUE—model MRH-A outdoor radiation proof housing. Provision for locking. Perforated mounting surface. 18 1/4 inches by 14 inches by 6 inches. 14 pounds. Heavy duty cadmium plated steel. **PNS.**

BLONDER TONGUE—model H outdoor housing wired for two channel system. Adjustable mounting. 29 inches by 14 inches by 11 1/2 inches. 6 parallel outlets. Conduit elbow and reducer supplied. **PNS.**

BLONDER TONGUE—H-4 outdoor housing wired for two channel system. Adjustable mounting. 29 inches by 22 inches by 10 1/2 inches. 6 parallel outlets. Conduit elbow and reducer supplied. **PNS.**

BLONDER TONGUE—model H-6 outdoor housing wired for six channel system. Adjustable mounting. 35 1/2 inches by 29 inches by 10 1/2 inches. 6 parallel outlets. Conduit elbow and reducer supplied. **PNS.**

● Matching Transformers—F

ENTRON—model WBF matching transformer. Frequency range 50-250 mcs. Sur-



face mounting. Dual 300 ohm outputs. FM and TV matching transformer. Complete AC isolation. **User net price: \$3.50.**

ENTRON—model WBM matching transformer. Flat from 50-250 mcs., plus or minus 1 db. Mounts to set or wall with wood screws. Matched line to set impedance, improves weak signal through 6 db voltage transfer step-up. Matches 75 ohm coax to 300 ohm antenna. **User net price: \$1.95 each.**

BLONDER TONGUE—models MB (outdoor 75 to 300 ohm balun), TM (indoor 75-300 ohm balun), TS-731 (indoor surface mounting 75-300 ohm balun), TF-731 (indoor flush mounting 75 to 300 ohm balun), AMT (outdoor balun, 75 to 300 ohms), SMT (indoor 75 to 300 ohm balun) and ACMT (VHF or UHF single channel outdoor balun, 75 to 300 ohm). **PNS.**

JERROLD—a wide range of matching transformers for indoor and outdoor applications.

VIKING—models 910 and 911, 72 to 300 ohm matching transformers. Attach to back of TV set or with woodscrews for baseboard mounting. Frequency range, 50-220 mcs. Thru loss, 0.5 db. Unbalanced signal, minus 20 db. Radiation shielded, AC and DC isolation between input and output terminals. Fittings included. **User net prices: Model 910 (for back of set mounting) \$1.25 each. Model 911 (for baseboard mounting) \$1.25 each.**

● Mixers—G

BLONDER TONGUE—Unimix combining or separating network for any three low band and any four high band television channels (except adjacent channels). 75 ohm impedance input and output. **PNS.**

● Pads—H

AMECO—fixed pads. Models with 3, 6, 10, 13, 16 and 20 db attenuation. Connectors are SO-239 "in" and PL-259 "out." Color coded reference standard RTMA. Factory calibrated and balanced. Low VSWR for ideal padding and balancing operation. Plated brass finish. **PNS.**

BLONDER TONGUE—a wide range of fixed pads for CATV and MATV. **Data, PNS.**
JERROLD—a wide range of fixed pads for CATV and MATV. **Data, PNS.**

● Splitters, Couplers—I

BLONDER TONGUE—10 models of splitters to accommodate a variety of needs. **Data and PNS.**

JERROLD—a variety of splitters to accommodate a variety of needs. **Data and PNS.**

VIKING—model 930 two-way line splitters. Frequency range, 50-220 mcs. 75 ohms, unbalanced. Thru loss, 3.3 db. Input VSWR,



1.1:1. DC and AC isolation between inputs and outputs. Complete with fittings. **User net price: \$2.50.**

VIKING—model 931 four-way splitters. Frequency range, 50-220 mcs. 75 ohms, unbalanced. Thru loss, 6.5 db. Input VSWR,



1.3:1. DC and AC isolation between input and output. Complete with fittings. **User net price: \$5.00.**

● Terminating Resistors—K

AMECO—terminating resistors. Proper termination for 75 ohm impedance lines. Color added for easy reference, standard RTMA. Factory calibrated and balanced. Connectors are PL-259 and HHS-1652. Plated brass finish. **PNS.**

BLONDER TONGUE—models MTP-75 (UHF type connector SO-239, 75 ohm, 1/2 watt), M-65 (mates with BENCO M60 connector, 1/2 watt, 75 ohm), M-66 (mates with Benco M-60 connector, 2 watt, 75 ohm), TC-5975 (four QD connectors, 75 ohms, 1/4 watt), M-67 (female terminator. Mates with M-63, M-71, M-73 Benconnectors. 1/2 watt, 75 ohm). **PNS.**

● Equalizers—L

BLONDER TONGUE—models ME-1, ME-2 equalizers. Model ME-1 equalizes all VHF channels for long cable runs. Attenuation ranges from 1 db at channel 13 to 17 db at channel 2. 75 ohm "UHF type" connectors. Model ME-2 equalizes low VHF channels only. Attenuation ranges from 1 db at channel 6 to 9 db at channel 2. 75 ohms, "UHF type" connectors. **PNS.**

LINE ACCESSORIES--CATV 17

● Power Duplexers—A

AMECO—model PD-1 power duplexer. An economical method of providing power to remote amplifiers through coaxial cable, by mixing power and r.f. signal. All weather housing. Low radiation leakage. Low temperature operation. Balanced and matched for 75 ohm impedance systems. Maximum power, 1000 watts. Connectors, 2 PL-259. Strap mounting. **PNS.**

● Powerline Filters—B

AMECO—model PLF-1 power line filter. Suppresses unwanted interference originating from power lines and preventing r.f. signal feedback from amplifier to power line. 75 ohm in and out. Ruggedized cabinet and housing. Specify channel needed when ordering. Standard AC plug. Strap mounting. Attenuation of unwanted frequency in excess of 40 db. **PNS.**

MATV--AMPLIFIERS 18

● Broadband—A

BLONDER TONGUE—model BT-3 broadband amplifier. Transistors, 3. Unit operates from 115 vac or 22 v. Low band gain, 15 db; high band gain, 19 db. Mounts indoors, or in housing. Separate or combined high and low band inputs. Used in MATV installations. **User net price: \$49.95.**

BLONDER TONGUE—model HAB broadband amplifier. Operates 115 vac, 60 cy-

cles. Frequency range, 54-216 mcs. Low band gain, 25 db. High band gain, 25 db.



Indoors or outdoors housing. Separate hi-low band gain controls. Used in homes, dealer showrooms, hotels, apartments and for other systems with fewer than 60 outlets. **User net price: \$60.00.**

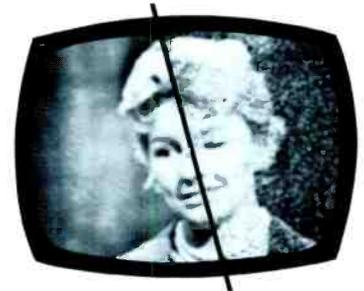
BLONDER TONGUE—model MLA-B broadband amplifier. Unit operates from 115 vac, 60 cycles. Six tubes, including two 6DJ8 type. Low band gain, 40 db; high band gain, 40 db. Indoors or outdoors in housing. Tilt and gain controls for both high and low bands. Used in MATV and CATV. **User net price: \$85.50.**

BLONDER TONGUE/BENCO—model Pace-maker broadband amplifier. Unit operates from 115 vac, 60 cycles. Frequency range, 54-216 mcs. Five tubes including 3-6DJ8



*bring your picture in
out of the snow with*

CECO'S UHF/VHF PREAMPLIFIERS



Ceco's ultra-low noise UHF and VHF preamplifiers effectively double transmitter power at the receiver site, eliminating entirely or reducing significantly snowy TV reception. These rugged, compact, single channel units have self-contained power supplies . . . advanced tube types and other components for long, trouble-free life. They require no cooling devices, are housed in easily mounted, weatherproof aluminum enclosures.

A Ceco UHF or VHF preamplifier is **AVAILABLE FOR FREE TRIAL.**

Inquire on your firm's letterhead.

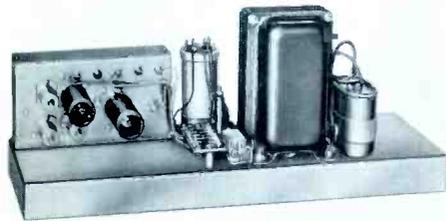
**Community
Engineering
Corporation**

STATE COLLEGE,
PENNSYLVANIA

Telephone AD 8-2461 Area Code 814

type. Low band gain, 35 db. High band gain, 35 db. Indoor or outdoor housing. 2 volts output per band. FM gain, 30 db. MATV uses. **User net price: \$59.95.**

• • •
ADLER ELECTRONICS—model VCA-1 VHF channel amplifier. Operating voltages, 115 vac, 12, 18 and 24 volts. Two tubes including 6688 neutralized triode input stage. 40



db gain, minimum, low band. Frequency range, 54-88 mcs. Rack, pole or chassis mountings. **User net price: PNS.**

• • •
ADLER ELECTRONICS—model VCA-1H VHF channel amplifier. Unit operates from 115 vac, 12, 18 and 24 volts. Two tubes. Frequency range, 174-216 mcs. 30 db minimum gain. 10,000 hour tubes. Amplifier can be ganged. **PNS.**

• • •
ENTRON—model FA-283 indoor mounting amplifier for apartments, hotels, motels, hospitals and schools. Frequency range, 54-



108 mcs., 174-216 mcs. 38 db gain, both high and low bands. Separate gain controls. Unit operates from 115 vac, 60 cycles. **User net price: \$113.40.**

• • •
WINEGARD—model A-400 RF amplifier. Unit operates from 115 vac, 60 cycles. Frequency range, 54-108 mcs.; 174-216 mcs. Output 2-75 ohm jacks. Input 300 ohm balanced and 75 ohm coaxial. Low band



gain, 26 db. High band gain, 26 db. Low band noise figure, 3.9 db. High band noise figure, 5.4 db. Unit drives from 1 to 30 TV or FM receivers. Can be ganged. **User net price: \$79.95.**

• • •
WINEGARD—model A-700 RF amplifier. Unit operates from 115 vac, 60 cycles. Frequency range, 54-108 mcs.; 174-216 mcs.

