

# GROVE ELECTRONICS

1965 VALUE-PACKED CATALOG NO. 653

4103 WEST BELMONT AVE.

CHICAGO, ILLINOIS 60641

**FAST DELIVERY!!**

## GROVE ELECTRONICS

**FREE BONUSES!!**

**TERRIFIC SAVINGS!!**

**THE SCANNER**  
PAT. PENDING  
The CB Base Antenna with  
All-Electronic Beam Control—  
No Rotas

**MIDLAND**

**Antenna  
specialists co.**  
12435 Euclid Ave., Cleveland, Ohio 44106  
Export Div.: 64-14 Woodside Ave., Woodside 77, N.Y.  
"Stripes of Quality"

**TURNER**  
*Communications  
& Microphones*

**GROVE ELECTRONIC SUPPLY COMPANY**  
**COPYRIGHT-1965 CAT. NO. 653 PHONE: (312) 283-6160**

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REVOLUTION IN CB BASE ANTENNAS

# ROTATE THE SIGNAL NOT THE ANTENNA

The Unique New Model M-119  
Electronic Sector Phased  
Omni-beam antenna

**THE SCANNER**  
PAT. PENDING

- Electronic focus and beam rotation for maximum distance—No mechanical rotator needed
- Change signal direction instantly
- Full-circle scan coverage—No blind spots
- Compact—17½ ft. vertical elements arranged on 3 ft. radius circle
- Resists over 100 mph winds
- Easy one-man installation
- 7.75 db directional gain
- 23 db front to back ratio
- Priced 30% below old fashioned beam arrays

Scan Control Unit, with indicator lights, instantly changes signal direction—just flip the switch.

the antenna specialists co.



**TECHNICAL DATA**  
THE "SCANNER" . . . MODEL M-119

Citizens Band Antenna  
(27 Mc.)

MODEL M-119  
CITIZEN'S BAND ANTENNA  
(27 Mc.)

A copy of the radiation pattern is enclosed. Only a single pattern is in effect at any one time . . . determined by the position of control switch. The 7.75 db gain achieved by this configuration provides the equivalent of 30 watts of power from a 5 watt unit! (Referenced to a standard flat ground plane). The 23 db attenuation to the rear serves to effectively limit unwanted signals and noise.

**\$64.68 EA.**  
**THE SCANNER**

Construction is durable and compact. "THE SCANNER" has a 3 foot radius and is 17'6" in height.

"THE SCANNER" consists of three center-fed, half-wavelength, vertical dipoles. They are arranged 120° apart on a three foot radius. A control box located near the transceiver, allows the user to select any one of the dipoles for transmitting (or receiving). When one dipole is selected, the other two become parasitic elements, producing a beam effect in the selected direction. The beam pattern of each dipole is arranged in such a way that, when overlapped, the composite pattern is effectively omni-directional.

You can "zero-in" and complete a transmission with "THE SCANNER" faster than an old-fashioned rotator can swing your antenna into position.

This new model is a vertically polarized, sector-phased, omni-beam antenna. The signal is directed electronically without a mechanical rotator, while still maintaining the advantages of "beam" range and clarity.

## CHOOSE ONE FREE BONUS

100 ft. RG8u foam cable

X5-12 CHANNEL SELECTOR

12-pos.

S.W.R. BRIDGE  
AND FIELD STRENGTH METER

FS-60

SP-99

PAGING SPEAKER

(OR-75 ft. of 4-Cond. Cable for SCANNER)

**GROVE ELECTRONIC SUPPLY COMPANY (3)**



# BASE STATION ANTENNAS

the antenna specialists co. •

*Way-out  
new horizons  
for your  
base station  
signal!*

Unprecedented 3.75 db. true omni-directional gain... minimum of 6 db. signal-to-noise improvement... verified in comparative antenna farm and laboratory measurements!

Reach out like you've never reached before with the incomparable new SUPER MAGNUM Base Antenna! Verified omni-directional gain is 3.75 decibels over reference (standard true ground plane antenna)—an actual 10.3% improvement over the best competitive omni antenna on the market! Equally important is the SUPER "MAGGIE'S" tremendous signal-to-noise improvement of 6-20 db., giving you the cleanest reception possible as well. Easy as a Magnum (and that's the easiest!) to assemble, quick to install, with all the great quality features and lifetime construction that have made its namesake the most popular CB base antenna in the world by far. See the magnificent new SUPER MAGNUM today!

# SUPER MAGNUM MODEL-117



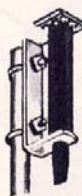
*new "stati-lite"  
noise reducer!*

Drastically reduces receiver noise by continuous dissipation of static discharge. Exclusive orbital design — no pointed ends to create sparking.



*full 1/2-wave  
"solid state"  
radials for maximum  
RF decoupling!*

We simply mean solid aluminum, 108" radials (four of 'em!) for maximum RF decoupling of radiator, easiest installation — and greatest load bearing.



*super  
"Power-Play"  
transformer!*

Super-heavy coil permanently encased in water-proof, rugged plastic housing. Forward power measurement: full five watts. VSWR: a fabulous 1.17 — best by far! Heavier mounting hardware takes masts up to 1 1/2"!



*far more  
rugged  
construction!*

Over twice the contact area at telescope joints (no swaging!) — far stronger. Heavier-gauge seamless tubing than any other brand. Screws on both sides for firm electrical connection.



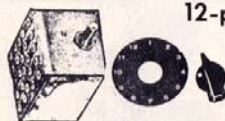
**GIVES YOU AT LEAST 10% MORE TRUE GAIN**

**-CHOOSE ONE BONUS-**

**\$29.35 EA.**

**X5-12 CHANNEL SELECTOR**

12-pos.



50 ft.-RG8u foam cable



**LIGHTNING ARRESTOR**



for coaxial cable  
CBL-42

**CONV. KIT**

TURN YOUR MAGNUM  
INTO A SUPER MAGNUM  
IN 15 MINUTES —  
GET 3.75 TRUE DB. GAIN!

Model  
M-118

**M-118**

Complete conversion  
contains four 108" radials,  
"Stati-lite" Noise Reducer  
and all hardware.

**ONLY \$10.75**

**GROVE ELECTRONIC SUPPLY COMPANY (4)**





# COMMUNICATION ANTENNAS

the antenna specialists co. • cleveland 6, ohio

## SUPER "MAGGIE MOBILE" CB SERIES!

FEATURING:

choice of roof mounting types!  
with (or without) stainless steel spring!  
spring kit available separately!

### MODEL M-123

Features are the "favorites" found in our famous M-67 (won't repeat here—people know) but now available with "snap-in",  $\frac{3}{8}$ " hole mount! So simple and quick to install! No "gooseneck" to bulge the headliner. Cable ends up in easy, solderless, connection. By the way, this mounting feature has been used for sometime in other commercial antennas we make. Been very successful! Supplied with 20 ft. RG-58 u cable and PL-259 connector.



Here's a cut-a-way close-up of the  $\frac{3}{8}$ " "snap-in" mount—on M-123 and M-125.

**\$13.46 ea.**

### MODEL M-124

Now... here's how jazzy the M-67 looks with its \*STAINLESS STEEL (rustproof) spring. Offers extra special whip protection plus professional appearance! Course we supply a slightly shorter whip to make up for the spring (like  $36\frac{1}{4}$ " long instead of  $39\frac{3}{4}$ "). Whip adaptor makes for extra fine tuning, too! This model has same mount ( $\frac{3}{8}$ " hole) as M-67 plus all the fine things people say about our M-67. \*Read about the spring under Model M-126, it's a jewel! Supplied with 20 ft. RG-58/u cable and PL-259 connector.



**\$15.41 ea.**

### -CHOOSE ONE BONUS-



"S" METER

SM-5

### MODEL M-125

And if it's a combo of a \*stainless steel spring and a  $\frac{3}{8}$ " hole, "snap-in" mount, you're after—here 'tis. Just like the M-123 except for the spring and shorter whip. Of these three new antenna models, we're kinda puttin' our bets on this baby. Seems to offer just about everything that has "people appeal". Supplied with 20 ft. RG-58/u cable and PL-259 connector.



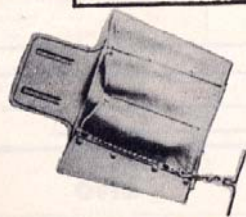
**\$15.41 ea.**

NOTE: Model M-74 (cowl-deck, swivel mount) and Model M-73 (trunk mount) also available with spring feature. Order Model M-128 for spring version M-74. Model M-127 for spring version M-73.

