## TELEVISION KITS, CABINETS

 INSTRUMENTS COMPONENTSEliminate the Variables in

Television Installation with the TRANSVISION FIELD STRENGTH METER

Do not depend on picturesUse absolute measurementsDirect Meter Readings!


Improves Installations!! Saves $1 / 2$ the Work!!
Has numerous features and advantages: including - (1) Measures actual pieture signal strength ... (2) Permits actual picture signal measurements without the use of a complete television set... (3) Antenna orientation can be done exactly... (4) Measures losses or gain of various antenna and lead-in combinations $\therefore$. (5) Useful for checking receiver re-radiation (local oscillator) ... (6) 12 CHANNEL SELECTOR . . (7) Amplitudes of interfering signals can be checked... (8) Weights only 5 lbs....(9) Individually calibrated ... (10) Housed in attractive metal carrying case (11) Initial cost of this unit is covered after only 3 or 4 installations ... (12) Operates on $110 \mathrm{~V}, 60$ Cycles, AC.
Model FSM-1, complete with tubes


TRANSVISION "SERYICE NOTES"

The Key to
Successful Television Servicing

[^0]
## TRANSVISION TELEVISION and FM

## SWEEP SIGNAL GENERATOR



Complete frequency coverage from 0.227 MC with no band switching. . Sweep width from $0-12$ MC completely variable. . Accurately calibrated built-in marker generator

ADOITIONAL FEATURES: (1) Dial calibrated in frequency. . . (2) Self-contained markers readable directly on the dial to $.5 \%$ or better. (No external generator required to provide the marker signals.) . . . (3) Crystal controlled output makes possible any crystal controlled frequency from 5-230 MC. (4) Plenty of trequency from voltage output-permits stage-by-stage alignment. . (5) Output impedance 5-125 ohms . (6) Directly calibrated markers 20-30 MC or trap, sound and video IF alignment.
(7) RF for alignment of traps for IF channels when a DC volt meter is used as the indicati~g medium. . . (8) Unmodulated RF signals to provide marker pips simultaneously with the be controiled as to output strength in thers can oscillator. (10) Power supply completely oscillator. . (10) Power supply completely shielded and filtered to prevent leakage. (1) All active tubes are the new modern miniature type. (12) Phasing controi
incorporated in the generator.

TRANSVISION ALL-CHANNEL
TELEVISION BOOSTER

CONTINUOUS TUNING


To assure television reception in weak signal areas, or areas which are out of ronge of certain broadcasting stations, Transvision engineers have designed this new booster. It increases signal strength on all television channels. Tunes all television channels continuously. Can be used with any type of television receiver. Unusually high gain in upper television channels.
Model B-I
List
TRANSVISION Complete Line of TELEVISION COMPONENTS Essential units for building a quality tele vision set . .. Transvision makes available a complete line of high quality parts comFilter Chpriced. Included in this line are Focus Coils, Deflection ty of Transformers of course major units such as Picture Tubes, Antennas, Lenses, etc., etc
WRITE FOR COMPONENTS FOLDER P-I

## TRANSVISION'S NEW REMOTE CONTROL UNIT - for use with ANY TELEVISION SET

OPERATES ANY TELEVISION SET from a DISTANCE up to 50 feet.

Now you can sit back in your easy chair, a comfortable distance away. and operate your TV set. This new Transvision REMOTE CONTROL UNIT turns ANY SET on, tunes in stations, controls contrast and brightness, turns set off. Especially ideal for commercial installations where the TV set is
 inaccessible

TUNER UNIT is a high gain, all-channel, CONTINUOUS TUNING UNiT (about 50 microvolt sensitivity).

Model TRCU Remote Control Unit with $25-\mathrm{ft}$. cable.

[^1]$\cdots \cdots \cdots \cdots \cdots$
Also available without cabinet....

## TV-FM TUNERS

 ANTENNAS
## TRANSHIStor <br> LENSES CR TUBES

## DE LUXE TV/FM INPUTUNER MODEL IT-I



Distributed nationally, exclusively by Transvision
The finest TV/FM Tuner on the market today!
Continuous Tuning on All Channels

- Covers all 12 channels, entire FM range.
- Continuously tunes from 44 to 216 mc without a break. Requires no band switching for tuning from channel to channel.
- Complete with tubes and escutcheon.

Accessory kit available.

## 12-CHANNEL TV TUNERS

 CONTINUOUS TUNINGModel CT-1 (part \#653), for TV channels 2 to 13, is notable for its high gain, sensitivity excelient image rejection ratio, and
CONTINUOUS TUNING feature. May be used with any $7^{\prime \prime}, 10^{\prime \prime}, 12^{\prime \prime}$, or $15^{\prime \prime}$ kit.
Model CT-I TV tuner, or Net
Model TT-2 (part $\# 301-1$ or $\# 301-2$ ) covers all TV channels, also FM band (88. 108 me.). Available for 7", $10^{\prime \prime}, 12^{\prime \prime}$ or $15^{\prime \prime}$ kits. Specity
tube size.
Model TT-2 TV/FM Tuner $\quad$ Net

## -

TRANSVISION 12-Channel TV/FM TUNER, Model TF-13
Complete 12 channel TV/FM tuner. Covers
all television stations and complete FM all television stations and comple is stage of $R F$, three tubes ( $6 \mathrm{BH} 6,6 A G 5,9002$ ).

TRANSVISION TELEVISION PICTURE TUBES


108P4 Magnetic Deflection $10^{\prime \prime}$ picture tube. 12JP4 Magnetic Deflection 12" picture tube.

## TRANSVISION PICTURE ENLARGING LENSES

Enlarge and Clarify the Pictures


15" Picture Enlarging Lens

$10^{\prime \prime}$ Lens ( 52 sq . in. picture) $12^{\prime \prime}$ Lens ( 75 sq . in. picture) $15^{\prime \prime}$ Lens ( 125 sq. in. picture) All lenses are provided with mounting brackets.

## TRANSVISION All-Angle LENSES for ALL TV SETS



Give picture sizes up to 150 sq. in. Exclusive patented feature makes image visible from wide angle. Lenses come with adapter for installation on ANY $7^{\prime \prime}$ or $10^{\prime \prime}$ picture tube, and with color kits. All Angle Lens for $7^{\prime \prime}$ tubes (gives 75 sq. in. picture)................. All-Ançle Lens for $10^{\prime \prime \prime}$ tubes (gives 150 sq. in. picture) Net

TRANSVISION "SOLDETRON"


FEATHERWEIGHT SOLDERING IRON 3 Ounces-Does Job of 200 Watt IronInterchangeable Tips: No Cleaning or Filing: Easy to Use for Every Type of Soldering.

## "Flip-Up" TV ANTENNA



- PRE-ASSEMBLED, ready for use. Just "flip-up" (like an umbrella) and install.
- PRE-WIRED-just connect your lead-in to the two terminals.
- RECEIVES ALL CHANNELS.
- ALL-DIRECTIONAL; can be oriented for the weakest station in an area with assurance that all other channels will be brought in equally well.
- EXTREMELY SENSITIVE. Unusual high gain on upper channels. Ideal for fringe areas.
Completely assembled with rotatable base, 7-it. mast, guy ring and guy wire.
Additional 7 - ft . masts, to build antenna up to 19 ft ., at small extra cost.


## INDOOR TV <br> \section*{ANTENNA}

For Ideal Reception on Al! Channels - - All-directional Transvision's sensational new "Telebird" is the ideal indoor antenna. Excellent reception on all channels. Eliminates "ghosts". Install
 "TELEBIRD" in thy, place it on window sill or anywhere the room. Will out-perform many outdoor put it away.

## VISION FILTER

For $77^{\prime \prime}, 10^{\prime \prime}$ or $12^{\prime \prime}$ sets. For $10 B L$ or $15^{\prime \prime \prime}$ sets.

## MAGIC EYE KIT

Magic eye kit-for $12 / 15^{\prime \prime}$ deluxe kits only. Includes eye, assembly, escutcheon, instructions.

## Dhimore perkimed TELEVISION KIT

## TUNER, VIDEO and SOUND CHANNELS

 are completely wired and PRE-ALIGNED by PhilmoreAll components are mounted by Philmore



Experience has canvinced us that pre-alignment of the vital channels is the only satisfactory method of kit assembly. That is why the Tuner, Video and Sound channels are completely wired and fully aligned in our labaratory. We also assemble ta the chassis transformers, electrolytic candensers, tubes, high voltage shields, valtage divider shield, chokes. Sockets and other parts are riveted to the chassis which insures gaod contacts and eliminates any possibility of loose connections.