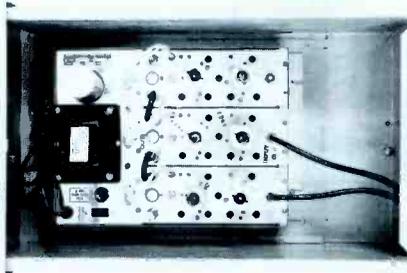


Unit has seven tubes, including two 6DJ8 type in cascade input stage. High and low band gain, 45 db. For use in driving up to 150 TV-FM receivers. Low band output, 1 volt. High band output, 1 volt. **User net price: \$154.95.**

• Single Channel—B

BLONDER TONGUE—model Unistrip two tube single channel amplifier. 35 db gain. 75 ohm, single, input. Dual 75 ohm output. Built-in level control. 6 mcs. band width. Maximum output, 1 volt. **PNS.**

• • •
BLONDER TONGUE—A-model UA-1 single channel amplifier. Operates from 115 vac, 60 cycles. Two tubes, frequency range 54-216 mcs. Low and high band gain, per unit,



35 db. Unit is plug in strip, can be ganged with two other identical units into common power supply. 1.0 volt output. **PNS.**

• • •
BLONDER TONGUE—model CA single channel amplifier. Seven tubes, all of the 6AK5 type. Frequency range, 54-216 mcs. plus sub channels. Low or high band gain,



60 db. Indoor or outdoor (in housing) mounting. AGC. Unit can be cascaded for head end applications. **User net price: \$141.00.**

• • •
BLONDER TONGUE/BENCO—model PA single channel amplifier. Operates from 115 vac, 60 cycles. 6 tubes, including 1 6DJ8 type. Frequency range, 54-216 mcs. Minimum gain, low or high band, 65 db. Indoor or outdoor housing. Low noise circuit, AGC. Used in CATV and MATV as head end amplifier or pre-amp. **User net price: \$165.00.**

MICROWAVE EQUIPMENT—CATV

19

• Demodulators—A

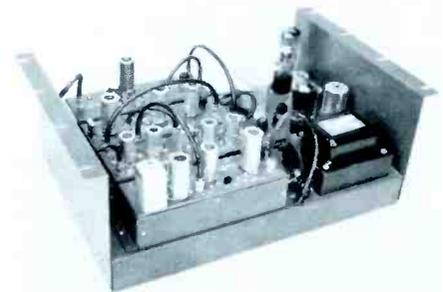
JERROLD—model Tele-Trol D TV receiver demodulator. For channel conversion at head ends, as demodulator for TV microwave applications, for direct pick-up and re-broadcasting or relaying of TV broadcasts. On sliding chassis for rack mount, on in cabinet for shelf mounting at head end



of distribution systems. Conversion of any VHF channel, station outage squelch control, noise suppression circuit, High "Q" co-channel traps, high rejection of adjacent carriers, automatic and manual gain controls. 17 tubes, channels 2-13. Sensitivity, 16 uV input provides 1.5 volt peak-to-peak. **User net price: \$490.00.**

• Modulators—B

AMECO—model AT-2 modulator for stable CATV head end on channel transmitter applications. Also used in microwave head end, closed circuit, music head end, etc.



Unit must be ordered for specific channel. Operates from 115 vac, 60 cycles. 19 inch rack mounting. Output level, 60 dbm. **User net price: \$562.20 (channels 2-6); \$752.60 (channels 7-13).**

• • •
JERROLD—model Tele-Trol-TM TV transmitter modulator. Unit operates from 115 vac, 60 cycles. VHF channels 2-6. Designed for acceptance of 1 volt peak-to-peak signals available from TV demodulator receivers, from TV camera outputs, or from TV microwave terminals. On sliding chassis for rack mounting or in cabinet, for shelf mounting, at head end of distribution sys-

tems. Video carrier modulation is variable from 0-100%, special circuitry provides standard vestigial sideband transmission of both black-and-white and NTSC color, on any one of channels 2-6. **User net price: \$590.00.**

● Transmitters, Receivers—C

COLLINS RADIO—model MWV-101 6-15 kmc. microwave. Units operate from 115 vac, 60 cycles, 24/48 vdc. Power output levels vary from 100 mw to 1 watt and 5 watts. Multi-channel, audio-sub carriers, wide band receiver. Modular construction.



All major circuits metered. Ferrite load isolator. Fixed tuned IF amplifier. Up to four channels of video per unit, with sub carriers. Total system specifications depend on actual circuit to be covered and channel load requirements. User net price varies with system specifications.

JERROLD—model "J" series 6 kmc microwave transmitter-receiver installations. Complete microwave package covering frequency range 5925-8100 mcs. 1 watt output, .005% frequency stability. Front panel metering of all tubes and circuits; front panel monitoring of output power and frequency; individual power supplies for high reliability. For off-the-air pick-up of TV broadcasts and transmission over CATV distribution system. High definition, for CC-TV, and TV broadcast studio-transmitter links. Units can be combined into single antenna. Equipment has type approval of FCC. Price varies with system specifications.

PHILCO-TLR-6—color relay transmitter. Designed to meet the requirements of S-T-L, common carrier and CATV operators. NTSC color passes as well as monochrome. Model TLR-6 transmitter consists of three basic units, (a) transmitter chassis, (b) plus 750 volt dc power supply, and (c) plus 300 volt dc power supply. All units designed for standard 19 inch rack mounting. Also available TLR-4 repeater unit for unattended operation in the 6 Kmc service; and the TLR-6 color relay receiver (used in conjunction with TLR-6 transmitter). Prices depend on individual installation requirements.

● Antennas—D

ALPAR—passive aluminum microwave reflectors. Solid aluminum construction, "for optimum" performance. Rigid, interlocking design. Easy field assembly includes "snap-together" panels. Interlocking panels are standard widths, are readily cut to correct length at factory for desired reflector area. Linear lengths available include 15, 20, 25, 30, 35 and 40 foot models. Suited to mounting at top of microwave towers as a means of reducing long transmission lines. Highly stable 45 degree mounting arrangements available. **PNS.**

TOWER CONSTRUCTION CO. — passive microwave reflectors. Available in "Knocked down" (KD) style or one piece style reflector. Curve is held to within plus or minus one-eighth inch true parabolic curve for one-half inch curvature. Curved type reflectors are supplied in both knocked down and one piece style. Available in 6 foot by 8 foot and 8 foot by 12 foot sizes.

OUTDOOR HOUSING BOXES 20

AMECO—models AWH-1, AWH-3 weather proof housings. Complete weather protection, ventilated. High-efficiency 100 cu. ft. motor driven fan is available as option. Sizes: AWH-1, 18 inches by 20 inches by 12 inches. AWH-2, 16 inches by 24½ inches by 8¾ inches. AWH-3, 18 inches by 12 inches by 6½ inches. Galvanized heavy gauge steel. **PNS.**

SERVICES—CATV 21

● Brokerage—A

DANIELS & ASSOCIATES—negotiators, consultants and appraisers for the CATV industry. Offering a wide range of interested buyers for CATV properties, this firm is normally retained by a CATV owner desiring to sell his property. Appraises CATV properties for banks, other lending institutions, estates and owners. Offers a consulting service on any facet of the CATV industry. On sales of property, the firm works on a straight 5% commission, payable by seller. On appraisals, works on a flat fee basis, depending on size of system. Normally, consulting fees are negotiated. Nationwide service, including Canada. Six million dollars in system sales in the last 12 month period. 17 systems appraised and various consulting assignments. Principals include Bill Daniels, Alan Harmon, Carl Williams.

HAMILTON-LANDIS & ASSOCIATES—negotiators, appraisers for CATV properties. Offices throughout the United States. Recent sales include two for TelePromTer Corporation.

● Management—B

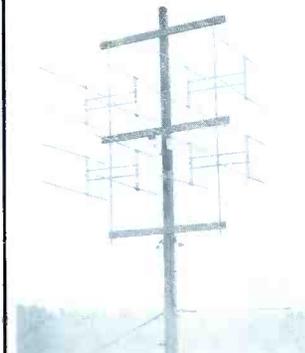
JERROLD ELECTRONICS CORPORATION—four company divisions, Community Systems Division, Distributor Sales Division, apply to the television field. Community Systems Division is responsible for design, manufacture and marketing of equipment for CATV. This division also constructs complete CATV systems and provides complete field engineering service. Division markets a line of all-band amplification and control equipment to provide increased

TELEPROMPTER CORPORATION—group owner of systems and supplier of microwave transmission services. Company now owns 15 CATV systems, four microwave transmission companies. For information, contact Monroe M. Rifkin, Vice President, Assistant to the President. services to CATV.

SITCO

Heavy Duty Quads and Yagis

Designed by SITCO for Translator off-the-air pickup, Community TV and extreme fringe area requirements.



SITCO WEDGE SCREW FASTENERS



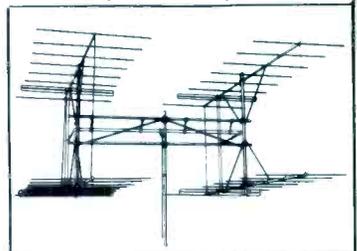
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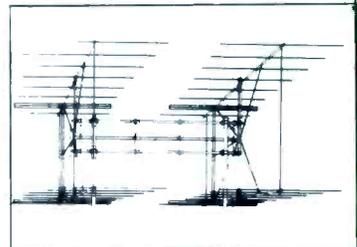
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The SITCO Models 94 and 102 Quad Mount Antenna Arrays are designed to produce high gain, high front-to-back ratio and large aperture to weak signals. A completely balanced system which reduces noise pick-up and greatly improves the signal-to-noise ratio.

NOW, all SITCO element ends are machined to reduce static leakage. The signal-to-noise ratio is increased at sites where signal levels are low.