**M-127 - \$17.15 ea.**

**M-128 - \$18.36 ea.**

## PLUS CHOICE OF ONE FREE BONUS!!



2052

5 POCKET LEATHER TOOL POUCH

SUPER-MAGNETIC MICROPHONE HOLDER



MH-3

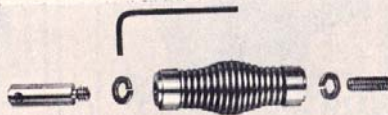


LAPEL TYPE CRYSTAL MICROPHONE

LM-100

### MODEL M-126

The Spring Kit for present "Maggie Mobile" owners. (Goes on M-67, M-73, M-74.) The Spring ( $2\frac{1}{2}$ " is taken from our professional line. Rustproof, stainless steel with chromed end bells. Kit includes: whip adaptor, a stud for mating to the transformer, allen wrench, and whip cutting information. Protects whips. Looks great!



**only \$5.25**



# Hy-Gain BASE STATION ANTENNAS

HY-GAIN ANTENNA PRODUCTS CORPORATION  
**ONLY \$29.95**

## NEW IMPROVED Hy-Gain CLR 2 e.a.

*The World's Finest Base Station Antenna for Citizens Band.*

- 8db gain in all directions
- Large signal capture aperture
- Rugged double grip mast bracket
- Unique static arrester
- Taper swaged seamless aluminum tubing
- Quickly and easily installed

Here's the most efficient omni-directional base station antenna ever made for Citizens Band...Hy-Gain's Model CLR 2. It's a complete re-design of the history-making CLR Colinear...the world's original gain base station antenna for Citizens Band. The CLR 2 combines Hy-Gain design and production ingenuity with the experience gained from over 80,000 CLR's now in use throughout the world to bring you the highest performance base station antenna made. Every significant electrical and mechanical innovation that has a justifiable application is incorporated in the new CLR 2. How good is it? The CLR 2 is positively guaranteed to outperform any omni-directional base station antenna made for Citizens Band...regardless of claims. Look at these features...

### NEW MECHANICAL SUPERIORITY

Structurally, the CLR 2 is rugged. Every component part of the CLR 2 has been subjected to exhaustive and exacting laboratory and field testing to insure maximum durability.



#### Rugged Double Grip Mast Bracket

A heavily ribbed, heavy gauge metal mast bracket binds the CLR 2 solidly to the mast. The 12" bracket provides two separate points of support to the bottom 12" of the radiator and the top 12" of the mast. Insures the CLR 2 will stand erect and secure at all times.

#### Taper Swaged Seamless Aluminum Tubing with Full Circumference Compression Fittings

Advanced technique of tapering tubing reduces diameters within inches as opposed to conventional methods employing several linear feet to accomplish comparable reductions...vastly decreases wind load and gives added strength to the antenna. Full circumference compression fittings provide corrosion proof stability that defies electrical failure. Reduced wind load plus full circumference compression fittings insure CLR 2 will withstand gale-force winds.



#### Weatherability

All metal parts are iridite treated to MIL specs. Molded high impact Poly-Styrene insulators impregnated with tough, durable fiberglass are totally impervious to weather. Insulators are mounted under compression...never under tension.

#### Installs Quickly

The CLR 2 is factory pre-assembled except for telescoping tubing. All tubing is factory pre-drilled and coded - no measuring required. Only minutes from carton to contact.

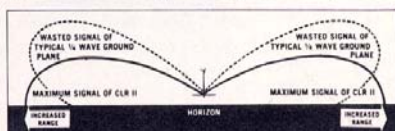
### NEW ELECTRICAL SUPERIORITY

#### 9.4db circuit gain in all directions

Performance-wise, the CLR 2 delivers an unparalleled 9.4db of omni-directional gain - **DOUBLES** the EFFECTIVE RADIATED POWER of the TRANSMITTER.

#### 3.4db Gain in Measured Field Strength Intensity

3.4db of omni-directional gain in measured field strength intensity is achieved through using maximum legal aperture (greatest possible signal capture area). By using maximum legal height for the radiator (19' 10"), the radiator is electrically extended to 3/4 wave length. Full 1/4 wave length (9') horizontal radials provide a ground plane system. The 3/4 wave length radiator working against the 1/4 wave length ground plane system produces the lowest possible angle of radiation and directs the maximum amount of energy along the horizon for greatest possible range.



#### 6-20db Gain in Improved Signal-to-Noise Ratio

6db gain in improved signal-to-noise ratio is accomplished with Hy-Gain's unique built-in static arrester. Prevents static build-up and greatly reduces atmospheric noises in the receiver. Reduction in static build-up results in gains in signal-to-noise ratio of 6 to 20db. Additionally, the static arrester minimizes lightning hazard to the antenna and your equipment.

#### New Solid State Matcher

New moistureproof Solid State Matcher is permanently weather protected. Recessed 52 ohm coax cable connector is imbedded in a moisture-safe housing to insure against electrical failure. SWR is less than 1.2:1.

### CLR 2 SPECIFICATIONS:

#### Electrical:

Gain (Circuit)	9.4db
Signal-to-Noise Ratio	6-20db
SWR (at resonance)	1.04:1
Input Impedance	50 ohms
Omni-directional pattern	

#### Mechanical

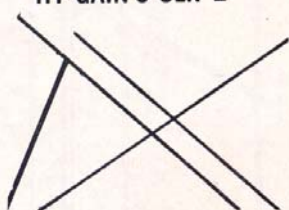
Overall Height of Radiator	19'10"
Diameter of Radiator	1 1/4" to 7/16"
Length of Radials	9 ft.
Diameter of Radials	3/8" to 5/16"
Wast Bracket Accepts	up to 1 1/2"
Wind Survival	80 mph
Net Weight	7 lbs.

The Model CLR 2...  
a fabulous antenna at a  
fabulous price...

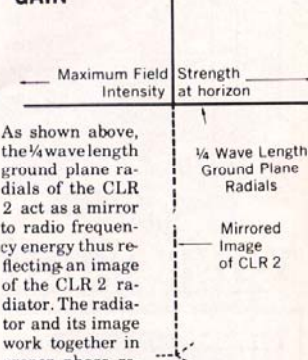
**\$29.95 CB Net**

COMPARE THE DIFFERENCE...

**YOU'LL CHOOSE  
HY-GAIN'S CLR 2**



### CLR 2 LOWERS ANGLE OF RADIATION FOR MAXIMUM GAIN



As shown above, the 1/4 wave length ground plane radials of the CLR 2 act as a mirror to radio frequency energy thus reflecting an image of the CLR 2 radiator. The radiator and its image work together in proper phase relationship to produce a colinear-type action that lowers the angle of radiation to develop 3.4db gain in field strength intensity.

## YOUR CHOICE OF ONE FREE BONUS!!

<p>50 ft. RG8u foam cable</p>	<p><b>X5-12 CHANNEL SELECTOR</b></p> <p>12-pos.</p>	<p><b>LIGHTNING ARRESTOR</b></p> <p>for coaxial cable <b>CBL-42</b></p>
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# MODEL-115B

**\$69.95**

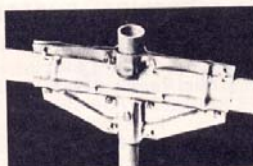
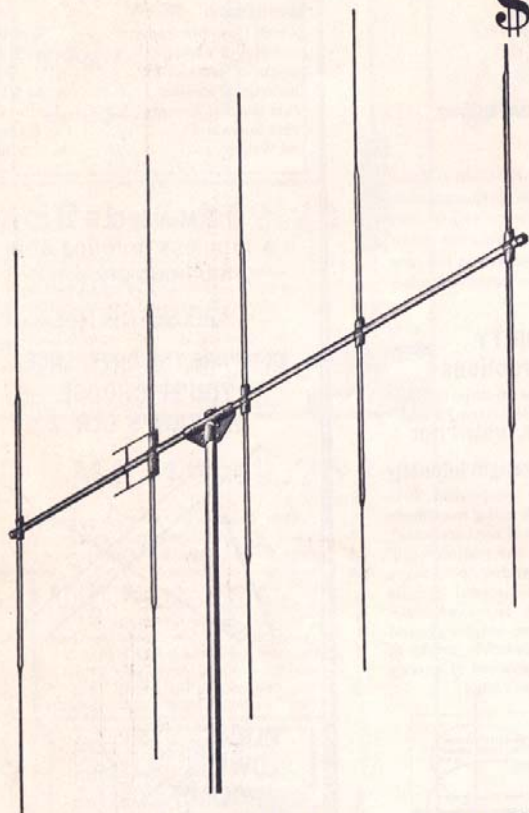
**HY-GAIN ANTENNA PRODUCTS CORPORATION**