## Similar to famous RCA 630TS and 830TS Circuits

## Designed for $10^{\prime \prime} 12^{\prime \prime} 15^{\prime \prime} 16^{\prime \prime}$ PICTURE TUBES

SIMPLIFIED STEP-BY-STEP INSTRUCTIONS 36 page manual of instructions on assembly and operation generously illustrated. Six full scale lithographed schematic and pictorial diagrams. All small parts packaged in individual envelopes, clearly numbered and identified on blueprints.

When balance of simple wiring is completed, no further alignments are necessary.

Features:

- New, WIDER-SCREEN television for BIGGER pictures on all size tubes.
- 30 RCA tubes (inc. rect. and video).
- New, improved daylight viewing.
- Increased voltage power pack.
- Long range reception.
- Complete All-channel tuning.
- PM Speaker with choke (better tone and volume-no hum).
- Special mounting bracket for $16^{\prime \prime}$ tube available.
- Ideal for custom-built installations.
(Philmore IV receivers also available completely wired and assembled.)
MFD. BY PHILMORE MANUFACTURING COMPANY, INC.


## When ALIGYMENT is BULI-W trouble is bult out

# Philmore TV Replacement Parts 



TII8 - Horizontal Deflection Output Transformer

## COILS AND TRANSFORMERS

Part No. Tho-1st and 2nd Sound I.F. Transformers. Therchangeable with RCA type $201 \mathrm{~K}_{\mathrm{m}} 2.00$ ea T101-1st Pix I.F. Transformer. Interchangeable wh RCA type $202 \mathrm{K2}$ _ 2.20 ea . with RCA Type 202 K 3 . T103-Sound Discriminator Transformer. Inter changeable with RCA type 203 KI .......... 2.60 ea T104-Horizontal (Synch.) Discriminator Transformer. Interchangeable with RCA type 20878

TIO5-3rd and 4th Pix Coils. Interchangeable with RCA type 202 LI . 50 ea . T106-Cathode Trap Coil. Interchangeable with RCA type $202 \mathrm{~K} 4 \times 2.00 \mathrm{ea}$ Tlo7-Video Peaking Coil, 180 MH . Shunt Re. sistance 39,000 Ohms. interchangeable with RCA type 203LI Tl08-Video Peaking Coil, 250 MH . Shunt Resistance 10 Megohms. Interchangeable with
 Tl09-Video Peaking Coil, 120 MH , Shunt Resistance 22,000 Ohms. Interchangeable with RCA type 203L3 _. 30 ea $\mathrm{T} / 10$-Video Peaking Coil, 93 MH . Shunt Resistance 10 Megohms. Interchangeable with RCA type 203L4 Tlil-Filament Chokes, 8 MH . Interchangeable with RCA type 204LI._. 15 ea TII2-Width Control Coil. Interchangeable with
 Til3--Horizontal Linearity Control Coil. Interchangeable with RCA type 201R3......... 75 ea. Tll4-Audio Single Output Transformer (speaker) for 6 K 6 Tubes.......................... 1.35 ea T115-Power Transformer, 295 MA . Fully Shielded. Interchangeable with RCA type 20176 26.50 еа.

Tll6-Vertical Deflection Output Transformer. Interchangeable with RCA type 204T2.... 4.75 ea. Tll7-Vertical Oscillator Transformer (Blocking). Interchangeable with RCA type 20872 Tll8-Horizontal Deflectic.n Output Transformer. Interchangeable with RCA type 21171 or $2 \mid 1 T 3$ TI2I-Deflection Yoke, 8.3 MH . Vertical 50 MH . Interchangeable with RCA type $201 \mathrm{DI} . .7 .50$ ea. TI22-Focus Coil, 247 Ohms D.C. Resistance. Interchangeable with RCA type 202D I... 6.00 ea. T123-lon Trap Beam Bender P.M. (Double Magnet). Interchangeable with RCA types 203DI or 203D3

CERAMIC TUBULAR CONDENSERS TYPE GP Part No.

Description
C:37-10 Mmid. $10 \%$ Tolerance $\qquad$ List Price C197-51 Mmfd 10\% Tolerane Cl81-56 Mmfd. $10 \%$ Tolerance .20 ea.
$\qquad$ Cl64-|200 Mmfd. Tolerance Not Less Than Rated Capacity Cl12-1500 Mmfd. Tolerance Not Less Than Rated Capacity 20 ea. C200-6800 Mmfd. Tclerance Not Less Than


TI2I - Deflection Yoke


T120 - 12 Channel Tuner

TI22-Focus Coil

## MICA CONDENSERS

Part No.
Description
70 Mmid. 500 W.V. 1000 D.C. Volts Tes 20 ea. C176-390 Mmfd. 500 W.V.-1000 D.C. Volts Test C161-470 Mmfd. 500 W.V.- 1000 D.C. Volts Test $179-100 \mathrm{Mmfd} 500$ W Y - 1000 D.C: I79-680 Mmfd. $500 \mathrm{~W} . V-1000$ D.C. Volts Test Cl54-4700 Mmfd. 500 W.V. -1000 D.C. Volts est .... - .55 ea. Cl87-500 Mmfd. 10,000 W.Y.-High Voltage filter Condenser ..................... 1.10 ea. NOTE: All Condensers are rated for $85^{\circ} \mathrm{C}$ Operation.

## ELECTROLYTIC CONDENSERS

Part No.
Description
List Price

## in Round Aluminum Cans)

C220-40+10+80 Mfd. - 450-450-150 Volts With Cardboard Insulated Tube ......... 2.75 ea. C22I- $40+40+10 \mathrm{Mfd}$. - 450-450-450-Volts C222-80+50 Mfd - 450-50 Volts Cardboard insulated Tube -3.00 ea. C223-40+10+10 Mfd. - 450-450-350 Volts C224-20+80 Mfd. - 450-350 Volts..... 3.00 ea . C-225- $250+1000 \mathrm{Mfd}$. - $10-6$ Volts.... 2.25 ea. H 125 -Bakelite Insulating Plates for above condensers (set of 4) NOTE: All Condensers are rated for $85^{\circ} \mathrm{C}$ Operation.

## VOLUME CONTROLS

Part No. Description List Price R131-Picture and Sound- 10,000 Ohms and I Megohm Dual Control with Power Switch R152-Brightness Control-50,000 Ohms .70 ea. R168-Vertical and Horizontal Hold-1 Megohm and 50,000 Ohms Dual Control.............. 1.75 ea. R169-Height Control-2.5 Megohm.- 65 ea. R178-Vertical Linearity Control-5,000 Ohms

R181-Vertical Centering Control-20 0 ea. Tapped Center, Wirewound R184-Focus Control-1500 Ohms, Wirewound R187-Horizontal Drive Control-20,000 Ohms Ohms
65 ea. R2II-Horizontal Centering Control-20 Ohms, R21-Horizontal Centering Control-20 1.30 eams,

## WIREWOUND RESISTORS AND VOLTAGE DIVIDERS

Part No. Description List Price R200-5,000 Ohms, 5 Watt
$\qquad$ ce R185 1360 Ohms--17 Watt and 250 Ohms10 Watt
$\qquad$ R209- 5300 Ohms- 20 Watt, 500 Ohm R186-6750 Ohms 3.2 Watt, 12 Ohms-R186-6750 Ohms 3.2 Watt, 12 Ohms- $1 / 9$ Watt and 93 Ohms- 4 Watt

## TUNER UNITS, KNOBS AND ESCUTCHEONS

 Part No. Description List Price TI20-13 Channel Tuner, complete with 3-bJ6 Tubes. Pre-Aligned $\quad 60.00$ ea. KN $101-R$-Tuner Knob with Springs (set of two knobs) KNIO2-R-Picture and Sound Knobs with Springs set of two knobs) .40 Set KN103-R-Vertical Hold and Horizontal Hold Knobs with Springs (set of two knobs). . 40 Set KN104-R-Brightness Knobs with Springs (set of wo knobs) .40 Set KNIO5-R-13 Channel Escutcheon Plate and Spring: Above knobs are to be used with the RCA 13 Channel Tuner.KNIO6-Set of Decals for either the 12 Channel or 13 Channel Tuner

## ADDITIONAL TELEVISION ITEMS

 Part No. Description List Price Slo5-High Voltage Rectifier Socket Assembly 1.25 ea .S106-Duo-Decal Kinescope Sockets with 5-19." Leads -301-300 Ohm Twin Connecting Transmission line, 1000 ft . Spools 302-High Voltage Lead $23^{\prime \prime}$ Long with Clip for Connecting to Kinescope Tube...-... . 75 ea.

