

WANT RED CARPET SERVICE?

Most items in this section are normally carried in stock at our warehouses. Hence, you can expect faster delivery on them. Non-stock items are designated with an asterisk (*) after the price.

Section M

of TELEPHONE EQUIPMENT & SUPPLIES CATALOG

ISSUED JUNE, 1973

SUBSCRIBER STATION APPARATUS

Telephones

	Page
Type 80 and 90M Telephones.....	2, 3
Type 182-A Starlite® Desk Telephones.....	4, 5
Type 192-A Wall Compact Telephones.....	4, 5
Styleline® Telephones.....	6, 7
Type 880-B Speakerphones.....	8
Type 95 Panel Telephones and Accessories.....	9, 10
Type 88-AT Conversion Kits.....	9
Type 187 Multi-Line Telephones and Accessories.....	12, 13, 14
Type 183 Space-Maker® Telephones.....	11
Type 85 Multi-Line Telephones.....	15, 16
Type 186 Telephones and Accessories.....	17
Type 890 Telephone.....	11
Type 800 and 801 Hand Test Telephones.....	21
Key System Equipment.....	16

Railroad Telephones (Local Battery)

Type 60 Telephones.....	20
Type 80 Telephones.....	20
Type 183 Telephones.....	21
Self-Contained Booth Telephones.....	20
Type 10-A Portable Telephones.....	19
Type 900 Magneto Telephones.....	20
Magneto Battery Boxes.....	20

Telephone Accessories

External Power Supply for Type 880 Speakerphone..	8
Type 88-AT Conversion Sets.....	9
Power Supply Units for Multi-Line Phones.....	14
Proctor Line Guard™ Automatic Exclusion Systems.....	14
Tip Party Inductors and Resistors for ANI Service..	18
Outdoor Telephone Housings.....	19
Rest-A-Phones.....	38
Adapter Kits for Mounting Telephones and Type 33 Ringer Boxes.....	23
Modification Kit—Antique/Decorator Housings.....	22
Miniature Transfer Key.....	38

Handsets and Transmitters

Type 811 Handsets.....	32
Type 820 SOUND-BOOSTER Handsets.....	32
Type 841 Pushbutton Handsets.....	33
Roanwell Noise-Canceling Transmitters.....	33
Anti-Noise Transmitters.....	32
Transistorized Long-Loop Amplifiers.....	31
Proctor Receiver Amplifier.....	32

Plugs, Jacks, Connecting Blocks and Mounting Accessories

Portable Plugs and Jacks.....	36, 37
Connecting Blocks.....	35, 36
Face Plates.....	38
Mounting Accessories for Portable Jacks.....	37
Non-Shorting Plastic Covers.....	36
Plastic Mounting Backboards.....	36
Outlet Box Cover.....	38
Building Service Boxes.....	38

Dials and Touch Calling Units

	Page
Dial Assembly Units.....	28, 29
Dial Mounting Cups for Type 51 Dial Assemblies...	29
SATT Dials.....	29
Touch Calling Units.....	30
Type I Touch Calling Unit Adapter.....	30
Dial Lubricant.....	30
Dial Cards, Parts and Tools.....	30, 31
Radio Suppressor for Dials.....	31

Ringers and Auxiliary Signals

Extension Relay Ringing Units.....	39
Chimes.....	23
Type 33 Compact Ringer Boxes.....	22
Type 45 High Impedance Ringers.....	22
Type 42 High Impedance Ringers.....	22
Type 46 Miniature Straight-Line Ringers.....	23
Buzzer and Buzzer Hardware.....	24
Telephone Auxiliary Buzzer.....	24
Continuous Telephone Signaling Units.....	25
Loud-Ringing Bells.....	24
Busy Visual Signal.....	25
Ringing Visual Signals.....	25
Ringer Isolation Device.....	23
Cook Ringer Isolator.....	23
Edwards Bells and Buzzers.....	24
Auxiliary Signal Transformers.....	25
Pushbuttons.....	25, 26
Wheelock Signals, Back Boxes and Relays.....	26, 27
Benjamin Howlers.....	26
Benjamin Telecode Relays.....	28

Headsets

Operators' Headsets.....	33
Operators' Jack Box Kit.....	34
Pacific Plantronics Lightweight Miniature Headsets ..	34
Audiosears Operators Headset.....	34

Special Services

Ring Count and Transfer Service.....	39
Secretarial Answering Units.....	18
Subscriber Transfer Service.....	39
Type 985B Electronic Secretary® Set.....	40, 41
Type 986A Recording Telephone.....	43
Model AO-3 Electronic Secretary® Set.....	41
Transistorized Recorder Controllers and Tone Generators.....	42
Accessories for Electronic Secretary® Sets.....	42
Party Line Adapters.....	42
Replacement Tapes.....	42
Yale Automatic Telephone Dialer.....	44
Enterphone™ System.....	44-47
Recorder Connectors, Couplers.....	47, 48
Type 20445 Alarm Couplers.....	48

GTE AUTOMATIC ELECTRIC

NORTHLAKE, ILLINOIS 60164 / TELEPHONE (312) 562-7100

Printed In U.S.A. • Catalog 11,000 • 15M

Types 80 and 90-M Telephones

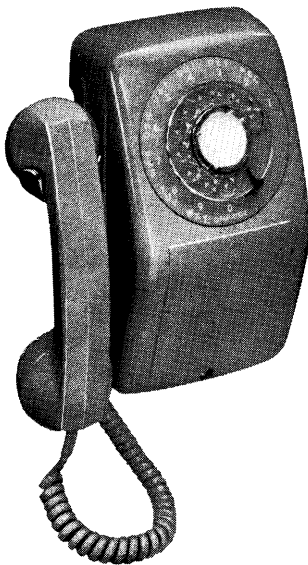
Types 80 and 90-M telephones are superior in performance, service, maintenance and design. They are the standards of the Industry.



Type 80—Rotary Dial



Type 80—Touch Calling



**Type 90-M—
Angled Dial for
Easy Dialing**

Type 80 Desk Telephones

Installation is quick and easy. Service men need only a screwdriver and a few minutes. Components are grouped together in screw-mounted units.

TECHNICAL LITERATURE AVAILABLE ON REQUEST:

473-215-200, Installation and Field Maintenance

Type 80 with Touch Calling

Three basic housing colors and 12 interchangeable face plates create 36 color combinations. This saves inventory space and enables you to provide a full line of color telephones economically.

The tough, abrasion-resistant lucite face plate is smooth on top for easy cleaning, textured underneath for rich appearance, and requires no tools to change. NOTE: Type 80 Touch Calling telephones are shipped without face plates or number cards—order separately. Plastic number card covers are included with telephone.

TECHNICAL LITERATURE AVAILABLE ON REQUEST:

473-215-101, Description

473-215-201, Installation and Maintenance

Type 90-M Wall Telephones

Handset can't be dragged, brushed or knocked off the hook. The cradle wraps around the handset and holds it securely. This helps keep off-hook trouble calls down. No problem with broken hooks—the tough, chrome-plated cradle fits securely to a sturdy shaft which turns in a long bearing-bracket.

Side mounting handset fits snugly against wall. When subscriber temporarily leaves phone, handset can be hung safely behind cradle, not left to dangle.

Installation and maintenance are easy. All components are mounted on the base within easy reach. Loosen just one screw, the cover lifts off and you fasten Type 90-M to the wall—handset stays in the cradle. The ringer is removed from the front without taking phone off the wall.

TECHNICAL LITERATURE AVAILABLE ON REQUEST:

473-300-200, Installation and Maintenance

Accessories

S-430926	Adhesive Dial Number Card, gray (strip of 4, 125 strips per pkg.).....pkg.	\$1.75
S-434002	Adhesive Dial Number Card Cover. Acetate overlay disc protects dial number card (strip of 4, 125 strips per pkg.)...pkg.	1.50
D-530400-A	Number Card for Touch Calling (strip of 45).....strip	.25
D-530388-AR	Plastic Cover for Touch Calling Number Card (25 per pkg.) .pkg.	2.95

How to Order and Price Types 80 and 90-M Telephones

To quickly find the complete ordering number and total price for any Type 80 or 90-M phone, follow the five steps outlined on this page. Add each suffix to the ordering number.

Example Steps	Equipment	Ordering No.	Price
1	Type 80 Phone.....	NC-802	\$9.90
2	Beige.....	10	No Charge
3	Without Message Waiting Lamp.....	0	No Charge
4	Alphabetical Rotary Dial.....	C	\$4.50
5	Straight-Line Ringer with adjustment wheel.....	SA	\$3.50

Complete Ordering Number: **NC-802100-CSA**

Total Price: **\$17.90**

How to Order and Price Types 80 and 90-M Telephones—Cont'd.

†Includes Number Card Holder for Touch Calling Version.

Steps	Description	Ordering No.	Price Each
1 Phone.†	Type 80 Telephone.....	NC-802	\$9.90
	Type 90-M Wall Telephone.....	NC-902	9.90
	Type 80 Telephone with Subscriber Hooklatch for multi-party lines (available only with rotary dial version).....	NC-812	11.00*
	Type 90-M Wall Telephone with Subscriber Hooklatch for multi-party lines.....	NC-912	11.00*
2 Color.	Black—both rotary dial and Touch Calling.....	00	No Charge
	Beige—both rotary dial and Touch Calling.....	10	No Charge
	Dk. Green—rotary dial only.....	12	No Charge
	Ivory—rotary dial only.....	13	No Charge
	Turquoise (Lt. Green)—rotary dial only.....	15	No Charge
	Yellow—Type 90-M only.....	17	No Charge
	Pink—rotary dial only.....	18	No Charge
	White—both rotary dial and Touch Calling.....	19	No Charge
3 Message Waiting Lamp.	Lt. Blue—rotary dial Type 80 only.....	30	No Charge
	Without message waiting.....	0	No Charge
4 Rotary Dial or Touch Calling.	With message waiting—Type 80 only.....	1	\$2.00*
	Rotary Dial: 1-0 Number Plate.....	A	\$4.50
	No dial (blank).....	B	No Charge
	ABC Number Plate.....	C	4.50
	SATT A Party Identification.....	D	6.50*
	SATT B Party Identification.....	E	6.50*
5 Ringer.	Touch Calling Unit (12-button) ABC—Type 80 only.....	J	19.95
	Straight-line, with adjustment wheel.....	SA	\$3.50
	Without Ringer.....	XX	No Charge

NOTE: Frequency ringers, and ringer with vacuum tube for superimposed ringing and adjustment wheel, are available for use with Types 80 and 90-M telephones. Order Type 45 High Impedance Ringers, on page M-22.

Face Plates For Type 80 With Touch Calling—Order Separately

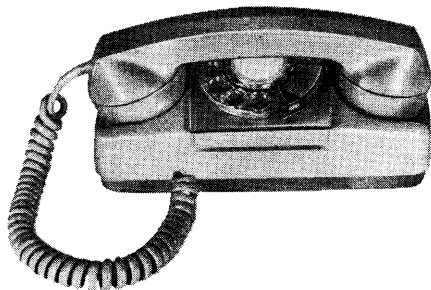
Steps	Description	Ordering No.	Price Each
1 Face Plates.	For 12-buttons.....	D-780991	\$.35
2 Color.	Beige.....	B	No Charge
	Med. Gray.....	C	No Charge
	Med. Green.....	D	No Charge
	Vermilion (Bright Red).....	F	No Charge
	Yellow.....	J	No Charge
	Med. Blue.....	K	No Charge
	Flamingo (Pink-Orange).....	L	No Charge
	White.....	M	No Charge
	Gold.....	P	No Charge
	Brown.....	R	No Charge
	Silver.....	S	No Charge
	Clear.....	X	No Charge

Conversion Kits
For Types 80 and 90-M Telephones
HH-880019-1 Grounding Pushbuttoneach **\$1.45**
H-884686-1 Message-Waiting Lamp.....each **\$1.00**

Prices are subject to change without notice.

Starlite® Phones and Wall Compact Phones**Rotary Dial or Touch Calling, Miniature Internal Ringer**

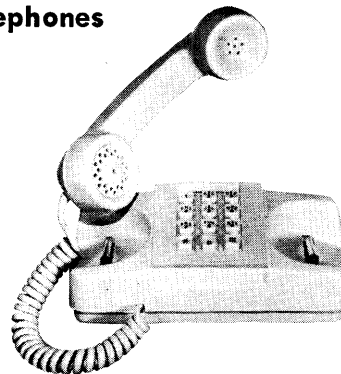
These phones together form the Independent telephone industry's most complete line of compact telephones. They are lightweight, yet rugged enough to withstand heavy use in offices, dormitories, hotels/motels and elsewhere. Slim lines and many attractive colors make these phones perfect for any setting.

Type 182-A Starlite® Desk Telephones

Lightweight and Compact. Less than half the size of a regular phone—an ideal phone where space is limited. Dimensions: 4½ in. wide, 8½ in. high, 5 in. deep. With a message-waiting lamp the phone is ideal for hotels/motels. A recessed area below the dial plate provides a convenient pick-up grip. The perfect portable telephone.

Optional Electroluminescent Dial Light. A soft green light allows dialing without room lighting when used in bedrooms, etc. The light glows for years longer than incandescent lamps. There is no filament to burn out, no heat given off; costs only a few cents a year to operate. A convenient switch turns the dial light from off to dim to bright. A single line cord serves both the telephone and dial light, for easier installation.

Single Line Cord. The location of the dial light phone is not restricted to a nearby a.c. outlet. The single line cord provides more choice in location. A small resistor plug can be located at any a.c. outlet and wired with inside telephone wire to the telephone terminal block. U.L. approved plug. Current output does not exceed five milliamps; assures safety. The



phone can also be equipped with a standard four-prong plug for portability.

Internal Straight-Line Ringer. A miniature straight-line ringer mounts within the housing producing a pleasant sound. The phone can be used as a main station or a ringing extension without a ringing unit on the wall. In some applications the use of a Type 33 ringer box and frequency ringer may be desirable.

Standardized Telephone Components. Interchangeability of standard components means reduced inventories and easier maintenance.

Skid-Resistant Base. Rubberized cork pads on the base protect surfaces from marring; produce friction to resist movement when dialing. A soft-pull retractile handset cord extends full length with less tension—phone remains stationary.

TECHNICAL LITERATURE AVAILABLE ON REQUEST:

473-220-201, Installation and Field Maintenance—Rotary Dial;

473-220-202, Installation and Field Maintenance—Touch Calling.

Type 192-A Wall Compact Telephones

The Wall Compact phone combines the features of the Starlite desk phone with the advantages of wall mounting. The result is a lightweight, compact phone, popular for use in areas with limited space. Nine attractive colors blend with many decorating schemes.

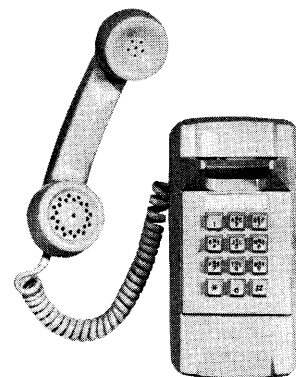
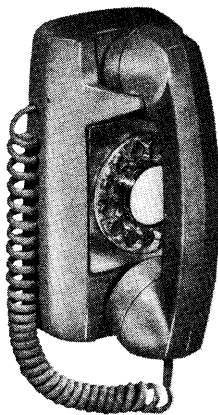
The handset holder is an integral part of the housing. It is designed to be used as a handset rest when the user momentarily leaves the phone. When leaving the phone, place the handset across the holder—handset remains out of the way and does not dangle against wall. A soft-pull coiled handset cord extends full length with less tension, retracts close to the phone to remain out of the way—children can't reach it.

Installation and maintenance are easy with standardized components. Dimensions: 4½ in. wide, 8½ in. high, 5 in. deep.

TECHNICAL LITERATURE AVAILABLE ON REQUEST:

473-310-201, Installation and Field Maintenance—Rotary Dial;

473-310-202, Installation and Field Maintenance—Touch Calling.

**Accessories**

S-430926	Adhesive Dial Number Card, gray (strip of 4, 125 strips per pkg.).....pkg.	\$1.75
S-434002	Adhesive Dial Number Card Cover. Acetate overlay disc protects dial number card (strip of 4, 125 strips per pkg.).....pkg.	1.50
D-530400-A	Number Card for Touch Calling (strip of 45).....strip	.25

How to Order and Price Types 182-A and 192-A Telephones

Steps	Description	Ordering No.	Price Each
1 Phone.	Type 182-A Starlite® Desk Telephone with coiled cord	NC-820	\$15.00
	Type 192-A Wall Compact Telephone with coiled cord	NC-920	13.55
2 Color.	Black	00	No Charge
	Beige	10	No Charge
	Avocado	12	No Charge
	Ivory	13	No Charge
	Turquoise (Lt. Green)	15	No Charge
	Yellow (Type 192-A Wall Compact only)	17	No Charge
	Pink	18	No Charge
	White	19	No Charge
3 Message Waiting Lamp.	Lt. Blue	30	No Charge
	Without message-waiting lamp (standard)	1	No Charge
	Without message-waiting lamp (use when ordering lighted dial for Type 192-A Wall Compact only)	2	No Charge*
	With message-waiting lamp (for hotel/motel)	3	\$2.00
4 Rotary Dial or Touch Calling.	With message-waiting lamp (use when ordering lighted dial for Type 192-A Wall Compact only)	4	2.00*
	Rotary Dial (non-lighted):		
	1-0 Number Plate	A	\$4.50*
	No Dial (blank)	B	No Charge*
	ABC Number Plate	C	4.50
	SATT A Party Identification	D	6.50*
	SATT B Party Identification	E	6.50*
	Rotary Dial (lighted):		
	1-0 Number Plate	K	7.10*
	ABC Number Plate	M	7.10
5 Ringer.	SATT A Party Identification	N	9.10*
	SATT B Party Identification	P	9.10*
	Touch Calling Unit (12-button) ABC (includes D-780988 Adapter Plate)	J	19.95
	Without ringer	XX	No Charge
	Type 46 Straight-Line Miniature Ringer (16.6 to 33.3 cps.) (NOTE: Type 182-A with ringer and non-lighted rotary dial is not stocked.)	SL	\$3.50

NOTE: For faster delivery, order telephones and ringers separately. Order ringer D-56626-ASLR with capacitor and mounting screws.

Replacement Housings
For Types 182-A, 192-A and Older Model 182 Compact Telephones

Housings accommodate the new Touch Calling unit, as well as the older rotary dial and Touch Calling units.

D-490211 Replacement Housing for desk phones . . each **\$.75**

D-490212 Replacement Housing for wall phones . . each **.75**

NOTE: Add the appropriate suffix for color desired (no charge).

Add "R" to color suffix (see below) for kit to mount older Touch Calling units to new Type 182 housing. Kit includes housing, mounting hardware and adapter plate. Not available in avocado. Add 35¢ to price of D-490211 housing alone, and 65¢ to price of D-490212 housing.

Message Waiting Lamp Conversion Kits
For Types 182-A, 192-A and Older Model 182 Compact Telephones

H-884686-1 each **\$1.00**

Grounding Pushbutton Conversion Kits

HH-880019-1 each **\$1.45**

Adapter Face Plates
For Touch Calling Compact Phones

Plate fits on front of telephone housing around pushbuttons of the Touch Calling Unit. Colors match housing of phone.

D-780988 For 12-buttons each **\$.25***

NOTE: Add the appropriate suffix for color desired (no charge).

Color Suffixes

A Black
B Beige
E Ivory

G Turquoise
(Lt. Green)
J Yellow (not available with D-490211 Housing or Kit)

L Pink
K Lt. Blue
M White
T Avocado

Backboards
For Type 192-A Wall Compact Telephones

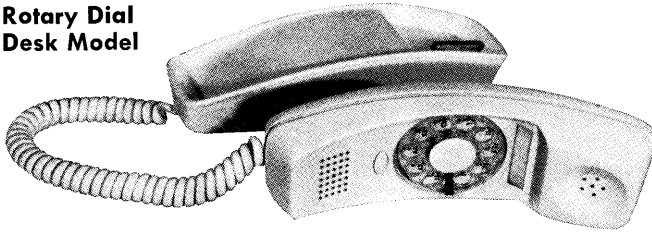
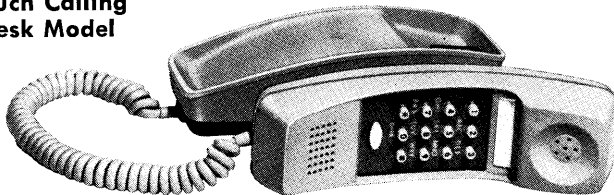
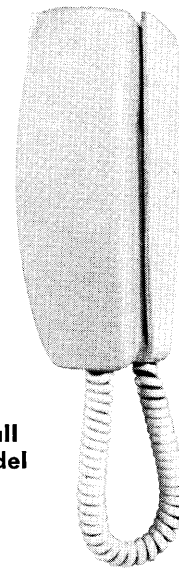
Used when replacing larger wall phone with the 192-A so large wall area previously covered won't show. Molded styrene in colors to match 192-A. 5 $\frac{5}{8}$ " x 10" x $\frac{3}{8}$ ". Several mounting holes permit backboard to be secured to wall with fasteners appropriate to type of surface. Threaded inserts for mounting 192-A are molded into backboard. Mounting hardware not included each **\$1.09**

S-550405 Beige **S-550409** Ivory **S-550412** White
S-550406 Black **S-550410** Pink **S-550413** Yellow
S-550408 Avocado **S-550411** Turquoise

Prices are subject to change without notice.

M-5

Styleline® Telephones

Rotary Dial
Desk ModelTouch Calling
Desk ModelWall
Model**The Ultimate in Convenience:**

In Styleline telephones, the dial is in the handset and the ringer and hookswitch are in the base. Just below the dial there is a recall button. It enables the user to break the connection and re-dial without reaching for the base to operate the hookswitch. Lightweight, contoured handset rests comfortably in the hand. Desk model dimensions are: length, 8 $\frac{5}{8}$ "; height, 3 $\frac{5}{8}$ "; width, 2 $\frac{7}{8}$ ". Wall model dimensions are the same except for 3 $\frac{1}{8}$ " width.