Model No. 102-HD 48-element Quad



Model No. 94-HD 32-element Quad

● Engineering—C

ARCHER S. TAYLOR—consulting engineer. Registered professional engineer, specializing in off-the-air CATV reception problems in the mountain states and northwest. Address: P. O. Box 1479, Missoula, Mont.

ELSCO—Electronic Sales Corporation. Sales and engineering firm providing equipment sales, system engineering and contract maintenance to CATV systems. CATV-MATV product lines include JERROLD, CECO, B-T, TACO, SITCO, SCALA. CCTV lines include Dynair, Conrac, Visual Electronics. Fully equipped engineering facilities in Salt Lake City. Parts depots throughout Utah, Nevada, Idaho, Montana and Wyoming. Personnel includes Lyle O. Keys, President and General Manager; Garr N. Johnson, John Briggs.

GEORGE M. FRESE—consulting engineer for CATV system engineering. Registered professional engineer, specializing in off-the-air reception problems in the northwest. Address: 1011 Dennis Court, E. Wenatchee, Washington.

SERVICES-- TRANSLATORS 22

● Custom Certification—A

EITEL ELECTRONICS—certified by the FCC to custom type accept VHF boosters for VHF translator operation. Operation confined to the southwest. Price quotes upon application.

● Installation—B

● Maintenance—C

A. W. WEART BROS.—1506 Fremont, Sunnyvale, California. Installation, site surveys, maintenance, fund raising subscription drives for VHF-UHF translator groups in California, Nevada and Arizona. Lines include EMCEE, TEXAN, SCALA, SITCO, others. Complete translator installations—VHF or UHF—in any of the three western states. Personnel include Art W. Brothers and John Guerrero.

ELSCO—Electronic Sales Corporation. A sales and engineering firm providing equipment sales, system engineering and contract maintenance to translator operators. Line products include EMCEE, CECO, B-T, TACO, SITCO, SCALA. Serving translator industry in Utah, Nevada, Idaho, Montana and Wyoming. Site surveys and complete installations. Translator maintenance depots (ten in all) throughout the territory. Personnel includes Lyle O. Keys, President and General Manager; Garr N. Johnson, Manager-Translator Sales; John Briggs, Technician. Over 100 VHF-UHF translators supervised.

K & M ELECTRONICS—a Division of Miratel. Complete UHF or VHF translator systems, engineered, serviced, installed in the upper midwest. Lines include TACO, AD-

LER, MARS, others. Estimates, systems, complete maintenance.

VIDEO UTILITY COMPANY—specializing in closed circuit video, school systems, VHF and UHF translators. Lines include TACO, SCALA, EMCEE, ADLER, B-T, others. Territory includes all of the northwest including Alaska. Personnel includes Pat Quinn and Andy Anderson.

● Custom Equipment—D

EITEL ELECTRONICS—model numbers designate custom units. Any frequency range between 54 and 1,000 mcs. Design depends on demands of system.

ELECTRON CORPORATION—export only, complete package VHF translator. Input for full 250 watt output, 50 uV. Final is single 4-250A tube. Unit operates 50-60 cycles, voltage to be specified by user. Built (custom) to required features. May be used as repeater-translator or for local low-power origination. Radio control available. All additional features custom as desired. **User net price depends on features, but in the \$6,000 to \$15,000 range.**

TEST EQUIPMENT 23

● CATV—A

● MATV—B

● Translators—C

JERROLD—model 704-B field strength meter, operates from 115 vac, 60 cycles. Ten tubes, covers the 54-220 mcs. region, or channels 2-6, 7-13 and IFM. 5 uV gives full scale deflection. Bandwidth at 3 db down 0.6 mcs. Adjacent channel rejection, 45 db down from received signal. Portable unit. Measures field intensity for orientat-



ing antennas, balancing distribution systems, measuring RF attenuation in coaxial cables, etc. Special video output jack permits hook-up to scope for observation of composite video. Housed in lightweight aluminum portable case with handle and strap. **User net price \$395.00.**

SADELCO—transistorized-portable field strength meter. Measures 20 uV to 1 volt plus .1-1.5 watts translator power. Separate tuning of VHF video and audio carriers. UHF adaptability. 6 transistors. Weighs 3

pounds, measures 8 inches by 4 1/4 inches by 2 1/2 inches. Carrying case included. **User net price: \$195.00.**

● General—D

HEATHKIT—model IM-10 Service Bench VTVM. Large 6 inch 200 ua meter with easy to read scales. 1.1 megohm DC input resistance for high accuracy. Separate low voltage AC scales, broad frequency re-



sponse. Recessed zero and ohms adjust controls, easy access adjustments. Multi-colored meter scales, high contrast panel screening. Operates from 105-125 dac, 50/60 cycles. **User kit net price: \$32.95.**

HEATHKIT—model kit IM-21 AC-VTVM. Extended frequency response, plus/minus 1 db 10 cps to 500 kc. 10 meg ohm input impedance for high accuracy. 10 voltage



ranges, 0.01 to 300 volts RMS full scale. Calibrated db scale, measures minus 50 to plus 50 db, in 10 db steps. **Kit price: \$33.95. Assembled price: \$60.25.**

HEATHKIT—model 10-21 General Purpose 3 inch scope. Push-pull vertical and horizontal amplifiers. Wide range sweep generator, 20 to 100,000 cps. Automatic synchrotracing blanking. Clean, open circuit layout for easy, trouble free assembly. Compact design, light weight and portable for service work. Access to vertical deflection plates, ideal for transmitter modulation checking. **User net price: Kit, \$49.95.**

HEATHKIT—model 10-10 Space Saver 3 inch DC Oscilloscope. Small, compact, easy to carry, ideal for use where extremely low sweep rates are desired. Identical vertical and horizontal DC or AC coupled amplifiers. DC to 200 KC bandwidth, less than 5 degrees phase shift between channels. Recurrent sweep generator, 5 cps to 50 kc

AVAILABLE FROM BLONDER-TONGUE

The new
Benco T-6
VHF Translator
Is Priced at
\$845⁰⁰

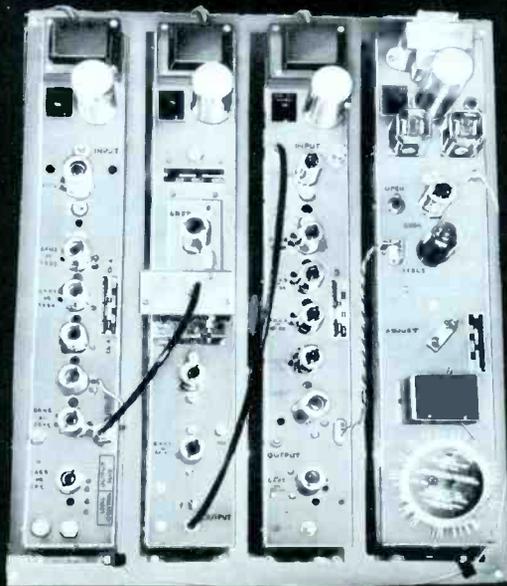
(Suggested User price)

...It is

**FCC Type
Accepted**

**Rugged and
Reliable**

**Available for
Prompt Delivery**



The Benco T-6 offers these advantages :

1. Meets all FCC specifications.
2. Provides constant output even in weak signal areas—preamp AGC activated by signals as low as 50 microvolts.
3. Automatic shutoff and identification.
4. Remote shutoff for any location up to 5 miles from the translator. (with RC-1).
5. Covers from 8 to 30 miles or more.
6. Prompt delivery to those who must have a low cost unit immediately to meet their 'on-the-air' time-schedule.

TECHNICAL SPECIFICATIONS

Primary Power Source	117 v \pm 10% 60 c/s
Power Consumption	120 W
Temperature Ambient	-30°C to + 50°C
Overall Noise Figure	
Low Band	4 db \pm 1 db
High Band	6 db \pm 1 db
Recommended Input	50—4000 microvolts
Max. Permissible Power	1 Watt (Peak Power)
Frequency Stability	.02%
Gain (maximum)	105 db
Band Width	6 Mc (3 db points)
Dimensions (metal base)	18" x 22 1/2"
Weight	27 lbs.

**BENCO VHF AND UHF TRANSLATORS
FOR EVERY TYPE OF INSTALLATION**

MODEL T-1 VHF TRANSLATOR, FCC type-accepted. 1 watt output for U. S. use • ideal for future expansion • meets all FCC specifications • noise-proof automatic shutoff • regulated power supply for stable operation, even at the end of poor quality power lines • underrated output section for continuous service; weather-proof housing; quick easy coding of identification unit • built-in direct reading power meter.

MODEL T-14 VHF-TO-UHF TRANSLATOR. FCC type-accepted. 2.5 watts output. For U. S. use. Includes identification units with automatic "on/off," power indicator and voltage regulator. VHF input, channels 7-13.

MODEL T-13 VHF-TO-UHF. Same as T-14 except: VHF input, channels 2-6.

If you're planning a translator installation, contact Blonder-Tongue. Free layout service and field engineering assistance are available at nominal cost.

engineered and manufactured by

BLONDER-TONGUE
9 Alling St., Newark, N. J.