## BRACKETS AND HARDWARE ITEMS

## Part No. Description <br> List Price

\section*{H101-Bracket for Hold Control_-. 90 ea.} H102 1 Bracket for Tuner Shaft Bearing and BakeH103 \} lite Bearing for Tuner Shaft . 50 Set H104-Brackets for Mounting Chassis to Cabinet set of 4 brackets) $\quad .75$ Set Hl05-Bracket for Mounting Deflection Yoke HIOSA-Bracket for Mounting Focus Coit upper) - 35 ea. H106B-Bracket for Mounting Focus Coil (lower) , acu Th . 60 ea. HIO6D-Studs Threaded for Fcrus Coil Bracket set of 2) Mounting .25 Set H109-Bracke D-Hiah Voltage Shield Asse 90 ea. HIO9-A-B-C-D-High Voitage Shield Assembly consisting of Transformer Mountina Base, Side H109E H109E-6 foot Power Supply Cord with Safety | Break Female Connectora, |
| :--- |
| HIllA-Shield for Voltage Divider.......... | .50 ea. HIllB-Cover for Voltage Divider Shield

HII2-Sub-Chassis Plate for Mounting Electroly. tic Condensers $\quad 1.25$ ea. HIl4-Shield for Cathode Trap Coil..... 1.25 ea. HII5-Safety Break Male Connector for AC
 HIl6-Tuner Shield $\quad 75$ ea. H117-Shield for Discriminating Sound Transermer H132-Threaded Round Head Screws 4/22. 30 Set set of 2). 25
H135-Ring Corona Wire $\quad . \quad .25$ ea. H136-Brackets for Mounting S105 H.V. Socket
Assembly (set of 4 brackets) HI 37 -Bracket for Width Control.......... 50 ea. H142-Bracket for Kinescope Tube....... 1.50 ea. T125-T.V. Chassis, formed and punched. Cadmium plated for Philmore Television Sets and Kits or any RCA 630 Type Set..... 10.00 ea.

PHILMORE MANUFACTURING COMPANY, INC.


## Model 511 - AM-FM RADIO CHASSIS

> A Low-Priced Replacement Chassis.
> Fits All Types of Console Cabinets.

## DEALER - SERVICEMAN. <br> Net $\$ 98.00$

L Model 511 is a Superheterodyne AM-FM Radio Receiver chassis designed to operate on : $105 / 125$ volts $\mathrm{AC} ; 50 / 60$ cycles. Power: consumption: 85 watts.
II. FEATURES: 1. AC Superheterodyne AM-FM receiver. - 2 . Improved Frequency Modulation Circuit. Drift Compensated. 3. 12 Tubes plus Rectifier and Tuning Indicator. - 4. 3 Dual Purpose Tubes give added performance. - 5. Treble Tone Control. - 6. 6-Gang Tuning Condenser. - 7. Full-range Bass Tone Control. - 8. High-Fidelity AM-FM Reception. - 9. Automatic Volume Control. - 10. 13-watt (maximum) Push-Pull Audio Output. - 11. 12-inch PM Speaker with Alnico V Magnet, 25 watts. 12. - Indirectly Illuminated "Slide-Rule" Dial. - 13. Antenna for AM and Folded Dipole Antenna for FM reception. 14. Provisions for external antennas. - 15. Wired for Phonograph Operations. - 16. Licensed under RCA patents. - 17 RMA listed. - 18. Multi-tap Output Transformer, 3.2, 8 and 500 ohms.
III. DESCRIPTION: Model 511 receiver features the latest in postwar engineering design. The FM circuit includes a tuned RF Amplifier stage, 2 stages of high gain Intermediate Frequency Amplitication and an advanced design Ratio Detector circuit Which provides low noise level between stations, freedom from AM interference, ease of tuning and ample gain for satisfactory operation with an indoor antenna in most urban locations. The AM circuit includes a Tuned RF Amplifier for improved selectivity and freedom from spurious responses. High Fidelity reproduction on FM and AM is insured through well-engineered circuits and the use of hirh quality parts. The tuning ranges are : Standard Broadcast - 535 to 1720 lic. FM Band - 88 to 108 Mc .
The large easy-torend "slide-rule" type dial is illuminated by two pilot lights which also provide illumination for the red plastic dial pointer. A high ratio flywheel drive on the tuning condenser provides smooth tuning throughout the range of the receiver.
The receiver has two antennas: a Loop antenna for Standard Broadcast and a Folded Dipole antenna for the FM band. Provision is made for connecting an external Phonograph Pickup to the high-fidelity audio amplifier system of the receiver. The Multi-tap output transformer will permit the use of Most Popular Type Hi-Fidelity Speakers and dividing networks, or to match a standard $500-$ ohm line for Remotẹ installations.
IV. TUBE COMPLEMENT: 1 AM-RF Amplifier tube. - 1 FM-RF Amplifier tube. - 1 AM Oscillator, Mixer tube. - 1 IF Amplifier tube. - 1 FM Detector Driver tube, - 1 FM Detector tube. 1 FM Oscillator tube. -1 FM Mixer tube. -1 AM Detector, Audio Amplifier tube. - 1 Audio Amplifier-Inverter tube. - 2 Push-Pull Power Amplifier tubes. - 1 Rectifier tube. - 1 Electron Ray Tuning Indicator tube.
V. ACCESSORIES: The Model 511 chassis is supplied ready to operate, complete with tules, antennas, speaker and all necessary hardware for mounting in a table cabinet or console, including escutcheon.

VI, CFASSIS DIMENSIONS AND WEIGHT: Chassis Dimensions : $131 / 2^{\prime \prime}$ wide $\times 81 / 2^{\prime \prime}$ high $\times 10^{\prime \prime}$ deep. Carton Dimensions: (2 units) $20^{\prime \prime} \times 141 / 4^{\prime \prime \prime} \times 10 \frac{1}{\prime \prime}$. Net Weight: $161 / 2 \mathrm{lbs}$. each.


## Model 512 - AM.FM TUNER

Outstanding AM-FM TUNER, self-powered for use with all types of Audio Amplifiers.

## DEALER - SERVICEMAN

$\qquad$ .Net \$82,15
I. Model 512 Superheterodyne AM-FM Radio Tuner chassis is dcsigned to operate on: $105 / 125$ volts AC; $50 / 60$ cycles. Power Consumption: 66 watts.
II. FEATURES: 1. AC Superheterodyne AM-FM tuning circuit. - 2. Improved Frequency Modulation Circuit, drift compensated. -3. 9 Tubes plus Rectitier and Tuning Indicator. - 4. 3 Dual Purpose Tubes give added performance. - 5. Automatic Volume Control, -6. 6-Gang Tuning Condenser. - 7. High-Fidelity AM FM Reception. - 8. Indirectly Illuminated "Slide-Rule"' Dial. 9. Antenna for AM and Folded Dipole Antenna for FM Reception. - 10. Provisions for external antennas. - 11. Wired for Phonograph Operations. - 12. Licensed under RCA patents. 13. RMA listed. - 14. High and Low Level Audio Output. - 15. Utility Socket provides power for magnetic reluctance pickup pre-amplifier.
III. DESCRIPTION: Model 512 Tuner features the latest in postwar engineering design. The FM circuit includes the tuned RF Amplifier stage, 2 stages of high-gain Intermediate Frequency Amplification, and an advanced design Ratio Delector circuit which provides low noise level between stations, freedom from AM interference, ease of tuning and ample gain for satistactory operation with an indoor antenna. The AM circuit includes a spurious responses. High-Fidelity selectivity and freedom from spurious responses. High-Fidelity reproduction on FMM and AM is insured through well-engineered circuits and high-quality parts.
Line Voltage is made available at two outlets at the rear of the tuner; these are actuated by the tuner on-off switeh To facilitate custom installations, $\mathrm{L}+$ and Heater Voltages are made available at a utility socket mounted in the tuner. This is suitable for powering auxiliary pre-amplifiers as used with variable reluctance type pickups. Holes for 2 additional controls are available for the convenience of the user. The tuning ranges are: Standard Broadeast - 535 to 1720 Kc . FM Mand - 88 to 108 Mc . The receiver has two antennas: a Loop antenna for Standard Broadcast and a Folded Dipole antenna for the FM Band.
Provision is made for connecting an external phonograph pick-up to the tuner audio system, for use with all types of amplifier installations. Two audio output channels are provided, one at high level, the other at low level; both are controlled by the tuner. volume control.
IV. TUBE COMPLEMENT: 1 AM-RF Amplifier tube. - 1 FM-RF Amplifier tube. - 1 AM Oscillator, Mixer tube. - 1 FM Detector Driver tube. - 1 IF Amplifier tube. - 1 FM Detector tube. Audio Amplifier tube. - 1 Electron Ray Tuning Indicator tube. - 1 Rectifier tube.
V. ACCESSORIES: Model 512 chassis is supplied ready to operate, complete with tubes, antennas, and all necessary hardware for mounting in a table cabinet or console, including escutcheon.
VI. CHASSIS DIMENSIONS AND WEIGHT: Chassis Dimensions: $1311 / 2^{\prime \prime}$ wide $\times 81 / 2^{\prime \prime}$ hiph $\times 9^{\prime \prime}$ deep. Carton Dimensions :