## Hy-Gain's Fabulous Model 115B "Long John"

*The Most Powerful Antenna Ever Built for Citizens Band*

- 12.7db Forward Gain
- Multiplies Your Power 10 Times
- Tremendous Range
- Rotates with Heavy-Duty TV Rotator

Base Station to Mobile or point-to-point, the Model 115B Long John will multiply your power 10 times... will give your CB transceiver the effective radiating power of a 50 watt rig. It's by far the highest gain directional antenna system ever manufactured commercially for Citizens Band. The 115B develops up to 12.7db forward gain. Front-to-Back ratio of 25db and Front-to-Side ratio of 40db work to effectively eliminate unwanted signals from the back and sides. It may be installed either vertically or horizontally. Construction of heavy-wall aluminum, elements on the 115B are optimum spaced on the 2" OD boom to insure maximum theoretical gain. Insulators are molded of high impact cyclolac plastic and all steel hardware is iridite treated to MIL specs for maximum weatherability. The Long John features Hy-Gain's exclusive Beta Match and is factory pre-tuned for 52 ohm feedline. The driven element is at DC ground for improved signal-to-noise ratio and lightning protection. It rotates easily with a heavy duty TV rotator and gives you the cleanest, clearest, most far-ranging signal on Citizens Band. Comes with all parts pre-drilled and clearly marked for fast, easy assembly. Model No. 115B \$69.95 CB Net



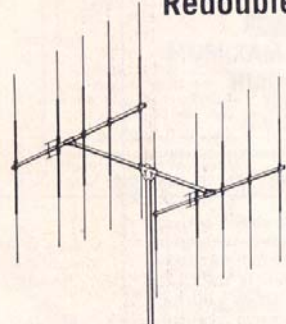
Heavy Duty Boom to Mast Bracket for Model 115B



Sturdy Element to Boom Bracket

### Redouble Power by Stacking Get 3db Additional Gain

For 3db of additional gain...effectively redoubling power...Model 115B's may be stacked horizontally making the effective radiated power of a 5-watt Citizens Band transmitter equivalent to approximately 100-watts input. Instructions are furnished with each Model 115B for easy construction of a stacking harness using coaxial cable.



### SPECIFICATIONS:

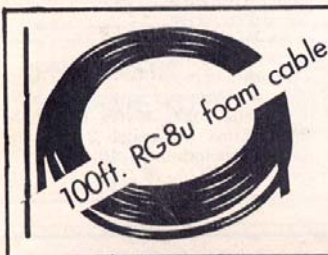
#### Electrical:

Forward Gain over Tuned Dipole.....	12.7db
Front-to-Back Ratio.....	25db
Front-to-Side Ratio.....	40db
SWR (at resonance).....	1.05
Nominal Impedance.....	50 ohm

#### Mechanical:

Boom Length.....	24 in
Longest Element.....	18 in
Turning Radius—Vertical.....	12 in
Horizontal.....	15 in
Maximum Wind Survival.....	80 mph
Net Weight.....	30 lb

## YOUR CHOICE OF ONE FREE BONUS!!



### XS-12 CHANNEL SELECTOR

12-pos.



PAGING SPEAKER

### S.W.R. BRIDGE AND FIELD STRENGTH METER



FS-60



# hy-gain COMMUNICATIONS ANTENNAS FOR CITIZENS MODEL 113-BA

**\$31.50**

## SPECIFICATIONS:

### Electrical:

Forward Gain over Tuned Dipole .....	9db
Front-to-Back Ratio .....	25db
Front-to-Side Ratio .....	40db
SWR (at resonance) .....	1.05:1
Nominal Impedance .....	50 ohms

### Mechanical:

Boom Length .....	12 ft.
Longest Element .....	18 ft.
Turning Radius—Vertical .....	4.5 ft.
Horizontal .....	9.2 ft.
Maximum Wind Survival .....	80 mph
Net Weight .....	15 lbs.

## Redouble Power by Stacking Get 3db Additional Gain

For 3db of additional gain... effectively redoubling power... Model 113BA's may be stacked vertically or horizontally making the effective radiated power of a 5-watt Citizens Band transmitter equivalent to approximately 80-watts input. Instructions are furnished with each Model 113BA for easy construction of a stacking harness using coaxial cable.



**Where Space Is A Factor...  
Choose Hy-Gain's Model 113BA  
3-Element Beam**

- 9db Forward Gain
- Multiplies Your Power 8 Times
- Rotates on Standard TV Rotator
- Vertical Turning Radius Only 4½ Feet

Base Station to Mobile or point-to-point, the Model 113BA will multiply your power 8 times... will give your CB transceiver the effective radiating power of a 40-watt rig. The Model 113BA works equally well in receive function delivering tremendously increased range. Front-to-Back ratio of 25db and Front-to-Side ratio of 40db work to very effectively discriminate against unwanted signals from the back and sides. Constructed of heavy-wall aluminum, elements on the 113BA are strategically spaced on the 2" OD boom to insure maximum gain. Insulators are molded of high impact cyclac plastic and all steel hardware is iridite treated to MIL specs for maximum weatherability.

The 113BA features Hy-Gain's exclusive Beta Match and is factory pre-tuned for 52 ohm feedline. The driven element is at DC ground for improved signal-to-noise ratio and lightning protection. It rotates easily with a standard TV rotator and delivers the most outstanding performance attainable from a beam of its size. Comes with all parts pre-drilled and clearly marked for fast, easy assembly.

Model No. 113BA \$31.50 CB Net

HY-GAIN ANTENNA PRODUCTS CORP.

Highway 6 at Stevens Creek Lincoln, Nebr. 68501 Phone 434-6331 Area Code 402

## YOUR CHOICE OF ONE FREE BONUS!!



"5" METER

SM-5

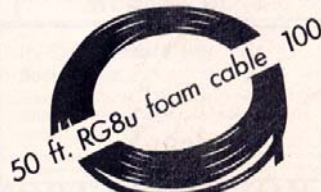


SN-1  
11-PC. MOBILE  
NOISE SUPPRESSOR KIT



for coaxial cable

CBLA-2





# MODEL PH-1

# \$14.95

## PHASE 'EM FOR GREATER RANGE



Get Up to 4.5db  
ADDITIONAL GAIN  
with

**hy-gain's**

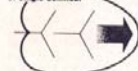
revolutionary **CO-PHASER**



4.5db Additional Gain  
over Gain of  
Single Collinear



3.86db  
Additional  
Gain over  
Gain of  
Single  
Collinear



4.5db Additional  
Gain over Gain  
of Single Collinear

With Hy-Gain's revolutionary Co-Phaser, phased colinear antennas will virtually double your effective radiating power in a multi-directional pattern. This handsome little gray box of magic produces additional gain as it should be produced...by combining the natural optimum performance characteristics of two phased colinear antennas and discriminately directing their power to where you want it. Just a flip of the compass rose calibrated dial on the Co-Phaser transfers you from 3.86db additional broadside gain to 4.5db additional "end-fire" gain off of either end of your phased array. The Co-Phaser also cuts out co-channel interference...sheds unwanted signals and gives you a stronger and clearer signal just exactly where you want it. It requires no external power...has no tubes or circuitry to introduce additional noise or interference...eliminates the need of expensive rotators. It's very easy to install. Overall dimensions...4x8 inch oval, 5 inches deep. Net weight, 1½ lbs. Model No. PH-1 \$14.95 CB Net

**PLUS CHOICE OF ONE BONUS WITH PH-1**

**SUPER-MAGNETIC  
MICROPHONE HOLDER**

**MH-3**

**FITS MOST MAKES**



**BONUS LM40  
KLEAR-PIX**  
eliminates CB interference



**Hy-Gain's Standard  
Split Ball Body  
Mount Model BDYS**  
Same as Model BDY above  
except furnished in beautiful  
natural finish. Net  
weight, 1 lb.