Superior Dependability:

The Styleline features a rigid transmission network printed wiring card which is far less susceptible to damage than the flexible card used in similar instruments. Handset and base are molded of tough plastic to withstand hard usage.

Easy Dialing:

Dialing with the miniature dial is as easy as with a standard AE Type 51 or 52 dial. The transmission network is shunted during dialing. Provision is made for a 2650-ohm center tap ground for ANI.

Touch Calling:

To insure legibility, only numerals and special service signs * and # are engraved on the Touch Calling buttons. Alphabetical designations and OPER are printed on a gray paper mat inserted behind the faceplate during assembly.

Full Range of Colors:

Nine colors, including black, enable subscriber to harmonize his telephone with his decor.

Simple Installation and Maintenance:

For simple installation and maintenance, the Styleline handset cord is plug-ended at both ends, and the line cord is plug-ended at the base end.

Optional Lighted Dial:

On the lighted version the dial is illuminated when the phone is off-hook. A soft green electroluminescent lamp allows dialing in darkness and glows years longer than incandescent lamps. Current-limiting resistor plug activates dial lamp. Handset with lighted dial may be used only with lighted version of desk base.

CORDS The following cords are available for use with the Styleline Telephone only. Order cords by number to the left of color.

Handset Cords, 5 $\frac{1}{2}$ Ft. Length.. \$1.96	S-433311 Ebony	S-433825 Pink
S-433290 Avocado	S-433312 Green	S-433826 White
S-433291 Beige	S-433313 Ivory	S-433827 Yellow
S-433292 Blue	S-433314 Pink	
S-433293 Ebony	S-433315 White	Line Cords, 15 Ft. Length..... \$1.84
S-433294 Green	S-433316 Yellow	S-433828 Avocado
S-433295 Ivory		S-433829 Beige
S-433296 Pink	Line Cords, 6 Ft. Length..... \$.91	S-433830 Blue
S-433297 White	S-433810 Avocado	S-433831 Ebony
S-433298 Yellow	S-433811 Beige	S-433832 Green
Handset Cords, 9 Ft. Length.. \$2.84	S-433812 Blue	S-433833 Ivory
S-433299 Avocado	S-433813 Ebony	S-433834 Pink
S-433300 Beige	S-433814 Green	S-433835 White
S-433301 Blue	S-433815 Ivory	S-433836 Yellow
S-433302 Ebony	S-433816 Pink	
S-433303 Green	S-433817 White	Line Cords, 25 Ft. Length..... \$2.76
S-433304 Ivory	S-433818 Yellow	S-433837 Avocado
S-433305 Pink	Line Cords, 10 Ft. Length..... \$1.38	S-433838 Beige
S-433306 White	S-433819 Avocado	S-433839 Blue
S-433307 Yellow	S-433820 Beige	S-433840 Ebony
Handset Cords, 15 Ft. Length.. \$4.14	S-433821 Blue	S-433841 Green
S-433308 Avocado	S-433822 Ebony	S-433842 Ivory
S-433309 Beige	S-433823 Green	S-433843 Pink
S-433310 Blue	S-433824 Ivory	S-433844 White
		S-433845 Yellow

How to Order and Price Styleline® Telephones
HANDSET

Steps	Description	Ordering No.	Price Each
1 Handset.	Handset Assembly, with 5½ Ft. Cord.....	NC-980	
	With Rotary Dial, non-lighted.....		\$22.25
	With Rotary Dial, lighted (For use only with lighted version of desk base)		24.85
	With Touch Calling Unit, non-lighted.....		30.85
2 Color.	Ebony.....	00	No Charge
	Beige.....	10	No Charge
	Avocado.....	12	No Charge
	Ivory.....	13	No Charge
	Green.....	15	No Charge
	Yellow.....	17	No Charge
	Pink.....	18	No Charge
	White.....	19	No Charge
	Blue.....	30	No Charge
3 Special Service.	None Offered. (NOTE: This suffix must be included in complete ordering no.)	0	No Charge
4 Rotary Dial or Touch Calling.	Rotary Dial:	C M J	Price Included in Step 1
	Non-Lighted ABC Number Plate.....		
	Lighted ABC Number Plate (For use only with lighted version of desk base).....		
	Touch Calling (12-button) ABC.....		
5	(NOTE: This suffix must be included in complete ordering no.)	XX	No Charge

BASE

Steps	Description	Ordering No.	Price Each
1 Base.	Desk Base Assembly, with 6-ft. Line Cord.....	NC-981	\$9.10
	Wall Base Assembly.....	NC-982	7.40
2 Color.	Ebony.....	00	No Charge
	Beige.....	10	No Charge
	Avocado.....	12	No Charge
	Ivory.....	13	No Charge
	Green.....	15	No Charge
	Yellow.....	17	No Charge
	Pink.....	18	No Charge
	White.....	19	No Charge
	Blue.....	30	No Charge
3 Special Service.	None Offered. (NOTE: This suffix must be included in complete ordering no.).....	0	No Charge
4 Lighted or Non-lighted	Desk Base, for use with lighted rotary dial handsets.....	X	No Charge
	Desk or Wall Base, for use with non-lighted rotary dial or Touch Calling handsets...	N	No Charge
5 Ringer.	Straight Line.....	SL	\$3.50
	Without Ringer.....	XX	No Charge

NOTE: For faster delivery, order telephones and ringers separately.

D-56626-ASLR Type 46, Miniature Straight Line Ringer..... **\$3.50**

TECHNICAL LITERATURE AVAILABLE ON REQUEST:

997-152-800, Shop Procedure

473-422-200, Type 980 Styleline Rotary Dial Handset—Description, Installation and Maintenance

473-422-201, Type 980 Styleline Touch Calling Handset—Description, Installation and Maintenance

Accessories

D-530400-A Number Card (strip of 45).....strip **\$.25**
D-530388-AR Plastic Cover for Number Card
 (25 per pkg.).....pkg. **2.95**

Conversion Kits

HH-880019-1 Grounding Pushbuttoneach **\$1.45**
H-884686-1 Message Waiting Lampeach **\$1.00**

Prices are subject to change without notice.

M-7

Type 880-B Speakerphones

The Convenience of Hands-Free Conversation



Provides the convenience of hands-free conversation—makes it easier to work while speaking on the phone. Ideal for conference calls. Volume control wheel permits speaker volume to be increased so others in the room can hear. Group can participate in the conversation. There's no confusion, no repetition, no microphone to pass around.

Type 880-B phone looks like a Speakerphone—not like a desk phone with an attachment. Gain switching eliminates feedback, singing and other bothersome distortions. The on-off rocker switch, speaker volume control and microphone are all built in. The Type 880-B phone also has a pleasing tone signal which is heard through the speaker.

Choice of six housing colors; brushed aluminum face plate.

To place a call, press the on-off switch to on position—then dial the number. A signal light beneath on position is a reminder to turn unit off when the call is completed.

To answer a call, switch Speakerphone on and talk. The built-in microphone picks up a normal voice from across the room and from any direction. There is no need to raise the voice or shout. The microphone is muted when speaker is operating—can't pick up sounds from speaker. Speaker circuit is reduced when microphone is in use. To keep conversation private, simply lift handset and turn off loudspeaker.

Installation takes only minutes because the Type 880-B Speakerphone is installed exactly like a regular phone.

NOTE: When total loop resistance exceeds 750 ohms, or when low voltage switchboards such as WE 555 or Leich L55 are used, an external power supply L-7038-AO is required. If used with a 10A2 or 10A1 key system, an auxiliary relay L-7039-AO must be used in conjunction with the external power supply.

Steps	Description	Ordering No.	Price Each
1 Phone.	Type 880-B Speakerphone with electronic tone signal*	NC-880	\$155.50
2 Color.	Black	00	No Charge
	Beige	10	No Charge
	Med. Gray	11	No Charge
	Dk. Green	12	No Charge
	Turquoise (Lt. Green)	15	No Charge
	White	19	No Charge
3 Special Service.	None offered. NOTE: This suffix must be included in complete Ordering No.	0	No Charge
4 Dial or Touch Calling.	Rotary Dial:		
	1-0 Number Plate	A	\$ 4.50
	ABC Number Plate	C	4.50
	SATT A Party Identification	S	6.50*
	SATT B Party Identification	D	6.50*
	Touch Calling Unit (12-button) ABC	J	19.95
5 Signal.	Electronic Tone Signal*	SL	No Charge

*If harmonic ringer is desired in place of tone signal, Type 33 compact ringer box must be provided. To order ringer and ringer box, see Page M-36.

External Power Supply

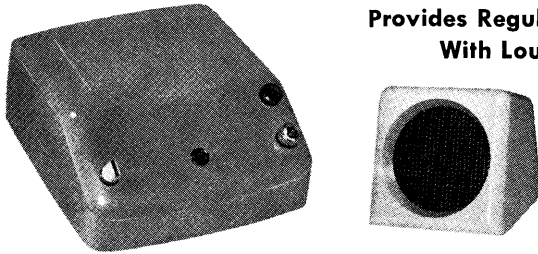
L-7038-AO Type 88 Power Supply. For use with low voltage switchboards such as WE 555, Leich L55.....each **\$12.59***

L-7039-AO Auxiliary Relay. Used in conjunction with Type 88 Power Supply...each **13.75***

TECHNICAL LITERATURE AVAILABLE ON REQUEST: 473-410-200, Installation and Maintenance.

Type 88-AT Conversion Sets

**Provides Regular and Multi-Line Phones
With Loudspeaking Services**



The transistorized Conversion Set converts regular and multi-line telephones to provide loudspeaking service. It operates similarly to the Type 880-B Speakerphone to provide convenient hands-free talking. An exclusion feature short circuits the microphone to exclude the called party from the conversation when desirable. For privacy use the handset in the normal manner.

A volume control adjusts the output of the speaker. A flashing lamp indicates when a line is in use. When used with Call Commander® phones the Conversion Set adapts to Key System operation.

The unit is furnished in six colors that completely penetrate the plastic housing and will not fade. Dimensions: Adapter unit, 5⁵/₈ in. long, 5³/₈ in. wide, 2 in. high. Speaker, 3⁷/₁₀ in. wide, 3⁷/₁₀ in. high.

NOTE: Seventeen volts minimum measured at the adapter unit is required for operation. Under certain operating condi-

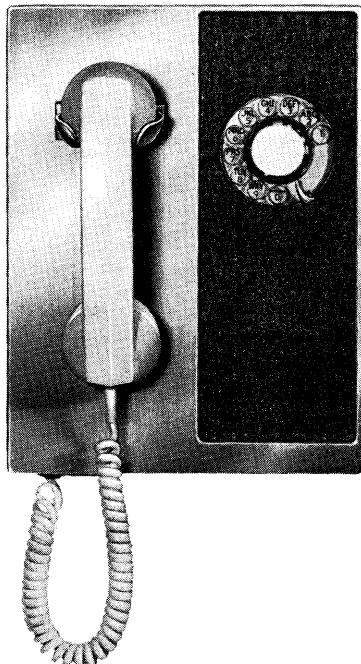
tions, normal telephone line power may not be sufficient for efficient operation. If this condition exists, it may be necessary to use a separate external power supply L-7038-AO. Power deficiency may exist when connected to WE 555 PBX, or AE L55 PBX when battery is taken over cable pairs from the central office. As a result, local supervision may not function properly and loudspeaker volume may be reduced. Supervision difficulty may occur when connected to a PABX. If used with a 10A2 or 10A1 key system, an auxiliary relay L-7039-AO must be used in conjunction with the external power supply. (See Page M-8 for ordering information.)

CAUTION: It may be necessary to restrict the maximum loop resistance to 500 ohms for satisfactory dialing and ring cut-off operation. If this restriction is not possible, the separate external power supply should be used.

L-7034-AO	Black.....	each	\$135.00
L-7034-BO	Beige.....	each	135.00
L-7034-CO	Med. Gray.....	each	135.00*
L-7034-DO	Dk. Green.....	each	135.00
L-7034-GO	Turquoise (Lt. Green).....	each	135.00*
L-7034-MO	White.....	each	135.00

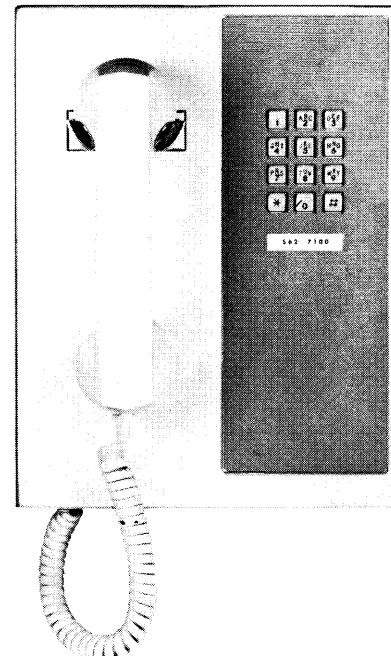
TECHNICAL LITERATURE AVAILABLE ON REQUEST:
473-402-200, Installation and Field Maintenance.

Type 95 Panel Telephones



The Panel telephone is a prestige instrument that commands a premium rate. This telephone promotes the sale of extension phones, and should be installed during new construction when wiring for telephone service costs less. Attractive and practical, the telephone fits flush against the wall into a steel mounting box recessed 2 in. in the wall. It saves space, gives a modern built-in look to any area in the home or business; permits back-to-back mounting in apartment buildings.

Maintenance costs are reduced because of standard GTE



Automatic Electric telephone components. Prime locations: restaurants, dormitories, hotels/motels, businesses, stores, hospitals, institutions, civic buildings, apartments, reception rooms, country clubs.

Sleek brushed aluminum panel in silvertone or browntone; 9¹/₄ in. x 12¹/₂ in. Panel extends 1/2-in. from wall. White or ivory handset and retractile cord.

NOTE: See following page for further description and ordering information.

Type 95 Panel Telephones—Continued

Color Inserts. Six interchangeable colored vinyl inserts are included with the purchase of the Panel telephone: beige, white, turquoise (blue), tangerine (orange), mocha (brown) and yellow. Adhesive backing allows quick color changes. No need to change the entire instrument.

Installation. The wall-mounting box attaches easily to studding and should be installed during new construction for greatest economy and convenience. A cover plate protects the interior of the box until a telephone is installed. A brushed aluminum silvertone or browntone blank panel is available if a telephone is not required. Mounting box dimensions: 8 $\frac{1}{2}$ in. x 10 $\frac{9}{16}$ in. x 1 $\frac{5}{8}$ in.

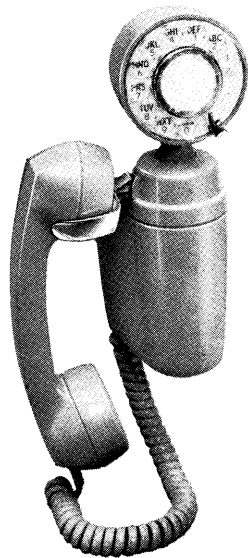
TECHNICAL LITERATURE AVAILABLE ON REQUEST: 473-404-200, Installation and Field Maintenance.

How to Order and Price Type 95 Telephones

Steps	Description	Ordering No.	Price Each
1 Phone.	Type 95 Telephone with coiled cord.....	NC-950	\$26.60
2 Color.	Silvertone with white handset and cord..... Browntone with ivory handset and cord.....	19 13	No Charge No Charge
3 Special Service.	None offered. NOTE: This suffix must be included in complete Ordering No.....	0	No Charge
4 Dial or Touch Calling.	Rotary Dial: 1-0 Number Plate (Silvertone color is not stocked)..... Alphabetical Number Plate..... SATT A Party Identification..... SATT B Party Identification..... Touch Calling Unit (12-button) ABC.....	A C D E J	\$4.50 4.50 6.50* 6.50* 19.95
5 Ringer.	Straight-line..... 16.6-cycle Harmonic..... 20-cycle Harmonic or Decimonic..... 25-cycle Harmonic..... 30-cycle Harmonic or Decimonic..... 33.3-cycle Harmonic..... 40-cycle Decimonic..... 42-cycle Harmonic..... 50-cycle Harmonic only..... 50-cycle Decimonic only..... 54-cycle Harmonic..... 60-cycle Decimonic..... 66-cycle Harmonic..... 66.6-cycle Harmonic..... Without Ringer.....	SA 16 20 25 30 33 40 42 50 51 54 60 66 67 XX	\$3.50* 4.10* 4.10* 4.10* 4.10* 4.10* 4.10* 4.10* 4.10* 4.10* 4.10* 4.10* 4.10* 4.10* No Charge

Accessories

D-48358-A	Wall Mounting Box for Panel telephone. Complete with mounting hardware, protective cover, and mounting instructions..... each	\$3.00*
550728	Mounting Brackets for mounting Panel telephone wall housing during pre-wiring. $\frac{5}{8}$ -in. steel strap formed to fit between studs. $\frac{5}{8}$ -in. holes spaced every $\frac{7}{8}$ -in. pair	1.13*
550729	Mounting Brackets (two fixed and two adjustable) for mounting Panel telephone in existing walls. Eliminates need to frame wall opening. Used with Wall Mounting Box. per set	2.50*
D-780955-A	Decorative Silvertone Blank Panel and four screws to cover mounting box when subscriber doesn't require Panel telephone..... each	2.00*
D-780943-A	Six Color Inserts with hole for rotary dial: Beige, White, Turquoise (blue), Tangerine (orange), Mocha (brown), Yellow. per set	1.75*
D-781048-A	Six Color Inserts with holes for 12-button Touch Calling Unit: Beige, White, Turq. (blue), Tangerine (orange), Mocha (brown), Yellow. per set	1.75*
S-430926	Adhesive Dial Number Card, gray (strip of 4, 125 strips per pkg.)... pkg.	1.75
S-434002	Adhesive Dial Number Card Cover. Acetate overlay disc protects dial number card (strip of 4, 125 strips per pkg.)..... pkg.	1.50
D-530400-A	Number Card for Touch Calling (strip of 45)..... strip	.25
D-530388-AR	Plastic Cover for Touch Calling Number Card (25 per pkg.)..... pkg.	2.95



Type 183 Space-Maker® Telephones

For Desk, Wall, or Other Flat, Vertical Mounting

Self-Compensating Type transmission unit. Electrically equivalent to Type 80 telephone.

Adjustable Dial and Handset. Dial tilts back to 45° and rotates 360°. Locks in place at any point. Hookswitch swings in a 180° arc; locks in seven positions. Installer can set both dial and handset in the most convenient position.

Mounts on Out-of-the-Way Vertical Surfaces—wall, column, side of desk or workbench. Does not occupy table or counter space, but is always within easy reach.

As an Extension. Type 183 phone needs only two wires to its associated main-line instrument. May be used in conjunction with Type 33 compact ringer box as a complete subscriber's station. For ringer box, see Page M-22.

Steps	Description	Ordering No.	Price Each
1 Phone.	Type 183 Space-Maker Telephone with coiled cord....	NB-830	\$18.70*
2 Dial.	1-0 Number Plate.....	A	\$4.50
	No dial (blank).....	B	No Charge
	Alphabetical Number Plate.....	C	4.50
	SATT A Party Identification.....	S	6.50
	SATT B Party Identification.....	D	6.50
3 Color.	Black.....	A	No Charge
	Beige.....	B	No Charge
	Dk. Green.....	D	No Charge
	Ivory.....	E	No Charge
	Turquoise (Lt. Green).....	G	No Charge
	Yellow.....	J	No Charge
	Pink.....	L	No Charge
	White.....	M	No Charge

NOTE: For dial number cards, see page M-31.

TECHNICAL LITERATURE AVAILABLE ON REQUEST: 473-301-200, Installation and Field Maintenance.



Type 890 Telephone

Data Retrieval Subset

The Type 890 is a special computer connected telephone with audio response capabilities.

Access to a computer is established using the rotary dial. The Touch Calling unit serves as a data input device to add new data, or to retrieve previously recorded information. The asterisk and number mark buttons are for special coding arrangements. The audio response of stored data is heard through the handset. NOTE: For data retrieval, a W. E. Co. 403A data receiver, or equivalent, is required at the receiving end.

The Type 890 may be used as a standard telephone to place and receive calls. A Type 46 SL ringer responds to 16-33 cps ringing current.

Choose from six contemporary colors to blend with office decor. Dimensions: 5-in. high, 9¼-in. wide, 7½-in. deep. Printed wiring card, self-compensating transmission unit.

TECHNICAL LITERATURE AVAILABLE ON REQUEST: 473-420-100, Description.

473-420-200, Installation and Field Maintenance.

Steps	Description	Ordering No.	Price Each
1 Phone.	Type 890 Telephone with coiled cord.....	NB-890	\$63.75*
2 Color.	Black.....	00	No Charge
	Beige.....	10	No Charge
	Med. Gray.....	11	No Charge
	Dk. Green.....	12	No Charge
	Turquoise (Lt. Green).....	15	No Charge
	White.....	19	No Charge
3 Rotary Dial and Touch Calling Unit.	ABC.....	C	No Charge
4 Ringer.	Straight-line (Type 46).....	SL	No Charge

NOTE: For dial number cards, see page M-31.

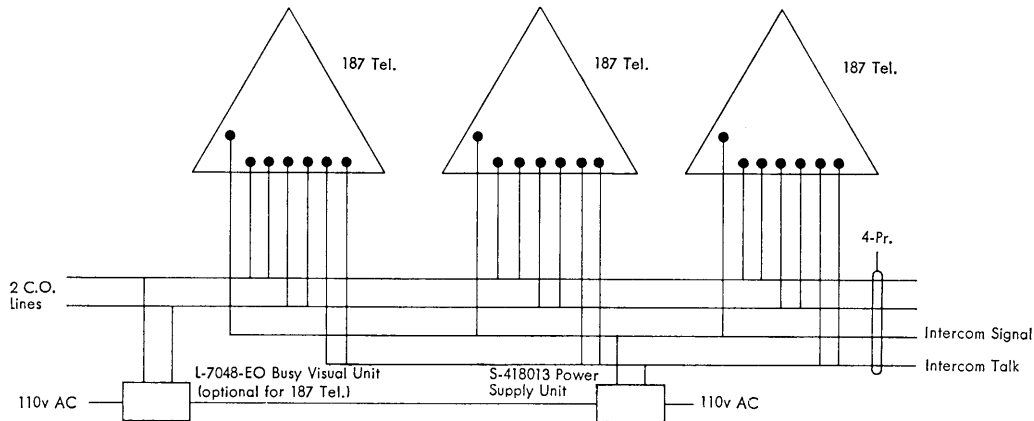
For data and voice couplers, see page M-47.