# Lowest Priced DeLuxe AM-FM UNIT On the Market! 

## Model 513 - AM-FM DeLuxe TUNER Dealer-Serviceman .....Net $\$ 78.60$

Model 514 - DeLuxe Audio Amplifier, 25 Watts

Dealer-Serviceman ......Net \$ 38.60
Alnico V PM Speaker, 12", 25 Watts

Dealer-Serviceman ......Net \$10.35
TOTAL—Dealer-Serviceman Net $\$ \mathbf{1 2 7 . 5 5}$

## Model 513

## I. FEATURES:

1. Superheterodyne AM-FM circuit.
2. Improved Frequency Modulation Circuit, stabilized against drift.
3. 10 Tubes plus Tuning Indicator.
4. Tuned RF Circuits on AM and FM.
5. 6-Gang Variable Tuning Condenser.
6. Automatic Volume Control.
7. Full Range Bass Boost Control.
8. Full Range Treble Control.
9. Indirectly Illuminated 'Slide-Rule' Dial.
10. Fly Wheel Tuning Drive.
11. Antenna for $A M$ and Folded Dipole Antenna for FM.
12. Provision for external antennas.
13. Wired for Phonograph Operation.
14. Utility Socket provides power for magnetic reluctance pickup pre-amplifier.
15. Licensed under RCA.
16. RMA listed.
II. Model 513 AM-FM Tuner employs 10 tubes plus a tuning indicator tube in a superheterodyne circuit. It is designed to operate from an external power supply and feed into an external audio amplifier. (Model 514 DeLuxe Power SupplyAudio Amplifier is specifically designed to work in conjunction with the Model 513 Tuner.) The power requirements for the tuner are 6.3 volts AC or DC at 3.5 amperes, and 200 volts DC at 60 milliamperes.
III. DESCRIPTION : The Model 513 Tuner incorporates the latest developments in engineering design. It is intended for the discriminating listener. Separate, Tuned RF stages are employed on both the AM and FM bands to provide extreme sensitivity and minimize spurious responses. The FM circuit also includes two stages of high-gain intermediate frequency amplification to drive a ratio detector circuit of advanced design. AM : 535 Kc . to 1720 Kc . $\qquad$ FM: 88 Mc . to 108 Mc .
IV. TUBE COMPLEMENT: 1 6BA 6 AM-RF Amplifier tube. - 1 6BAG FM-RF Amplifier tube. 1 6BE6 AM Converter tube. - 1 6BE6 FM Mixer tube. - 1 6C4 Oscillator tube. - 1 6SG7 AM-FM IF Amplifier tube. - 16 SH 7 FM-Ratio Detector Driver tube. - 1 6.55 AM-Detector AVC tube. - 1 6SQ7 AM-FM 1st Audio tube. - 1 6AL5 FM Ratio Detector tube. - 16 U 5 Tuning Detector tube.
V. CHASSIS DIMENSIONS: $131 / 2^{\prime \prime}$ wide $\times 81 / 2^{\prime \prime}$ high $\times 9^{\prime \prime}$ deep. Weight: $91 / 2 \mathrm{lbs}$.


Model 514 Amplifier \& Power Supply.

## Model 514

1. Model 514 DeLuxe Power Supply and Audio Amplifier contains 6 tubes, plus 2 rectifiers in a high gain push-pull amplifier circuit. It is desibned specifically for use in conjunction with the Model 513 Tuner, but may he used wherever a high quality audio amplifier may be required. Power requirements are : 105/125 volts AC; $50 / 60$ cycles; power consumption: approximately $\mathbb{1}: 0$ watts.

## II. FEATURES:

1. Parallel Push-Pull Output Circuit.
2. Self-Balanced Phase Inverter System.
3. Extended Range High-Fidelity Response
4. Inverse Feedback Circuit.
5. 6 Tubes plus 2 Rectifiers.
6. Output Impedance selective for any speaker requiremet ( 4 to 500 ohms ).
7. License under RCA.
8. RMA listed.
III. DESCRIPTION: The Model 514 Power SupplyAudio Amplifier employs the best in proven engineering design. Six tubes are incorporated in a balanced phase inverter parallel push-pull amplifier. By the use of an inverse feedback circuit, high-fidelity performance is obtained.

## IV. TUBE COMPLEMENT:

 2 6.J5 Audio Driver tubes. 4 6V6 Audio Output tubes. -2 5 Y3 Rectifier tubes.V. $131 / 2^{\prime \prime}$ wide $\times 7^{1 / 2^{\prime \prime}}$ high $x$ $7^{\prime \prime}$ deep. Weight 18 lbs .

## Model 243 Console Cabinet

Dealer-
Serviceman ... Net $\$ \mathbf{5 3 . 5 0}$
Modernistic, exquisitely finished limed walnut Console Cabinet. Furnished with panels to house ESPEY chassis and standard record changers.


Model 243 - Open

# Build the finest proven "CUSTOM-BUILT" TELEMSION ASSEMBLY 

 Faster! More Econowhen you build with


## ASSEFELE

## Exclusive

## T.A.C. "vividea" feature!

Prewired, pretuned and tubed I.F. sound and video strip (patents pending). An exclusive T. A. C. feature developed by our own research. All on one chassis.
super-simplified wiring and assembly INSTRUCTIONS!

- The most explicit, easiest-to-follow most elaborately detailed instructions in televisionthat even the layman can follow.

CABINETS AND STANDS available with all direct view units. Write for literature.

## MODEL P-520 . . . 520 SQ. IN. PICTURE PROJEGTION TELEVISION ASSEMBLY



- Bausch $\delta$ Lomb Fi 1.9 Lens - Eatman ${ }_{37}$ Kodak Screen. DuMont Inputuner 37 r.C.A. Tubes - Pre Wired $\delta$ Pre Tuned Picture 1.F. $\delta$ Sound I.F. - PreWired 30 K.V. Tripler Fly Back Power Supply - Automatic Gain Control hack - Specially Designed Hood and Picture Frame Supplied - STP4 Projec. tion Tube - 12" A.C.A. High Fidelity Speaker - Two Low Vollaqe Power Supplies.
MODEL P-520
$\begin{array}{ll}\text { Dealef's no، } & \$ 7690^{*} \\ \text { MODEL } \\ \text { Decler's net } \\ \end{array}$
Bealer's net
The above unft completely wired and
teady to install eady to install.

Front and rear panels optional
art additional cost.


540 BUSHWICK AVE., BROOKLYN 6, N. Y.

Champion Models

## 20" DIRECT-VIEW MODEL

 with DuMont Inputuner and 20" DuMont Tube213 SQUARE INCH PICTURE! Prewired Voltage Doubler l4KV power supply, Pre-wired "VIVIDeo" I.F. picture and sound strip (Pat. Pending). All channels TV plus ALL FM radio. Continuous tuning. DuMont Inputuner is Prewired. Delivered complete with all components and 30 RCA tubes plus 20 -inch DuMont C.R. tube.
MODEL F-201C Dealer's net \$56675*

## "W" SERIES STANDARD and CHAMPION Direct-View Models for 10" CR TUBES

## STANDARD MODEL

29 tubes, including 13 -tube "VIVIDeo" I.F. picture and sound strip (Pat. Pending). This portion completely wired, tested and aligned. Prewired standard tuner ready to use. Handles ALL channels.
MODEL M-101S Lesac.f. Tube $\$ 16950^{*}$

## CHAMPION MODEL

Same as above except that DuMont Inputuner re places Standard Tuner. Gets ALL channels TV -PLUS all channels of FM radio.

Dealer's net

Write for literature on our complete line of $10^{\prime \prime}$
$12^{\prime \prime} \cdot 15^{\prime \prime}$ standard and champion assemblies.
T. A.C. GUARANTEE All components are of the finest All compand are fully quaranteed quality andandard RMA Guarantee. under the Assemblies are quaranteed An assembled accord ing to directions.