**\$3.03**

**Hy-Gain's Deluxe  
Split Ball Body Mount  
Model BDY**

Heavily chrome-plated split-ball  
type body mount with molded cyclo-  
lac base and rubber body washer.  
Easily mounted from top side of any  
single or double wall body panel.  
Accepts standard ¾"x24 thread fit-  
tings. Designed for use with whip or  
spring and whip. Net weight, 1½ lbs.

**\$4.77 Ham Net**

**\$4.77**

**Hy-Gain's Deluxe Split  
Ball Body Mount with  
Heavy Gauge Back-up  
Plate Model BDYP**

Heavily chrome-plated split-ball  
type body mount with molded cyclo-  
lac base, rubber body washer and  
heavy gauge metal back-up plate.  
Extra-sturdy installation requires  
access from underside of body panel.  
Accepts standard ¾"x24 thread fit-  
tings. Designed for use with whip  
or spring and whip. Net weight,  
2 lbs.

**\$4.77**

**Hy-Gain's Standard  
Split Ball Body Mount  
with Heavy Gauge  
Back-up Plate  
Model BDYSP**

Same as Model BDYP ex-  
cept furnished in beautiful  
natural finish. Net weight,  
1½ lbs.

**\$3.03**

**Hy-Gain Whip  
Gutter Clip**

Chrome-plated gutter clip se-  
cures whip for low garaging.  
Mounts on gutter of car with  
single screw without piercing  
car body. Net weight, 4 oz.



**MODEL GC \$0.75**

**GROVE ELECTRONIC SUPPLY COMPANY (16)**



The Hallmark 1250 CB Transceiver is a compact unit featuring rugged, hand-wired construction. Small enough for any vehicle, the 1250 is a complete, 12-channel, crystal-controlled 5-watt unit with many design features usually found only in 15-watt units. A silicon rectifier full-wave bridge easily provides the power for maximum output and modulation. A weatherproof ferrite speaker gives audio output more than 4 db over conventional speakers. A high gain RF amplifier means low receiver noise. Other design features include electronic switching (no relay noise); ultrasensitive squelch; and built-in "S" meter. Smart contemporary design with anodized aluminum face plate and grille. Case is heavy gauge steel with black baked enamel finish. Four sturdy snaps allow instant accessibility for adding crystals or routine maintenance.

Model 1250 Suggested List Price \$169.50



#### SPECIFICATIONS

##### RECEIVER:

Sensitivity: 0.3  $\mu$ v for 6 db S+N/N ratio ■ Selectivity: Adjacent channel rejection better than 40 db ■ Audio Output: 3 watts ■ Squelch: Threshold sensitivity, 0.5  $\mu$ v, adjustable level ■ Noise Limiter: Diode peak clipping ■ Local Oscillator: 12 channel crystal controlled ■ Built-in "S" meter.

##### TRANSMITTER:

RF Power Output: 3.4 W or better ■ Modulation: High level, 95% or better ■ Oscillator: 12 channel crystal-controlled ■ Frequency Range: 26.965 mc to 27.255 mc

##### GENERAL

Power Requirements:

+ transistor power supply

Shipping Weight: 12 pounds

**SALE**  
**\$119.95**

**PLUS FREE BONUS!!**

COMBINATION  
S.W.R. BRIDGE  
AND  
FIELD  
STRENGTH METER



The sensational  
new  
Hallmark 1250

GROVE'S FANTASTIC SALE PRICE

**110 VOLT**  
**& 12 VOLT**

- Full A.M. modulation and adjustable squelch.
- High level, "push-to-talk" professional microphone with coil cord.
- Adaptability to 5 channels.
- Dual purpose circuitry offers 16 tube power.
- Heavy duty unitized construction chassis...
- Built to meet F.C.C., Military and Canadian specifications.
- Full 90-day warranty.
- Exclusive Globe Squelch Circuit.
- 3 x 5 inch speaker delivery 3.5 watts output.
- Low loss coaxial fittings for antenna connections.

65-120



**SALE**

**\$88.88**

Delivered COMPLETE, ready to operate with one set of crystals, AC line cord, DC Power Cord, microphone and bracket, all mounting installation accessories for mobile use, operating on 110 or 120 V.A.C. Free license application.

GROVE ELECTRONIC SUPPLY COMPANY (23)



## SPECIFICATIONS

1. Frequency: 27.035 MC (Channel 7). Second Channel Optional
2. Receiver Circuit: Crystal-controlled superheterodyne receiver.
3. Transmitter Circuit: Crystal-controlled oscillator.
4. Transistor Complement: 10 transistors, plus 1 thermistor bias stabilizer, plus 1 dual diode.
5. Antenna Length: 49", 13 sections.
6. Speaker-Microphone: 2 1/4" Dynamic.
7. Size: 7" High x 2-5/8" Wide x 1-5/8" Deep.
8. Weight: 16 ounces.
9. Power Source: 8 inexpensive penlite cells (1.5 Volts x 8), NEDA 815, Eveready 915, Burgess Z, Midland 20-815.
10. Range: 1 to 7 miles (depends upon terrain, obstacles, etc.).

The 2 Ch. 13-110 serves many uses: Construction, Factories, Home, Hospitals, Farming, Ranching, Stockyards, Rail-Yards, Sporting Events, Boating, Hunting, Fishing, Camping, Policemen, Firemen, Civil Defense, Public Affairs, Surveying, Exploration, and many others.

## MIDLAND MODEL 13-110



what makes the  
**MIDLAND**  
**MODEL 13-110**  
the best value on  
the market today!

**Two Channel Operation.** The 13-110 is supplied with selected Channel 7 (27.035 MC) crystals installed. Crystals for the second channel are optional extra and may be added at any time for maximum versatility. A convenient channel selector switch allows quick selection of the operating channel. Changing channels for private communication or switching to a quieter channel is easily accomplished with the 13-110. Plug-in crystals are used and the frequency of either channel may be changed by changing crystals.

**Power.** The input power to the final amplifier falls within the 100 milliwatt classification of the Federal Communications Commission (F.C.C.) and is modulated 100%. A high 80% efficiency in converting the input power to actual radiated power is the secret of the 2 Ch. 13-110 to transmit a stronger signal.

**Highest Intelligence.** In the transmit position, the speaker becomes the microphone. The audio in this transmitter is restricted to the voice frequencies, resulting in high intelligibility and lower battery consumption. This feature is particularly noticeable in noisy locations or in poor reception areas.

**Noise Limiter.** Ignition noise, electrical interferences, etc., are reduced to a minimum while voice frequencies are unaffected. The 2 Ch. 13-110 can receive and transmit intelligence despite interference.

**Class B Modulation.** The power drawn from the batteries is directly proportionate to the modulation applied to the final amplifier. Maximum current is drawn only on voice peaks. This results in extended battery life.

**Superheterodyne Receiver.** All transistors, plus a sensitive thermistor bias stabilizer, and a dual diode used in the receive position are specially selected. High sensitivity is achieved and the receiver is sharp enough to reject most unwanted noise.

**Rugged Design.** A dark grey, wrinkle-finished aluminum case combined with a highly polished die cast speaker grill makes this unit both attractive and durable. A heavy duty push-to-talk switch, durable antenna, and a hand-soldered circuit board requires an absolute minimum of service.

This Walkie-Talkie is a rugged and reliable unit designed to meet the toughest demands. It is pocket size and powerful. No warm up time is required. Just turn on the switch and you have constant communication at distances up to 7 miles, depending upon the terrain and obstacles. It's your option to use either the private listening earphone supplied with each unit, or the built-in loudspeaker.

Efficient 13-section, 49" whip antenna telescopes out of sight when not in use. Push-pull audio amplifier delivers excellent sound. Extra sensitive crystal controlled superheterodyne receiver combined with 100% modulation in the transmitter provide an unbeatable combination. No license of any kind is required.

A handsomely styled durable metal case houses and protects the precision engineered chassis. Both the receiver and transmitter are controlled by plug-in crystals. Ten carefully selected transistors are used to provide the listening quality and transmitting power needed. The conveniently located push-to-talk switch allows fast conversion from receiver to transmitter, and a carefully designed noise limiter switch is provided for reducing ignition noise and high-line interference. Unit is powered by 8 easy-to-get penlite batteries.