Prices are subject to change without notice.

Convenience Systems

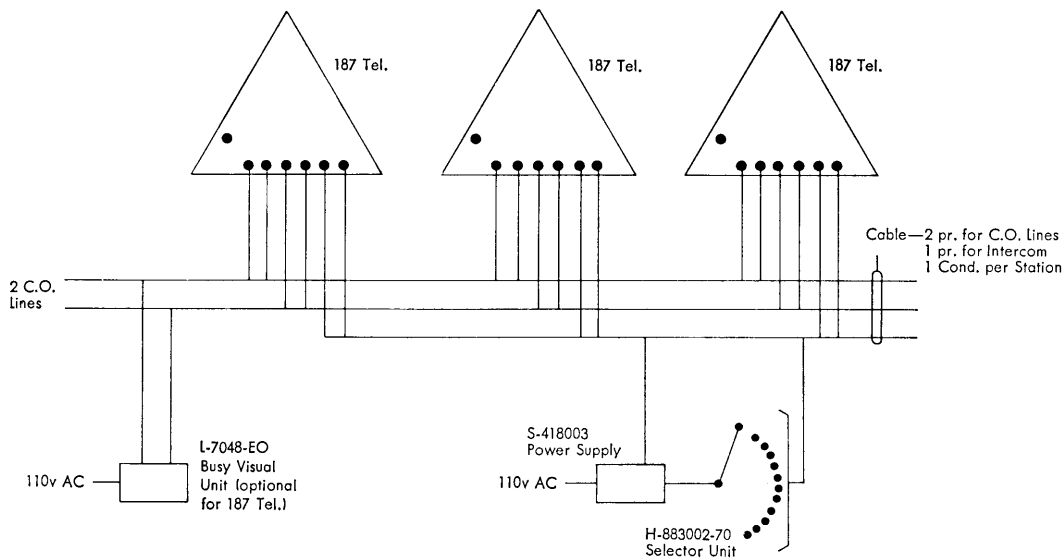
Type 187 Multi-Line telephones provide two C.O. lines and intercom service or three C.O. lines for small businesses at low cost. Installation is quick and simple by a family of plug-ended/connector-ended cables. Little or no auxiliary relay equipment is necessary to provide intercom.

2 C.O. Lines, Common Talking, Manual Signaling Intercom



S-418013	Power supply unit	each	\$31.50
L-7048-EO	Busy visual control unit (for Type 187 phone)	each	5.95
S-410963	Busy visual control unit (for Type 87-A phone)	each	57.50
FD-1068-AB	External buzzer per station (for Type 87A phone)	each	4.25
FD-1068-AF	Internal buzzer per station (for Type 187 phone)	each	1.40

2 C.O. Lines, Common Talking, Dial Signaling Intercom—Rotary Dial Only



H-883002-70	Dial selector unit	each	\$64.20
H-884900-1	Mounting bracket for dial selector unit	each	4.80
S-418003	Power supply (FD-1040-CP)	each	89.96
L-7048-EO	Busy visual control unit for (Type 187 phone)	each	5.95
S-410963	Busy visual control unit (for Type 87-A phone)	each	57.50
FD-1068-AB	External buzzer per station (for Type 87A phone)	each	4.25
FD-1068-AF	Internal buzzer per station (for Type 187 phone)	each	1.40



Convenience System Telephones

Type 187 Multi-Line Telephones

Three Lines, Visual and Audible Signaling, Extension Exclusion

The Type 187 telephone requires less equipment and is less expensive than the larger 10A2 key system. The telephone is a self-contained desk or wall model that requires no auxiliary relay units, but offers the convenience of a multi-line system. For added convenience an external signal button calls a secretary or signals extension phones, and a recall button signals the operator if it is necessary to transfer a call. An optional exclusion lever disconnects extensions from the line for privacy. Both desk and wall models may be rotary dial or Touch Calling.

NOTE: All telephones include line designation strip. Number cards for Touch Calling phones must be ordered separately; the plastic number card cover is included with the telephone. With rotary dial phones, both number card and plastic cover are included as part of the dial assembly.

Line and Hold Keys. A line key and hold key are provided for each of three lines. These lines can be central office, intercom or a combination of both. The telephone may be used with several similar telephones to provide a trunk-connected intercom system or with a PABX or PBX system. Clear plas-

tic line keys light from a neon bulb on ringing current to indicate an incoming call. When an optional Busy-Visual Control Unit is used, the associated lamp glows steadily to indicate a busy line; this control unit requires a 115 volt, a.c. outlet. Hold keys are interlocked with associated line key and restore when the handset is replaced. A clear plastic slot in the face plate holds a designation strip for line identification.

Audible Signals. A common audible signal mounts in the telephone. This provides an audible signal for all three lines from 20-cycle or straight-line ringing current. Alternatively, a straight-line ringer for one line mounts in the telephone. Use a separate Type 33 ringer box for other lines. A buzzer can be mounted internally for local signaling.

Optional Exclusion Lever. A push-pull lever exclusion assembly may be wired across any one of the lines to temporarily disconnect any other telephones connected to that line. To exclude stations, pull the lever out; to reconnect the excluded stations during a call, push the lever in. To reconnect the excluded stations after completing the call, hang up the handset.

External Signal Key. A non-locking push type signal key is located at the upper right side of the face plate. It is used for signaling when several telephones use a common local intercom line. Low voltage power supply unit P-411 (see page M-14) is required to provide the necessary current for signaling and transmission on local intercom line. When a local intercom line is not used, or dial signaling is used, the key can be arranged to signal a secretary.

TECHNICAL LITERATURE AVAILABLE ON REQUEST:

473-513-100, Description.

473-513-200, Installation and Field Maintenance.

Steps	Description	Ordering No.	Price Each
1 Phone.	Type 187 Desk Telephone with 6-ft. plug-ended line cord	NC-874	\$53.65
	Type 187 Wall Telephone with 6-ft. plug-ended line cord	NC-974	53.65
2 Color.	Black	00	No Charge
	Beige	10	No Charge
	White	19	No Charge
3 Key Assembly.	Without exclusion key	0	No Charge
	With exclusion key	1	\$2.00
4 Rotary Dial or Touch Calling.	Rotary Dial. (Letter/Number designations on face plates. Order face plates separately.)	A	\$4.50
	Touch Calling Unit (12-button) ABC	J	19.95
5 Ringer.	Straight-line Ringer	SL	\$3.50
	Ringer and Buzzer	RB	4.90
	Without Ringer or Buzzer (stocked only in beige and white with rotary dial)	XX	No Charge
	Common Audible Signal	CA	14.50
	Common Audible Signal and Buzzer	CB	15.90

Face Plates—Order Separately

D-781007 For Rotary Dial, 1-0	each	\$.65
D-781006 For Rotary Dial, ABC	each	.65
D-781011 For Touch Calling Unit (12-button)	each	.65

Add Appropriate Color Suffix:

B Beige	J Yellow	P Gold
C Med. Gray	K Med. Blue	R Brown
D Med. Green	L Flamingo (Pink-Orange)	S Silver
F Vermilion (Bright Red)	M White	X Clear (with black letters/numbers)

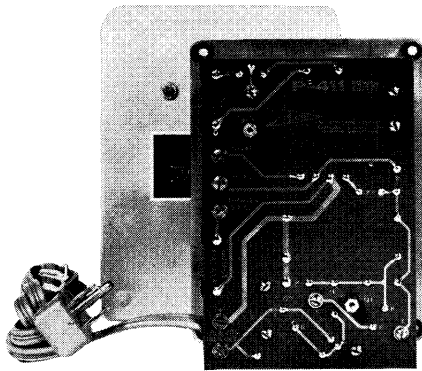
Prices are subject to change without notice.

Accessories for Type 187 Telephone

HH-880008	Adapter Plate and hardware, for mounting Types 187 and 186 telephones to outlet box or Type 63A junction box.....	each	\$1.25
S-430926	Adhesive Dial Number Card, gray (strip of 4, 125 strips per pkg.).....	pkg.	1.75
S-434002	Adhesive Dial Number Card Cover. Acetate overlay disc protects dial number card (strip of 4, 125 strips per pkg.).....	pkg.	1.50
D-530304-A	Designation Strips (strip of six).....	each	.21
D-530400-A	Number Card for Touch Calling Unit (strip of 45).....	each	.25
D-530394-AR	Plastic Cover for Touch Calling Number Card (pkg. of 25).....	pkg.	3.75

Power Supply Units

For Convenience Systems Using
Multi-Line Phones



Power for up to five intercom stations. Also provides power for busy-visual lamps in Type 187 Telephones.

Transistorized unit supplies 10 volts, a.c., for busy-visual lamps and intercom signaling; 20 volts, a.c., for signaling; 8.2 volts, d.c., for intercom. Requires 110-120 volts, a.c. 3x4x7 inches. Beige cover.

P-411each **\$33.50**

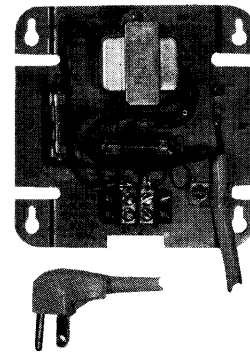
Common Audible Signal Unit

For Use with Type 187 Telephone

D-56613-Aeach **\$14.50**

Busy-Visual Control Unit

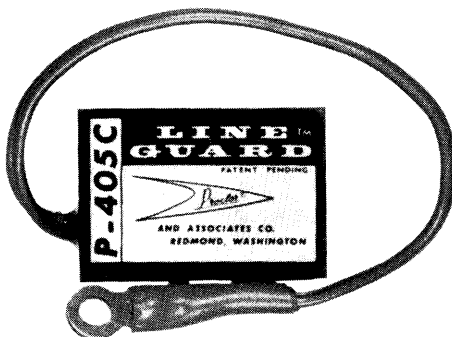
For Type 187 Telephone



Provides low voltage power to activate incandescent lamp in telephone to indicate busy line. Serves up to five stations (15 lamps). Six-foot cord with 3-prong plug. Input: 110-120 v., a.c. Output: 10 v., 60-HZ. 5¼x5¼x2¼ inches. Ivory cover.

L-7048-EOeach **\$5.95**

Line Guard^(TM) Automatic Exclusion Systems



Line Guard provides automatic line exclusion and conversation privacy on key systems, convenience system phones and extensions. There are no annoying interruptions, no dial pulsing from other parties.

Three Line Guard modules meet all requirements:

Line Exclusion Module: Provides privacy for each telephone so equipped on a line. (One module required per phone.)

Executive Module: Used in lieu of line exclusion module when one telephone is to have access to the line at all times and still have privacy.

Group Exclusion Module: Provides privacy for a group of telephones by excluding another group on the line.

The line exclusion and executive modules measure only 1"x¾"x¾". They are installed inside the telephone and there is only one connection to make. No external power, switches, wiring, or other equipment are required. The group exclusion module is installed in the terminal box.

Line Guard modules may be used with any type of telephone. They can be applied to key systems, convenience systems, PABX and PBX, data phones and residential extensions. They have no effect on transmission, pulsing or signalling.

Ordering No.	Description	Shipping Wt., Lbs.	Price Each
S-426120	P-405-IC Line Exclusion Module	¼	\$12.50
S-426121	P-406 Executive Module	¼	12.50
S-426122	P-404 Group Exclusion Module	¼	35.00



Type 85 Two-Line Telephones

Two-Line Pickup, External Signaling, Extension Exclusion

Businesses that need no more than two lines will find this phone a useful instrument. Several options are available with a combination push-turn key and exclusion pushbutton. These options provide, at lower cost, a variety of special features and services. No auxiliary relay units are required.

Type 85-A

Factory-wired for two-line pickup. Equipped with a combined push-turn key only, located below and to the left of the dial. The locking turn feature allows answering or origination of a call on either of two lines. When used with subscriber transfer service, customers can switch business calls to home phones, or any designated station. Key requires only one-quarter turn to operate. The nonlocking push feature is used to operate an external signaling device. The Type 85-A telephone is equipped with one ringer wired across line one. If a ringer is required for line two, any standard ringer box can be installed.

Optional wiring (by installer):

SINGLE-LINE RINGER CUTOFF. For use in extension telephone in a location requiring silence. Turn key to cut off ringer; line remains open for use.

SINGLE-LINE EXTENSION CUTOFF. The turn key may also be used to connect and disconnect an extension telephone.

Used as a headset control, the turn key connects a secretary's headset to the line to allow her to take notes on a telephone conversation.

SINGLE-LINE EXTENSION CUTOFF WITH RINGER TRANSFER. With this wiring option, the turn key on the parent telephone connects an extension telephone and its ringer to the parent telephone; simultaneously disconnects the ringer of the parent telephone. When the key is turned back to reconnect ringer of parent telephone, the extension is cut off.

EXTERNAL SIGNAL CONTROL. Turn key may be wired to connect an external signal, lamp, buzzer, etc., in parallel with the ringer in telephone. Restoring the key cuts off the external signal.

EXTENSION EXCLUSION WITH LINE SHORTING. Turn key may be wired to exclude all extensions and short-out all extension lines for complete privacy.

Type 85-B

Factory-wired with two pushbuttons only, located in cradle under the handset; one red and one chrome. To exclude all extensions from the line, push the chrome button. To restore the extensions, during the same conversation, press the red button. Chrome button is automatically restored when the handset is replaced, returning all extensions to the line.

NOTE: Only a parent phone can be equipped with extension exclusion.

Optional wiring is used to provide two-line pickup. The chrome button is used to gain access to line two. Replacing the handset automatically restores the circuit to line one. Extension exclusion is not possible when two-line pickup is used.

Type 85-C

Factory-wired for two-line pickup and extension exclusion. Equipped with both the push-turn key and exclusion buttons. Turn feature of the push-turn key gives access to either of two lines. The push feature enables signaling of secretary by lamp or buzzer. The exclusion key provides exclusion of all extensions on one line.

Optional wiring. The exclusion key of the Type 85-C is converted to provide a holding feature on line one. To operate the hold feature, press the chrome exclusion button. When the line is held, turn the push-turn key to gain access to line two. Calls can be placed or received on line two.

NOTE: Installation of the holding bridge is a field conversion. Requires mounting of the holding bridge inside the telephone and making electrical connections.

Type 85-D

Factory-wired for two-line pickup and hold on line one. Equipped with push-turn key and chrome and red pushbuttons. Turn feature of the push-turn key gives access to either

of two lines. The push feature enables signaling of secretary by lamp or buzzer. Pushbuttons, located near handset cradle, allow line one to be held while line two is answered.

TECHNICAL LITERATURE AVAILABLE ON REQUEST: 473-502-200, Installation and Field Maintenance.

Type 85-C Inductive Holding Bridge Kits

H-885525-1 For field conversion of Type 85-C to Type 85-D. each **\$1.75**

Grounding Pushbutton Conversion Kits

HH-880019-1. each **\$1.45**

Prices are subject to change without notice.

How to Order and Price Type 85 Telephones

Steps	Description	Ordering No.	Price Each
1 Phone.	Type 85 Telephone with coiled cord	NC-852	\$14.85
2 Color.	Black	00	No Charge
	Beige	10	No Charge
	Med. Gray	11	No Charge
	Dk. Green	12	No Charge
	Turquoise (Lt. Green)	15	No Charge
	White	19	No Charge
3 Key Assembly.	Type 85-A (push-turn key only)	1	\$3.00*
	Type 85-B (pushbuttons only)	2	2.00
	Type 85-C (push-turn key and pushbuttons)	3	5.00*
	Type 85-D (push-turn key and holding bridge)	4	4.50
4 Dial.	1-0 Number Plate	A	\$4.50*
	No dial (blank)	B	No Charge*
	Alphabetical Number Plate	C	4.50
5 Ringer.	Straight-line, with adjustment wheel	SA	\$3.50

NOTE: Frequency ringers are available for use with Type 85 telephones.

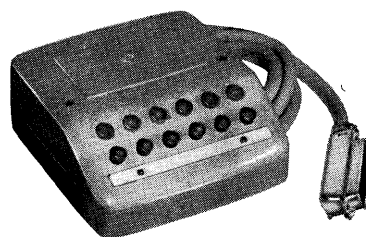
Order Type 45 High Impedance Ringers, on page M-22.

Key System Equipment

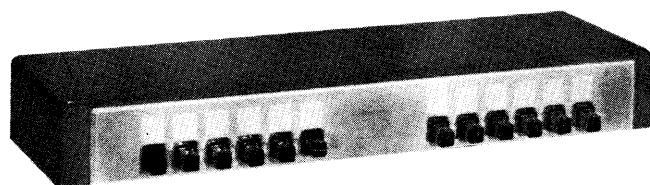
The station apparatus shown here is used exclusively with key systems. Refer to Section K, Key Systems, for complete technical data and ordering information.



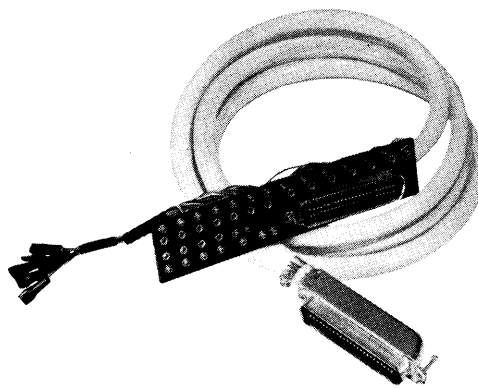
**Call Commander®
Telephone**



Key Adapter



Keyset



**Plug-Ended
Line Cord**

Type 186 Telephones

For Use with Key Systems—Five Lines; One Hold



The Type 186 telephone is available as a wall or desk model in rotary dial or Touch Calling versions. It is for use with our 10A2, 10A1 and 10A Key Systems, and is compatible with WE 1A2, 1A1 and 1A systems. The phone is equipped with lighted clear plastic pushbuttons to answer and hold up to five lines. Buttons light brightly to designate incoming calls and lines in use. A clear plastic slot in the face plate holds a designation strip for line identification.

Three non-fade color housings and 11 face plates provide customers with 33 attractive color combinations. The strong lucite face plate is quick and easy to change—just release a single spring clip.

The 50-conductor plug-ended line cord makes installation easy and permits flexibility of location. The phone can be easily moved without expensive and time-consuming rewiring. It is supplied with SL ringer, 20-volt buzzer, or a combination ringer and buzzer. A self-compensating network automatically balances for short or long loop to assure best quality transmission.

Keys designated Ps (step 3 of ordering information), can be quickly converted from pickup to pushbutton signaling for operating external signal to secretary, etc. Rotary dial or Touch Calling intercom service permits the user to contact any one of the other phones in the subscriber company by pressing the intercom button and dialing the extension code number.

An optional exclusion lever provides complete privacy on the first line by temporarily disconnecting all extension phones

from that line. To exclude stations, pull the lever out; to reconnect the excluded stations during a call, push the lever back in. To reconnect the excluded stations after completing the call, hang up the handset.

NOTE: All telephones include line designation strip. Number cards for Touch Calling phones must be ordered separately; the plastic number card cover is included with the telephone. With rotary dial phones, both number card and plastic cover are included as part of the dial assembly.

How to Order and Price Type 186 Telephones

Steps	Description	Ordering No.	Price Each
1 Phone.	Type 186 Desk Telephone with 6-ft. plug-ended line cord	NC-866	\$56.65
	Type 186 Wall Telephone with 6-ft. plug-ended line cord	NC-966	56.65
2 Color.	Black	00	No Charge
	Beige	10	No Charge
	White	19	No Charge
3 Key Assembly.	H-hold; P-pickup; Ps-pickup convertible to signal		
	HPPPsPsPs: Without exclusion key	0	No Charge
	With exclusion key	1	\$2.00*
	PPPPPsPsPs: Without exclusion key	2	No Charge*
	With exclusion key	3	\$2.00*
4 Rotary Dial or Touch Calling.	Rotary Dial (Letter/Number designations on face plates. Order face plates separately.)	A	4.50
	Touch Calling Unit (12-button): ABC	J	19.95
5 Ringer.	Straight-line Ringer (not stocked in Touch Calling black or white)	SL	3.50
	Ringer and Buzzer	RB	4.90
	Buzzer (not stocked in Touch Calling black or white)	BA	1.40
	Without Ringer or Buzzer	XX	No Charge*

Face Plates—Order Separately

D-781005	For Rotary Dial, 1-0	each	\$.65
D-781004	For Rotary Dial, ABC	each	.65
D-781010	For Touch Calling Unit (12-button)	each	.65

Add Appropriate Color Suffix:

B Beige	J Yellow	P Gold
C Med. Gray	K Med. Blue	R Brown
D Med. Green	L Flamingo	S Silver
F Vermilion (Bright Red)	(Pink-Orange)	X Clear (with black letters/numbers)
	M White	

Accessories

D-530304-A	Designation Strips (strip of six)	each	\$.21
S-430926	Adhesive Dial Number Card, gray (strip of 4, 125 strips per pkg.)	pkg.	1.75
S-434002	Adhesive Dial Number Card Cover. Acetate overlay disc protects dial number card (strip of 4, 125 strips per pkg.)	pkg.	1.50
D-530400-A	Number Card for Touch Calling Telephones (strip of 45)	each	.25
D-530394-AR	Plastic Cover for Touch Calling Number Card (pkg. of 25)	pkg.	3.75
FD-1068-AF	Buzzer for Type 186 Telephone	each	1.40

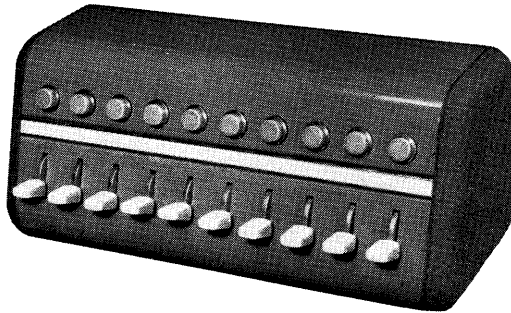
Prices are subject to change without notice.