Canadian Div.: Benco Television Assoc. Ltd., Toronto, Ont.
Export: Morhan Export Corp., New York 13, N. Y.
home TV accessories • UHF converters • master TV systems • Industrial TV systems



in four ranges. External capacity binding posts for lower sweep rates. Small, compact size measures only 7 $\frac{3}{8}$ inches by 4 $\frac{3}{8}$ inches by 11 inches. **User net price: Kit, \$79.95.**

TOWERS-- RECEIVING OR TRANSMITTING 24

- Steel—B
- Aluminum—A

KTV TOWER-COMMUNICATIONS EQUIPMENT CO.—manufacturer of TV, communications, translator, broadcast and receiving towers for home and industry. All steel tubing (1 and 16 gauge) used throughout. Available in heights from 10 feet to 250 feet. Towers are easy to erect, all tubular, large bots at joints. Model numbers include 700, 1200, 1600 and special HY-Track (special tower series with provision to crank antenna to top of tower from ground while tower is erect). **User net prices: \$1.80 per foot to \$3.25 per foot plus accessories, depending on height and type of tower (and accessories) required.**

ROHN—models 6, 25, RE4 and foldover towers. Model 6 tower is an all purpose tower ideal for home television reception. Self supporting to 50 feet, guyed to 180 feet. Available in hot dip galvanized. Sections are ten feet long. Model 25 is heavy duty TV tower or communications tower. Self supporting to 50 feet, guyed to 280 feet. Galvanized finish. Model RE-4 is a special 40 foot economy tower in a complete tower package, including base plate, 3 drive rods, etc. Rohn fold-over towers make antenna work simpler by bringing the antenna down to the ground level. Rohn also manufactures telescoping masts, roof towers and a complete line of mounting brackets and accessories. **User net prices depend on item and quantity.**

TOWER CONSTRUCTION CO.—microwave towers. Features "Starmount Stabilizer" (patent applied for) design to hold tower to as low as one-quarter of a degree in severe wind storms. This tower design was utilized in the first long haul 6 kmc microwave installation in 1949, involving 40 hops. Standard TOWER models are designed to withstand winds and ice loads to 30 pounds per square foot, with one-half inch ice loading on all members. Heavy guy struts, special bolts and large diameter (usually 4 inch OD galvanized) pipe mounts are furnished for reflectors or parabola mounting.

TOWER CONSTRUCTION CO.—TV broadcasting-receiving towers designed to meet or exceed all RETMA tower specifications. Will withstand 30 lbs. per square foot wind load at approximately 100 miles per hour, or 40 lbs. per square foot, depending on design and re-inforcement. All towers hot dip galvanized. Bracing members are heavy structural rounds for diagonal members and heavy structural angles for horizontal members. Guys are three-quarter diameter 19-wire galvanized bridge strand, spaced three guys for each 110 to 125 feet. Complete tower package service, including erection, available.

TRANSLATORS-- UHF 25

- 0 to 10 watts P/V/P—A

TEXAN—type A 10 watts, peak video output, UHF translator. Input sensitivity for full output, 500-1000 uV. 3CX100A5 final, 3CX100A5 driver. Export models to



200 watts. Radio control available. Local origination available on export models. Rack mounting. Other features built according to order. Price upon inquiry.

BLONDER TONGUE/BENCO—model T-14 UHF translator. "T" series units available for output in channel 70-83 region, inputs channels 2-6 and 7-13. Remote control shut down, 2.5 watts total output. AGC. **User net price: \$2690.00.**

- 10 to 50 watts P/V/P—B

ADLER—UST-20, 20 watt peak visual power on channels 70-83 (other channels on special order). Input, VHF channels 2-13. RF output impedance, 50 ohms; input impedance, 75 ohms. Operates 115 vac, 60 cycles. Power consumption during operation, 475 watts. FCC type approved. During stand-by, 65 watts. **PNS.**

ADLER ELECTRONICS—model UUST-20 UHF translator. 20 watts peak visual output, UHF channels 70-83. Input, channels 14-83. Rack mounting FCC type approved. Other data not supplied. **PNS.**

EITEL ELECTRONICS—model UHF-TR-20 UHF translator. FCC type approved. Out-

put on channels 70-83. Input channels 2-13. 100 uV sensitivity for full output. Better than 30 db AGC. Radio control available. Wall, rack or desk mounting models. 20 watts peak visual power. **User net price: \$2,500.00.**

EITEL ELECTRONICS—model UHF-TR-30 A, AD, ADA. Same features as TR-20 except driver and final is 3CX100A5, and power supply is all silicon-solid state. **PNS.**

EITEL ELECTRONICS—UHF-TR-50, UHF translator. Video output, peak 50 watts. Input sensitivity for full output, 100 uV. 30-40 db AGC. Serviceable from the front of the unit. Standard replacement parts. Special radio control available. **PNS.**

- 50 to 100 watts P/V/P—C
- 100 Watt Amplifiers—D

ADLER ELECTRONICS—model UST-102 UHF translator. 100 watts output, peak visual power. Output, channels 70-83. Others on special order. Input, channels 2-13. Rack mounting. **PNS.**

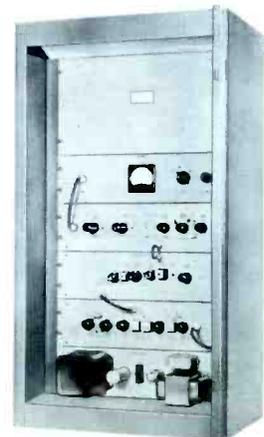
ADLER ELECTRONICS—model UUST-102 100 watt output peak video UHF translator. Output, channels 70-83. Input, channels 14-83. Rack mounting. **PNS.**

EITEL ELECTRONICS—model UHF-TR-100A or 100 SPEC UHF translator. Maximum peak video output, 100 watts. Input sensitivity, 100 uV. Single, dual or add on dual conversion UHF or VHF inputs, models 100A, 100AD, 100ADA. 4CX250B final amplifier. Model 100 SPEC is a special unit which mounts the driver and final amplifier at the antenna for maximum energy transfer to the antenna for transmitting. Full metering. **User net price: \$5,500.**

TRANSLATORS-- VHF 26

- 0 to 1 watt P/V/P—A

ADLER—model VST-1 VHF translator. Input, channels 2-13. Output, channels 2-13. Peak visual output power, 1-watt. Rack mounting. Input level for full output, 500 uV across 75 ohm line. AGC, variation of plus or minus 15 db in input signal will pro-



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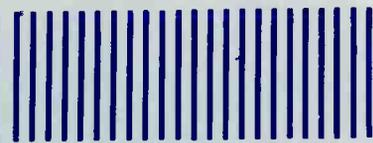
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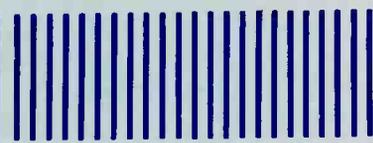
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- **A NEW MONTHLY COLUMN — "Our Man in Europe"**
A regular report on CATV-MATV, fringe-TV systems and developments from across the Atlantic.
- **CATV-MATV SERVICE BENCH**
"From A-Z... special reports on trouble shooting, peaking-up and installing popular pieces of Jerrold and Blonder Tongue MATV-CATV units found in the field. **A must for the field engineer or technician!**"
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PLUS — a host of regular feature columns and reports "On Vacation" for this ANNUAL DIRECTORY ISSUE.

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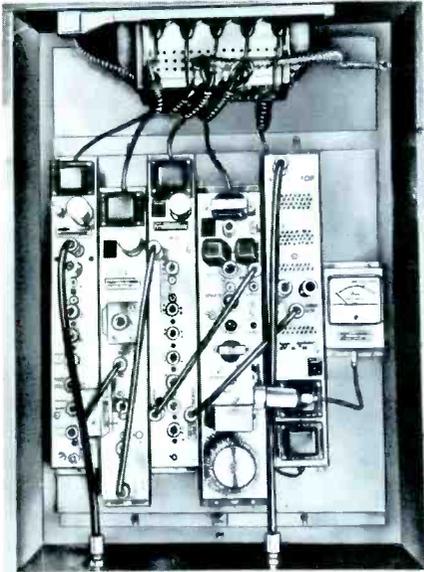
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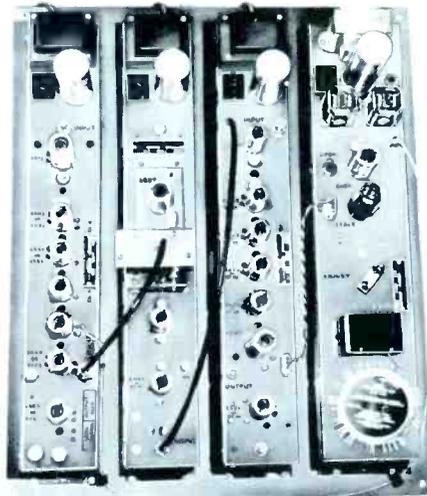
duce less than plus or minus 1 db variation in output. Operates 115 vac, 60 cycles. PNS.

BLONDER TONGUE/BENCO—model T-1 VHF translator. 100 uV minimum input. Total output is 1-watt. Output channels 2-13. Input channels 2-13. Final tube is



6252. FCC type accepted. Foolproof automatic shutoff. RC-1 remote control available. Weatherproof housing. Operates 115 vac, 60 cycles. **User net price: \$1,495.00.**

BLONDER TONGUE/BENCO—model T-6 VHF translator. Output channels 2-13. Input channels 2-13. Total power output, 1



watt. Final transmitter tube is 6939 type. FCC type accepted. RC-1 remote control available. Operates 115 vac, 60 cycles. Automatic shut-off when originating station leaves air. Metal mounting base. **User net price: \$845.00.**

EITEL ELECTRONICS—model VHF-TR-10-1 (and models D, DA) VHF translator. Basic model is single conversion for simple conversion applications. Model D is dual conversion. Model DA is add-on unit to existing booster for legalizing. Peak visual output, 1 watt (with 2-4 watts peak, no reserve). 6360 final amplifier stage. Automatic power control keeps output constant at 1 watt peak (visual). Unit gain, 95-120 db. 30-60 db AGC, depending on design considerations. Unit complete in weatherproof housing, with directional power coup-

ler and test meter. Radio control available. FCC type accepted. **User net price: \$1,000.**

EMCEE DIVISION—model HRV 1 watt peak visual power VHF translator. Input, channels 2-13. Output, channels 2-13 with certain conversion exceptions. Operates 115 vac, 60 cycles. 50 uV minimum recommended signal level for full output. AGC-30 db input variation produces less than 1



db output variation for signals from 50 uV to 50,000 uV. Available in 19 inch rack mounting, desk cabinet, or outdoor housing. Integrated design, automatic on-off circuit independent of AGC circuit. **User net prices: Rack mounting, \$1195.00. Cabinet mounting, \$1245.00. Outdoor mounting, \$1275.00.**

EMCEE DIVISION—model U-HRV 1 watt peak visual power VHF translator. This unit has all of the features of the HRV model EMCEE translator plus all UHF circuits associated with UHF (channels 14-83) input, VHF output. Unit can be peaked up in the field without special equipment. Rack
(Continued on page 48)

ELSCO

Professional Television Engineers With Responsible Sales Policies Have Made ELSCO the World's Largest Distributor of Television Translator Equipment.