Comes complete with Channel 7 crystals, genuine leather carrying case, shoulder strap, earphone pouch, earphone and instruction manual. The metal case measures only 7" high x 2 1/8" wide x 1 1/8" deep. Weighs 16 ounces.

MODEL 13-110

**NOW!**  
**YOU GET 2 CHANNELS**  
**IN THIS RUGGED,**  
**TOP EFFICIENCY**  
**WALKIE TALKIE**

• 10 TRANSISTORS PLUS 1 THERMISTOR BIAS STABILIZER  
PLUS 1 DUAL DIODE PLUS 2 CRYSTALS • AUTOMATIC NOISE  
LIMITER • LONG RANGE COMMUNICATION • NO LICENSE REQUIRED

**SALE ONLY \$29.95**



1. Frequency: On F1 (frequency 1) plug-in crystals are on Channel 7 (27.035 mc). On F2 (frequency 2) the channel is left open.
2. Receiver Circuit: Crystal controlled, super-heterodyne receiver with tuned RF stage, four IFs, variable squelch, AVC and automatic noise limiter.
3. Transmission Circuit: Crystal controlled, full 1-watt final RF input.
4. Transistor Complement: 13 transistors plus 1 diode plus 1 varistor plus 1 thermistor.
5. Antenna: Rugged 9-section, 62" telescoping antenna.
6. Speaker-Microphone: Built-in microphone and 3" heavy-duty dynamic speaker. External microphone is optional accessory Model 18-138.
7. Controls: Conveniently located volume control and on-off switch. Manually operated squelch control and two position channel selector slide switch are provided.
8. AC Adaptor: Unit can be operated on 110-Volt AC, with the use of an AC adaptor (optional accessory Model 18-140).
9. Power Source: 8 penlite cells (1.5 Volts each) Eveready 915, NEDA 815 or Midland 20-815. A genuine leather power pack, which will accommodate 8 "D" flashlight cells, can be purchased as an optional accessory Model 18-137.
10. Special Features: Earphone jack, AC jack, external microphone jack and external antenna jack.
11. Range: Up to 15 miles (depends upon terrain, obstacles, climatic conditions, etc.).
12. Size: Only 8 1/2" H x 4" W x 2 1/4" D.
13. Weight: 36 ounces.
14. Crystals: Standard plug-in crystals.
15. Accessories: Leather carrying case, shoulder strap, earphone pouch, earphone and instruction manual.



**MODEL 13-133**

**\$79.88**

**MIDLAND TRANSCEIVER**  
 13 TRANSISTORS PLUS 1 DIODE PLUS 1 VARIATOR PLUS 1 THERMISTOR  
 (16 SEMI-CONDUCTORS). • CRYSTAL-CONTROLLED TRANSMITTER WITH FULL  
 TUNED RF INPUT. • SUPERHETERODYNE CRYSTAL-CONTROLLED RECEIVER WITH  
 SQUELCH AND AVC. • MEETS F.C.C. REQUIREMENTS FOR LICENSED CITIZENS  
 BAND OPERATIONS

**Compact size...rugged  
 design plus features found only  
 on large base station and  
 mobile transceivers**

## **MIDLAND**

### **FULL 1 WATT TRANSCEIVER**

Your **MIDLAND** Model 13-133 1-watt transceiver is a fine piece of high-frequency electronic equipment using tuned RF and four IF stages for greater sensitivity and range. Incorporated in this unit is push-pull audio output for better voice response and tone. Automatic volume control (AVC) eliminates fading and blasting.

A variable squelch reduces background noises and keeps the speaker silent between calls. An automatic noise limiter reduces ignition and other undesirable noises. This unit has a full 1-watt RF input and a precision engineered conversion system to assure you of maximum radiated output power.

The operation range between two Model 13-133 walkie-talkies can be up to 15 miles depending upon the terrain, obstacles, climatic conditions, etc. By using a Model 13-133 transceiver with a base station or mobile unit this range can be greatly increased.

This new **MIDLAND** transceiver will operate on any 2 of the 23 Citizens Band channels. It is provided with 2 sets of crystal sockets and a conveniently located channel selector switch. One set of plug-in crystals on Channel 7 (27.035 mc) is supplied with each unit. Additional crystals for other channels can be easily obtained and the frequency can be changed to another channel by changing crystals.

Power source: 8 penlite batteries, or 8 "D" cell batteries, or 110-volts.

#### **Accessories:**

- 18-134 Desk stand with push-to-talk switch and push-to-talk switch lock. Built-in A-C Adaptor.
- 18-135 Desk stand.
- 18-137 Heavy-duty, all-leather power pack which is designed to use 8 "D" cell batteries.
- 18-138 External microphone.
- 18-139 Telescoping base station antenna with hardware.
- 18-140 110-volt AC adaptor.

#### **OPTIONAL ACCESSORIES**



18-134

#### **OPTIONAL ACCESSORIES**

**\$14.95**



18-139

**\$4.88**



18-138

**\$14.97**



18-140

**\$4.49**



18-135

**\$7.77**



18-137

**MIDLAND** leads again in the Citizens Band field with a deluxe 2-channel, full 1-watt quality transceiver. This powerful **MIDLAND** 1-watt walkie-talkie should be requested where portability, extra long range and dependability is a must. A professional quality transceiver that has 10 times the power of most hand-held walkie-talkies.

Here is a transceiver you can depend on with a durable all-metal case and rugged 9-section, 62" telescoping antenna. The unit can operate on 8 standard penlite batteries, or on 8 "D" cell flashlight batteries

by using the power pack, Model 18-137 (optional accessory), or on 110 volts by using the AC adaptor, Model 18-140 (optional accessory). Comes complete with leather carrying case, shoulder strap, earphone, one set of plug-in crystals on Channel 7 and instruction manual.

The 1-watt 13-133 has enough power for a multitude of uses. Farming, ranching, camping, sporting events, boating, police work, civil defense, construction, hobby activities, vacationing, forestry, logging, industry, home, hospitals and business and personal use.



AC  
OPERATION \$159<sup>50</sup>  
DC  
OPERATION \$184<sup>50</sup>  
Complete with Interconnecting  
Co-Axial Cable and Connector



**FCC TYPE ACCEPTED**

Parts: 10-11-18

**LINEAR R.F. POWER AMPLIFIER**

- ▶ Grounded Grid—Class B operation
- ▶ Forced air cooling system
- ▶ Increased range for low power stations
- ▶ Operates with 1-10 watts R.F. drive power (1-30 watts Amateur)
- ▶ Automatic Standby/Transmit keying
- ▶ Either AM or FM transmitters can be used
- ▶ Covers 25-50 mc Business Band. 10 or 6 meter band
- ▶ Small, compact, all aluminum construction
- ▶ Driver/Transmitter may be normally operated (Electronic switching)

**Sonar**  
**MODEL BR-21**

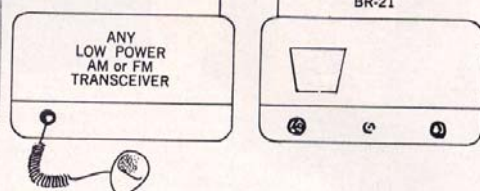
**LINEAR AMPLIFIER**

**150 WATT INPUT**

When driven by a Sonar BR-20



**SONAR LINEAR**  
**BR-21**



**BR-21 LINEAR AMPLIFIER**

**SPECIFICATIONS:**

*FREQUENCY	10 or 6 Meter (Amateur Band)
*FREQUENCY	25-50 mc (Business Radio)
EMISSION	AM or FM
DUTY	Continuous
DRIVE	1 to 10 watts (1-30 watts Amateur)
<b>POWER REQUIREMENTS</b>	
TRANSMIT	180 watts
STANDBY	90 watts
VOLTAGE	110-120 VAC
INPUT IMPEDANCE	50 ohms
OUTPUT IMPEDANCE	50 ohms
HARMONIC ATTENUATION	Better than 60 db
NOISE ATTENUATION	Better than 90 db
WEIGHT	12 lb.
SIZE	4 3/4" H x 8 3/4" W x 10 3/4" D
TUBES	1—12AT7, 4—6JB6
RECTIFIERS	4-Silicon, 600 P.I.V.