# VISION research laboratories 

# C O R P O R A T E D <br> 87-50 LEFFERTS BLVD. RICHMOND HILL • NEW YORK 

## SPECIALISTS IN TELEVISION



## TELEVISION ANTENNA AMPLIFIER <br> Model TVA

For improved television reception in fringe areas and indoor antenna installations. Model TVA contains two type 6AK5 special high frequency tubes in a unique dual amplifier circuit. Antenna connects through automatically when booster is turned off thus providing normal reception. Supplied complete with tubes in attractive walnut or mahogany cabinet
$\$ 28.50$ List*


## TELEVISION ANTENNA AMPLIFIER

Model TVX
Similar to Model TVA except for extra stage of amplification on the high frequency channels. Model TVY is popular for installations that require unusual gain in the high fregnency TV channels ( $7-13$ ). Complete with instructions.
\$37.50 List*


## DE LUXE TELEVISION PREAMPLIFIER Model TVZ

A three stage gang tuned booster for special installations. Especially useful in extreme fringe areas where quiet noise conditions prevail Model TVZ contains 3 type 6 AK5 tubes in a special patent applied for inductance-capacity tuning system. Housed in walnut or mahogany cabinet with illuminated dial
\$54.50 List*

## GENERATOR TSW-50

One of the first popularly priced broad bathd sweep generators on the market. The TSW-50 employs an electio me chanical type of sweel
 circuit providing for excellent linearity and wide sweel, widtl. Frequency range from 4 to 220 mc . sweep width range 500 lsc to 12 me. Supplied complete with tubes and cables, housed in an attractive grey crackle cabinet with etched aluminum front plate
$\$ 68.50 \mathrm{Net}$


## TELEMARKER Model TM-100

An absorption type marker unit for use in conjunction with the TSW-50 or similar sweep signal generators, as a frequency marker on the visual alignment trace

Model TM-100 is connected externally to the sweep generator output lead, covers a frequency range of from 9.5 to 28 mc . Each telemarker is individually calibrated, housed in an attractive grey crackle cabinet with etched aluminum dial and furnisherl complete with connecting cables
$\$ 12.50$ Net

## FM TELETUNER

A novel converter unit that adds FM reception to your 'TV receiver. The FM Teletuner connects in series with the TV antenna providing FM reception when receiver is tumed to an unused TV channel (2 or 3). Anterna connects through when tuner is off
 so as not to effect normal TV recention. Will work on any TV set that does NOT use an intercarrier circuit
$\$ 29.95$ List*

## FRONT END TUNER Model TF 701

A unique and compact continuous type television front end tuner featuring a revolutionary method of inductancecapacity variation. Model TF-701 may be
 used whenever application requires a continuous type tuning system. Contains 6AK5 RF amplifier, 6AK5 mixer, 6C4 oscillator. Each unit supplied completely aligned with calibrated. illuminated dial, complete with teclinical data but less 6AG5 and 6AK5.

## $\bullet$ ENGINEERS • JOBBERS • SERVICEMEN

 all agree: RMMS VIDEO ANTENNA $\square-3 \bigcirc \bigcirc$ BOOSTER OUTSTANDNG PERFORMANCE MODEL SP-2 $\$ \square 50$for ALL CHANNELS

* Just plug in to work, it has a self contained power supply.
$\star$ Boosts weak station to give you clear, easy to look at pictures.
* Pulls in distant stations with a gain of SIX to TEN TIMES in signal strength!
$\star$ Cuts down off-channel interference.
$\star$ For most local installations any simple indoor aerial in conjunction with RMS VIDEO ANTENNA BOOSTER will give you Television Picture reception as clear as that obtainable with an outdoor antenna!



# RCA ELECTRONIC COMPONENTS <br> TELEVISION PARTS 

CONTROLS
\#201R1 Width Control. Screwdriver-adjusted vari-able reactor. Powdered iron core. For usewith RCA 211T1 where kinescope anode po-tential not over 9 KV $\$ 0.70$
\#201R2 Projection Width Control. Features same as201 R1. For use with RCA 211 T 2 in circuitswith kinescope anode potentials up to 27 KVdesign center . . . . . . . . . . . . . . . . . . . . . . $\$ 2.20$
\#201R3 Horizontal Linearity Control. Featuresspring clip mounting. For deflection circuitsusing RCA 211T1 and 201D1.......... $\$ 0.80$
\#203R1 Horizontal Oscillator and SynchronizingControl-Coil. A permeability tuned center-tapped oscillator coil for use in Televisionreceivers employing a 6SN7-GT as a com-bination horizontal blocking oscillator andsynchronizing control tube.............. . $\$ 1.80$

## TRANSFORMERS

\#201T6 Power Transformer. For use in 30-tube TV receivers requiring rectified current of 295 ma. at voltage of approx. 385 volts... . $\$ 26.00$
\#201T7 For 24-Tube Receivers................. $\$ 21.00$
\#201T8 For 21-Tube Receivers................ . $\$ 19.00$
\#201T9 For 27-Tube Receivers. . . . . . . . . . . . . . $\$ 21.00$
\#201T10 For 27-Tube Receivers. . . . . . . . . . . . . . $\$ 21.00$
\#204T1 Horizontal Output Transformer. Moistureresistant. For deflection circuits with $50^{\circ}$ mag. deflection kinescopes using RCA 201D1 or 201D2
. $\$ 20.00$
\#204T9 Vertical Output Transformer. Quiet operation. For use with RCA 201D1 or 201D2 where kinescopes require $50^{\circ}$ magnetic deflection
. $\$ 4.50$
\#204T3 Horizontal Output Transformer. Powdered iron core. For use where electro-magnetic deflection kinescopes with RCA 201D1 yokes are employed ............................ $\$ 12.00$
\#208T1 Horizontal Blocking-Oscillator Transformer. Powdered iron core. For use where electromagnetic deflection kinescopes with RCA 201D1 yokes are employed.............. $\$ 3.90$
\#208T9 Vertical Blocking-Oscillator Transformer. Generates 60 cps pulses required to drive the grids of horizontal discharge tubes.... $\$ 2.50$
\#208T3 Horizontal Blocking-Oscillator Transformer. Similar to 208 T 1 except that bracket mounting is used in place of potted can construction
.\$2.75
\#208T8 Horizontal Sync-DiscriminatorTransformer. Provides automatic horiz sweep freq control. Couples horiz-sweep oscillator to horiz-sync discriminator
. $\$ 2.30$
\#211T1 Horizontal Output Transformer. For use with RCA 201D1 and directly-vicwed kinescopes requiring $50^{\circ}$ magnetic deflection using typical circuits.................... $\$ 9.50$
\#211T2 Horizontal Output Transformer. Designed for use in recommended circuits employing projection kinescope RCA 5TP4. Powdered iron core.
. $\$ 19.00$

## YOKES

\#201D3 Deflection Yoke. For use with directlyviewed kinescope requiring $50^{\circ}$ magnetic deflection such as RCA 7DP4 and 10BP4 \$14.90
\#201D2 Deflection Yoke. For use with projection kinescopes requiring $50^{\circ}$ magnetic deflection such as RCA 5TP4.
. $\$ 13.00$

## COILS

\#202D1 Focus Coils. For magnetically focused kinescopes with deflection angles up to $50^{\circ}$, such as 10BP4. Utilizes large conductor size for long life.................................... $\$ 7.50$
\#204L1 Filament Choke. Eliminates undesirable RF currents from filament circuit. Consists of self-supported 16 -turn coil on $1 / 4^{\prime \prime}$ inside diameter
. $\$ 0.20$
\#204X1 Television I-F and Video Coil Kit. Contains all the coils for building a high quality receiver. 15 individual items.

$$
\$ 19.50
$$

## MISCELLANEOUS

$$
\begin{array}{ll}
\text { \#201E1 } & \begin{array}{l}
\text { Television Tuner incorporating RF amplifier, } \\
\text { converter and heterodyne oscillator, with 13- } \\
\text { channel station selector and fine tuning con- }
\end{array} \\
& \text { trol. Includes } 3 \text { RCA } 6 \mathrm{~J} 6 \text { tubes..... } \$ 64.00 \\
\text { \#201X1 } & \begin{array}{l}
\text { Yoke Mounting Hood. Holds deflection yoke } \\
\\
\\
\\
\\
\text { RCA 201D1 on kinescopes such as RCA }
\end{array} \\
\text { 7DP4, 10BP4 .................................31.30 }
\end{array}
$$

\#203D1 Iron-Trap Magnet. (Coil Type). Required for RCA 7BP4 and 10BP4. Eliminates ion spot on kinescope screen.
.$\$ 6.50$

All prices in effect $5 / 15 / 49$.

All prices shown are suggested list prices.


## (0) RESULINTITO

TELEVISION-FM ANTENNAS - ACCESSORIES


## ALL.CHANNEL ANTENNA KIT

Designed for INDOOR use. Combination of low band and high band anteunas of the flexible dipole tylre. Includes bakelite double pole double throw knife switch. Bach antenna may be separately oriented for the maximum recep. tion of either high or low hand. Kinife switch permits quick changing from antenna to antenna without disconnecting.
No. 6095
List $\$ 6.95$


## ALL-CHANNEL ANTENNA KIT

An outdoor television antenna kit of the flexible dipole tyre, featuring simplicity of installation. May he placed on roof or other convenient location. Yields effective reeeption of all tele--ision channels. Complete with generous 60 ft . 300 ohm twin lead; special weather-resistant nylon supporting strings; insulated screw eyes.