Tip Party Inductors and Resistors—For ANI Service

- D-284327-A** Resistor for 2nd party service. For AE SATT dial equipment only. Use with all rotary dial phones with part nos. beginning with NB and NC.....each **\$.75**
- D-284686-A** Inductor and Bracket. For Touch Calling Starlite® phones (without ringers*) with part nos. beginning with NB, and for rotary dial or Touch Calling Starlite® phones (without ringers*) with part nos. beginning with NC.....each **1.40**
- D-284686-C** Inductor and Bracket. For rotary dial or Touch Calling Types 80, 90-M, 95, 183 phones with part nos. beginning with NC.....each **1.40**
- H-888041-1** Conversion Kit. Used to establish tip party ANI service on standard telephones without center tap position on transmission network. For rotary dial Types 182-A, 183, 192-A phones with part nos. beginning with NBeach **3.65**
- HH-880018-1** Same as above, except for rotary dial Types 80, 90M, 95 phones with part numbers beginning with NB.each **On App.***

*A Type 46 Ringer can be used instead of D-284686-A Inductor and Bracket. A center tap on the ringer coil provides the necessary inductive mark.

Secretarial Answering Units



The Secretarial Answering Unit permits a secretary to answer and hold calls on up to 20 lines by merely flipping the appropriate three-way key. Calls are handled quickly and efficiently, because she never has to leave her desk.

Units are completely self-contained and require no external equipment, except standard phone for secretary. Installation is as easy as connecting extension phone.

Low ringing current requirement permits a number of cabinets to be connected in multiple. Adjustable tone control regulates frequency of the output signal, enabling a secretary

to distinguish between units when more than one is used in the same office.

One line key is usually reserved for the secretary's own use. If all lines are to be used by executives, the secretary's line can be terminated on a special secretary desk telephone. The ringer of this phone provides the signal for calls on her line.

The unit fits conveniently on a desk top. Cork impregnated rubber strips protect surfaces from marring. All metal housing. Fully equipped with removable clear plastic designation strips for line identification; locking lever keys; neon signal lamps; low frequency common audible buzzer assembly; terminal box. A volume control regulates the audible signal to the desired level. No wiring modifications are necessary for connection of ringing generator to telephone lines. No thermistors or diodes are associated with line circuits; failures can not be caused by lightning or excessive ringing voltages. The common audible signal responds down to 65 volt ringing current at 16 to 66 cycles.

The terminal box is a compact unit that mounts easily to the side of the secretary's desk. It contains terminal strips where exchange and station phone lines are connected. Terminal strips are factory-wired to keys and lamps on the answering unit.

TECHNICAL LITERATURE AVAILABLE ON REQUEST: 489-650-100, Description.

Answering Unit Specifications

Capacity	Height In.	Width In.	Depth* In.
6 Line	5 $\frac{1}{8}$	7 $\frac{1}{2}$	5 $\frac{7}{8}$
10 Line	5 $\frac{1}{8}$	11 $\frac{1}{2}$	5 $\frac{7}{8}$
20 Line	7 $\frac{15}{16}$	11 $\frac{1}{2}$	6 $\frac{5}{8}$

*Including lever key.

Terminal Box Specifications

Capacity	Height In.	Width In.	Depth In.
6 Line	3 $\frac{3}{4}$	7 $\frac{1}{4}$	1 $\frac{7}{32}$
10 Line	3 $\frac{3}{4}$	7 $\frac{1}{4}$	1 $\frac{7}{32}$
20 Line	3 $\frac{3}{4}$	12 $\frac{1}{4}$	1 $\frac{7}{32}$

- D-84996-B06** 6 line unit with common audible signal. Two-tone beige.....each **\$136.90**
- D-84996-C06** 6 line unit with common audible signal. Two-tone grayeach **136.90**
- D-84996-B10** 10 line unit with common audible signal. Two-tone beigeeach **201.50**
- D-84996-C10** 10 line unit with common audible signal. Two-tone gray.....each **201.50**
- D-84996-B20** 20 line unit with common audible signal. Two-tone beige.....each **373.00**
- D-84996-C20** 20 line unit with common audible signal. Two-tone gray.....each **373.00**

Special Secretary Desk Telephones

- NC-814100-ASA** Type 80 phone with ringer and 4-conductor line cord. Beige only...each **\$20.40***
- Z-26396-1** Type 80 phone without ringer. Gray only.....each **17.90**
- D-56548-ASAR** Straight-line ringer for Z-26396-1 telephone.....each **3.50**
- 4DA4P-C** 4-conductor line cord for Z-26396-1 telephone. Gray.....each **1.10**

Outdoor Telephone Housings



Outdoor Housing with Type 90-M Telephone

Ideal for cab stands, lumber yards, construction sites, farms, loading docks and other exposed locations.

Durable weatherproof cast aluminum-alloy housing. Spring-loaded door closes itself on stainless steel hinge pins; held in closed position by a magnetic latch. Weatherproof lock has a built-in weather shutter to keep out rain. Keys and installation instructions included. Gray finish. The words TELEPHONE and PULL TO OPEN are cast into the housing and finished in white. Dimensions: 16 in. high, 11½ in. wide, 6½ in. deep.

Easy to install. The housing can be mounted on any flat surface or on a pole. Bracket and screws are provided for pole mounting.

Mounting holes are partially drilled and countersunk. At the time of installation, the mounting holes to be used are finish drilled by the installer. Two holes tapped for ½-in. rigid conduit are provided at the top and one on the bottom of the assembly. These conduit holes are sealed with non-corrosive plugs. A short piece of rigid conduit is attached to the bottom hole on the inside of the box assembly to protect the line wires. The holes required to mount the telephone are drilled and tapped.

After the housing has been secured, the telephone is mounted on the inside with the screws provided. The line wires are brought into the box through the bottom conduit opening. One-half inch conduit can be used to protect the wires if necessary. The handset cord should be fastened to the telephone base plate with the clamp provided. This prevents the cord from being damaged when closing the door, and also prevents the cord from bunching up under the handset, to cause an off-hook condition.

Use Standard Wall Phones. Install any standard wall telephone in housing. Ringer is in telephone—use any frequency required. Screened holes in bottom of outdoor housing allow the ringer to be heard in immediate vicinity. For noisy locations, telephones can be equipped with anti-noise handsets and loud-ringing weatherproof bells. **NOTE:** Telephone not supplied.

D-48356-A Outdoor Housing, Brackets for pole mounting, Screws for phone mounting, Keys.....each **\$65.00**

Railroad Telephones (Local Battery)

Type 10-A Portable Telephones

Equip track or pipeline inspectors, signal and communication crews, and every train with this handy portable phone. Used in cars or trucks. Connects to any message or dispatcher circuit with the Universal Line Pole. Equipped with pushbutton handset. Small insulated generator produces powerful ringing signals. Easy to carry. Sturdily built to withstand hard outdoor use.

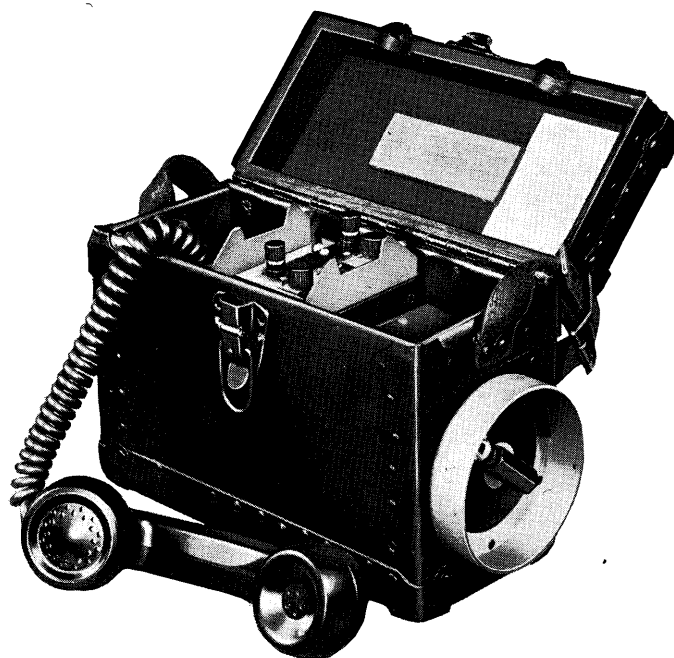
Meets AAR specifications. Measures 8¼ in. high, 13 in. wide, 5½ in. deep.

Black.

Weights 10½ pounds.

L-7036-A1 Type 10-A Portable phone, with generator and bell.....each **\$111.50**

L-7036-A5 Type 10-A Portable phone, with generator, bell and Waystation Filter.....each **137.00**



Prices are subject to change without notice.

Railroad Telephones (Local Battery)

Type 60
Telephones

Install in siding booths on the line. Built for long-lasting service. Withstands rough treatment. Die-formed metal housing protects internal parts. Equipped with pushbutton handset. Sturdy cradle hook holds the handset securely in place. Incorporates small, powerful generator.

Dimensions: 9 $\frac{3}{4}$ in. high, 11 $\frac{1}{2}$ in. wide and 5 in. deep. Black.

- L-658-B2** With high-impedance ringer..... each **\$69.95**
L-658-B3 Without ringer, with Waystation Filter. each **\$83.65**
L-658-B4 Without ringer, filter or generator... each **\$44.35***

Self-Contained Booth Telephones

For use in wayside booths. Ready to mount as a single unit. Consists of Type 60 phone, equipped with pushbutton handset and battery box for two dry cells. Both are mounted on a hardwood backboard with connecting wires concealed and protected. 20 $\frac{1}{2}$ in. high, 11 $\frac{1}{2}$ in. wide, 5 $\frac{3}{4}$ in. deep.

- L-659-B2** Self-Contained Booth phone, with generator and high-impedance ringer..... each **\$96.00**
L-659-B3 Self-Contained Booth phone, without ringer, with generator and Waystation Filter..... each **\$110.00**

Type 80 Telephones

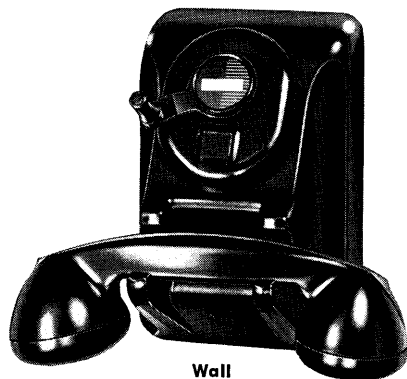
For use on desks in the yard or shop offices, in railroad business cars, and in pumping or compressor stations. Equipped with pushbutton handset. Rugged, lightweight black plastic housing. Non-skid rubber feet keep phone from slipping. Repairs rarely needed—are quickly and easily made. Requires magneto-battery box for signaling.

- L-8009-B2** With high-impedance ringer..... each **\$27.20**
L-8009-B3 Without ringer, with Waystation Filter..... each **\$49.50**

Magneto Battery Boxes

Used as companion to Type 80 or 183 Railroad telephones for complete service on message circuits. Houses a magnet generator. Delivers powerful ringing signals even on long, heavily-loaded lines. Space for two No. 6 dry cells or a two-cell unit battery (not included).

- Measures 9 in. high, 9 $\frac{1}{2}$ in. wide, 4 $\frac{1}{2}$ in. deep. Black plastic.
L-594-D0 Magneto box (without batteries).... each **\$35.00**



Wall

Type 900 Magneto Telephones

Conventional local battery phone. NOTE: Does not use high efficiency circuit or pushbutton handset. One phone adapts to either wall or desk installation. Easy conversion to common-battery service. For dial operation, add dial to each phone. Equipped with ringing condenser, Hookswitch latch allows for monitoring of party lines, conserving batteries. Black.



Desk

Ordering No.	Description	Ringer Ohm	Price Each
NL-12707-A	Magneto Telephone.....	1000	\$67.00
NL-12707-B	Magneto Telephone.....	1600	67.20
NL-12707-C	Magneto Telephone.....	2500	67.50
NL-12806-A	Magneto Telephone with Hookswitch Latch.....	1000	67.85*
NL-12806-B	Magneto Telephone with Hookswitch Latch.....	1600	68.05
NL-12806-C	Magneto Telephone with Hookswitch Latch.....	2500	68.35

For Dial Conversion

- D-84820-C** Type 51-A dial. 1-0 Number Plate..... each **\$4.50**
D-84821-C Type 51-A dial. Alphabetical Number Plate..... each **4.50**

TECHNICAL LITERATURE AVAILABLE ON REQUEST:

473-414-200, Description and Installation.

473-414-900AE, Modification to Dial or Battery Operation.



Type 183 Telephones

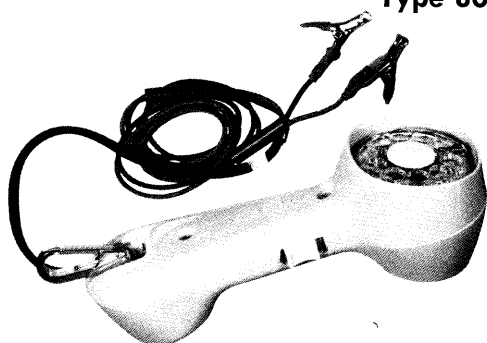
Compact Space-Maker® model—ideal for use on dispatcher's circuits. Equipped with pushbutton handset. Handset cradle swings a full 180°, locks in seven different positions for convenience. Mounts easily on edge of desk, wall, post or column. Angle mounting bracket included.

Measures only 5½ in. high, 6 in. wide, 3½ in. deep overall.

For connection to dispatcher's line, order phone only. For message circuits, order both phone and ringer box. Requires magneto-battery box for signaling.

L-8308-B2	Type 183 phone (local battery) . each	\$23.55
L-1508-XXXA	Type 33 Compact Ringer Box . each	1.00
D-56566-B	Straight-line ringer.....each	5.95

Type 801 Hand Test Telephones



Type 801 offers many features that make it long-lasting, easy to use and shock-resistant. A three-position switch and high impedance coupling circuit permit monitoring data transmission without interference. Handset may be ordered with lineman's test cord for outside plant use, or with resistor cord for central office use.

Long-lasting. Bright international safety orange two-piece housing resists breakage. Water-resistant tongue-and-groove construction. Handset can be assembled and disassembled any number of times without damage—assembly screws fasten into metal, not plastic. Snap hook provides secure attachment to belt D-ring, helps prevent dropping and loss. High-tensile test cord with abrasion-resistant jacket stands up under long, hard wear. Standard GTE Automatic Electric transmitter, receiver and modified Type 154A dial provide trouble-free service and long life.

Convenient to use. Contoured styling and small size make the Type 801 easy to handle and hold on the shoulder. Large switch button with serrated surface uses industry-standard switch positions.

Shock-resistant. Several construction features help reduce chance of shock from the Type 801 Hand Test Telephone. Cord assembly has no exposed terminals at fixed end. Finger grips are insulated. In addition, the polycarbonate housing itself is an excellent insulator.

TECHNICAL LITERATURE AVAILABLE ON REQUEST: 100-203-100, Description.

L-9078-AO	Type 801 Hand Test Telephone with lineman's test cord (HD-540023-A)each	\$35.90
L-9078-BO	Type 801 Hand Test Telephone with resistor cord (HD-570008-A) for central office use.....each	36.65
HD-540023-A	Replacement Cord. 4-ft. 4-in., 2-conductor cord for outside plant testing. With insulation-piercing alligator clips at one end, spade terminals at other end.....each	4.40
HD-570008-A	Replacement Cord. 2-ft., 2-conductor cord for use in central office testing to simulate long line loop. Mode switch inserts and removes 1500-ohm series resistor from line. With spade terminals at one end, plug at other end. Plug receives jack of accessory test cords.....each	5.15

Accessory Cords for Central Office Model

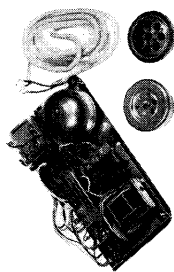
All cords have plug-in design for ready connection.

HD-540019-A	2-ft., 2-conductor cord with 4-contact plug for insertion into switch test jacks. Pushbutton on 4-contact plug is used to short two of the contacts on the switch being tested for circuit seizure.....each	\$7.50
HD-540019-B	Same as above, except 5 ft. long.....each	8.50
HD-540016-A	2-ft., 2-conductor cord with 2-contact plug for insertion into switch test jacks.....each	5.70
HD-540016-B	Same as above, except 5 ft. long.....each	6.70
HD-540020-A	2-conductor retractile cord with switchboard-type plug. Used for tests of central office and PBX equipment accessed by test or patch jacks.....each	6.30
HD-540030-A	4-ft. 6-in., 2-conductor cord with insulation-piercing alligator clips.....each	8.00

Cords and Accessories for Older Type 800 Hand Test Telephones

D-543392-A	3-ft. Cord and 2-prong Strowger Switch Test Plug Assembly with pushbutton break combination and 100K resistance for interference suppression. For use with standard and TWX circuits.....each	\$4.75	D-543044-A	3-ft. Cord and 2-prong test plug....each	\$1.60
D-542725-A	3-ft. Cord and 4-prong test plug with pushbutton make combination...each	3.70	D-543044-B	6-ft. Cord and 2-prong test plug....each	1.95
D-542725-C	6-ft. Cord and 4-prong test plug with pushbutton make combination...each	4.35	D-543395-B	4-ft. Cord with Alligator Test Clip Assembly.....each	2.40
			D-543142-A	Retractable Cord (1-ft. 1-in. retracted; 4-ft. 6-in. extended) and Switchboard Plug Assembly.....each	4.75
			D-780869-A	Frame Mounting Bracket.....each	.35

Prices are subject to change without notice.



Modification Kit

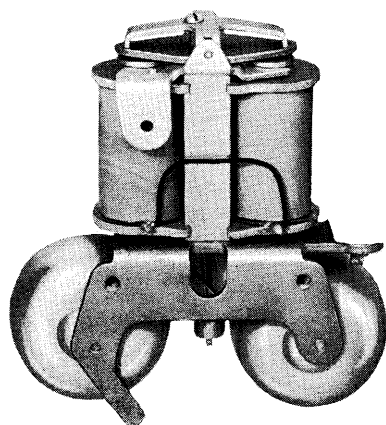
For Antique/Decorator Telephone Housings

Converts antique/decorator type phones into useful instruments. Compatible with US-4 and US-5 housings, and similar housings conforming to Bell System specifications. Many Standard AE components are used when possible to reduce inventory.

If a ringer is desired when an antique telephone is installed on a party line, use an externally mounted Type 33 ringer box. NOTE: A type 51-A screw terminal dial must be ordered separately. Wrapped wire terminal dial is not suitable.

Kit contains: transmitter unit, transmitter connector with wire leads, transmitter connectors, receiver unit, Type 46 SL ringer, transmission network and support spacer, hookswitch assembly, hookswitch mounting bracket, plastic hookswitch plunger adapter, wire shield (plastic cover for hookswitch assembly), internal wiring harness, dial wiring harness, dial spacers, component mounting plate, miscellaneous mounting screws. Dimensions: $6\frac{1}{4} \times 3\frac{3}{8} \times 2$ -in. Wt., 2 lbs.

S-320104 each **\$33.00**



Type 45 High Impedance Ringers

For Types 80, 85, 90-M, 95 Telephones, and for Type 33 Compact Ringer Box

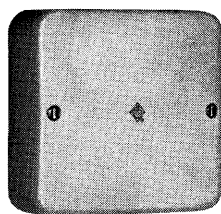
To provide rapid delivery and ease inventory requirements, stock phones without ringers. Order the D-56548 Ringer separately and combine it with any of the following phones: Type 80, 85, 90-M and 95. It's also designed for use with the Type 33 Compact Ringer Box. The condenser and coil on this ringer are factory tuned. Impedance 160,000 ohms at 1000 cycles.

Individual ringers are packed separately with mounting parts and complete instructions for mounting and adjustment. Capacitor is included. For harmonic, decimonic and synchromonic frequencies.

NOTE: When ordering individual ringers, use the ordering number.

D-56548-CSAR	Straight-Line with Adjustment Wheel.....	each \$3.50
D-56548-C16R	16.6-cycle.....	each 4.10
D-56548-C20R	20-cycle.....	each 4.10
D-56548-C25R	25-cycle.....	each 4.10
D-56548-C30R	30-cycle.....	each 4.10
D-56548-C33R	33.3-cycle.....	each 4.10
D-56548-C40R	40-cycle.....	each 4.10
D-56548-C42R	42-cycle.....	each 4.10

D-56548-C50R	50-cycle.....	each \$4.10
D-56548-C51R	50-cycle Decimonic only.....	each 4.10
D-56548-C54R	54-cycle.....	each 4.10
D-56548-C60R	60-cycle.....	each 4.10
D-56548-C66R	66-cycle.....	each 4.10
D-56548-C67R	66.6-cycle.....	each 4.10
D-56548-CVAR	Ringer for Vacuum Tube for Superimposed Ringing and Adjustment Wheel.....	each 4.00
D-52144A	Vacuum Tube.....	each 3.60



Type 33 Compact Ringer Boxes

Designed for use with the Type 182 Starlite® and Space-Maker® phones. Plastic housing. $5\frac{1}{4} \times 5\frac{1}{4} \times 2\frac{1}{8}$ in. deep.

To order ringers, see Type 45 High Impedance Ringers, above.

L-1508-XXX Ringer Box and cover only..... **\$1.00**
(black or color)

Add the Appropriate Suffix to Ordering Number

A Black	G Turquoise	L Pink
B Beige	(Lt. Green)	M White
C Med. Gray	J Yellow	P Lt. Yellow
D Dk. Green	K Lt. Blue	T Avocado
E Ivory		

TECHNICAL LITERATURE AVAILABLE ON REQUEST:
473-810-200, Type 33 Ringer Unit—Installation.

Type 42 High Impedance Ringers

For Type 86 and 87-A Telephones

Single coil, double gong construction.

D-56560-ASLR Straight-line..... each **\$3.50**

Adapter Kits

**For Mounting Type 90-M, 192-A, 186 and 187
Telephones and Type 33 Ringer Boxes**

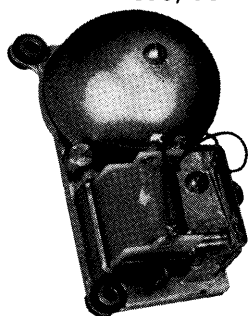
Outlets can be pre-wired or wired as needed. Eliminates external wiring. Station equipment can be mounted on existing electrical outlet boxes. Adapter plate mounts on a 4-in. square or 4-in. octagonal outlet box; 2x4-in. handy box; 4 $\frac{1}{16}$ -in. square outlet box; Suttle 63-A junction box.