**PLUS YOUR CHOICE OF BONUS FREE!!**



Has a broad tuning range that covers from 1.6 to 150 MC in four bands as follows: Band A-1.6 to 5.5 MC; Band B-5.5 to 18 MC; Band C-18 to 50 MC; Band D-50 to 150 MC. Accuracy plus or minus 10%. Suitable as a sensitive field strength meter or frequency checker. Detects undesired radiation or spurious frequencies. Compact grey cabinet size 3 3/4" long x 1 1/4" deep x 2 3/4" high. Includes telescoping antenna. Bottom of cabinet has powerful magnets for attachment on any metal surface. No battery or power source required. Factory wired.  
No. FS40

**FS-40**



**TC2**

**S.W.R. BRIDGE**  
**AND FIELD STRENGTH METER**



**FS-60**



**PAGING SPEAKER**  
**SP-99**

**GROVE ELECTRONIC SUPPLY COMPANY (30)**



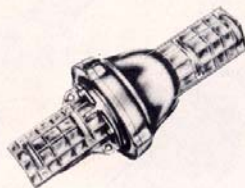
# Heavy Duty Antenna Rotor Systems



## ROTORS FOR TV, COLOR TV, FM & FM-STEREO

Class  
252 • 00

Previously considered necessary only for deep fringe area reception, antenna rotors are now required in nearly every location due to the more demanding performance requirements of color TV and FM stereo broadcasting. The Cornell-Dubilier antenna rotors are the only heavy duty TV-FM antenna rotors available. They are designed to support the heaviest antennas and provide reliable performance under the most severe conditions. All CDE TV-FM antenna rotors are supplied with the heavy duty weatherproof bell casting motor unit illustrated. This unit provides four to five times the turning and braking torque of competitive models, features a 6" diameter built-in thrust bearing, and utilizes heavier gears and construction throughout. Coupled with the wide selection of control boxes offered, the CDE rotor is clearly the outstanding buy in antenna rotors.

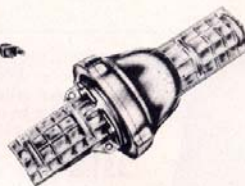


### MANUAL COMPASS PATTERN MODEL

The TR-2C antenna rotor system combines the smart styling of a Raymond Loewy/William Snaith Inc. control box design with the rugged CDE bell motor unit. The control box is extremely small and blends with any decor. CDE's exclusive compass pattern indicating light system and end of rotation light provide for rapid rough tuning with fine tuning visually or by FM tuning indicator. The touch-bar control system provides precise and accurate antenna orientation. TR-2C uses 8 wire cable. 110v AC model is standard; 220v AC model optional at added cost.



### Model TR-2C



\$26.41 ea.

**PLUS FREE BONUS!!**  
**100 feet of 4-COND. ROTOR CABLE!**

### MANUAL METER MODEL

The model TR-4A couples a meter control system with the heavy duty CDE bell casting motor unit. The compass calibrated meter provides for rapid rough tuning with fine tuning visually or by FM tuning indicator. The touch bar control system permits rapid and precise antenna orientation. The TR-4A model uses 4 wire control cable. Standard model is 110v AC. 220v AC models are available at added cost.



### Model TR-4A



\$26.41 ea.

**PLUS FREE BONUS!!**  
**100 feet of 4-COND. ROTOR CABLE!**

### AUTOMATIC MODEL

The model AR-22 rotor system combines automatic control and the heavy duty bell motor unit. When the AR-22 control knob is turned to the desired antenna direction, the motor unit follows in precise 6 degree steps. When the desired direction is reached, the unit shuts itself off automatically. The automatic model represents the ultimate in convenient and precise antenna direction control. The system uses 4 wire cable. 110v AC is standard; 220v AC models available at added cost.



### Model AR-22



\$31.31 ea.

**PLUS FREE BONUS!!**  
**100 feet of 4-COND. ROTOR CABLE!**

**NOTE: TA-6 THRUST BEARING for TR11A rotors- \$2.95 ea**

**GROVE ELECTRONIC SUPPLY COMPANY (36)**





## BASE STATION COMMUNICATIONS

TURNER

### MODEL 454X

Outstanding base station microphone. Single sideband (Limited to voice) frequency response of 300-3000 C.P.S. Attractive telephone black satin finish on all metal alloy case. May be wired for VOX. Comes wired for push to talk. Has extra lock-on switch for continuous transmission. Complete with coiled cord (Three conductor—one shielded). Output level is -48 db. **List Price \$26.50**

**\$15.58 ea.**

### MODEL J-454X

Same as Model 454X except with an extra set of contacts for electronic switching. **List Price \$29.50**

**\$17.34 ea.**

### MODEL 454C

Same as Model 454X except with heat and humidity proof ceramic element. Output level -52 db. **List Price \$26.50**

**\$15.58 ea.**



TURNER

### MODEL 254X

The most popular base station microphone in use today. The number one favorite of CB's. Excellent for inexpensive P.A. systems as well. It features push to talk front touch bar or locking on-off lever switch. Comes wired for relay operation. Deluxe light grey hammertone finish. Extra high output. Level of -48 db for increased signal strength. The response is 100-8000 c.p.s. Cable is 7' three conductor (shielded). Size is 7 3/4" in height x 5 1/2" in depth. Shipping weight: 3 lbs. **List Price \$23.50**

**\$13.82 ea.**

### MODEL 254C

Same as 254X except with famous 21C ceramic interior. Output level of -54 db. **List Price \$23.50**

**\$13.82 ea.**

### MODEL J-254C

Same as Model J-254X except with Ceramic interior. Output level is -54 db. **List Price \$26.50**

**\$15.58 ea.**

### MODEL J-254X

A special model for Electronic switching. The "J" Model has an extra set of contacts which will allow you to wire into any CB rig manufactured that has a high impedance input. Response is 80-7000 C.P.S.; output level is -48 db. **List Price \$26.50**

**\$15.58 ea.**

### MODEL 254R

A CB base station microphone with carbon element for Kaar, Bendix Pacific, RCA marine sets, Dumont and many others. Impedance: 40 ohms nominal DC resistance. Output level: -38 db. Cable is 7 foot, 4 conductor (unshielded). Operates by touch bar on-off switch and Lever-Lock on-off switch. **List Price \$17.00**

**\$15.11 ea.**

### MODEL 254D

New 600 ohm base station model. Dynamic interior for smooth response of 300 to 6000 C.P.S.; output level is -66 db. (-50 db. RE Hi impedance). Comes with 7' cable terminated in 91-MPM5L plug. **List Price \$36.50**

**\$21.46 ea.**



TURNER

**PLUS YOUR CHOICE OF BONUS FREE!!**

**(choose one below)**

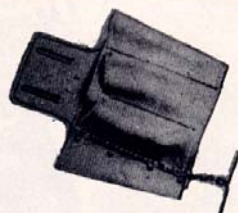
#### BONUS LM40 KLEAR-PIX

eliminates CB interference



#### BONUS C44

**SUPER-MAGNETIC  
MICROPHONE HOLDER**



**5 POCKET LEATHER TOOL POUCH**

**GROVE ELECTRONIC SUPPLY COMPANY (52)**



# MOBILE COMMUNICATIONS



**TURNER**

## MODEL 333 (NOISE CANCELLING)

New deluxe mobile microphone for those who insist on the very best. 300-3,000 c.p.s. voice frequency response. Noise cancelling, too! All the top features "C-B's" and "Hams" insist upon. Top quality cable by "Killed-Kords, Inc." (Outlasts ordinary cords 4 to 1). Wired for relay switching. High output ceramic interior for PLUS modulation and protection against heat and humidity. If you want the very best, ask for the new Turner 333. Shipping weight: 1 lb.

MODEL J-333

Same as Model 333 except wired for electronic switching

List Price \$21.50

List Price \$21.50

**\$12.64 ea.**

**\$12.64 ea.**

## MODEL 350-C

Most used as original equipment. This low-cost ceramic microphone with on-off switch is familiar to most mobile radio operators. More 350C microphones are used as original equipment on citizens' band and marine transceivers than any other microphone. New extra-tough cyclocase for years of service. Rugged ceramic interior allows you to use the 350C in any climate. Complete with hanger button and standard dash bracket for easy mounting. Equipped with 11" retracted, five-foot extended, coiled cord. Ideal for citizens' band, amateur use, mobile rigs and paging. Wired for relay operation. Response: 80-7,000 c.p.s. Output level -54 db. Complete installation instructions included. Shipping weight: 1 lb.