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EMCEE VHF TRANSLATORS

**THE EQUIPMENT MOST FREQUENTLY CHOSEN
BY THE NATIONS TRANSLATOR ORGANIZATIONS**



Model HRV-C Desk Cabinet



Model HRV-R Rack Mount
also available Model HRV-P Outdoor Mount



Model U-HRV Rack Mount
also available Model U-HRV-C Desk Cabinet

For Operation under FCC Rules

HRV VHF TRANSLATOR

FCC type accepted. — ONE WATT

Unique double conversion circuit provides ultimate in performance. Built-in features facilitate maintenance, help keep equipment up to peak performance, for clear sharp picture every day. Full watt output, is maximum permitted by FCC.

FEATURES

- Reserve capability, reserve sensitivity, reserve output power to ensure long trouble-free service.
- Full metering of principal circuits including forward and reverse output power; check translator and antenna performance without taking the translator off the air.
- Top performance with any input-output channel combination except adjacent channels. (Channels 4-5 and 6-7 are non-adjacent. Conversions between these channels either way are supplied).
- Widest AGC range holds output constant even with fading; prevents overload and loss of sync on up fades.
- Remote control circuit built-in for wire line or radio link.
- Operates completely unattended. Output shuts off automatically when originating station goes off the air.
- Available in three housings. Specify HRV-R for rack mounting or maximum economy; HRV-C for attractive indoor cabinet; HRV-P weatherproof outdoor housing.

U-HRV UHF Input VHF TRANSLATOR — ONE WATT

FCC type accepted. For the many areas where VHF reception is desired but the available input signal is UHF.

- Available for any UHF input and any VHF output combination.
- Includes all operating features of Model HRV above.
- Available in two housings. Specify U-HRV-R Rack Mount or U-HRV-C Desk Cabinet.
- True double tuned preselector eliminates strong signal interference, while maintaining low noise performance and full input sensitivity.
- Operates on signals down to 100 microvolts. Provides clear noise-free picture.
- Preselector-mixer type converter eliminates expensive UHF tubes and the need for special UHF test equipment in the field. Your EMCEE UHF input translator will stay up to its factory tuned peak performance with a few simple adjustments you can make.



Model HRV -10 Desk Cabinet

CANADA – Two Translators with D.O.T. Approval

HRV

– Half watt pedestal level output. Features and housings as listed under Model HRV on left page.

HRV-10

– Five watt pedestal level output. Consists of Model HRV and Model TOA Amplifier described below. Available in matching desk cabinet as shown, or as two chassis for rack mounting.

EXPORT – EMCEE products are easily adapted for use anywhere.

HRV 10-X

– Ten watt complete Translator Consists of Model HRV Translator and Model TOA-10 Amplifier. Available in matching desk cabinet as shown or as two-piece unit suitable for rack mounting.



Model TOA-10

TOA 10 AMPLIFIER

10 Watt Peak Sync Output

The Model TOA-10 is an output amplifier which can be driven by the Model HRV or other one watt translator to deliver 10 watts to an antenna. Top quality construction and conservative design are combined to give long trouble-free service. Full metering gives instant check on amplifier and antenna performance while equipment is transmitting normal program. May also be used to drive co-axial cable where high level (25 V) is desired.



Model CAC

CAC “LEGALIZER”

The “Legalizer” supplies the functions most often required to bring existing translator installations up to FCC requirements. Custom Type Acceptance measurements on entire system are, however, required except when used with an FCC type accepted translator combination. Write for an up-to-date list of accepted combinations.

4-MXA MULTIPLE OUTPUT AMPLIFIER

For use where two to four separate communities may be served from a common site.

This equipment has four independent one watt outputs which may be used to deliver a full one watt signal to each of the communities. Designed to be driven by a Model HRV Translator. Has full metering including forward and reverse power of each output.





mounting model, desk mounting. **User net prices: Rack mounting, \$1495.00. Desk mounting, \$1545.00.**

• • • •
MARS—Mid America Relay Systems, a division of Miratel, Inc. Model MAC-17 VHF translator, type accepted. Heavy duty components, extremely compact, lightweight. All industrial tubes, single unit construction. Unit draws 35 watts AC, life expectancy on all tubes 1-3 years. Full voltage regulation. Free flowing ventilation. Smallest VHF translator available. Rugged stainless steel housing. Unit cradles on foam cushioned shelf. Rugged ceramic coil forms and tube sockets. Two year factory warranty. 1 watt output. **User net price: \$700.00.**

• • • •
RADIO CORPORATION OF AMERICA—model TRV-1 VHF translator. Input, output frequency ranges, 54-216 mcs. Unit operates 115 vac, 60 cycles. 14 transistors, 21 tubes. Low-high band total unit gain figures 100 db. Low band sensitivity, 30 uV. High band sensitivity, 30 uV. Rack mounting except mastmounted receiving antenna preamplifier which is option, 45 db intermodulator distortion. Will handle color signals with no noticeable beat pattern. Single and double conversion models available. **User net prices: Single conversion, \$1195. Double conversion, \$2450.**

• • • •
TEPCO—model TE-2A VHF translator. Input-output frequency range, 54 to 216 mcs. Sensitivity for full output, 40 uV. 1 watt visual power output (4 watts maximum, including reserve). Quality ruggedized tubes used throughout. AGC-40 db input less than 2 db output variation. Final output tube, 6360. Operating voltage, 115 vac, 60 cycles. **User net price: \$795.00.**

• • • •
TEPCO—model TE-1B VHF translator. Input-output frequency range, 54 to 216 mcs. Sensitivity for full output, 40 uV. 1 watt visual power output (4 watts maximum, including reserve). Final output tube, 6360. Built-in heavy duty regulated power supply. Very low unit obsolescence because of special strip design. AGC-45 db input variation less than 2 db output variation. Operating voltage, 115 vac, 60 cycles. **User net price: \$1375.00.**

● 1 to 10 watts P/V/P—B

EMCEE DIVISION—model HRV-10 (Canada) and HRV-10X (export) VHF translators. Output power, 5 watts pedestal level. Model HRV-10X, 10 watts peak visual power. Final output tube, 5894. Input-output frequency range, 54 to 216 mcs., with usual conversion taboos. Carrier frequency control 1 to .003%. Rack or cabinet



mounting. Operating voltages, 220 vac; 105-125 vac, 60 cycles. Input sensitivity for full output, 50 uV on 75 ohm line. AGC-30 db input variation produces less than 1 db output variation for signals in the 50 uV to 50,000 uV range. User net prices on request as customer requirements vary.

● Legalizer Amplifiers—C

EMCEE DIVISION—model CAC "Legalizer." Input sensitivity for full 1 watt peak visual power output, 0.1 volt. Unit incorporates FCC required identification, automatic on-off, supplemental AGC, 1 watt



output with controlled spurious and harmonic signals. Connections for external radio or wire remote control included. Model CAC supplies functions most often required of pre-existing VHF boosters to bring them up to FCC accepted technical levels as VHF translators. **User net price: \$595.00.**

● Multiple Output Amplifiers—D

EMCEE DIVISION—model 4-MXA multiple output amplifier for special installations where more than one distinct town or region can be served from a common receiving-transmitting site. Input sensitivity for 1 watt peak visual output. Unit is designed to be driven by a standard 1 watt translator.

Supplemental AGC provided. 4 independent outputs of 1 watt peak sync signal. Unit uses 4-6360 tubes. Full directional coupler and power meter, indicating forward and reverse power on each of four outputs. Rack or desk mounting. **User net price: \$450.00**

● 10 Watt and Up Amplifiers—E

EMCEE DIVISION—model TOA-10 VHF amplifier. Unit employs single 5894 type tube to follow standard 1-watt VHF translator. Output, 10 watts peak sync. Full di-



rectional coupler, and power meter. Fan cooled output tube for long life. Rack or desk mounting cabinets. **User net price: \$450.00.**

TRANSMITTING ANTENNAS-- TRANSLATORS 27

● UHF—A

ADLER ELECTRONICS—model USTA-42-HN, 8-2HN, 16-2HN UHF translator-transmitting antennas. Frequency range, channels 70-83. Number of elements, 8, 16, 32



(depending on model number and gain required). Ruggedized construction with 12, 15 and 18 db gain. 50 ohm feed impedance. 1/2 power points at 50%. **PNS.**

• • • •
ADLER ELECTRONICS—model USTA 4S, 8S, 16S UHF translator-transmitting antennas. Frequency range, channels 70-83. Number of elements 4, 8, 16. Ruggedized construction. Forward gain 9, 12 and 15 db. 50 ohm feed impedance. 1/2 power points, 100 degrees. **PNS.**

MARS **MAC 17**

VHF TRANSLATOR

**FCC
TYPE
ACCEPTED
1 WATT
OUTPUT**



ONLY MARS OFFERS:

- ★ ALL INDUSTRIAL TUBES
- ★ OPTICAL IDENTIFIER
- ★ LESS THAN 50 WATTS AC POWER
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- ★ SMALLEST AND LIGHTEST TRANSLATOR
- ★ \$933.00 LIST PRICE

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● **CATV—A**

BLONDER TONGUE — model CR-1 QD crimping tool and cutting pliers. **PNS.**

• • •

BLONDER TONGUE—model S-1 rotary cutter and stripper. **PNS.**

• • •

JACK PRUZAN CO.—a complete in-stock line of Bashlin Lineman's Equipment. Includes bolt and nut bag, glove bag, tool bag, electrician's belt, lineman's belt. Also, climbing spikes, climber pads, climber straps, plier grips. And, holsters, safety strapsbits (car, bell hangers, pole-bor), rubber blankets, blocks, tackle, braces. Tools include Porter bolt and wire cutters, cable dressers, wire and cable grips, swivel eye pulling grip. Clothing and associated items include linemen's gloves, blankets. General Machine Products Company items in stock include transposition running boards, solder ladles, solder melting pots, wire raising tools, cable bending shoes, cable block lifters, cable block pushers, lashing wire grips, lead sleeve slitter and cable guide. Also, a complete line of more conventional workman's tools, i.e., wrenches, pliers, etc. Cable supplies include "C" cable lashing clamps, "C" span clamps, drive rings, aerial cable supports, 2-bolt medium duty guy clamps, 1-bolt cable suspension clamps, deadend strain insulators, 3-bolt guy clamps, Kearney Snub-R-Grips, Kearney Drop Wire Hooks, Drive Hooks, Utility Snatch Blocks. Prices depend on quantity and items ordered. Full catalogue sheets available from the company.