No. 6096 List $\$ 5.95$

## The New ICA

## TELEVISION FILTER

A sensational improvement that adds to the enjoyment of television reception. A scientitically compounded Filter . . . easy to install ... suitable for every type of receiver.

The ICA Filter offers these outstanding television viewing features bissolves fuzzy grays . Snaps up blacks . . . sharpens detail restiul inting cuts down eyestrain... eliminates glare and roomlight interference. . miuces flickering and picture grain unlureakahle. Excelicont for daylight reception.
No. 6176- $7^{\prime \prime}$ tube size......................................................... List $\$ 1.45$

No. 6178-1 "" tuhe size
No. 6179-15" tube size
No. $6180-20^{\prime \prime}$ tube si\%e


## ica turnbuckles

Sturdy, steel turnbuckles that afford balanced tension of supporting wires. Especially suitable for antenna guv wires. Assure slack-free, rigid support.
No. $6150-3^{\prime \prime}$ (closed)
No. $6151-3^{\prime \prime}$ (closed)
List $\$ .25$
List .35

## ICA U-BOLTS

Offer a firm and rigid clamping action for affixing antemna of support ing masts to metal or wooden surfaces. Futs and wasber's included. Overall measurements: width $1^{\prime \prime}$; length $21 / 2^{\prime \prime}$.
No. 6153
List $\$ .30$


## PIPE STRAPS

A useful accessory for suporting antenna masts, ete, asainst Chimness, gahles, walls or other flat surtaces. Suitable for all masts up to $1^{\prime \prime}$ in diameter.
No. 6152
List $\$ 10.00 \mathrm{C}$

## GUY WIRE CLAMP

Ideal for set-ups requiring gus-wire support. May be located at any position on antenma mast for maximum rigidity. This rugged adjustable steel clamp is suitable for masts ranging from $3 / 4$ " to $11 / 4^{\prime \prime}$ Ujameters. Jucludes nuts and lockwashers.
No. 6144
List $\$ .50$


## TELEVISION RECEIVER TURNTABLE

Designed for table model receivers. Permits multi-angle television viewing witbont liftinir or disconnecting set. Eliminates furniture moving, re-connecting of set, etc.

Set is marely placed on turn-table-reaty for oleration. Finger-tip pressure. Makes complete circle for all-ansle viewing. Heary gauge steel in beautiful "hatmmered-tone" finish. Finely engineertid swivel hase unit.

No. 6184.
List $\$ 16.50$


## ICA TELEVISION SERVICING KIT

A compact handy kit containing 13 of the newest servicing tools especially engineered for general television installation and servicing. Neatly packed in leatherette case. Includes high voltage test prods, dual-hladed trans-aligning tool; coil and trimmer aligner-slim diam. TV "Channel Tuner"; spring-controlled Safe-T-Tester; 4 in 1 Aligning tool; narrow shaft trimmer aligning tool; flexible screw driver and socket wrench; thin-bladed neut. tool for "Admiral," ete., TV sets; slim flexible tuning wand for Zenith, etc., TV sets; tuning wrench for Zenith, etc., TV sets; slim, dual-bladed aligner for "Almiral," etc., TV sets.

No. 6160


ULTRASONIC CRYSTAL UNITS


Crystals . . . Blanks . . . Mounts ... Transducers

Premier ultrasonic crystal blanks, flat or curved, round or square, can be manufactured to your specifications. Consult us on your crystal problems in connection with experimental work in ultrasonics. No obligation; strictest confidence observed.


PREMIIER CRYSTAL LABORATORIES, INC.<br>MANUFACTURERS OF RADIO AND ELECTRICAL APPARATUS OPTICAL AND PIEZO CRYSTALS-PRECISION CRYSTAL HOLDERS<br>89 SEVENTH AVENUE NEW YORK 11.N. Y.

# CCO - CRYSTAL CONTROLLED OSCILLATOR — MODEL $2 A$ 

## For 2-6-10-11 Meters

With this basic oscillator, employing a 6AG7 tube, the advantages of VHF crystal control are easily achieved. Has direct output on 6-10-11 meters and ample output to drive tripler stage on 2 meters. Single tuning control, bandswitch and crystal socket are mounted on outside of painted metal subchassis with power and output
terminals at back. Uses Bliley AX2 20meter crystals for output on 10 and 11 meters, new Bliley AX3 crystals for 6 and 2 meter operation. Ideal as nucleus for new construction or conversion of existing equipment.

Supplied less tube and crystal . . . . . \$9.95

## AMATEUR FREQUENCY CRYSTALS

TYPE AX2
These high stability advanced design crystals are plated to insure long term precision and reliability. Calibrated to $\pm .002 \%$ with drift less than $.0002 \%$ per degree Centigrade Holder pins spaced on $.486^{\prime \prime}$ centers.
Supplied

|  | R |  |
| ---: | ---: | ---: |
| $\pm 2 \mathrm{Kc}$ | $3500-4000 \mathrm{Kc}$ | $\$ 2.80$ |
| $\pm 2 \mathrm{Kc}$ | $7000-7425 \mathrm{Kc}$ | 2.80 |
| $\pm 30 \mathrm{Kc}$ | $12500-13500 \mathrm{Kc}$ | 3.95 |
| $\pm 30 \mathrm{Kc}$ | $13580-13714 \mathrm{Kc}$ | 3.95 |
| $\pm 30 \mathrm{Kc}$ | $14000-14850 \mathrm{Kc}$ | 3.95 |

TYPE AX3
A new third overtone crystal unit
 produced for use in the Bliley CCO2A. Has exceptionally high activity at operating frequency. Calibration accurate to $\pm .003 \%$ in CCO-2A with drift less than $.0002 \%$ per degree Centigrade. Plated crystal is mounted in gasket sealed holder with pins spaced .486" centers.

| Supplied | Range | Price |
| :---: | :---: | ---: |
| $\pm 5 \mathrm{Kc}$ | $\mathbf{2 4 0 0 0}-\mathbf{2 4 3 3 3} \mathrm{Kc}$ | $\mathbf{\$ 3 . 9 5}$ |
| $\pm 5 \mathrm{Kc}$ | $\mathbf{2 5 0 0 0} \mathbf{2 5 5 0 0 ~ K c}$ | $\mathbf{3 . 9 5}$ |

## TYPE CF6 455 Kc

Single signal filter crystal unit. Exceptionally low holder capacity permits sharp signal discrimination in filter network of general communications receivers. Frequency 455 Kc free from spurious responses within $\pm 7 \mathrm{Kc}$.

Price $\$ \mathbf{4 . 5 0}$

## TYPE CF3 455 Kc

Single signal filter crystal unit. Frequency $455 \mathrm{Kc}, \pm 5 \mathrm{Kc}$-free from spurious responses within $\pm 7 \mathrm{Kc}$ of fundamental. Designed for intermediate frequency filter in general communications receivers.


This unit is suggested for use in private aircraft transmitters operating at 3105 Kc . The crystal is guaranteed to be within $\pm .02 \%$ of 3105 Kc at any temperalure between $0^{\circ} \mathrm{C}$ and $50^{\circ} \mathrm{C}$ and is faclory tested for performance over this temperature range. Plug-in type holder is gasket sealed against moisture and humidity.

$$
\text { Price } \$ 5.50
$$

## TYPE VX2 3105 Kc

Designed for applications where space is at a premium, this unit is recom mended for private aircraft communication at 3105 Kc . Guaranteed to maintain frequency within $\pm .02 \%$ at any temperature between $\mathrm{O}^{\circ} \mathrm{C}$ and $50^{\circ} \mathrm{C}$. Solder lug connections permit mounting under chassis and assembly is gasket sealed against moisture and humidity.

Price $\$ 5.00$
TYPE KV3 100 Ke
A precision crystal designed for use in secondary standards. Crystal is silver plated and mounted between wire supports which are soldered to the plated surfaces. Exceptionally low drift crystal is adjustable to exactly 100 Kc at $25^{\circ} \mathrm{C}$ when used in recommended oscillator circuit.

Price $\$ 6.95$

## TYPE SMC100 100-1000 Kc

Dual frequency crystal provides either 100 Kc or 1000 Kc frequency source. When used in recommended oscillator circuit 1000 Kc frequency is within $\pm .05 \%$ at $25^{\circ} \mathrm{C}$ and 100 Kc frequency can be adjusted to zero beat at $25^{\circ} \mathrm{C}$. Suggested for signal generators used in alignment of radio receivers.

Price $\$ 8.75$

For complete dimensional information consult Bulletin 35 available at any Bliley distributor.