Zinc plated .065-in. strip steel. Rounded edges.

- D-780992-A** For Type 90-M telephone and Type 33 ringer box.....each **\$2.05**
D-780998-A For Type 192-A telephone.....each **.75**
D-780907-A For Types 186 and 187 Telephones each **1.30***

Type 46 Miniature Straight-Line Ringers

Internal Ringer for Types 182-A, 192-A, 186, 187, 890, 981 and 982 Telephones



Responds to a frequency range of 16.6 to 30 cps. Resonator provides a pleasant tonal quality with adequate volume for most residential or business applications. Cannot be used on older Type 182 Starlite® telephones.

D-56626-ASLR.....each **\$3.50**

Vincent Rare Gas Relays

Reduces noise caused by power induction on lines where divided ringing is used. May be used on magneto or common battery lines. Either harmonic or coded bells can be used.

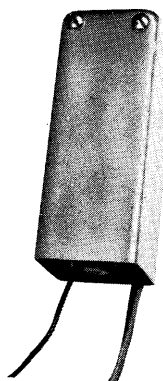
Relay consists of a small glass tube containing rare inert gases in contact with metal electrodes which allow current to pass above a closely predetermined voltage. Glass is protected by a heavy bakelite shell.

Length, 2 $\frac{1}{2}$ inches.

Provided with single hole mounting clip.

Ordering No.	Type	Wt. Lbs.	Price Each
S-426904	RTC	$\frac{1}{4}$	\$6.68

Ringer Isolation Device

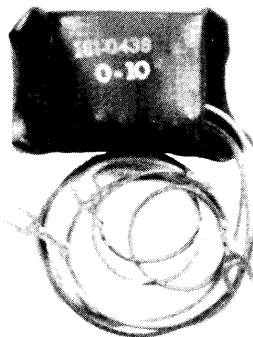


Maintenance free, solid state replacement for gas tube relays. Eliminates noise caused by divided ringers and restores line balance. Disconnects ringer, except during ringing periods. Applicable to any existing ringer. NOTE: One isolation device is required at each subscriber location. One device serves any number of telephones within the subscriber premises.

Hermetically sealed reed relay. Ringing frequency range, 16-66 CPS. Four connecting wire leads. A built-in d.c. blocking capacitor prevents false trouble reports during line insulation tests. For indoor or outdoor surface mounting.

S-426866.....each **\$9.50**

Cook Ringer Isolator



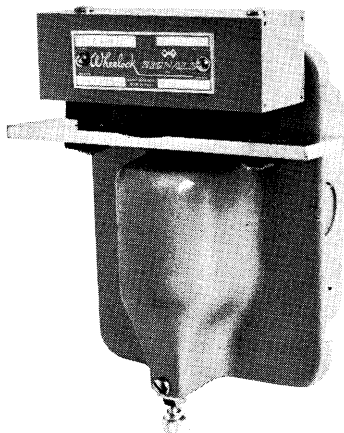
For use on two-party and multi-party lines.

Electronic switch isolates ringer from ground in the on-hook condition. Prevents induced commercial power from causing objectionable line noise. Isolates ringer from longitudinal voltages as high as 200 volts peak. Mounts inside telephone in a few minutes. All solid state components eliminate the maintenance and low temperature problems associated with relay-type ringer isolators.

S-426867 181-0438 Ringer Isolator.....each **\$6.87**

Auxiliary Signals

Chimes



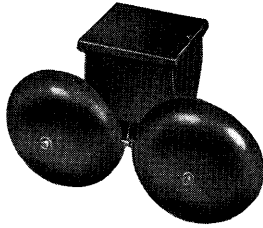
A pleasant sounding signal suitable for executive offices, banks, department stores, hospitals, and similar locations. Chime bar pitch, 980 cycles per second; 70 db at 4-ft. Adjustable volume.

Backbox with $\frac{1}{2}$ -in. knockouts on all sides supplied with each chime. Dimensions, 3 $\frac{1}{4}$ x4x2 $\frac{1}{8}$ -in. Chimes also available with cast adapter plate for mounting on 4-in. square outlet box.

Ordering No.	Rated Volts	Current Drain, Amps	Coil Resistance, Ohms	Ship. Wt., Lbs.	Price Each
S-423326	24 a.c. (60 cycle)	0.25	34	6	\$16.30
S-423327	24 d.c.	0.30	92	6	18.09
S-423328	48 d.c.	0.16	300	6	16.60

NOTE: Voltages 3, 6, 12, 48, 110, 220 a.c., 60 cycles and 3, 6, 12, 110 d.c. available on special order.

Loud-Ringing Bells



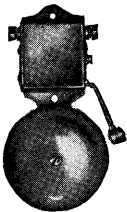
High-impedance bells equipped with 6-inch gongs. Ringer movement and condenser are mounted in a cast aluminum box; black finish. Bells furnished with impregnated coils and PVC-covered wiring for outdoor installation. Operates from ringing current.

Impedance: 160,000 ohms at 1000 cycles.

Dimensions—8¾ inches high; 12¾ inches wide; 4½ inches deep.

Ordering No.	Frequency	Condenser Capacitance Mf.	Price Each
D-56559-ASL	Straight-Line	.4	\$22.50
D-56559-A16	16.6-cycle	.7	24.50
D-56559-A20	20-cycle	.7	24.50
D-56559-A25	25-cycle	.3	24.50
D-56559-A30	30-cycle	.2	24.50
D-56559-A33	33.3-cycle	.2	24.50
D-56559-A40	40-cycle	.2	24.50
D-56559-A42	42-cycle	.08	24.50
D-56559-A50	50-cycle Harmonic	.1	24.50
D-56559-A51	50-cycle Decimonic	.1	24.50
D-56559-A54	54-cycle	.1	24.50
D-56559-A60	60-cycle	.08	24.50
D-56559-A66	66-cycle	.08	24.50
D-56559-A67	66.6-cycle	.08	24.50

Edwards Lungen Bells



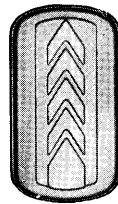
Lungen bells are designed for offices, residences and hospitals where appearance is an important factor.

They are exceptionally neat in design with tight fitting bug and dust proof covers.

Grounded frames. External insulated binding posts. Chrome cover with zinc plated base. Decibels at 3-ft., 72.5. Gong diameter, 3-in. Dimensions, 5⅞x3½x1 -in. Wt., ½ lb.

Ordering No.	Volts	Std. Pkg.	Price Each
S-421390	10-20 d.c.		
	18-30, 60 cycle a.c.	4	\$5.42
S-421392	6-8 d.c.		
	8-10, 60 cycle a.c.	6	4.85

Edwards Bells and Buzzers



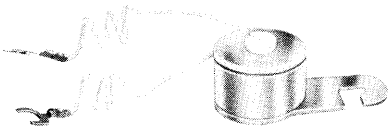
Compact, completely covered, fully adjustable. Designed for long, efficient service. Sprayed aluminum finish.

Equipped with phosphor bronze springs, silver contacts. Arranged for surface or concealed wiring with carefully insulated and concealed binding posts.

Bell, 5¼ x 3 x 1-in.; Buzzer, 2¾ x 1¾ x 1-in. Both are for standard 6-8 volt, 60 cycle a.c. or 3-6 volt d.c. circuits.

Ordering No.	Description	Std. Pkg.	Wt., Lbs. per Pkg.	Price Each
S-421391	Bell	60	6	\$1.52
S-422885	Buzzer	100	2¼	1.23

Telephone Auxiliary Buzzer



Maintenance free miniature buzzer can be used with, or instead of the ringer in a Type 86 Key Telephone. Fastens to dial mounting screws and is equipped with two 4-in. insulated spade tipped leads. No contacts to pit or burn. Adjustable volume control. No radio frequency interference.

Operating voltage: 6-10 volts, 60-cycle, a.c. Dimensions: 1¼x½x¾-in. diameter.

Ordering No	Std. Pkg.	Ship. Wt., Lbs.	Price Each
S-422906	250	12	\$.78

Buzzer and Buzzer Hardware

For Internal Mounting in Types 86, 186, 187 and 860-A Telephones

FD-1068-AF	Buzzer (15-20 v., a.c.)	each	\$1.40
H-883001-5	Buzzer mounting hardware for Type 86 telephone	each	.93
H-883001-8	Buzzer mounting hardware for Type 860-A telephone	each	.70

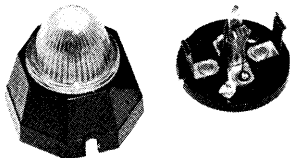
Edwards Lungen Buzzers



For a.c. or d.c. operation. Bug and dust proof. Base is zinc plated with polished chrome cover. External insulated binding posts, grounded frame. Adjustable for wide volume range.

Ordering No.	Volts	Decibels at 3 Ft.	Dimensions, Inches	Std. Pkg.	Wt., Lbs.	Price Each
S-422888	24 d.c.	71.5	1¾x1½x½	6	⅛	\$3.72
S-422889	48 d.c.	71.5	1¾x1½x½	3	⅛	5.88
S-422890	6-8 d.c.					
	8-10, 60-cycle a.c.	71.5	1¾x1½x½	10	⅛	3.14
S-422892	24 d.c.	74	2½x1½x½	6	¼	3.53
S-422894	48 d.c.	74	2½x1½x½	3	¼	5.88
S-422891	6-8 d.c.					
	8-10, 60-cycle a.c.	74	2½x1½x½	10	¼	3.25
S-422886	6-8 d.c.					
	8-10, 60-cycle a.c.	75	2½x2½x¾	10	¼	3.19
S-422887	6-8 d.c.					
	8-10, 60-cycle a.c.	80.5	3 x 2½ x 7/8	9	⅜	3.38
S-422893	8-12, 60-cycle a.c.	81	2½x1½x½	10	¼	2.99

Ringing Visual Signals



Neon bulb lights when telephone rings. Clear plastic dome. Easily connected to telephone with two-conductor interior wire. Operates directly from ringing current of telephone (65 volts or more). No battery, transformer or relay control

needed. Neon tubes have no filament to burn out—rated life is approximately 3,000 hours.

Black plastic base with non-marring cork-rubber pad. Remove housing to mount on wall or desk. Mounting holes in base. Screws not included.

Also available with amber dome and gray base on special order.

Ordering No.	Dome Color	Dimensions, Inches	Std. Pkg.	Wt., Lbs. per Pkg.	Price Each
S-427510	Clear	2¼x2¼x2½	80	14	\$5.94

Busy Visual Signal



For use where a visual signal is required to indicate line in use or for switchboard signaling. NOTE: Requires Busy Signal Relay Box L-715-AO and ringing transformer. Uses standard switchboard lamps (see Section J). Break resistant plastic dome and base with nonmarring cork-rubber pad. Available with any dome color combination and gray base with special order.

Single Dome Signals

Ordering No.	Dome Color	Dimensions, Inches	Base Color	Std. Pkg.	Wt., Lbs. per Pkg.	Price Each
S-427499	White	2¼x2¼x2¼	Black	80	14	\$2.48
S-427506	White	2¼x2¼x2¼	Beige	80	14	2.48
S-427501	Red	2¼x2¼x2¼	Black	80	14	2.48
S-427505	Red	2¼x2¼x2¼	Beige	80	14	2.48
S-427500	Green	2¼x2¼x2¼	Black	80	14	2.48
S-427504	Green	2¼x2¼x2¼	Beige	80	14	2.48

2-Dome Signals

S-427502	Green/Red	3½x2½x2¼	Black	72	30	3.80
-----------------	-----------	----------	-------	----	----	-------------

3-Dome Signals

S-427503	White/ Green/Red	5½x2½x2¼	Black	40	15	4.94
-----------------	---------------------	----------	-------	----	----	-------------

Busy Signal Relay Boxes

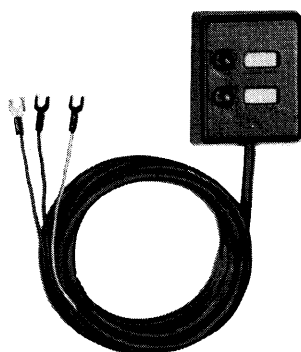
Contains d.c. relay to be connected in series with one side of telephone line. Relay operates on 48-volt line voltage. Used with extension phones to indicate busy line. Operates when handset is removed at any station on the line and closes circuit to associated signal lamp, D-94090.

L-715-AOeach **\$12.70***

Continuous Telephone Signaling Units

Consists of a.c. relay, which operates on straight-line central-battery or magneto ringing current. It closes a local circuit to a signal which operates until relay is released. Relay contacts carry 5 amperes at 110v., a.c. In case for indoor or outdoor installation.

CRT-TC-40each **\$34.84***



Subtle Pushbutton Auxiliary Signals

Factory-wired plastic pushbuttons for audible signaling. Paper inserts and clear plastic strip for button identification. Cork base pads prevent surface marring. Matching six-foot, 22-gauge polyvinyl chloride flexible cord. Screw terminals and screws provided with each unit. Designed for use with 6-48 volt power supply. Wiring diagram included. Stocked in beige. Also available in black, gray, blue-beige.

Ordering No.	Description	Dimensions, Inches	Std. Pkg.	Wt., Lbs. per Pkg.	Price Each
S-426621	One button. Without cord or cork pads.	1¾x1¾x5/8	500	16	\$7.00
S-426622	Two buttons. 3-cond. cord.	2½x1¾x1¼	100	30	3.39
S-426624	Four buttons. 5-cond. cord.	3¼x1¾x1¼	50	22	4.75
S-426628	Eight buttons. 9-cond. cord.	3¼x3½x1¼	40	31	7.50

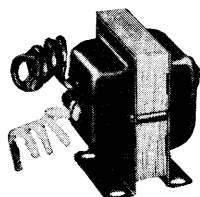
Auxiliary Signal Transformers

Unit operates small or large auxiliary bells, buzzers or chimes. Can be locked into any ½-in. outlet box knockout. Mounting feet allow open wiring installation on post, wall or ceiling. Equipped with primary leads and secondary terminals. U.L. listed.

Input: 115 volt, 60 cycle a.c.

Output: 6, 12 or 18 volt, 60 cycle a.c.

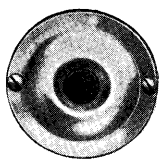
Capacity: 10 watts.



Ordering No.	Size, In.	Std. Ctn.	Ship. Wt., Lbs.	Price Each
S-428153	2½x1¾x2½	10	1	\$2.33

Prices are subject to change without notice.

Edwards Pushbuttons



S-426618



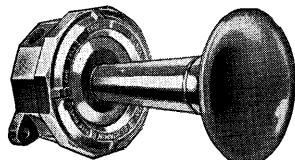
S-426619

S-426618. For surface mounting. Finished in satin brass with black button. Complete with mounting screws. Terminals accommodate No. 14 wire. Dimensions: $1\frac{3}{4} \times 1\frac{1}{8}$ -in.

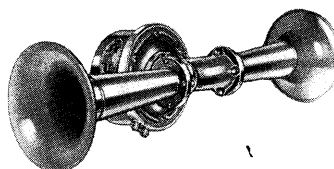
S-426619. For flush mounting in $\frac{5}{8}$ inch diameter hole; depth, $\frac{3}{4}$ -in. Polished chrome rim with ivory center. Spring clip holds button in place. Rim is $\frac{3}{32}$ inch wide.

Ordering No.	Description	Std. Pkg.	Wt., Oz.	Price Each
S-426618	Surface Mounting..	50	1	\$.35
S-426619	Flush Mounting....	30	3	.45

Benjamin Howlers



S-424993



S-424991

Weatherproof

Heavy weatherproof construction with cast aluminum threaded ring and joint sealed by live rubber gasket. Baked-on gray enamel finish. Howlers have no contacts. The vibrations follow a.c. cycles and the pitch is double the frequency used. 60 cycle a.c.

Ordering No.	Description	Volts	Amps	Price Each
S-424992	7-in. Single Bell Projector	24	0.8	\$16.85
S-424993	7-in. Single Bell Projector	115	0.2	16.85
S-424994	19 $\frac{1}{2}$ -in. Double Bell Projector	115	0.2	22.45

NOTE: All above available in 12, 24, 115, 230 volt, 60 cycle a.c., and 6, 115, 250 volt d.c.

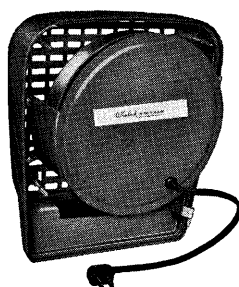
Non-Weatherproof

For indoor industrial and commercial use. Threaded ring construction and plug-in wiring assures quick, easy installation. 60 cycle a.c.

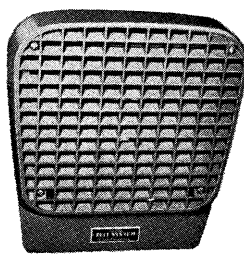
Ordering No.	Description	Volts	Amps	Price Each
S-424990	7-in. Single Bell Projector	115	0.2	\$14.65
S-424991	19 $\frac{1}{2}$ -in. Double Bell Projector	115	0.2	19.60

NOTE: All above available in 12, 24, 115, 230 volt, 60 cycle a.c., and 6, 115, 250 volt d.c.

Wheelock Signals



Type SR9 Chime



For use in auxiliary signal systems, code calling systems, and as a ringing signal in noisy locations. All signals are mounted in a common housing and are interchangeable. All mount to a back box for indoor or outdoor installation. When provided with a relay to actuate it from a ringing signal or control signal, the signal is known as dual potential. When mounted as a single potential signal, the operating voltage is controlled directly from a remote point. When mounted as a dual potential signal, the line cord may be connected to a common convenience outlet, and the signal function controlled by the relay.

Complete signal may be ordered by combining proper Nos. and specifying signal operating voltage. For dual potential applications, all control voltages (18-48 v, d.c., 30-48 v, 60 cycle and 90 v, 20 cycle) are available by connecting to proper relay terminals. For example, the correct No. for an indoor single potential vibrating bell would be VR6-HG1, becoming VR6-D-HG2, for dual potential operation. Furnished with a two-conductor cord and plug. Exterior surfaces are finished in lt. olive gray. Dimensions: 10 x 11 $\frac{5}{8}$ -in. Projection from wall, 5-in.

Chimes

Single stroke chime gong has a pitch of approximately 250 cycles per second (fundamental).

Chime assembly includes a bracket for mounting on four studs within the front cover, which is in turn secured to back box by means of four screws.

Ordering No.	Type	Volts	Cycles	Amperes	Price Each
S-423325	SR9	115	60	0.40	\$31.47

Horns

Horn has an energy peak between 1500 and 3000 cycles per second. Sound output, 105 db at four feet.

Three mounting lugs, two with keyhole slots, permit direct attachment to surface without backboard. Knockouts allow installation of conduit.

Ordering No.	Type	Volts	Cycles	Amperes	Price Each
S-424940	1	115 a.c.	60	0.45	\$15.56

NOTE: Other voltages available on special order.

Wheelock Signals—Continued

Bells

Bell has a pitch of approximately 580 cycles (fundamental). Minimum volume of 98 db in the loud position.

Assembly includes a bracket for mounting on four studs within the front cover, which is in turn secured to back box by means of four screws.

Ordering No.	Type	Description	Volts	Cycles	Amperes	Price Each
S-421485	*VR6	Vibrating Bell....	115	60	0.12	\$26.05
S-421480	SR6	Single Stroke Bell.	115	60	0.35	23.23

*Provided with an output level adjustment capable of controlling the volume over a range of at least 8 db. The adjustment is not capable of a complete cutoff.

Loud-Ringing Bells

For outdoor use in an explosive atmosphere or hazardous location. Coil resistance, 500 ohms.

Ordering Number	Type	Volts	Cycles	Amperes	Price Each
S-421472	CVXG-10	90	20	0.07	\$136.74

Back Boxes

Both indoor and outdoor back boxes are equipped with lugs to engage mounting screws of a signal case, and hinge loops which permit swinging open of the case while supporting the front assembly. These lugs, two with keyhole slots, permit mounting to a surface without a backboard.

Indoor Back Boxes



Type HG2

Type HG2, Dual Potential back box is for Type SR9, VR6, SR6 or Type 1 signals.

Provided with two-conductor four-foot power cord and surface power receptacle mounted within case. Power cord terminated in two blade plug to connect to commercial power outlet.

Provided with mounting channels for Type D relay and entrance for telephone wires.

Type HG1, Single Potential back box is for Type SR9, VR6, SR6 or Type 1 signals.

Provided with a surface power receptacle within the case to which operating power wiring is directly terminated.

Entrance for conduit provided directly below power receptacle.

Ordering No.	Type	Description	Price Each
S-422331	HG2	Dual Potential.....	\$10.63
S-422330	HG1	Single Potential.....	9.26

Outdoor Back Boxes

Type WHG2, Dual Potential back box is for Type SR9, VR6, SR6 or Type 1 signals. Provided with three-conductor four-foot power cord and surface power receptacle mounted within case. Power cord terminated in three-blade plug and weather cap to connect to a commercial weatherproof power outlet, furnished as part of back box. Insertion of plug grounds the signal housing. Provided with mounting channels for Type D relay and entrance for telephone wires. A rain hood is provided to mount over the front assembly.

Type WHG1, Single Potential back box is for Type SR9, VR6, SR6 or Type 1 signals. Provided with a surface power receptacle within the case to which operating power wiring is directly terminated. Entrance for conduit provided directly below power receptacle. A rain hood is provided as part of back box to mount over the front assembly.

Ordering No.	Type	Description	Price Each
S-422333	WHG2	Dual Potential.....	\$22.23
S-422332	WHG1	Single Potential.....	13.38

Relays

Relay unit is mounted within an enclosed case and will fit into mounting brackets provided in Type HG2 and WHG2 back boxes, which must be ordered separately. Provided with a 2-conductor cord and plug. Unit equipped with receptacle to accept cord from signal unit.

Insulated terminal plate with five screw terminals provided for making connections for various control voltages.