List Price \$12.50

**TURNER**

**\$5.99 ea.**

## MODEL SR-90

The Model SR90 is available in two popular versions—the "D" (pressure operated dynamic) and the "R" for carbon. Both feature the 90's slender die cast zinc alloy case with the Turner exclusive front hanger button. Both come in satin chrome finish.

Dynamic models are available in two impedances, hi or 200 ohms. Relay switching is standard. Three conductor (one shielded) 11" retracted, 5' extended coiled cord on hi impedance models and 4 conductor (two shielded) on 200 ohm units. Output level is -52 db. at hi impedance. Response is 200-10,000 c.p.s.

Model SR90R is equipped with a very hi quality telephone type carbon interior to give you maximum voltage output and high intelligibility as well. Same general appearance and features as Model SR90D. Specifications are -40 db. output level; response 200-4,000 c.p.s.

Choose the Model SR90R wherever maximum output with a minimum of distortion is specified—taxicabs, police, etc. Shipping weight: 2 lbs.

Model SR90D ..... List Price \$42.50

Model SR90R ..... List Price \$26.50

Write for free specification sheet.

**SR90D - \$24.99**

**SR90R - \$15.58**

## MODEL 355-C

High style inexpensive mobile microphone with grip-to-talk handy switch. The easiest, most convenient switch function on today's market. More comfortable to hold—more comfortable to use. The 355C features an output level of -50 db. It's extra hot for a "high gain signal. Response 80-7,000 c.p.s. Complete installation instructions enclosed. Shipping weight: 1 lb.

List Price \$12.50

**\$7.35 ea.**

## MODEL 358-D

Dynamic mobile microphone, 600 ohm impedance, designed for use with transistorized CB transceivers. Standard 355 type case and versatile switch, and three conductor (one shielded) coiled cord. Output level -66 db. (-50 db. re. hi impedance); frequency response 300 to 6,000 c.p.s. Shipping weight: 1 lb.

List Price \$25.00

**\$14.70 ea.**

## 44 SERIES

INTRODUCING A NEW PUBLIC ADDRESS SERIES... of fine quality microphones from Turner. Expressly designed to give you the best in moderately priced Dynamic, Crystal and Ceramic microphones.

### MODEL 44D - DYNAMIC

- Hi output Dynamic Element.
- Available in hi or low impedance

New! Turner Model 44D. Compact modern design coupled with variable low end bass response makes the 44D an excellent microphone for paging and communications systems. Omni-directional pick-up pattern. Very sturdy. Combination cyclocase and diecast zinc alloy case. Use indoors or outside—anywhere. Response is 65-15,000 c.p.s. adjustable to 60-15,000 c.p.s. output level is -56.5 db. Complete with removable 12' cable and on-off switch. Specify Hi or 150 ohm when ordering. Shipping weight: 2 lbs.

List Price \$45.00

**44D- \$26.47**

**44X- \$20.58**

**44C- \$20.58**

### MODEL 44X - CRYSTAL

Same as Model 44D except with Hi output crystal interior for extra gain and sensitivity. Response is 60-10,000 c.p.s. Output level is -53 db. .... List Price \$35.00

### MODEL 44C - CERAMIC

Same as Model 44D except with Turner's famous ceramic interior. Response is 60-10,000 c.p.s. Output level is -58 db. .... List Price \$35.00

**GROVE ELECTRONIC SUPPLY COMPANY (54)**



### DYNAMIC MICROPHONE STUDIO TYPE



Omni-directional. Suitable for tape recording orchestras, voice, conference groups and wherever wide range sensitive pickup is required. Mounting thread 5/8"-27. Supplied with 4 feet plastic covered microphone cable. Individually boxed.

Sensitivity: -71 db  
Impedance: 50K ohms  
Frequency Response: 70-9000 C.P.S.  
Dimensions: Width 2 1/4" x Height 5 1/2"  
Finish: Chrome and Metallized Grey  
Weight: 11 ounces  
Individually boxed

No. DM17 ..... Net Price \$13.00

### DYNAMIC MICROPHONE WITH STAND



Wand type, omni-directional. Suitable for tape recording voice, instrumentalists, and broadcasting, public address etc. Built-in on-off slide switch. Supplied with weighted desk stand, chrome finished swivelled mike holder, and 4 foot removable plastic covered microphone cable.

Sensitivity: -70 db  
Impedance: 50K Ohms  
Frequency Response: 70 to 9000 CPS  
Finish: Chrome and black  
Dimensions: Width 1 1/4" x Height 7 1/2"  
Weight of Microphone: 10 ounces  
Weight of Stand: 1 lb.  
Individually boxed

No. DM10 ..... Net Price \$12.95

### MINIATURE DYNAMIC MICROPHONE



Suitable for tape recording, P. A. applications and Communications equipment. Supplied with spring type desk stand, and 6-foot Gray plastic covered shielded cable.

Frequency Response: 60 to 10,000 CPS  
Sensitivity: -60 db.  
Finish: Two-tone gray plastic with gold grille.  
Impedance: 2K Ohms  
Dimensions: 1-3/8" Diameter x 1-5/8" long.  
Weight: 3-1/2 oz.

No. DM175 ..... Net Price \$4.60

### CRYSTAL MICROPHONE



Omni-directional studio type crystal microphone, suitable for conference groups, P.A. tape recordings, etc. Dual phased crystal units, vertically mounted. Mounting thread 5/8"-27. Supplied with 4 feet plastic covered microphone cable.

Sensitivity: -52 db  
Impedance: 500 K Ohms  
Frequency Response: 80 to 8000 CPS  
Finish: Chrome and black  
Dimensions: Width 3" x Height 7"  
Weight: 11 ounces

No. M18 ..... Net Price \$6.95

### DYNAMIC MICROPHONE WITH STAND



Includes  
Lavalier Cord  
and Bracket

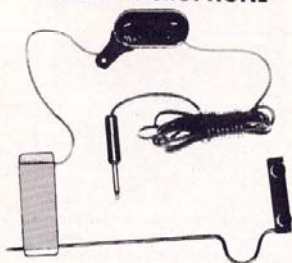
An excellent general purpose non-directional dynamic microphone, sturdily built, equipped with removable adjustable desk stand.

#### SPECIFICATIONS

Output Impedance: 50K ohms  $\pm$  30%  
Effective Output Level: -58 db (1000 cps. at 3 Mv.)  
Frequency Response: 100-12,000 cps  $\pm$  5 db.  
Directional Characteristics: Non-directional  
Weight: 3.81 oz. (without stand)  
Cable: 5-ft.  
Stand: Desk Type  
Dimensions: 1-3/16" Dia. x 3 1/4" long.

No. DF-1 ..... Net Price \$8.25 ea.

### GUITAR MICROPHONE



Professional type, complete with separate volume and tone controls. Mounts easily under strings without special attachments. Metal parts are chrome plated. Supplied with 8 foot cable and standard phone plug, for connecting to amplifier. High impedance.

No. S1710 ..... Net Price Each \$7.45

### DYNAMIC MICROPHONE WITH SWIVEL STAND



Desk type, omni-directional. Suitable for tape recording voice, instrumentalists, and broadcasting, public address etc. Supplied with swivel base desk stand, adaptor for 5/8"-27 thread for floor stand and 8 foot plastic covered microphone cable. Base has rubber ring to protect table surfaces.

Sensitivity: -70 db  
Impedance: 50 K Ohms  
Frequency Response: 60 to 12000 CPS  
Finish: Blue mist metallic lacquer with chrome trim  
Dimensions: Width 2" tapered x Height including stand 9"

Weight of Microphone: 1 lb. 2 ounces  
Weight of Stand: 2 1/4 lbs.  
Individually boxed

No. DM7 ..... Net Price \$16.65

### DYNAMIC MICROPHONE With Swivel Stand



With Swivel Stand. Desk type, omni-directional. Suitable for tape recording, voice, instrumentalists, broadcasting, public address, etc. Supplied with swivel base desk stand and 6 1/2 foot gray plastic covered shielded cable. This is a miniature version of our Model DM7.

Specifications:  
Sensitivity: -62 db (0 db = 1 v./u bar at 1000 CPS)  
Impedance: 50K ohms  
Frequency Response: 90 to 10000 CPS  
Finish: Black with chrome trim  
Dimensions: 1 1/4" diameter tapered x 5" high including stand. Diameter of stand 3".