## Bliley CCO <br> CRYSTAL <br> CONTROLLED OSCILLATOR

For instant channel selection and frequency accuracy, radio service technicians use this Bliley test instrument. letin 32
Complete with 7 Bliley crystals, tubes and concentric output cable..... $\$ 69.50$


## COMMERCIAL TYPES-SPEGIFICATIONS

|  | Type | Frequency Range | Pin Spacing | Pin Diameter | Height Above Pins | Width | Depth |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Z-1 | Fundamental | 900 Kc. to 12000 Kc . | .486" | .093" | 1-3/16" | 13/16" | 7/16" |
| Z-1 | Harmonic | 12000 Kc. to 30000 Kc . | .486" | .093" | 1-3/16" | 13/16" | 7/16' |
| * Z -1 A | Fundamental | $425 \mathrm{Kc}$. to 12000 Kc . | 3/4, | .125" | $13 /{ }^{\prime \prime}$ | $13 /{ }^{\prime \prime}$ | 1/2" |
| * Z -1A | Harmonic | 12000 Kc. to 30000 Kc. | $3 / 4$ " | .125" | 13/8" | 13/8" | 1/2" |
| Z-1B | Fundamental | 1000 Kc. to 12000 Kc. | $3 / 4{ }^{\prime \prime}$ | .125" | 13/8" | 1-3/16" | $1 / 2^{\prime \prime}$ |
| Z-1B | Harmonic | 12000 Kc. to 30000 Kc . | $3 / 4{ }^{\prime \prime}$ | .125" | $1^{3 / 8}{ }^{\prime \prime}$ | 1-3/16' | $1 / 2^{\prime \prime}$ |
| Z-1D | Same as Z-1 | Same as Z-1 | 1/2" | .125" | 1-3/16" | 13/16' | 7/16" |
| Z-1E | Same as Z-1 | Same as Z-1 | $1 / 2^{\prime \prime}$ | .125" | $11 / 4 "$ | $11 /{ }^{\prime \prime}$ | 7/16" |
| Z-1H | Single or dual unit Fundamental | 100 Kc. to 5000 Kc. | $\begin{aligned} & \text { 3-Pin } \\ & \text { W.E. } \end{aligned}$ | .157" | 2-1/16" | 1-19/32" | 1-3/16" |
| Z-1 K | Same as Z-1A except has .157" dia. pins | Same as Z-1A |  |  |  |  |  |
| Z-1M | Fundamental | 1000 Kc. to 5000 Kc . | $7 /{ }^{\prime \prime}$ | Std. Banana | 2-3/32" | 1-19/32" | $3 / 4^{\prime \prime}$ |
| +Z-1R | Fundamental | 175 Kc. to 475 Kc . | $1 / 2^{\prime \prime}$ | .093" | $11 / 4^{\prime \prime}$ | 1-3/32" | 7/16" |
| 2-4 | Fundamental | 1500 Kc . to 12000 Kc. | $3 / 4$ " | .125" | .650" | Diameter | .995" |
| Z-4 | Harmonic | 12000 Kc. to 30000 Kc. | 3/4" | .125" | .650" | Diameter | .995" |
| Z-7 | Fundamental | 1000 Kc. to 12000 Kc. | 3/4" | Std. <br> Banana | 1.660" | 1.192' | . $518^{\prime \prime}$ |
| Z-8 | Fundamental | 400 Kc. to 5000 Kc. | $3 / 4$ " | 1/8" | $13 / 4 \prime$ | 1-9/16" | 1-11/16" |
| Z-6 | Fundamental | 100 Kc . to 325 Kc . | $3 / 4 "$ | 1/8" | 11/2" | Diameter | 1-25/32" |
| E-1 | Fundamental | 100 Kc. to 7000 Kc . | Interchangeable with FT-164 and AC-95 |  |  |  |  |
| FT-171-B | Fundamental | 1000 Kc. to 8000 Kc. | $3 / 4^{\prime \prime}$ | Std. Banana | 21/4" | 11/2" | 13/16" |

* Can be Supplied with Standard Banana Pins.
$\dagger$ For Signal Generator Use. Not recommended for Transmitter Freq. Control.
(


PETERSEN RADIO Company, Inc., 2800 W. Broadway, Council Bluffs, lowa


AMATEUR -Specifications and Frequencies
TYPE Z-2

- 160 meter band for VFX- 680 Narrow Band FM in Sonar Exciter.
- 1699.2 to 1710 Kc . for 11 meter band.
- 1750 to 1812 Kc . for 10 meter band.
- 1828 and 1844 Kc . These 2 frequencies cover entire 10 meter FM band in Sonar VFX-680.
- 1562.5 to 1687.5 Kc . for 6 meter band.
- 1778 to 1827 Kc . for 2 meter band.
- 3395 to 3428.5 Kc . for 11 meters.
- 3500 to 4000 Kc . for $80,40,20$ and 10 meters.
- 6250 to 6750 Kc . for 2 meters.
- 6790 to 6857 Kc . for 11 meters.
- 7000 to 7425 Kc . for 40,20 and 10 meters.
- 8000 to 8222 Kc . for 2 meters.
- 8334 to 9000 Kc . for 6 meters.
- 9000 to 9250 Kc . for 2 meters.
TYPE Z-3
- 12000 to 12333 Kc . for 2 meters.
- 12500 to 13500 Kc . for 6 meters.
- 13580 to 13715 Kc . for 11 meters.
- 14000 to 14850 Kc . for 20 and 10 meters.


## TYPE Z-5

- 25000 to 27000 Kc . for 6 meters.
- 27160 to 27430 Kc . for 11 meters.
- 28000 to 29700 Kc . for 10 meters.


## CHECK SUPERIORITY OF <br> PR

Stability . . .
Drift characteristics of PR Crystals limited to less than 2 cycles per MC per degree. You get low drift, combined with high output, dependable frequency control. XRay orientation guarantees uniform cut for maximum low-drift performance.

Accuracy . . .
Guaranteed accurate within .01 per cent of specified frequency or better. When doubling and quadrupling accuracy is absolutely essential. You KNOW where you are with PRs.
Power Output ...
PRs are designed to give maximum power output from the exciter stage when operating at the highest permiscible voltages. PR Crystals can "take it."

Activity ...
PRs give you high activity. They "come in" instantly on phone . . . key without chirps, even at high bug speeds, without excessive "backing off."

Unconditional Guarantee ...
Every PR Precision CRYSTAL is guaranteed unconditionally, by the makers of fine crystals since 1934.


COMMERCIAL

| Type |  | Frequency Range | Tolerance |  |  | Schedul |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | .005\% | .01\% | .02\% |  |
| 2-1 | Fundamental |  | 900 to 12000 Kc . | \$12.50 | \$11.00 | \$10.00 | A |
| 2-1 | Harmonic | 12000 to 20000 Kc. | 15.00 | 12.50 | 11.00 | A |
| 2-1 | Harmonic | 20000 to 30000 Kc. | 18.00 | 15.00 | 13.00 | A |
| 2-1A | Fundamental | 425 to 900 Kc . | 15.00 | 12.50 | 11.00 | A |
| 2-1A | Fundamental | 900 to 12000 Kc. | 12.50 | 11.00 | 10.00 | A |
| Z-1A | Harmonic | 12000 to 20000 Kc. | 15.00 | 12.50 | 11.00 | A |
| Z-1A | Harmonic | 20000 to 30000 Kc . | 18.00 | 15.00 | 13.00 | A |
| Z-1B | Fundamental | 1000 to 12000 Kc . | 12.50 | 11.00 | 10.00 | A |
| Z-1B | Harmonic | 12000 to 20000 Kc. | 15.00 | 12.50 | 11.00 | A |
| Z-1B | Harmonic | 20000 to 30000 Kc. | 18.00 | 15.00 | 13.00 | A |
| Z-1D | Same as Z-1 | Same as Z-1 |  |  |  | A |
| Z-1E | Same as Z-1 | Same as Z-1 |  |  |  | A |
| Z.1H | Fundamental | $100 \mathrm{Kc}$. Standard |  | (Exact Frequency) | 12.00 | B |
| Z.1H | Fundamental | 101 to 900 Kc . | 18.00 | 15.00 | 13.00 | A |
| 2-1H | Fundamental | 901 to 5000 Kc. | 15.00 | 12.50 | 11.00 | A |
| Z-1H | Dual Unit | 901 to 5000 Kc . | 30.00 | 27.50 | 25.00 | A |
| Z-1K | Same as Z-1 A | Same as Z-1A |  |  |  | A |
| Z-1M | Fundamental | 1000 to 5000 Kc . | 15.00 | 12.50 | 11.00 | A |
| Z-1R | Fundamental | 175 to 475 Kc. | 18.00 | 15.00 | 13.00 | A |
| Z-1R | Fundamental for | $\left\{\begin{array}{cccc}175, & 200, & 262, & 370 \\ 455, & 456, & 465 & \mathrm{Kc} .\end{array}\right\}$ |  | 6.00 |  | B |
| Z-1R | Fundamental | 475 to 1000 Kc . | 15.00 | 12.50 | 11.00 |  |
| Z-4 | Fundamental | Same as Z-1 |  | 12.50 | 11.00 | A |
| 2.4 | Harmonic | Same as Z-1 |  |  |  | A |
| 2-7 | Fundamental | Same as Z-1 |  |  |  | A |
| 2-8. | Fundamental | 400 to 900 Kc . | 18.00 | 15.00 | 13.00 | A |
| 2-6 | Fundamental | $100 \mathrm{Kc}$. Standard |  | (ExactFrequency) | 9.00 | B |
| 2-6 | Fundamental | 101 to 175 Kc . | 18.00 | 15.00 | 13.00 | A |
| E-1 | Fundamental | 100 to 900 Kc. | 20.00 | 19.00 | 18.00 | B |
| E-1 | Fundamental | 900 to 7000 Kc . | 19.00 | 1800 | 17.00 | B |
| FT-171-B | Fundamental | 1000 to 8000 Kc . | 12.50 | 11.00 | 10.00 | A |