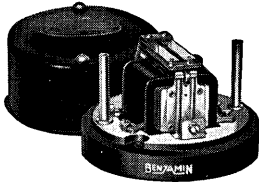
Relay is provided with two adjustments, accessible through the relay case for adjusting relay sensitivity.

When ordering, specify volts, cycles and amperes.

Ordering No.	Type	Operating Volts	D.C. Coil Resistance, Ohms	Current Drain, Amps	Ship. Wt., Lbs.	Price Each
S-426915	RX1419	39-90, 20 cycles, a.c.	4400	.009	2	\$16.19
		30-40, 60 cycles, a.c.	900	.020		
		18-48 d.c.	4400	.011		

Prices are subject to change without notice.

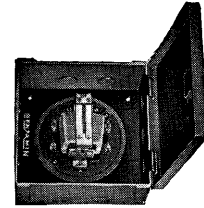
Benjamin Telecode Relays



For Panel Mounting

Telecode relays are specially designed for activating loud-sounding signal extensions of telephone ringing circuits. Widely used in factories, mines, machine shops, foundries—wherever noise makes it difficult to hear the ordinary telephone bell. Their use does not in any way affect the talking or ringing efficiency of the telephone system.

Contact capacity, rated 0.8 ampere at 110 v. will operate five vibrating type howlers.



With Pressed Steel Box

For Panel Mounting

Ordering No.	Ohms	Description	Wt. Lbs.	Price Each
S-426911	3000	Without Capacitor to Operate with High Impedance Ringer.....	2½	\$12.10

With Pressed Steel Box For General Indoor Use

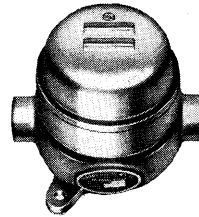
S-426909	3000	Without Capacitor to Operate with High Impedance Ringer.....	5¼	18.60
S-426912	3000	With Capacitor to Operate with High Impedance Ringer.....	6	21.10

With Explosion-Proof Box

Listed by Underwriters' Laboratories, Inc., as suitable for Class 1, Group D; Class 11, Groups F and G hazardous locations. Also suitable for Class 111 locations. Construction similar to watertight box except cover is heavy red brass.

S-426914	3000	With Capacitor to Operate with High Impedance Ringer.....	11¼	\$28.70
----------	------	---	-----	---------

With Watertight Box



For use where the equipment is subject to rough handling and the deteriorating effects of non-combustible dust and vapors. The box has a cast-iron base, cadmium plated. The base has two mounting lugs and two tapped hubs equipped with conduit stops. Finish is baked gray hammered enamel. Diameter, 5½ in., height 4¾ in. Tapped ½-in. straight through, standard; tapped ¾ in. when specified.

Ordering No.	Ohms	Description	Wt. Lbs.	Price Each
S-426917	3000	Without Capacitor to Operate with High Impedance Ringer.....	7½	\$19.90
S-426919	3000	With Capacitor to Operate with High Impedance Ringer.....	8¼	25.75

Dial Assembly Units

Type 52 Dial Assemblies

One-piece extended number plate is an integral part of the dial assembly. Plastic fingerwheel maintains overall color harmony.

Dials for ivory, yellow and white phones are lettered and numbered in black. All other dials have white designations.

D-84901	Alphabetical number plate.....	each	\$4.75
D-84900	1-0 number plate.....	each	4.75

Add the Appropriate Color Suffix to Ordering Number

A Black	E Ivory	K Lt. Blue
B Beige	G Turquoise	L Pink
D Dk. Green	(Lt. Green)	M White
	J Yellow	

Conversion Kits

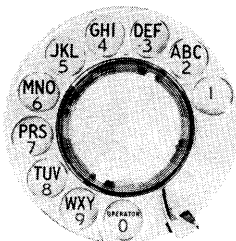
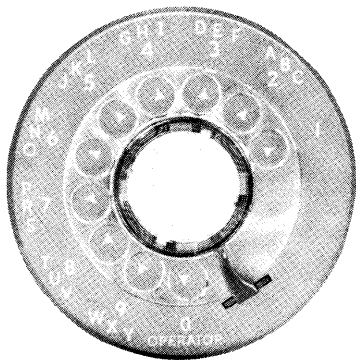
For Type 52 Dial

Converts AE Type 52 dial for use on WE, ITT or SC Type 500 telephones.	
H-886062-1each \$6.00

Type 51-A Dial Assemblies

White enameled circular metal number plate. Black letters and red or black numerals. One-piece clear plastic fingerwheel, except on D-84839-A.

D-84821-C	Alphabetical number plate. For phones without extended number plates.....	each	\$4.50
D-84820-C	1-0 number plate. For phones without extended number plates.....	each	4.50
D-84875-A	Arrow plate. For early Type 80 phones with separate extended number ring. Use with Extended Number Rings D-530113-A or D-530138-A.....	each	4.50

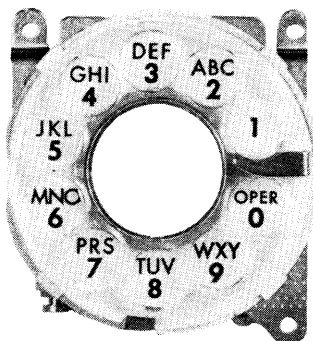
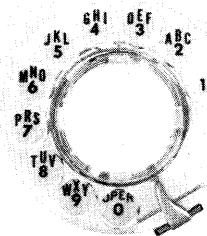


Antique Telephone Dial Assemblies

Same as Type 51-A dial assemblies, but with chrome or gold fingerwheels and accessories.

D-84870-C Antique Telephone Dial Assembly with chrome fingerwheel and accessories...each **\$4.50***

D-84870-N Antique Telephone Dial Assembly with gold fingerwheel and accessories...each **4.75***



Dial Mounting Cups

For All Type 51 Dial Assemblies

One-piece cast aluminum cup for mounting dial at a 25-degree angle on a horizontal or vertical surface. A dial adapter plate and machine screws for attaching dial to cup, plus wood screws for fastening cup to table or switchboard are supplied. Black finish.

D-49312-AReach **\$1.62**

Type 54 Dial Assemblies

For Starlite® Telephone Only

Plastic coated aluminum. Gray opaque except for circular portion under holes of fingerwheel. Electroluminescent lamp shines through circular section. Lamp requires 110 v., a.c. One-piece clear plastic fingerwheel. Wire wrapped terminals.

D-84935-A Lighted Dial with alphabetical number plate.....each **\$6.75**

D-84935-X Non-lighted Dial with alphabetical number plate.....each **4.50**

D-84942-A Lighted Dial with 1-0 number plate...each **6.75**

D-84942-X Non-lighted Dial with 1-0 number plate.....each **4.50***

Type 154-A Miniature Dial Assemblies

For Styleline® Phone Only

The Type 154-A incorporates all the features of the Types 51 and 52 dials, except SATT party identification. Moveable fingerstop eliminates the space between 1 and 0, resulting in a smaller dial but with standard-sized finger holes. Available with or without electroluminescent lamp for lighted dial.

D-84993-A Lighted Dial with alphabetical number plate.....each **\$6.75**

D-84993-AX Non-lighted Dial with alphabetical number plate.....each **4.50**

How to Order SATT Dials Separately

NOTE: SATT A dials are furnished with pins set in all 3 lobe positions; SATT B dials are furnished with pins set in the No. 1 lobe position. Lobe position can be changed at the time of installation.

For Types 80, 85, 86, 87, 87-A, 90, 90-M, telephones

SATT System	Color-Order Suffix	
SATT A D-84915	Black- A3	Turq. (Lt. Green)- G3
	Beige- B3	Yellow- J3
	Med. Gray- C3	Lt. Blue- K3
	Dk. Green- D3	Pink- L3
	Ivory- E3	White- M3
	Red- F3	
SATT B D-84916	Black- A1	Turq. (Lt. Green)- G1
	Beige- B1	Yellow- J1
	Med. Gray- C1	Lt. Blue- K1
	Dk. Green- D1	Pink- L1
	Ivory- E1	White- M1
	Red- F1	

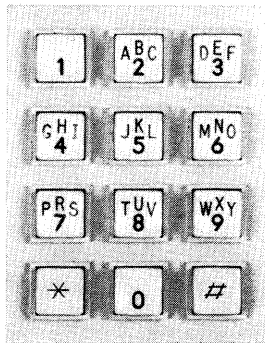
For Types 182, 182-A and 192-A telephones

Ordering Number	Description
D-84936-A3	SATT A, Lighted
D-84936-X3	SATT A, Non-Lighted
D-84937-A1	SATT B, Lighted
D-84937-X1	SATT B, Non-Lighted

For Types 95, 183, 860-A, 880 telephones

D-84885-A3	SATT A
D-84887-A1	SATT B

New Touch Calling Units



Twelve-button units have been standardized by the Bell and General Telephone Systems. Two additional buttons, an asterisk and a number mark, are associated with Data Retrieval equipment and sophisticated services soon to come. They provide special coding arrangements, start/stop, etc.

Mounting bracket kit contains all necessary mounting hardware for adapting older Touch Calling phones to new Touch Calling unit. For use with Types 80, 95, 182-A, 192-A, 186 and 187 telephones.

- D-840000-A** ABC Touch Calling Unit with tone generatoreach **\$19.95**
- D-840000-C** ABC Touch Calling Keypad without tone generator.....each **9.10**
- D-840000-AR** ABC Touch Calling Unit with tone generator and Mounting Bracket Kit. each **20.85**

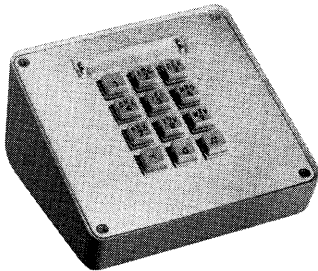
Type I Touch Calling Unit Adapters

Converts standard, self-compensating rotary dial telephones to provide the same multi-frequency, end to end signaling service as the Type 890 Data Retrieval Subset. For use with a telephone connected computer with audio response capabilities. See Type 890 Telephone, page M-11. Normal use and operation of the telephone is not affected by the addition of the Type I Adapter.

The unit is available with black or beige housing. Rubber feet protect surfaces from marring. Can be wall mounted by rotating the Touch Calling unit 180 degrees. A brushed aluminum face plate can be installed to position the number card cover above or below the Touch Calling unit. Dimensions: 3½-in. high, 5-in. wide.

- HD-840102-A** Black Housing with 9-ft., 4½-in. cord **\$35.00**
- HD-840102-B** Beige Housing with 9-ft., 4½-in. cord..... **35.00**

TECHNICAL LITERATURE AVAILABLE ON REQUEST: 473-821-400, Connections.



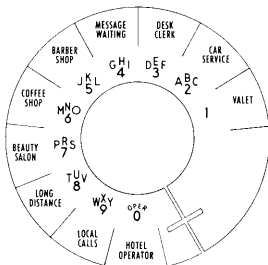
Dial Parts and Tools

Dial Lubricant

For mechanisms which may be required to operate at low temperatures. Compatible with plastics. Rust protection.

- H-78612-79** 2-ounce containereach **\$.80**
- H-78612-80** 1-gallon container.....each **On App.**

Hotel/Motel Dial Rings and Tabs



Customized decals for every hotel or motel customer. Several styles and options are available. For detailed ordering information, contact your AE sales representative.

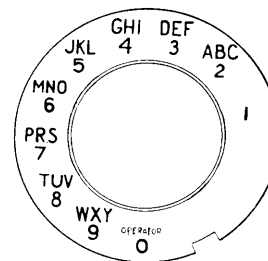
DPAE-1

Plastic Fingerwheels

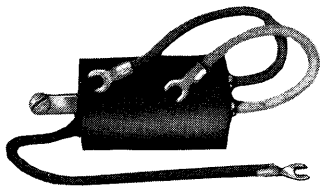
For replacing most GTE Automatic Electric plastic and metal fingerwheels, except for those of the Styleline® phone.

- HD-780059-BR** Bulk package of 120 fingerwheels and fastening screws pkg. **On App.**
- HD-780059-AR** Single fingerwheel and screw in plastic envelope each **On App.**

Dial Number Plates

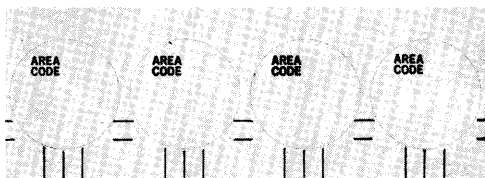


- | | | | |
|-------------------|---|----------------|---------------|
| | | | 100 & |
| | | | 1 to 99 Over |
| D-53772-A | Alphabetical Number Plate. White background, red figures and black letters.....each | \$.30 | \$.25 |
| D-53146-A | Numbered 1-0 in black.....each | .27 | .23 |
| D-53211-A | 1-0 and Operator.....each | On App. | |
| D-530114-A | Point-Marking Dial Plate. White arrows on black. For Type 51-A dials used with extended number rings.....each | .27 | .23 |
| D-530227-A | Same as D-530114-A, except black arrows on white background. each | .27 | .23 |

Radio-Suppressor for Dials


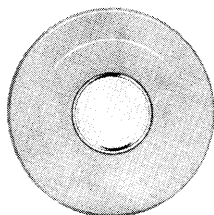
Can be connected to any dial. Serves the same purpose as Type 51-A Radio Suppressor Dial, D-84844-C. Mounts within the telephone housing. Three connecting cords and screw terminal provided. $1\frac{1}{4} \times \frac{3}{4} \times \frac{5}{16}$ in.

H-46526-1each **\$4.80**

Number Cards and Covers


S-430926

- S-430926** Adhesive Dial Number Card, gray (strip of 4, 125 strips per pkg.) pkg. **\$1.75**
- S-434002** Adhesive Dial Number Card Cover. Acetate overlay disc protects dial number card (strip of 4, 125 strips per pkg.).....pkg. **1.50**
- D-530400-A** Number Card for all Touch Calling telephones, plus Styleline® rotary dial and Touch Calling handsets (strip of 45).....strip **.25**
- D-530388-AR** Plastic Cover for above (25 per pkg.)pkg. **2.95**

Dial Blanks


D-49995

For manual, convertible phones. Furnished with number card, plastic cover and mounting parts.

- D-49607-A** For Types 40, 43, 47 and 83 telephones. Black plastic.....each **\$.80**
- D-53091-A** White number card for dial blank.....each **.030**
- D-53094-A** Clear plastic cover for dial blank.....each **.010***
- D-49995** For Types 80, 85 and 90 telephoneseach **.75**

Add Appropriate Color Suffix to D-49995

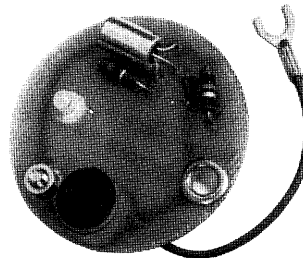
- | | | |
|---------------------|---------------------|--------------------|
| AR Black | ER Ivory | KR Lt. Blue |
| BR Beige | GR Turquoise | LR Pink |
| DR Dk. Green | (Lt. Green) | MR White |
| | JR Yellow | |

Dial Tools

- H-886316-1** Tool for removal of one-piece plastic dial fingerwheel.....each **\$.25***
- H-25937** End wrench for dial. For governor nut and large impulse cam nut.....each **1.45***
- H-16480** Socket wrench for dial. For small impulse cam nut.....each **2.55***
- H-16290-7** Dial pliers. For adjusting dial springs and governor.....each **3.19***

Transistorized Long-Loop Amplifiers

**No Central Office Modifications Required—
Permits Field Conversion**



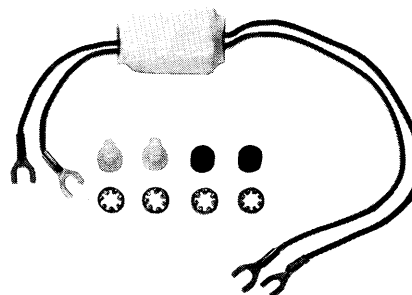
Amplifier is designed for use with any standard AE telephone with self-compensating network. Provides 7 db effective transmitting gain on long-loop subscriber circuits. Permits modification of any standard set to make it comparable to WE 507, 509, 557, 559 long-loop sets. Useful on loops over 1500 and up to 2500 ohms. Eliminates booster battery and repeaters on long-loops.

NOTE: Amplifies only the transmitter output. Does not affect the receiver. Very long loops may require an external voice frequency repeater.

- S-420620** For mounting in standard Type 810 handseteach **\$9.45**
- 420621** For base mounting in any telephone. Equipped with polarity guardeach **12.50**

Orbit Long-Loop Amplifiers

For Use With Dial-In-Handset Telephones



Tiny amplifier brings long-range loop capability to dial-in-handset telephones, such as the AE Styleline® phone. Provides 7db transmitter gain with good sidetone performance. Operates on loop currents of 15-35Ma. Loop range of 1500-2500 ohms. For use with both rotary dial and Touch Calling phones.

- PA-239A2** Long-Loop Amplifier for use with dial-in-handset phones.....each **\$11.50***



Type 811 Handsets

Standard Type 811 handset is for use with any self-compensating GTE Automatic Electric telephone. Handset housing is molded of tough, lightweight plastic that withstands the roughest abuse. Transmission is clear and lifelike. Standard 4-conductor retractile or armored cord connects easily to telephone.

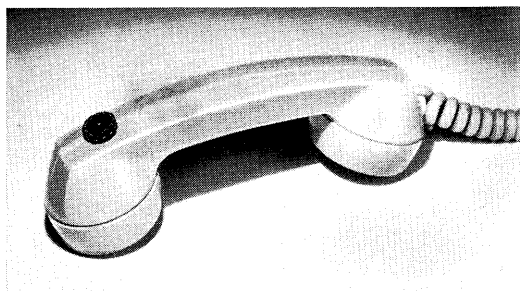
- L-9053-CA** Black Type 811 Handset with black retractile cord.....each **\$7.05**
- L-9054** Type 811 Handset in choice of 11 colors, with matching retractile cord. Add appropriate color suffix, below.....each **7.05**
- L-9079-CA** Black Type 811 Handset with armored cord each.....**On App.**
- L-9079** Type 811 Handset in choice of 10 colors, with armored cord. Add appropriate color suffix below (not available in CT, avocado).....each **On App.**

Color Suffixes

CB Beige	*CG Turquoise	*CL Pink
*CC Med. Gray	(Lt. Green)	CM White
CD Dk. Green	*CJ Yellow	CT Avocado
*CE Ivory	*CK Blue	CW Parchment Tan

*Not stocked with armored cord.

Type 820 SOUND-BOOSTER Handsets



One in twelve Americans has a hearing problem. The new Sound-Booster handset makes it easier to reach this important premium-rate market. The Type 820 Sound-Booster handset fits any standard AE or WE self-compensating telephone. Hard-of-hearing customers are no longer limited to one style of instrument.

A small knob on the handset enables the user to increase the sound of a caller's voice as easily as tuning a radio. As the knob is turned, the receiver volume is progressively increased until it reaches its maximum sound level. The increase in gain causes an increase in the high frequencies where most hearing deficiencies occur. At maximum output the sound level will not injure the ear.

The Type 820 handset resembles the familiar AE handset, except for the volume control knob, and is equipped with a self-contained transistorized receiver amplifier. No additional

mounting hardware is required. It is as easily installed as a regular handset. Available in 11 colors with matching retractile cord. A standard 4-conductor cord is used to connect the handset to the telephone.

The amplifier, powered from the d.c. voltage across the transmitter, does not penalize the supervisory limit of the loops on which it is used. The Sound-Booster handset provides a 28 db gain on loops of 0-1300 ohms over the regular handset. The amplifier is mounted on a printed wiring card assembly. If a problem develops in the receiver amplifier, the complete card assembly (WA-1095-A) is replaced. Handsets are seldom replaced entirely. Most difficulties are remedied by replacing the defective component.

- L-9075** Type 820 Handset with matching retractile cord.....each **\$42.50**

Add the Corresponding Suffix for Color Desired

CA Black.....	No Charge
CB Beige.....	"
CC Med. Gray.....	" *
CD Dk. Green.....	"
CE Ivory.....	"
CG Turquoise (Lt. Green).....	"
CJ Yellow.....	"
CK Lt. Blue.....	"
CL Pink.....	"
CM White.....	"
CT Avocado.....	"

TECHNICAL LITERATURE AVAILABLE ON REQUEST:
473-803-200, Installation and Field Maintenance.

Proctor Receiver Amplifiers

For Use with

Type 980 Styleline® Dial-In-Handset Telephones

Receiver amplifier boosts sound level for hard-of-hearing persons using rotary dial Styleline handset. Mounts inside handset, with volume control protruding near the receiver end. Amplifies a caller's voice up to 19dB.

Installation is an easy shop procedure. All connections are made on screw terminals of telephone components. Slot must be cut in handset to accommodate volume control. No external power supply required. Solid state circuitry. Includes all mounting hardware.

- S-420611** P-0446 Receiver Amplifier and mounting hardware.....each **\$24.50**

Anti-Noise Transmitters

For Standard Self-Compensating Telephones

The Anti-Noise Transmitter reduces extraneous noise and side-tone picked up by a standard telephone transmitter. It is not as effective as the noise-canceling transmitter, but satisfactorily eliminates minor noise problems. It provides considerable improvement over a standard transmitter in noisy locations.

Can be used in colored handsets—transmitter fits within handset.

- D-38386-A**.....each **\$3.50**

Roanwell Noise-Canceling Transmitters



Model C-505

Recommended in areas of extreme noise where the user would normally raise his voice. The noise-canceling transmitter replaces the complete transmitting unit and mouthpiece on AE Type 810 and 811 Handsets. Minimum order of colored units, 2. Ship. wt., 4 oz.

Standard Output—18 db Average

S-428160 For AE Types 40, 43, 47, 50 telephones.
Model R-CO. Black.....each **\$12.44**

High Output—15 db Average

For Phones Using Types 810 and 811 Handsets

S-428173	Black.....each	\$ 9.95
428172	Beige.....each	14.93*
428174	Lt. Blue.....each	14.93*
428175	Med. Gray.....each	14.93*
428176	Dk. Green.....each	14.93*
428177	Ivory.....each	14.93*
428178	Pink.....each	14.93*
428180	Turquoise (Lt. Green).....each	14.93*
428181	White.....each	14.93*
428182	Yellow.....each	14.93*

Type 841 Pushbutton Handsets



The Type 841 handset is equipped with a pushbutton switch that can be wired to perform various functions not possible with a standard handset. It is lightweight, well-balanced and tailored to modern communications. Adaptable to AE self-compensating telephones.