ADLER ELECTRONICS—model USTA-4-2-HW, 8-2HW, 16-2HW UHF translator transmitting antennas. Operating frequency range, channels 70-83. 8, 16 and 32 elements. Ruggedized construction. Forward gain 8, 11 and 14 db. 50 ohm feed impedance. 1/2 power points, 180 degrees. **PNS.**

• • •

ADLER ELECTRONICS—model USTA-4-4-HO, 8-4HO, 16-4HO UHF translator-transmitting antennas. Operating frequency range, channels 70-83. 16, 32, 64 elements. Ruggedized construction. 3, 6, 9 db forward gain. 50 ohm feed impedance. Omni-directional pattern. **PNS.**

• • •

EITEL ELECTRONICS—model UHF-CL-4A UHF translator-transmitting antenna. Operating frequency range, 800 to 960 mcs. Four driven elements on solid reflector, matched with balun for 50 ohm feed impedance. Designed to interstack with antennas sold by Adler. Will handle 1,000 watts input with VSMR of 1.5 to 1. Complete with fibre glass hood for weather protection. Stacking harnesses available, including special arrays for power splitting and multi-direction coverage. **User net price: Model UHF-CL-4A, \$200.00.**

● **VHF—B**

EITEL ELECTRONICS — model VHF-Y10 VHF translator-transmitting antenna. Operating frequency range, 54-220 mcs. Ten element yagi construction, ruggedized construction. 12 db gain. Feed impedances available include 50, 75 and 300 ohms. **PNS.**

• • •

JAMPRO ANTENNA COMPANY—special line of VHF TV translator-transmitting antennas including corner reflector types. 1 thru 4 bay stacks available with gain from 5 to 40 db over frequency range of 54-216 mcs. 50-75 ohm feed impedances, extremely ruggedized construction. Antennas de-



signed to withstand 1 inch ice load in 125 mph wind. Corner reflector. **User net prices vary from \$633.00 to \$1800.00 depending on gain, pattern and specifications required. Series JATO omni-directional gain antennas available with gains from, 1 db to 8.6 db. Prices from \$475.- to \$3600.-. De-icing equipment available at \$80.- per bay.**

• • •

TACO—manufacturer of large line of ruggedized single channel yagi antennas for transmitting purposes. Line of screen reflectors with single or multiple driven elements also available.

GRANTED . . .

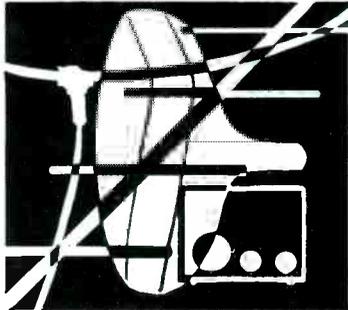
There are products and companies in the television reception field who are not represented in this Directory Issue of Television Horizons. In the preparation of this issue, seven separate mailings to more than 70 firms in the field requested Directory listing information. These seven mailings were followed up by telegrams and telephone calls (at our expense!) in many cases.

Perhaps if your firm is one of those who did not take the time to answer our questionnaires this year, you will drop our editorial department a line expressing interest in the 1963 Directory. If sufficient requests for listings are received, a Directory Addendum will be run in the spring.

Index to Advertisers

The following firms are display advertisers in this, the December issue of Television Horizons. Closing date for advertising copy in the January 1962 issue is December 20, 1961. Closing date for advertising in the February 1962 issue is January 15 in our Oklahoma City office.

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PRODUCT SHOW CASE

New Cable from Times Wire

A unique shielding technique using basket woven flat strip copper has been developed by Times Wire & Cable. The new materials and exclusive techniques are utilized in the JT-400 series of coaxial cable for CATV transmission. In addition to the improved attenuation, shielding efficiency and impedance uniformity, cable weight is reduced by 20 to 40 percent. Included in this JT-400 Series are cable constructions which make possible all band systems with lowband amplifier spacing.



Over two years have been invested in the design of the cable and development of the shielding technique. A quarter of a million feet was field tested and proven for over a year in CATV systems before the cables were announced to the industry.

For additional information, contact Times Wire and Cable, Division of the International Silver Company, Wallingford, Connecticut.

New UHF Translator—Adler

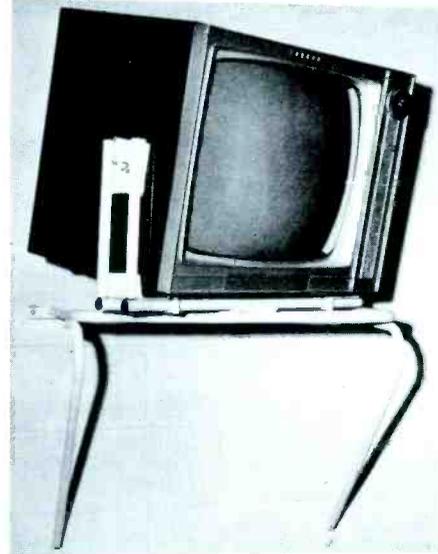
Adler Electronics, 1 LeFevre Lane, New Rochelle, New York has announced their first twenty watt UHF translator. Dubbed the UST-20, the automatic heterodyne repeater picks up VHF TV signals off-the-air and converts them to a UHF channel for re-broadcasting.

Designed to provide reception over larger areas than earlier 10-watt models, the UST-20 requires no operator and is turned on and off by the originating station signals. It rebroadcasts color as well as black and white.

New Wall Bracket by CECO

A new wall bracket which allows movable wall mounting of a television receiver has been announced by Community Engineering Corporation, 234 East College Avenue, State College, Pennsylvania.

The bracket is fabricated of sturdy aluminum tubing, with brushed aluminum finish. It is fastened to the wall with lag or toggle bolts.



The bracket has two degrees of freedom. It allows rotating the set about a vertical axis and also tilting on a horizontal axis, allowing comfortable viewing from any point in the room.

New Matching Transformer—CAS

CAS Manufacturing Company, P. O. Box 53, Mineral Wells, Texas has announced a new line to set impedance matching transformer, 300 to 72 ohms. The matching transformer provides complete AC isolation, and 6 db of gain through voltage transfer from the 72 ohm line impedance to the 300 ohm set impedance. The unit is flat from 50 to 250 mcs. A 75 ohm resistor automatically terminates the line when the plug is disconnected. The unit comes complete with a stainless steel wall plate, and six to twelve feet of cable for connection from wall panel to set. The connection from cable to jack is solderless.

Manufacturers of CATV, MATV, fringe TV, closed circuit TV and broadcast TV equipment are invited to submit product news releases to this column. Address all mailings to "New Products, Dept. JJ, Television Horizons, P. O. Box 3207, Modesto, California." Check and make sure TVH is on your mailing list.

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agencies who use radio frequency energy. This committee can request and even assume control over virtually any part of the spectrum which will reasonably serve our national interests and divide the use of that part of the spectrum among itself.

"In any proceeding where there is any consideration of the return of any of the spectrum from government to FCC control, any single agency can veto and prevent such action. With increasing demands being made on the spectrum by expanded or new uses, we can no longer afford the luxury of a government committee of users, whose authority has grown by tradition rather than statute, self-licensing itself and unilaterally holding or withdrawing major portions of the radio spectrum from general citizens' access.

"Second, the FCC is no longer a co-equal administrator of the spectrum. It neither enjoys the proportion of the spectrum under its control nor does it have any veto over IRAC's absorption of additional bands. Whereas ten years ago the Federal Communications Commission was the principal spectrum authority, IRAC now controls some seventy percent of the spectrum — forty percent on a strictly exclusive basis— and the FCC only manages thirty percent of the spectrum from twenty-five megacycles to 10,500 megacycles.

"Third, it is wrong to operate on a principle of simply dividing the radio spectrum. It is possible to share a greater proportion of the spectrum than is currently being shared between users.

"The Federal Communications Commission has frequently demonstrated its encouragement of this principle, a most recent example being the proposal by certain commissioners and staff members for the sharing of certain unused television channels with mobile radio services. There are also many opportunities for sharing between military and commercial services based on such standard criteria as time and geographic sharing. We must have a machinery for deciding the merit of conflicting requirements, for determining the practicabilities of sharing and to review the efficiency of frequency use.

"It is my understanding that the President is working with FCC Chairman Newton N. Minow and Dr. Jerome B. Wiesner, special scientific advisor to President Kennedy, making some attempt to resolve this problem by Presidential order. Whatever they might do, it should be affirmed or revised by legislative action.

"The defects of our system cannot be overcome by a simple executive order and the rearrangement of supervisory machinery.

"Legislation should be enacted which would broaden the powers of the FCC so that it could become the total and final arbiter of the spectrum. Among other things, this would require that the Commission be provided with adequate access to information on military uses, mechanisms for adequate security clearances, etc.

"But if this approach proves to be politically impossible, then a super spectrum agency should be established by law which would have the authority to arbitrate and decide between the FCC which would continue to serve the commercial licenses and IRAC which would represent government user interest.