Type Frequency Price Schedule

Z-1. Z-1A. Z-1B 3105 and $6210 \mathrm{Kc} . \quad \$ 5.00 \quad \mathrm{C}$ KILOCYCLES Only.

| Type | Tolerance | Price | Schedule |
| :---: | :---: | :---: | :---: |
| Z-2 | $.01 \%$ | $\$ 2.75$ | B |
| Z-3 | $.01 \%$ | 3.75 | B |
| Z-5 | $.01 \%$ | 5.00 | B |

Crystals for amateur service other than frequencies listed on Catalog Sheet can be supplied as follows:

| Type | Range | Tolerances |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Plus or Minus 5 Kc . |  | $\begin{gathered} \text { Plus or Minus } \\ .02 \% \end{gathered}$ |  |
| Z-2. Fundamental | 1500 to 10000 Kc . | Price | Sched. | Price | Sched. |
| Z-3. 3rd Harmonic 1 | 10000 to 20000 Kc . | \$2.75 | B | \$11.00 | A |
| Z-5. 3rd Harmonic 2 | 20000 to 30000 Kc . | 3.75 7.50 | B | 11.00 13.00 | A |
| N O T I C E <br> Irices on Commercial Crystals are based on quantities of 1 to 10 of the same frentumes. For larger quantities write for arices. <br> Price on crystals helow 100 kc . furnished on request. Tolerance can be guaranteed only when oseilator or circuit diagram is furnisheci. <br> To facilitate the hancling of your order. please order by type number anil holicate permissible tolerance. |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |

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Tech-Master, pioneer in the TV kit field, scoops the industry again with this "Super-16" TV kit that produces big, BIG pictures of superlative quality. Our engineers utilized our fanous 630-TK De Luxe kit as a basis. An 11T5 flyback transformer, a 2D2 focus coil, a 1R4 width control and other fine components PLUS our new Universal Brackets to accommodate kinescopes up to 16 inches liave been added.

A clever, and thoroughly sound, voltage double circuit using two 1133's has been designed by our engineers to provide full voltage and current to drive up to 20 -in kinescopes with excellent brilliance, definition and sweep. Ultra-simplified instructions make it possible for practically anyone to wire this kit over a week-end. The famous "Circuit-Aligned" components supplied with our kits keep final adjustments down to a negligible minimum, and these can be performed without additional equipment.
"SUPER-16" 630-TK De Luxe TV Kit, complete with all tubes, parts and instructions.
Less Kinescope . . . . . . Net \$177.50

< ใ ใ K
Build your own duplicate of the famous RCA $630-\mathrm{TS}$ with this superfine, 1949 model Tech-Master 630 -TK television kit. You will enjoy television at its finest - and save plenty. The TechMaster kit is complete in all details - major components, all controls, all sockets and terminal strips are mounted in place. Only the interesting and instructive wiring remains to be clone from the ultra-simplified wiring diagrams - easily accomplished over a week-end. Furnished with RCA 13 -channel front end tuner completely wired, aligned and tested. "CircuitAligned" components mean all final adjustments can be made without additional equipment.
630-TK De Luxe TV Kit, all components mounted, complete with all tubes, parts, instructions, less kinescope

Net \$163.50

## 630-TK STANDARD TV KIT

The 630-TK Standard $10^{\prime \prime}$ TV kit is identical with the De Luxe, described aloove, except that it is offered at a low, economy price because no components are mounted. In every other respect it is the same as the De Luxe model, same quality front end and components, complete instructions. 630-TK Standard TV Kit, complete with all tubes, parts, instructions; less kinescope

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$10^{\prime \prime}$ Table Modell Cabinet (illustrated at light), for either $630-\mathrm{TK}$ TV kit. Handsome, sturdy, mahogany finish. With safety glass and k゙inescope mounting slides. Completely drilled, ready for installation. $243 / 4^{\prime \prime} \times 20^{\prime \prime} \times 14^{\prime \prime}$ high. . . . . Net $\$ 42.50$ $121 / 2^{\prime \prime}$ Table Model Cabinet . . . . . . . . Net $\$ 47.50$ $15^{\prime \prime}$ or $16^{\prime \prime}$ Table Model Cabinet . . . . . . Net $\$ \mathbf{5 4 . 5 0}$ $15^{\prime \prime}$ or $16^{\prime \prime}$ Mahogany Console Cabinet . . . . Net $\$ \mathbf{8 8 . 5 0}$ $15^{\prime \prime}$ or $16^{\prime \prime}$ Formica Console Cabinet in Blonde, Malogany, Wal-
 nut or Ebony Finish

Net \$98.50

# TEGH-MASTER PRODUGTS GOMPANY 

## 630-TK TELEVISION COMPONENTS KITS

## electrolytic condenser kit

Consists of our part numbers $338,367,368$, 369, 370, 371 listed below
EK Kit
$\$ 7.98$
bleeder resistor kit
Consists of our part numbers $439,458,459$, 876 listed below.
BK Kit
$\$ 4.25$
IF \& VIDEO COIL KIT
Consists of $21 \mathrm{~K} 1 \mathrm{~s}, 2 \mathrm{~K} 2$, $2 \mathrm{~K} 3,2 \mathrm{~K} 4,3 \mathrm{~K} 1$, 2 2L1s, 3L1, 3L2, 2 3L3s, 2 3L4s, 54 L 1 s listed below.
4X2 IF \& Video Coil Kit . . . . $\$ 12.00$ MICA CAPACITOR KIT
Consists of the 14 mica capacitors used in the 630-TS circuit.
MK Kit
CERAMICON CAPACITOR KIT
Consists of the 25 ceramicon capacitors used in the $630-\mathrm{TS}$ circuit.
CK Kit

TUBULAR BY-PASS KIT
Consists of the 38 by-pass moulded capacitors used in the 630 -TS circuit. TK Kit

## RESISTOR KIT

Consists of the $1071 / 2,1$ and 2 -watt resistors used in the $630-\mathrm{TS}$ circuit.
RK Kit . . . . . . . . $\$ 8.48$
COMPLETE METAL CHASSIS KIT
Consists of our part numbers 1SC, $104,107,115,116,123,129,131,172$, 174, 308, 442, 445, 789, 4860 s, 2004, 2009, 3415, listed below. (Less cord.) No. 1950 Metal Kit
\$29.50


630-TK Chassis Assembly (No. 1950 Metal Kit)

## BASIC METAL CHASSIS KIT

Consists of our part numbers 1SC, $129,172,174,308$, listed below.
No. 500 Metal Kit . . . . . $\$ 7.70$
"SUPER-16" CONVERSION KIT
Consists of all components and instructions for converting 630 type TV receivers for use with $15^{\prime \prime}$ or $16^{\prime \prime}$ kinescopes. Includes 11 T 5 flyback transformer, 2D2 focus coil, 1R4 width control, DS2 voltage doubler socket, UB universal mounting
brackets, 1B3 rectifier, all necessary resistors, condensers, etc., and instructions.
16CK Conversion Kit . . . $\$ 33.30$ Conversion Instructions, separately, 25c UB ADJUSTABLE MOUNTING BRACKETS Kinescope mounting brackets for tubes from $121 / 2^{\prime \prime}$ to $16^{\prime \prime}$. Mounts on 630 chassis so that face of all tubes up to $16^{\prime \prime}$ is in line with front controls.
UB Brackets
$\$ 4.65$

## 630-TK TELEVISION REPLACEMENT PARTS




[^0]:    Transvision's "Service Notes" is a compilation of confidential Television Notes and infermation, the product of experience with over 20000 television receivers, now made available to the public.
    "Service Notes" is complete with photographs and dagrams. The information is worth a smail fortune. The cost is low.

    Net

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