By opening the transmitter circuit with the pushbutton, all side-tone is eliminated. The caller listens without interference of noise passing from the transmitter to the receiver in his own handset. The Type 841 handset is factory-wired to permit field conversion from push-to-talk operation to push-to-listen service.

The pushbutton switch can also be wired to control the operation of remotely located equipment, such as a dictation machine, and can be used to conserve battery current on local battery telephone installations. Chromium switch guard prevents pushbutton from being activated when handset is placed on its side.

When ordering, add appropriate suffix for color desired.

L-9077 Type 841 Pushbutton Handset.....each **\$18.25**

Color Suffixes

CA Black	CE Ivory*	CK Lt. Blue*
CB Beige	CG Turquoise*	CL Pink*
CC Med. Gray*	(Lt. Green)	CM White*
CD Dk. Green*	CJ Yellow*	

TECHNICAL LITERATURE AVAILABLE ON REQUEST: 473-801-200, Description, Operation, Field Maintenance.
470-933, Operation, Maintenance, Replacement Parts.

Operators' Headsets



Operator's Headset with
Transistor Amplifier Unit

Used by switchboard operators in manual exchanges and PBX boards. Also used at toll boards and for supervisory duties. Transmission characteristics are similar to the WE 52-AW headset.

Can also be furnished with a transistorized amplifier unit for noisy locations or hard of hearing operators. The amplifier is housed in a metal case on the plug at the end of the headset cord. A volume control knob is located on the front of the case. No alterations are needed to use the headset—switchboard circuits not disturbed in any way.

Ordering Number	Type	Description	Price
S-713050	Operator's Headset only. With spade-tip cord and plug. Equal to WE 52-SW Headset.....each	\$21.21
713054	SS-15135-1	Operator's Headset with Transistor Amplifier Unit.....each	87.00*
.....	SS-15135-30	Transistor Amplifier Unit only. For attachment on WE 52-AW Headset.....each	60.00*
.....	RN-1C	Roanwell Noise-Canceling Transmitter for use with R-52-AW Headsets. Red.....each	58.93*

Prices are subject to change without notice.

M-33

Audiosears Operators' Headsets



Lightweight, rugged. Adjustable headband, boom and mike housing provide maximum comfort and ease of operation. WE 52-SW equivalent. With 5-ft. vinyl cordset terminated with twin telephone plug.

S-713049 1400PL Operator's Headset.....each **\$21.17**

Operator's Jack Box Kit

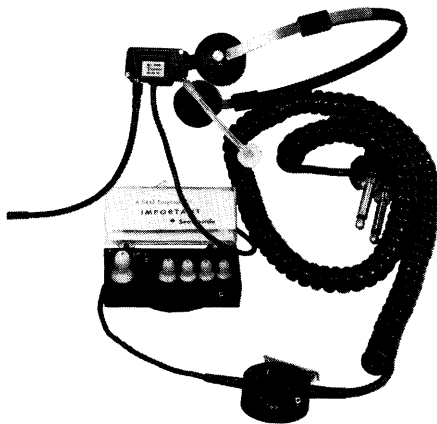
Adapts both standard and key telephones, desk or wall versions, for use with an operator's headset. This application is useful in newspaper offices, stock brokerages, etc. where both hands must be free while using the telephone. NOTE: A headset is not included in the kit—order separately. This kit supersedes kits H-60212-1 and H-60212-4. Unassembled.

GTE AE No.	Manu. No.		
425619	MO-20140	Operator's Jack Box Kit	each \$5.30
.....	L-7032-AO	Headset Only	each 27.00*

TECHNICAL LITERATURE AVAILABLE ON REQUEST: 473-010-200. Installation.

Pacific Plantronics Lightweight Miniature Headsets

Microphone-Receiver for PBX and PABX Supervisors and Operators

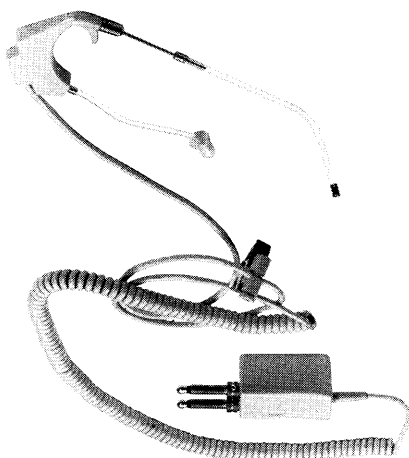


A precision communications instrument. Unit is rugged and dependable. Withstands rough handling during periods of continuous use. Adaptation of space flight design. Unprecedented transmission clarity. Transmits softest speaking voice clearly, distinctly. Sibilants and other distortions, common with conventional close-talking microphones, are effectively eliminated.

Weight: less than two ounces; helps eliminate headset fatigue. Headset transducer capsule can be easily clipped to bow of ordinary eyeglass frame. Various sized replaceable ear pieces assure perfect fit, personal hygiene for each user. Retractable cord allows complete mobility within a 10-foot radius without removing the headset. Supervisor's headset available with 15-ft. or 25-ft. retractile cord on special order.

Complete assembly includes: headband, plastic ear pieces, lanyard, amplifier, plug equivalent to WE 289B or 396A, retractile cord, instruction book, zippered plastic storage case. Shipping weight, 1 lb.

GTE A.E. No.	Manu. No.		
S-713051	MS-50/T55-2	Operator's Headset with 10-foot cord	each \$60.10
S-713056	MS-50/T61-12-1	Supervisor's Headset with locking push/talk switch and 10-foot cord	each 95.20
412822	MS-50/T62-10-2	Supervisor's Headset with locking push/talk switch on separate leads. Six wires. 15-foot cord	each 99.80*



Pacific Plantronics StarSet Headset

Weighing less than ½ an ounce, this headset is ideal for those whose work keeps them on the phone much of the day. No headband needed; set rests lightly and firmly on the ear. Automatically reduces background noise. Engineered with sound power limiting to eliminate abrupt sounds. Compatible with all standard telephone equipment, switchboards and PABXs. Included with StarSet are cords, storage cradle and six sizes of plastic eartips, lanyard, cable clamp, left and right hand bow clips.

GTE AE No.	Manu. No.		
S-713058	HS0108-1-B	StarSet Headset with 10-foot coiled cord.....each	\$62.69
713059	HS0108-4-B	StarSet Headset with 5-foot straight cord.....each	62.69*
713060	HS0108-5-B	StarSet Headset with 7-foot straight cord.....each	62.69*

Pacific Plantronics Headset Jack Adapter Kits

For Types 80, 186, 187, 860 and 860B Telephones

Kit adapts specified AE phones for headset operation. For use with both dial and Touch Calling phones. Kit includes switch assembly, amplifier assembly, jack assembly and all necessary mounting hardware and drill templates. No drilling or tapping of metal parts is required. With Types 80 and 85 phones, ringer must be replaced with a Type 46 ringer to provide space for conversion kit. Ringer mounting bracket is included in kit.

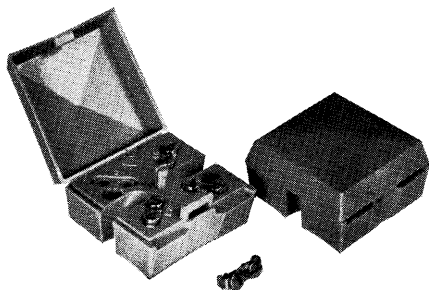
Turn key assembly permits easy selection of either handset or headset operation. Flashing, normally performed by actuating the hookswitch, can be accomplished by depressing the key knob when headset is in use.

Solid-state, printed-circuit amplifier assembly boosts the headset transmitter output to a level equivalent to that of the carbon handset transmitter.

Jack assembly provides interface between phone and headset.

420105	Conversion Kit for Type 80 phone...each	\$43.99*
420103	Conversion Kit for Type 186 phone...each	39.84*
420104	Conversion Kit for Type 187 phone...each	38.60
420106	Conversion Kit for Type 860 phone...each	43.72*
06884-00	Conversion Kit for Type 860B phone...each	27.40*

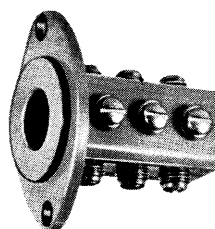
Telephone Connecting Blocks



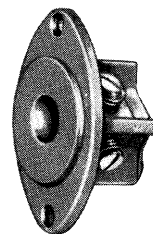
Trim-lined connecting blocks with smooth cutouts for connecting cords and line wires. Opening in base allows line wires to be brought in directly under the block. One-piece, polypropylene construction does away with screw-type opening and closing. Pyramid shaped cover conceals its own latches, opens easily when center is pushed in. Ivory only.

D-150206-A	Type 13 (three points).....each	\$.30
D-150207-A	Type 14 (four points).....each	.35
D-150290-A	Type 15 (five points).....each	.40

Types 47C and 47D Connecting Blocks



Type 47C



Type 47D

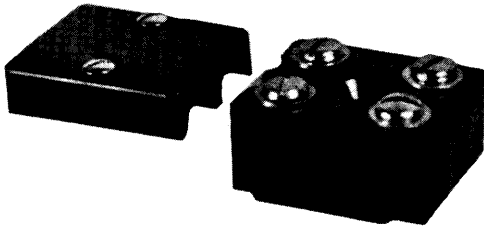
Attractive, easy to install, flush mounted connecting blocks. For permanent, pre-wired, non-portable telephone installations. Used with Type 63A Junction Box, Type 60 Mounting Ring and Type 16A Circular Face Plate. Also used with Type 19A Rectangular Face Plate and Type 43A Bracket. Type 47D can also be installed directly in drywall without Type 63A Junction Box.

Available in gray and brown.

S-550503	Type 47C. 12-terminal; up to six pair. 2¼x1½x2-in. Ivory. Std. pkg., 250each	\$1.70
S-550504	Type 47D. 4-terminal; up to two pair. 2¼x1½x¾-in. Ivory. Std. pkg., 300per 100	64.00

Prices are subject to change without notice.

Connecting Blocks



Tongue and groove construction for alignment in multiple installation. Insulating covers have partitions between each pair of connections to prevent shorts. Bakelite base and cover.

Ordering No.	Type	Wt., Lbs. per 100	Price Each
S-550501	42 (Three-point)	7	\$.48

Connecting Blocks

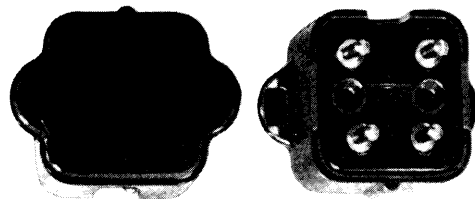


Ordering No.	Type	Description	Wt., Lbs. per 100	Price Each
S-550515	44A	10-Terminal Connecting Block	10	\$.49

NOTE: Covers and Mounting Backboards must be ordered separately.

Type 283B Portable Phone Plugs

For Indoor and Outdoor Use



The industry standard for indoor and outdoor use. Fits Types 404B, 548A Jacks and 550A Jack Assemblies.

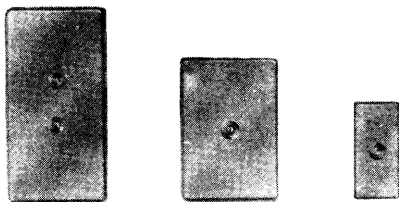
Plug construction consists of solid brass prongs molded into plastic base. Non-shorting shatter-proof molded plastic cover.

Stocked in ivory only. Available in beige, light olive gray, brown, white, pink, turquoise blue, turquoise green.

S-426446 Ivory only. Std. pkg., 100.....per 100 **\$45.00**

Non-Shorting Plastic Covers

For Type 44A Blocks

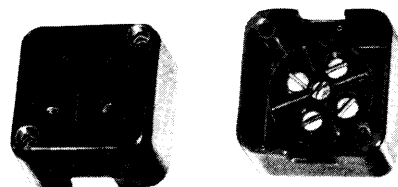


Type 101D Type 101C Type 101A

Ordering No.	Type	Color	Capacity Type 44A Blocks	Wt., Lbs. per 100	Price Each
S-551101	101A	Beige	1	4	\$.22
S-551103	101C	Beige	2-3	11	\$.32
S-551104	101D	Beige	4	12	\$.41

Type 404B Portable Phone Jacks

For Surface Mounting



For surface mounting on walls or baseboards where external wiring is necessary. May also be flush mounted in any standard electrical box using Type 44 Bracket and Type 19B Face Plate.

Jack consists of molded plastic shell containing four meshed helical spring connectors with screw terminals.

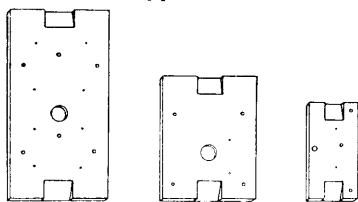
Two 1½-inch cadmium plated oval head wood screws packed with each jack.

Stocked in ivory only. Available in beige, light olive gray and brown.

S-553608 Ivory only. Std. pkg., 100.....per 100 **\$59.00**

Plastic Mounting Backboards

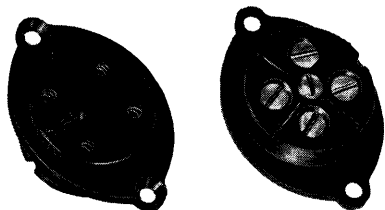
For Type 44A Blocks



Type 168F Type 168E Type 168D

Ordering No.	Type	Color	Capacity Type 44A Blocks	For Plastic Cover	Wt., Lbs. per 100	Price Each
S-550401	168D	Beige	1	S-551101	5	\$.21
S-550402	168E	Beige	2-3	S-551103	12	\$.35
S-550403	168F	Beige	4	S-551104	18	\$.46

Type 548A Portable Phone Jacks
For Flush Mounting



Used with Types 43A Bracket and 19A Face Plate in any standard electrical box. Also used in prewired installations with the Type 63A Junction Box, Type 60 Mounting Ring and Type 16A Face Plate.

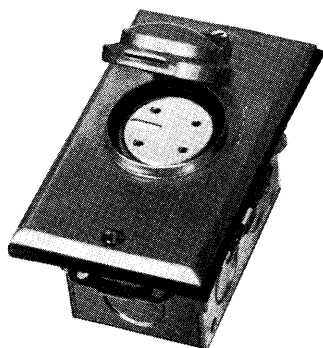
Jack consists of molded plastic shell containing four meshed helical spring connectors with screw terminals. Two mounting screws packed with each jack.

Stocked in ivory only. Available in beige, light olive gray and brown.

S-553609 Ivory only. Std. pkg., 100.....per 100 **\$70.00**

Type 16152 Outdoor Portable Phone Jack Assemblies

For Flush Mounting



Provides complete installation package for one flush mounted outdoor telephone jack location.

Face Plate constructed of anodized heavy gauge aluminum. A fiber impregnated rubber gasket provides a watertight seal on any masonry, wood or other uneven surface. A standard 2x2x3-in. electrical box equipped with 1/2-inch knockouts on all sides. A heavy spring loaded cover equipped with a sponge rubber gasket helps secure the portable phone plug to the jack and acts as a weather-proof seal when jack is not in use.

Assembly contains standard Type 493A Phone Jack mounted on Type 43A Bracket. Accepts 283B plug.

Outlet box also has adapters for mounting in sheet rock or similar wall material. Dimensions: 4 1/2 x 2 3/4 x 2 1/2-in. Std. pkg., 32.

S-553616each **\$4.59**

Type 16151 Outdoor Portable Phone Jack Assemblies

For Surface Mounting



Jack housing constructed of rust-proof aluminum and stainless steel. Spring loaded gasketed cap assures moisture-proof seal. Housing contains Type 493A jack. Accepts 283B or 505A plug.

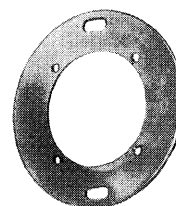
Jack may be mounted for wire entrance from top, bottom or either side. Wire entrance coupling contains neoprene bushing. Cover may be rotated to any position required. Dimensions: 3 1/2 x 2 1/2 x 2 1/4-in. Std. pkg., 72.

S-553618each **\$5.16**

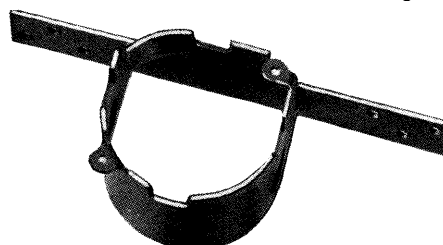
Mounting Accessories
For Portable Phone Jacks



Type 43A Bracket



Type 60 Mounting Ring



Type 63A Junction Box

Mounting Brackets, Rings and Junction Boxes are heavy gauge zinc chromate finished steel.

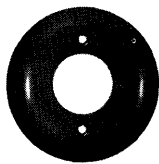
Type 43A Bracket. Ends may be removed to fit any cover. For Types 493A and 548 Jacks, or 47B, C, D Connecting Blocks. Requires 19A, B, or C Face Plate. Dimensions: 4 1/8 x 1 3/4 x 1/4-in. Std. pkg., 500.

Type 60 Mounting Ring. For direct drywall installation of portable phone jacks, or Types 47C and D Connecting Blocks with Type 16 Face Plate. Also used to adapt the installation of these units in the Type 63A Stud Mounted Junction Box. O.D., 2 7/8-in.; mtg. cent., 2 3/8-in. Std. pkg., 1000.

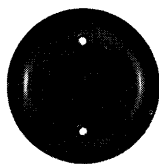
Type 63A Stud Mounted Junction Box. For pre-wired installations of portable phone jacks and Types 47C and D Connecting Blocks. Dimensions: 5 1/2 x 2 1/4 x 1 5/8-in. Std. pkg., 100.

S-550724 Type 43A Bracket.....per 100 **\$21.00**
S-556695 Type 60 Mounting Ring.....each **.16**
S-550710 Type 63A Junction Box.....each **.48**

Type 16 Plastic Face Plates



Type 16A



Type 16D

Supplied with a Type 60 Ring. May be mounted with their associated jacks or connecting blocks directly in drywall or pre-wired installations using the Type 63A Junction Box. Two mounting screws provided with each face plate.

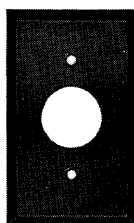
Stocked in ivory only. Available in beige, light olive gray and brown.

Type 16A—use with Type 548A Phone Jack.

Type 16D—blank to cover unused pre-wired junction boxes.

S-556171	Type 16A. Ivory only. Std. pkg., 100	per 100	\$36.00
S-556167	Type 16D. Ivory only. Std. pkg., 100	per 100	36.00

Type 19 Plastic Face Plates



Type 19A



Type 19C

Type 19A—use with Type 548A Jack, Types 47C and 47D Connecting Blocks, and Type 43A Bracket for mounting in any standard electrical box.

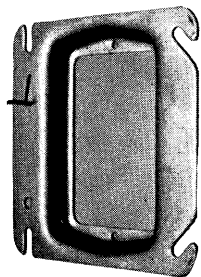
Type 19C—use with old style Type 47B Connecting Block and Type 43A Bracket in an existing electrical outlet box, or for other installations where a small cord hole is desired in an outlet box cover.

Each Face Plate provided with two mounting screws.

Stocked in ivory only. Available in beige, light olive gray and brown.

S-556170	Type 19A. Ivory only. Std. pkg., 100	per 100	\$32.00
S-556169	Type 19C. Ivory only. Std. pkg., 100	per 100	32.00

Outlet Box Cover

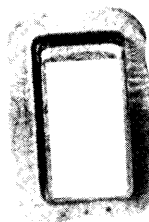


Used in prewiring to assure that outlet plates will be flush with the wall surface. Note wall thickness when ordering.

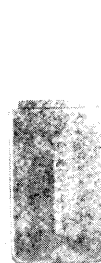
Ordering No.	For Wall Thickness, Inches	Std. Pkg.	Price Each
S-551111	1/2	100	\$.12
S-551112	3/4	50	.14

Flush Mounting Building Service Boxes

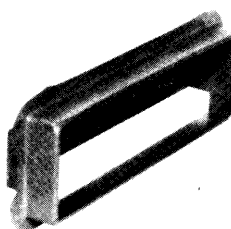
Galvanized Steel With Removable Cover



Type 900



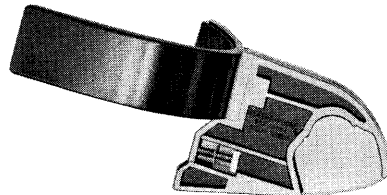
Type 1130



Type 1020 GT

Ordering No.	Type	Dimensions, Inches	Back Plate	Std. Carton Lbs.	Wt., Lbs.	Price Each
S-550712	900	7x 3 3/4x2	Open	50	40	\$ 1.15
S-550713	1020-GT	4 1/2x14 1/2x2 5/8	Drilled	25	60	2.33
S-550714	1130	25x14 1/2x4 1/2	Drilled	2	36	12.70

Rest-A-Phones



A telephone rest adjustable for left or right shoulder. Three-point suspension holds phone at correct height and angle. Cradle lined with urethane foam.

Will not soil clothing. Fits all standard phones. Weighs 1.2 oz.

S-424891	Black.....	each	\$1.50
S-424893	Dk. Green.....	each	1.50
S-424892	Gray.....	each	1.50
S-424890	Beige.....	each	1.50
S-424894	Ivory.....	each	1.50



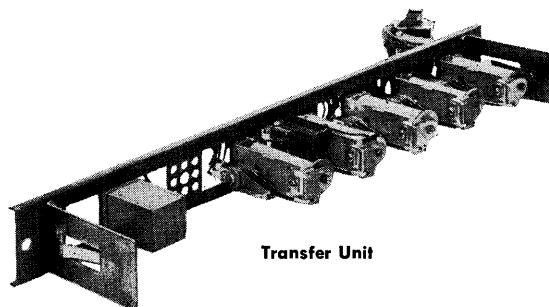
Miniature Transfer Key

DPDT key used for switching one phone to two different lines, connecting two phones to one line, etc. Self-adhesive base attaches directly to telephone. Unit is also compatible with many telephone cords, cables and mounting brackets now in use. Compact unit measures 2 5/8" long, 1 3/8" wide, 7/8" high. Black plastic cover is stocked; green, white and beige also available.