"My second topic — related to the first — is television allocation. A fundamental spectrum management decision must be made regarding the 492 megacycles reserved for television's eighty-two channels.

"Almost a decade and a half of experience shows inefficient use of the UHF band because of a disparity of propagation or characteristics. This in spite of an existing demand for more television stations. The television allocation is at one time both too large and too small. An important key to a broader national television service and to the freeing of frequencies for growth in other services is the establishment

of a new standard of a lesser number of television channels, all in a contiguous band.

"Two proposals stand out as the type more likely to answer the most spectrum and service requirements. The first would start the television allocation with channel 7 or 175 megacycles and allow for thirty channels from that point upward. Certain important military services would have to be moved.

"At these frequencies, many believe that thirty channels would be more than sufficient for national coverage of commercial and educational television. That number of channels or a number of similar size would free some 300 megacycles. The Commission has made a serious review of such a proposal but the apparent costs and dislocations to the military were sufficient to be a deterrent to change. Because some service and costs are to be effected by the fundamental change that is required to solve our problems, I hope there is still an opportunity for the reactivation of this type of plan.

"As a second choice television should be moved to UHF but in all probability would not need the entire UHF band. As a rule of thumb, at these frequencies something like twice as many channels as the first plan may be required to make up for propagation characteristics, system requirements, etc.

"Sixty UHF channels should more than adequately fill television's needs technically. There is reason to believe that the New York tests will sufficiently confirm UHF's qualities to help justify this type allocation plan. This plan obviously would free at least ten UHF and twelve VHF channels or a minimum of 132 megacycles for reassignment. This too like all other plans has its undesirable aspects but it would work, and work well; particularly if decided on with firmness, soon.

"Either of these two plans would permit the manufacture of an all-channel receiver at equivalent costs to today's VHF receivers. Our transmitter and receiver laboratories would go to work with renewed vigor and likely step up the quality of a UHF service significantly by the time of its new inauguration ten or so years from now. Such a fundamental determination would eliminate the need for such expedient efforts as legislating all-channel receivers. With a firm road map to the future, manufacturer and consumer would make their individual decisions and adjustments in traditional American fashion.

"This brings us to my third related topic; Mobile Radio Frequency Assignments. In addition to the special needs of MCC's, independent telephone companies, etc., two particular needs should be anticipated. (1) Private mobile radio service. (2) Common carrier radio — telephone service.

"Private mobile radio's needs and justifications are too well known here to require elaboration. Suffice it to say that it must be given immediate and priority relief via such techniques as sharing mentioned earlier. Private mobile must be assured soon that it will be granted some forty additional megacycles to render the services to be demanded of it in the future. These assignments should be granted from the VHF band and/or as close to present assignments as practical.

"The common carrier radio telephone plan has been suggested as a broadband service. It, too, will require a sizeable assignment—something like fifty megacycles of bandwidth or that order of size. In planning for this service — a new service — application of fundamental principles is essential. The nature and degree of current spectrum problems should not be compounded by the establishment of this new service on some expedient basis.

"The Commission must force basic answers on topics one and two and only then make the full allocation and prepare for the institution of these new broadband services. Sufficient bandwidth should be available in the 800 megacycle region with the reduction of UHF television assignments. Field tests

(Continued on page 55)

H & B Renames Subsidiaries

H & B American Corporation, Beverly Hills, California has announced the renaming of its two operating subsidiaries to better reflect their relationship to the parent company.

David E. Bright, H & B President, said that Transcontinent Communication Systems, Inc. has been renamed H & B Communications Corporation, and Transcontinent Microwave Corporation has been changed to H & B Microwave Corporation.

H & B has also acquired yet another CATV system. The purchase involved the Lovington Antenna and Service Company, Lovington, New Mexico, which serves 1,800 subscribers. Tex-Mex Communications Company, the microwave subsidiary of Lovington Antenna and Service Company, will be purchased as soon as the FCC approves the transfer. The Microwave system picks up the signals near Denver City, Texas and carries them to Lovington.

With its New Mexico purchase, H & B strengthened their claim to being the largest single owner of CATV systems in the United States and Canada. H & B systems are located in Alabama, Arizona, California, Canada, Colorado, Idaho, Iowa, Maine, Montana, New Jersey, New Mexico and Washington.

TPT Names Schneider

TelePromTer Corporation has announced the appointment of Ray V. Schneider to the new position of Eastern Regional Manager for the firm's CATV interests.

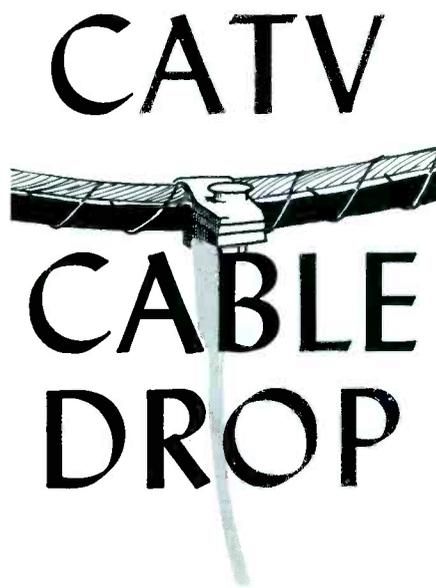
Schneider, a pioneer in the CATV industry, has been vice president and general manager of the Williamsport, Pennsylvania Cable Company. For the past year he has also represented National Theatres and Television, Inc., parent company of the Williamsport system, in the evaluation and purchase of systems.

Schneider is a Director of the NCTA and a former president of the Pennsylvania CATV Association.

Schneider will establish temporary Eastern Headquarters for TelePromTer in Williamsport where he resides with his wife and two daughters.

Webster City, Iowa Franchise Defeated

A concentrated drive by local TV service people in Webster City, Iowa defeated a city election proposal which would have granted a CATV franchise in the city. Two competitive systems were on the ballot, one composed of local Webster City people. Neither obtained the required majority vote. A second election is expected at an early date.



NCTA—Increasing Public Interest

The National Community Television Association held its quarterly Board of Directors meeting in White Sulphur Springs, W. Va. in early November. The group reportedly has adopted a new stronger public interest policy for the nation's community antenna operators.

The Board unanimously approved a program designed to augment the nation's educational facilities for audio-visual learning through the dynamic medium of communications. Immediate plans call for extending and improving the intelligent use of this vital learning tool at all levels, ages and interests, through community antenna systems.

In other actions, the Board called for and approved plans for full participation of its members in Civil Defense, emergency warning service, and other public service programs in the national interest.

Noting that this joint meeting of NCTA Directors and Key Committees was the first of its kind for the NCTA, Board Chairman Glenn H. Flinn, Tyler, Texas, said, "With more than fifty outstanding industry leaders from all corners of the country here, we have an unprecedented opportunity for constructive and objective planning."

The twenty-five man NCTA Board, the ETV Policy Council and the Auxiliary Services and Pole Line Committees devoted two full days to evaluation of present trends and developments in electronic communications that could help broaden the scope of CATV systems.

Campbell Named East for H & B

H & B American Corporation has announced the appointment of John P. Campbell to the newly created position of Eastern Regional Manager for the firm's CATV interests.

Campbell will be in charge of overseeing operation of H & B's CATV systems in Alabama, Canada, Iowa, Maine and New Jersey, according to Executive Vice-President Leon N. Papernow. For the past seven years Campbell has managed the Dubuque, Iowa CATV system. He will maintain his offices in Dubuque.

Rifkin Named V.P.— Asst. to Kahn at TPT

Monroe M. Rifkin, secretary and treasurer of TelePromTer Corporation for the past two years, has been named to the new position of Vice President and Assistant to the President Irving B. Kahn. In the personnel transfer, William V. Sargent, who joined the company as a Vice President in 1958, has been designated as Vice President in charge of special projects. And Edmund R. McCauley, controller, assistant secretary and assistant treasurer, will assume additional duties as principle financial and accounting officer.

Servicing TV Remotes— New Book from Sams

Servicing TV Remote Controls, a new book by Sam Marshall, is a complete guide to home remote control systems newly available from Howard W. Sams, 1720 East 38th Street, Indianapolis 6, Indiana. The book is designed to provide accurate, up-to-date information on the fast growing field of TV remote controls. The book goes into theory, analysis of the systems in use, and detailed instructions for trouble shooting and repairing these systems. A valuable addition to any service shop reference library, and available at most parts houses.

Special — Directory Issue

Space requirement for this special Directory Issue of Television Horizons precludes our including many of the regular monthly technical features now carried in this journal.

All feature articles and the following departments have been omitted, but will return in the January issue:

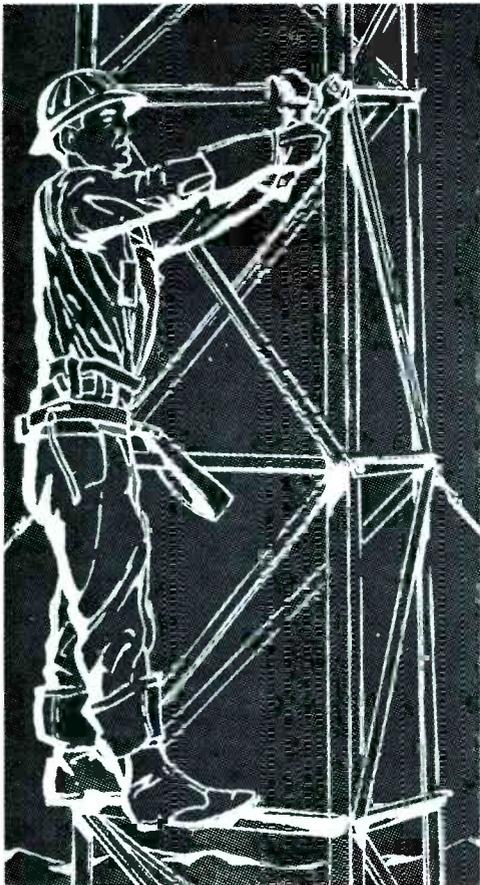
MATV-CATV Service Bench

The Field Engineer

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The January issue of Television Horizons will be "on-sale" January 8, 1962.