Weight of microphone: 6 ounces  
Weight of stand: 3 ounces  
No. DM12 ..... Net Price Each \$8.95

### CONTACT MICROPHONE



A high impedance crystal contact microphone, complete with 8 feet of shielded cable and clamp bar. Ideal for amplification of guitars, banjos and other string instruments.

Individually packaged for peg-rack sales.  
No. S1709 ..... Net Price \$1.45 ea.



# Hottest New CB Transceiver

## NEW EICO "SENTINEL 23"

**+ FREE BONUS!!**



**CB NET**

**\$169.95**

**PLUS CHOICE OF ONE FREE BONUS!!**

The all new EICO "Sentinel-23" (Model 779) Transceiver is truly extraordinary --from features to price.

- Dual Transistor PS--117 VAC, 12 VDC
- Efficient 5-Watt Input Transmitter
- Full 23 CB Channel Frequency Synthesizer
- Variable "Pi" Antenna Impedance Matching Network
- 3.5 Watt P.A. System
- Adjustable Harmonic TVI Filter

### EICO "Sentinel 23" Model 779 23-Channel Crystal-Controlled Dual-Conversion 5-Watt CB Transceiver

- All crystals supplied for crystal-controlled transmit and receive on all 23 CB channels
- Dual conversion superhet receiver
- Dual power supply -- 117 VAC and 12 VDC transistorized
- 23-Channel Frequency Synthesizing Circuit

**WIRED  
only \$169.95**

The EICO 779 "Sentinel 23" is a full 5-watt input (legal limit) CB Transceiver. It incorporates a 10-crystal frequency synthesizer for crystal-controlled transmit and receive on all 23 CB channels (no additional crystals are needed). A single control selects transmit and receive channels simultaneously, with channel numbers 1 through 23 appearing in an illuminated window.

The receiver is a dual conversion superheterodyne with one 6mc and three 455kc IF's to achieve the very finest performance. Sensitivity is rated at 0.25 microvolts for 10db signal-to-noise ratio. Excellent adjacent channel rejection is achieved without excessive narrowing of the desired channel bandpass since the 6db down points are 3kc from the carrier. A bandspread control on the front panel permits  $\pm 3$ kc adjustment for stations transmitting slightly off frequency. Primary image rejection is better than 60db. The illuminated dual-function meter serves as an "S" meter in receive.

The wide dynamic range of the AGC circuit prevents overloading on strong local signals. Both an automatic impulse noise limiter and adjustable squelch are provided. A standby switch position on the squelch control makes it possible to keep the unit ready for instantaneous use while drawing only the required filament current. In addition to a built-in 4-inch loudspeaker, headphones (or an external speaker) may be connected to the unit through a front-panel phone jack which automatically silences the built-in loudspeaker when a phone plug is inserted.

The efficient 5-watt input transmitted provides more than 3 watts output. High modulation level, up to 100%, is obtained without excessive distortion by the 3.5 watt modulator. Modulation

indication is provided by a front-panel neon lamp. The meter serves as a relative RF power output meter in transmit. A noise cancelling, ceramic element push-to-talk mike with coiled cord is included.

A variable "pi" network in the transmitter output permits matching adjustment for antenna systems from 30 to 100 ohms. An adjustable TVI filter permits attenuation of harmonics that might otherwise interfere with television reception on the lower channels.

A PA/CB switch permits the receiver's audio amplifier to serve as a 3.5 watt PA (Public Address) amplifier with an external speaker or bullhorn plugged into a rear receptacle. In the PA position, PA use is obtained by depressing the mike p-t button; with mike button up, incoming signals on the selected channel can be heard over the PA speaker. In base station applications, this permits incoming messages to be heard at remote points in the base station area; in mobile applications, it permits incoming messages to be heard while the operator is out of the vehicle.

The EICO "Sentinel 23" employs a transistor switching power supply and can be operated either directly from 117 volts AC or directly from 12 volts DC in **negative ground vehicles only** (most domestic makes since 1957). Individual power cords for 117 volts AC and 12 volts DC operation are included.

Brackets are provided for convenient mobile mounting. The steel case is durably finished in scuff-proof vinyl for maximum durability; the panel is heavy-gauge extruded aluminum, brushed/polished and epoxy coated. Size (HWD) is 4 1/4" x 12 1/4" x 7 1/2" inches and the weight (net) is 14 pounds.

**BONUS**

**S.W.R. BRIDGE  
AND FIELD STRENGTH METER**



**free**

**4x gain**

**BONUS**

**8X POWER GAIN!!**

**free**

**COMPLETE WITH  
50-ohm MATCH**

**FACTORY PRE-TUNED**



# Hy-Gain's

## ECONO LINE

### ECONO LINE

#### Model CB3 3-Element Beam

- Delivers 8db Forward Gain
- Taper-Swaged Seamless Aluminum Construction
- Rotates with Standard TV Rotator
- Iridite Treated Hardware

The Model CB3 is an outstanding performer...delivers 8db forward gain; 20db average F/B ratio; and, 30db F/S ratio. Feeds with 52 ohm coax. Full sized  $\frac{1}{2}$  wavelength taper-swaged, seamless aluminum elements on an 8" x  $1\frac{1}{4}$ " OD seamless aluminum boom. All steel hardware multi-color iridite treated for maximum weatherability. Rotates with standard TV rotator. Electrical performance equivalent to other antennas selling for \$31.50 and more.

Model CB3 **\$19.95**

- Designed for Simple Installation
- Built to Withstand 80 MPH Winds

### ECONO LINE

#### Model CBV Omni-Directional Gain Antenna

- Delivers up to 6db Omni-Directional Gain
- Entire Antenna at DC Ground for Low Noise Level
- Taper-Swaged Seamless Aluminum Construction
- Iridite Treated Hardware

The Model CBV is an end-fed  $\frac{1}{2}$  wavelength antenna that develops up to 6db of omni-directional gain. The entire unit is at DC ground to provide lowest possible noise level and maximum lightning protection. 18" radiator and 52" radials are of heavy gauge taper-swaged, seamless aluminum tubing. All steel hardware is iridite treated for maximum weatherability. Feeds with 52 ohm coax. Electrical performance equivalent to other antennas selling for \$29.95 and more.

Model CBV **\$19.95**

Now, for the first time, a complete line of low-cost CB antennas designed to deliver "top drawer" electrical performance...Hy-Gain's ECONO-LINE. New ECONO-LINE antennas are constructed of quality materials and embrace many of the unique features found only in Hy-Gain's world famous, extra-rugged Standard Line CB antennas. Although new ECONO-LINE antennas are constructed of lighter weight materials designed to meet the day-to-day environments that exist almost anywhere in the United States, Hy-Gain superior electrical performance is uncompromised in all models. For the Cber looking for a value-packed antenna—base station or mobile—specify Hy-Gain ECONO-LINE...the only high performance budget priced antennas on the market today!

### ECONO LINE

#### Model CBGP All Purpose $\frac{1}{4}$ Wave Ground Plane

- Beta Matched for Optimum Energy Transfer
- Taper-Swaged Seamless Aluminum Construction
- Iridite Treated Hardware

Econo-Line Model CBGP is a  $\frac{1}{4}$  wavelength unity gain ground plane constructed of heavy-gauge, taper-swaged seamless aluminum tubing. Entire antenna is at DC ground for low noise level and lightning protection. Hy-Gain's unique Beta Match provides maximum transfer of energy to the antenna from 52 ohm coaxial feedline. Multi-color, iridite treated hardware. Electrical performance equivalent to other antennas selling for \$16.95 and more.

Model CBGP **\$9.95**

- Uncompromised High Performance
- Heavy Gauge Construction

### ECONO LINE

#### Model CBW Top Loaded Roof/Deck Mount Mobile

- Famous "Topper" Solid State Top Loading Coil
- Lifetime Adjustable Tuning Rod
- 17-7PH Stainless Steel Radiator
- Weathertight Mount

Optimum mobile performance at a minimum price... features new solid state loading capsule positioned at the top of the radiating element to deliver maximum attainable performance from a shortened antenna. Completely factory pre-tuned but easily peaked for maximum performance on your favorite channel with lifetime adjustable tuning rod. Overall height, 26". Professional 17-7PH stainless steel whip with unique weathertight roof mount. Easily installed from outer surface of roof panel...largest hole required,  $\frac{1}{4}$ ". Delivers electrical performance equivalent to other antennas selling for \$15.50 and more.

Model CBW... **\$6.95**