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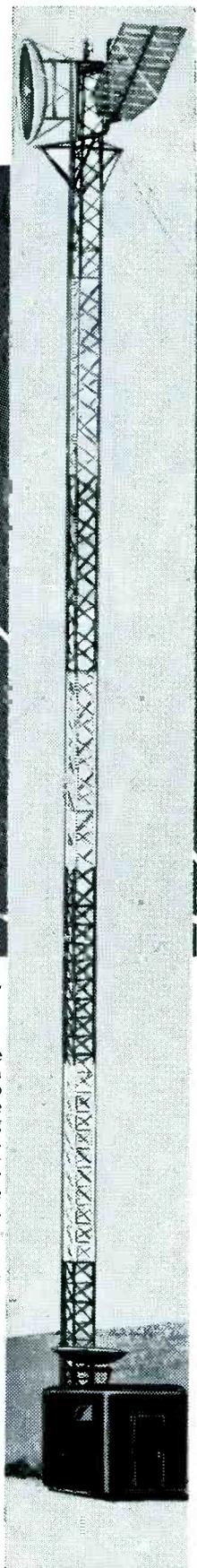
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have proven that this band has more than adequate propagation characteristics and coupled with proper systems techniques would permit excellent city, town and key highway service.

"So that this service does not create a new platform for the activation of conflicts between private mobile and common carrier interests, this new service should be defined as a universal, fully interconnected, general communication class of mobile radio service.

"Our spectrum is finite but our use of it, dynamic because of scientific advance and economic growth. This requires that we be prepared to change our allocations, assignments, and rules governing them from time-to-time. This is one of those times. This is one of those big times. Big change is required—change based on long term predictable requirements and basic fundamental principles. There is no simple, universally popular solution unfortunately. But one thing is sure, the continuation of the status quo or resorting only to piecemeal solutions will in the long run aggravate the problem and effect the most unpopular condition.

"As it has in the past, the Commission must be encouraged to take a firm, fundamental stand on these topics. If it does, I am confident sound judgments will result and our ultimate purpose of improving mobile communications will continue to be assured.

Next Month in TELEVISION HORIZONS

- VHF-UHF Field Strength Measurements
- Our Man in Europe — first report!
- Jerrold and Blonder Tongue Service Benches
- Status Report — FCC Changes Mood on CATV Microwave
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RECENT BBG DECISIONS— CANADA

The Board of Broadcast Governors held its twentieth public hearing on October 17 and 18, 1961, in Montreal, P.Q.

The Board recommends to the Minister of Transport as follows, with respect to the applications referred to it pursuant to Section 12 of the Broadcasting Act and Section 103 of the General Radio Regulations, Part II, which were heard at this hearing:

NEW TV STATION

STE. ANNE DES MONTS, P.Q.

For a license to establish a new French language television station at Ste. Anne des Monts, P.Q., by **T.V. Transgaspesienne Inc.**, on Channel 4—, with an effective radiated power of 54,000 watts (video), 28,400 watts (audio), directional antenna, EHAAT 2,330 feet.

Recommendation: **DECISION RESERVED**

Reasons: The Board wishes time to assess the coverage and service that will be provided by station CKBL-TV, Matane, P.Q., after it commences operation from the new site at the increased power recommended for approval by the Board following the February 1961 public hearing. The application by T.V. Transgaspesienne Inc. for a TV station at Ste. Anne des Monts will be heard again by the Board at a subsequent public hearing.

NEW TV REBROADCASTING STATIONS ENDERBY, B.C.

For a license to establish a new television rebroadcasting station at Enderby, B.C., by **Henry V. Desnoyer on behalf of a society to be incorporated**, on Channel 5, with a transmitter power of 5 watts, directional antenna, to rebroadcast the programs of station CHBC-TV, Kelowna, B.C.

Recommendation: For **APPROVAL**

Reasons: In the opinion of the Board, the proposed new TV rebroadcasting station will provide a satisfactory service to the coverage area.

PEACHLAND, B.C.

For a license to establish a new television rebroadcasting station at Peachland, B.C., by **Robert Chapman**, on Channel 5, with a transmitter power of 5 watts, directional antenna, to rebroadcast the programs of station CHBC-TV, Kelowna, B.C.

Recommendation: For **APPROVAL**

Reasons: In the opinion of the Board, the proposed new TV rebroadcasting station will provide a satisfactory service to the coverage area.

TIMISKAMING STATION, P.Q.

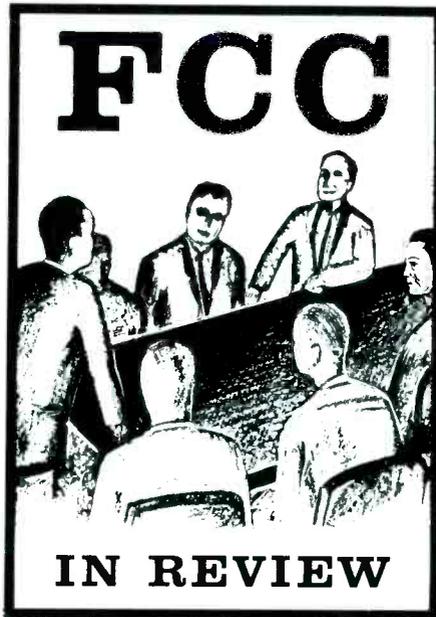
For a license to establish a new television rebroadcasting station at Timiskaming Station, P.Q., by the **Canadian Broadcasting Corporation**, on Channel 12—, with an effective radiated power of 7,080 watts (video), 3,540 watts (audio), directional antenna, EHAAT 860 feet, to rebroadcast the programs of station CBFST, Sturgeon Falls, Ont.

Recommendation: For **APPROVAL**

Reasons: In the opinion of the Board, the proposed new TV rebroadcasting station will provide satisfactory reception of the national service in French in the proposed coverage area.

NEWCASTLE, N.B.

For a license to establish a new television rebroadcasting station at Newcastle, N.B.,



by **Moncton Broadcasting Limited**, on Channel 7, with a transmitter power of 5 watts, directional antenna, to rebroadcast the programs of station CKAM-TV, Upsalquitch Lake, N.B.

Recommendation: For **APPROVAL**

Reasons: In the opinion of the Board, the proposed new TV rebroadcasting station will provide a satisfactory service to the coverage area.

WATERTON PARK, ALTA.

For a license to establish a new television rebroadcasting station at Waterton Park, by **Alfred A. Baker on behalf of a society to be incorporated**, on Channel 12, with a transmitter power of 5 watts, directional antenna, to retransmit the programs of station CJLH-TV, Lethbridge, Alta.

Recommendation: For **APPROVAL**

Reasons: In the opinion of the Board, the proposed new TV rebroadcasting station will provide a satisfactory service to the coverage area.

CANNING, N.S.

For a license to establish a new television rebroadcasting station at Canning, N.S., by **CJCH Limited**, on Channel 10, with an effective radiated power of 9,050 watts (video), 4,530 watts (audio), directional antenna, EHAAT 886 feet, to rebroadcast the programs of station CJCH-TV, Halifax, N.S.

Recommendation: For **APPROVAL**

Reasons: In the opinion of the Board, the proposed new TV rebroadcasting station will provide a satisfactory service to the viewers in the proposed coverage area.

The Board is issuing a statement of policy with respect to the use of rebroadcasting stations for the extension of television service.

NORTH BATTLEFORD, SASK.

For a license to establish a new television rebroadcasting station at North Battleford, Sask., by **CHSA-TV Limited** to receive programs supplied by "off-the-air" pickup from station CHSA-TV, Lloydminster, Sask., and to retransmit those programs on Channel 4 with an effective radiated power of 395 watts (video), 198 watts (audio), omnidirectional antenna, EHAAT 672 feet.

Recommendation: For **DENIAL**

Reasons: Following the public hearing in

August, 1961, at which the Board heard this application, it announced that its decision was reserved and stated:

"The Board wishes time to study the effects on the market areas of the TV rebroadcasting station at Stranraer which was recently approved and of the increase in power for station CHSA-TV now recommended before making a recommendation on this proposal for a TV rebroadcasting station at North Battleford."

There will be some delay in the disposal of the Board's recommendation on the application for a TV rebroadcasting station at Stranraer. In the meantime, the license of CHSA-TV has asked the Board to make an immediate recommendation for the approval of his application for a TV rebroadcasting station at North Battleford. In reviewing all the circumstances of the case, the Board feels that it cannot accede to this request and now recommends the denial of this application.

SUDBURY, ONT.

For an increase in the effective radiated power and a change of antenna site of station CKSO-TV, Sudbury, Ont., by **CKSO Radio Limited**.

Present Operation	Proposed Operation
Channel 5	Channel 5
30,000 watts ERP (video)	72,000 watts ERP (video)
16,000 watts ERP (audio)	40,000 watts ERP (audio)
Omnidirectional Antenna	Directional Antenna
EHAAT 284 feet	EHAAT 2,049 feet

Recommendation: For **APPROVAL**

Reasons: In the opinion of the Board, the proposed increase in power and change of antenna site will provide an improved service to viewers in the area.

LETTERS TO THE EDITOR

Last month the Television Horizons format changed from a small 9 by 6 inch format to the present 8½ by 11 page size. As space permits, afew reader comments from the industry.

"Your new layout is really a delight—each time I turned a page, all that new white space and art surprised me . . . the new articles seem dandy." Frank Nowaczek, Special Assistant, NCTA, Washington, D.C.

"TVH is great. You did a swell job. The boy from back east who did the article on the cable troubles is good too . . ." John Guerrero, Manufacturer's Rep., Sunnyvale, California.

"Congratulations on the first new issue of TVH. I think the format is excellent and I enjoyed reading it from cover to cover. Please send 40 additional copies . . ." Bill Daniels, Daniels & Associates, Denver, Colorado.

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