S-425600	Miniature Transfer Key, black.....	each	\$6.06
-----------------	------------------------------------	------	---------------

Subscriber Transfer Service

Switch Calls to Any Designated Station—
No Calls Go Unanswered



Transfer Unit

Enables customers to switch business calls to home phones, or any other designated station. No calls go unanswered. It's a helpful service for physicians, dentists, etc., as well as business men who don't employ a secretary and are often away from their office.

Subscriber Transfer Service connects the customer to a transfer unit located in the central office. To switch calls to his home phone or answering service, the subscriber simply turns a transfer key on either a Type 85-A telephone, with turn key, or on a separate transfer switch key used with a standard phone. All incoming calls are then automatically routed to the home phone or answering service. When the transfer key is operated, ringers sound at both phones. This prevents loss of calls from failure to restore transfer key at the business office.

NOTE: Both business and residence telephones must be connected to individual lines. Ringers of each telephone must respond to the same ringing frequency.

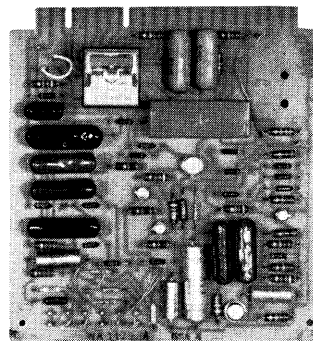
The transfer unit is self-contained and compact; mounts on a convenient 19-in. relay rack. Switching equipment consists of five relays for each subscriber. Subscriber Transfer Service is for use in 48-volt automatic exchanges with or without SATT detection service.

DH-75470-70-A For two subscribers. Mounts on WE 19-in. racks..... each **\$136.00***

TECHNICAL LITERATURE AVAILABLE ON REQUEST:

217-250-100, Description.
217-250-200, Installation.
217-250-300, Maintenance.

Ring Count and Transfer Service



Provides for automatic transfer of calls to a second phone. May be wired for immediate transfer, or transfer on the fourth or fifth rings. Secretary doesn't need to count rings before answering.

Circuit connects to switching equipment and primary and secondary stations. Operation may be 24- or 50-volt. Circuit responds to AC ringing signal, counts ring intervals, and is strapped to transfer at beginning of fourth or fifth ring. If call is not answered, circuit resets the counting cycle for the next call. A timing interval is provided to allow the secondary station to dial "1" to transfer or to flash the operator while holding the transfer.

Circuit cards plug into service card file with 9-card capacity. One card required for each telephone instrument to be transferred to a dedicated secondary station. Two-position brackets permit mounting of card file in RL-series relay rack, or in key system apparatus cabinet.

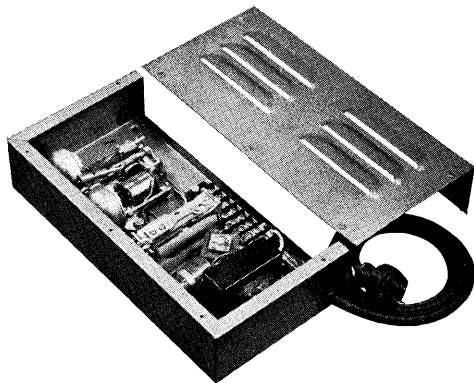
Dimensions: Card, 6" x 5½"; card file, 23½" x 6-11/16".

WA-1179-A	24-volt Printed Circuit Card Assembly.....	each \$57.55*
H-888145-1	Service Card File Assembly. Arranged and wired for one to nine, 24-volt circuits.....	each \$301.00*
WA-1179-B	50-volt Printed Circuit Card Assembly.....	each \$62.65*
H-888145-2	Service Card File Assembly. Arranged and wired for one to nine, 50-volt circuits.....	each \$301.00

TECHNICAL LITERATURE AVAILABLE ON REQUEST:
507-507-100, Description.

Extension Relay Ringing Units

Frequency Ringing



Provides extra ringer on lines that have reached ringer capacity. Principal use is to operate signals, bells, gongs, horns or any device that requires 110 volt, 60 cycle, a.c.

Consists of traffic type telephone ringer, relay and one-to-one isolation transformer. Metal box, 12x6x2½ in., houses the components. Equipped with cord and plug for connecting to 110 volt, 60 cycle, a.c., receptacle. Power requirements for the devices operated can be up to 35 watts.

NL-17022.....each **\$42.00***

Add the Appropriate Letter Suffix to Ordering Number

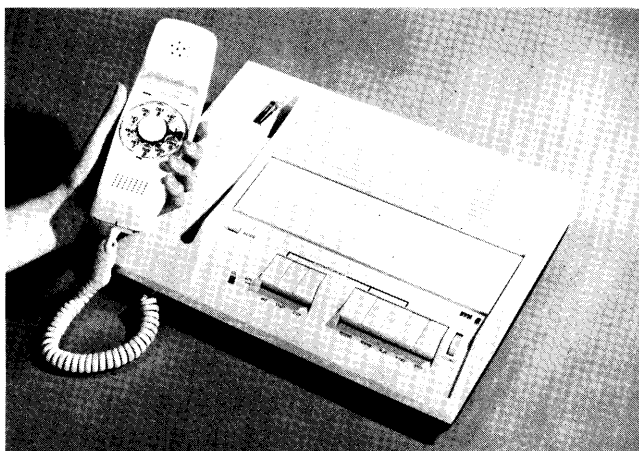
G —33⅓ Cycle Ringer	P —54 Cycle Ringer
H —50 Cycle Ringer	R —66 Cycle Ringer
J —66⅔ Cycle Ringer	S —16 Cycle Ringer
K —16⅔ Cycle Ringer	T —20 Cycle Ringer
L —25 Cycle Ringer	U —60 Cycle Ringer
M —30 Cycle Ringer	V —40 Cycle Ringer
N —42 Cycle Ringer	

Prices are subject to change without notice.

M-39

Type 985B Electronic Secretary®

Telephone Answering and Recording Set



Tape cassettes

The new Type 985B Electronic Secretary® Set is a complete telephone instrument and an automatic answering and recording machine all in one compact package. It provides regular telephone service. It can also deliver a pre-recorded announcement, take messages and play them back for the subscriber. The unit features modern, compact design, and a Styleline® telephone handset. Pushbutton control for every function makes operation simple.

The Type 985B uses tape cassettes for new flexibility in message handling. Several announcement messages can be prerecorded and saved for future use—an important time-saving convenience. Incoming messages can be saved for future reference, taken home, mailed and played back on any regular cassette player.

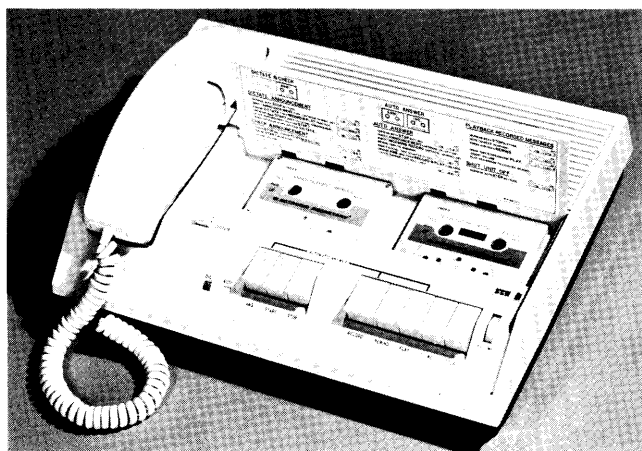
The unit plays back recorded messages through a built-in speaker, leaving the hands free for notetaking. The built-in speaker is also used for monitoring announcement messages. AC bias provides excellent voice fidelity. An optional monitor speaker permits screening of incoming calls. The subscriber can listen to calls as they come in and answer them himself if he wishes.

Calls are never lost. The unit signals an incoming call, even if messages are being dictated, checked or played back. The call can then be answered by simply picking up the handset.

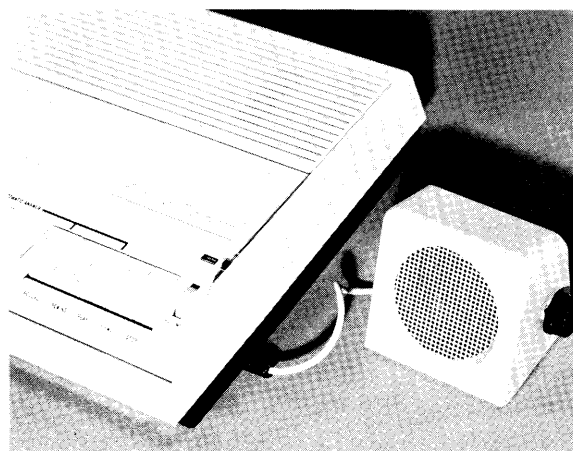
The low price of this new Electronic Secretary® Set makes it an economical service offering for residential and small business customers. The unit can be plugged into any standard 60Hz, 115V AC power outlet. It will work on single-party lines, with key systems, extensions and two-party divided ringing.

Telephone Quality—The Type 985B Electronic Secretary® unit is a special type of telephone, made by telephone people, to meet telephone company standards. It features proven telephone components and the newest in electronic circuitry.

Easy to Install—Line cord connects to telephone line in normal manner. All components are plug-in: low voltage power supply plugs into unit and AC outlet; handset plugs into unit; tape cassettes snap into place; optional monitor speaker plugs into unit.



Unit with cover open, showing operating instructions and tape cassettes



Optional monitor speaker

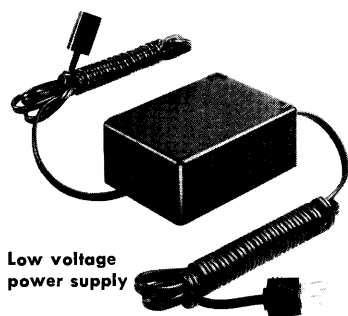
Type 985B Electronic Secretary® Set—Continued

Versatile Operation—The set can be used as an answer-and-record or answer-only machine. Announcement tape cassette can record an announcement of variable length, up to 25 seconds. Unit can be set to record callers' messages in varying lengths, from 30 to 60 seconds. Total capacity of one recording tape cassette is 30 minutes. Works with all American-made telephone handsets having a self-contained rotary dial or Touch Calling unit.

Easy to Use—

- Push button controls are clearly labeled, and operating instructions and pictures are found on the inside cover.
- Lamps indicate when the unit is in the dictate or automatic answering mode.
- Cassettes snap into place—eliminate time-consuming tape threading.
- No special microphone is needed for recording announcement messages—they are recorded by using the telephone handset.
- Calling Party Control eliminates necessity of listening to blank and dial tone signals when caller hangs up upon completion of his message.
- Precise indexing of recorded messages by built-in three-digit counter, plus fast forward and rewind, permit quick, easy, selective playback.

Attractive, Compact Design—Easy-care cabinet available in ivory or avocado. Colors can be changed easily by removing only two screws. Compact unit measures 3¼" high, 14¾" wide, 10⅞" deep. It weighs only 9 pounds, including handset.



Low voltage
power supply

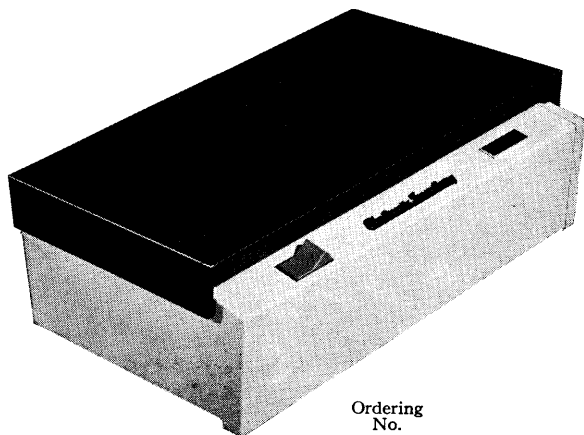
Ordering
Number

Description

WW-950-15	Type 985B Electronic Secretary® Set, avocado; with plug-in handset, announcement tape cassette, incoming record tape cassette and low voltage power supply
WW-951-15	Same as above, except ivory
WW-960-15	Type 985B Electronic Secretary® Set, avocado; without handset, but with announcement tape cassette, incoming record tape cassette and low voltage power supply
WW-961-15	Same as above, except ivory
WW-970-15	Monitor Speaker, avocado
WW-971-15	Monitor Speaker, ivory
WW-8441-44	Additional Announcement Tape Cassette Cartridge
WW-8442-44	Additional Incoming Record Tape Cassette Cartridge
WW-8472-1	Replacement Low Voltage Power Supply Unit

NOTE: Above equipment is stocked at our Waukesha, Wisconsin, facility.

TECHNICAL LITERATURE AVAILABLE ON REQUEST: 478-140-900, Installation and Maintenance
Prices on Request



Model AO-3 Electronic Secretary®

Answer Only Automatic Telephone Answering Set

Designed to automatically answer telephones with a recorded message that can be changed as frequently as desired.

Offers the mechanical facilities to record various types of messages. Microphone permits recording of message on a small tape cartridge. A new message can be recorded as often as desired. Old messages are automatically erased. Has no provision for taking incoming messages.

Two-tone beige-gray.

Ordering No.	Description	A.C. Voltage	Size Inches	Wt. Lbs.	Price Each
WW-785-15	AO-3 Electronic Secretary.....	115	4¾x13x7½	20	\$275.00
WW-775-15	RAO-3 Electronic Secretary. Enables remote changing of recorded announcement.....	115	4¾x13x7½	22	395.00

TECHNICAL LITERATURE AVAILABLE ON REQUEST: 478-120-200, Installation and Field Maintenance.
997-400-500, Shop Procedure—Mechanical Tests.
997-400-501, Shop Procedure—Electrical Tests.
997-400-800, Shop Procedure—Replacement Parts.

Prices are subject to change without notice.

M-41

Party Line Adapters

For Electronic Secretary® Answering Units AO-3, LP-TDC, SP-2, FP, LP-3

Used when an Electronic Secretary is installed on a party line. The Party Line Adapter responds only to the ringing frequency associated with a specific telephone number, causing the answering unit to function only when that particular number is called. The Adapter is not available with straight-line or superimposed ringers. NOTE: Specify ringing frequency when ordering. Dimensions: 5¼-in. high, 7-in. wide, 2⅞-in. deep.

TECHNICAL LITERATURE: 478-105-100, Description
478-105-200, Installation

NL-19246 Party Line Adaptereach **\$30.65***

Add Appropriate Suffix For Ringing Frequency Desired

Suffix	Ringing Freq.	Suffix	Ringing Freq.
S	16	N	42
K	16⅔	H	50
T	20	P	54
L	25	U	60
M	30	R	66
G	33⅓	J	66⅔
V	40		

SW-1A Switch Units

An electrically operated relay switching device. Enables a single automatic telephone answering set to respond to incoming calls on either of two telephone trunks.

Basically a switchable link between the primary answering set and two telephone trunks. This service is useful in instances where traffic conditions on either line are not heavy enough to justify an additional answering set. Embodies fea-

tures permitting operation with Key Equipment. Requires 115 volt, 60 cycle, a.c. power outlet.

WW-779-15each **\$75.00**

TECHNICAL LITERATURE: 478-105-200, Installation.
478-105-100, Description.

Replacement Tapes

Order by part number, general description and length in seconds or feet, whichever applies. Standard lengths will be shipped if others are not specified.

WW-5102-44 Announcement Tape Cartridge for LP, LP-TD and LP-TDC. Thirty-second tape is standard; optional tapes from 30 seconds to 3 minutes.....each **\$2.75***

WW-7540-44 Announcement Tape for LP-3. Standard tape 3 minutes.....each **2.42***

WW-5325-44 Announcement Tape for FP and RFP. Standard tape is 20 seconds announcement message, 30 seconds incoming message. Optional tapes have total time of 3 minutes, split as required between announcement and incoming messages.....each **2.75***

WW-7081-44 Incoming Recording Tape for LP-3, 2-hour capacityeach **\$3.34***

WW-4286-44 1200-foot Recording Tape for LP, LP-TD, LP-TDC and FP (see technical literature for capacity) each **7.00***

WW-5764-44 Recording Tape for RFP. One-hour capacityeach **8.20***

WW-5607-44 2400-foot Reel of Tape for MR-2. each **14.80***

WW-5088-44 Tape Cartridge for AO-3. One-minute tape is standard; optional tapes from 30 seconds to 5 minutes.....each **2.75***

WW-5999-44 Tape Cartridge for Sentry 2 and 2A. Ninety-second tape is standard; optional tapes from 60 seconds to 3 minuteseach **2.75***

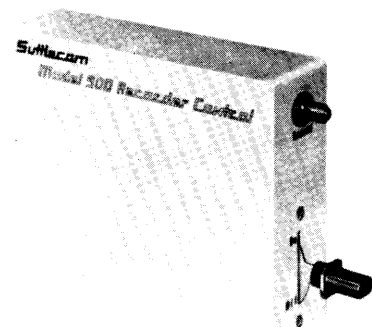
Transistorized Recorder Controllers and Tone Generators

Self-contained Recorder Controller connects to customer-owned equipment to record telephone conversations. Provides a beep tone which meets all FCC requirements. Electronic solid state circuitry.

The unit provides for complete operation of a telephone conversation recording system. A single key activates a separate output of 117 volts, 60 cps at 350 Ma. for remote control of a recorder control relay, and simultaneously connects the recorder input and tone generator to the telephone line. Requires less than 1 watt of operating power. UL approved.

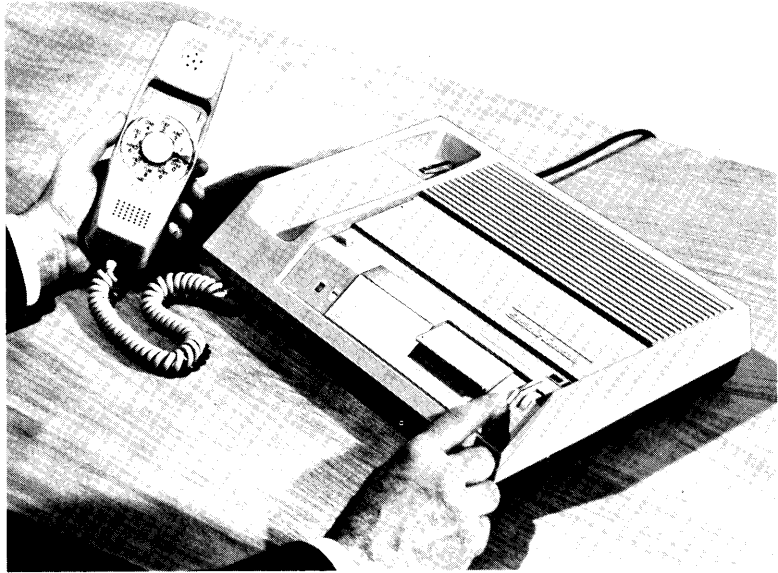
Unit mounts on side of desk or other flat surface. Durable beige plastic housing. 4⅞ in. high; 1½ in. wide; 7⅞ in. deep, including key.

SE-500each **\$99.50***



Type 986-A Recording Telephone

- **Compact Telephone and Two-Way Recorder**—Provides regular telephone service . . . and it can record both sides of any incoming or outgoing call. No separate telephone is needed.
- **Modern Cassette Operation**—Uses cassettes instead of old-fashioned tapes. Cassettes drop into place, eliminating time-consuming tape threading. They can be saved for future reference, taken home, mailed and played back on any regular cassette player. They can also be given to a secretary for transcribing.
- **Low Price**—An unusually economical service offering . . . well within the reach of a vast business market.



- It's a telephone** Provides regular telephone service. It may be used as a single-line telephone or as part of a key system.
- It's a two-way recorder** Can be set to automatically record both sides of any conversation as soon as the handset is lifted. The recording can be stopped or started at any point in the conversation.
- It's a dictation machine** Dictation can be recorded using the handset. No extra equipment is required, and telephone service is not interrupted. The unit signals an incoming call, even if recordings are being dictated or played back.

Operating Features

- **Tape cassettes** drop into place, ready for immediate use. Total recording capacity of one tape cassette is 30 minutes.
- **Pushbutton controls** make operation quick and easy. Instructions are right inside the cover for quick reference.
- **Automatic beep tone** complies with Federal regulations for recording two-way conversations. Tone can be unstrapped by the telephone company.
- **Recordings are played back** through a built-in speaker with volume control, leaving the hands free for notetaking.
- **Optional monitor speaker** permits a large group to hear the other end of a telephone conversation in progress.
- **Precise indexing of recorded messages.** Built-in three-digit counter, plus fast forward and fast rewind, permit quick, easy, selective playback.
- **Optional supervisory relay** permits conversations made on extension telephone to be recorded, providing that the total loop does not exceed 500 ohms.

Easy to Install—Can be plugged into any standard 60Hz, 115V AC power outlet. Line cord connects to telephone line in normal manner. All components are plug-in. Works with all American-made telephone handsets having a self-contained rotary dial or Touch Calling unit. Comes equipped with a buzzer for signaling incoming calls. Provision is made for internal mounting of GTE Automatic Electric Type 46 miniature straight-line ringer, if desired. (See page M-23 for ordering information.)

Attractive, Compact Design—Easy-care cabinet in ivory or avocado can be changed easily by removing only two screws. Dimensions: 3 $\frac{1}{4}$ " high, 14 $\frac{3}{4}$ " wide, 10 $\frac{7}{8}$ " deep. Weight, 8 lbs., including handset.

WW-100-15* Type 986-A Recording Telephone, avocado; with plug-in handset, two recording cassettes and low voltage power supply.

WW-101-15* Same as above, except ivory.

WW-110-15* Type 986-A Recording Telephone, avocado; without handset, but with two recording cassettes and low voltage power supply.

WW-111-15* Same as above, except ivory.

WW-970-15* Monitor Speaker, avocado.

WW-971-15* Monitor Speaker, ivory.

WW-9181-63* Modification Kit for adding optional supervisory relay.

WW-8442-44* Additional Recording Tape Cassette Cartridge.

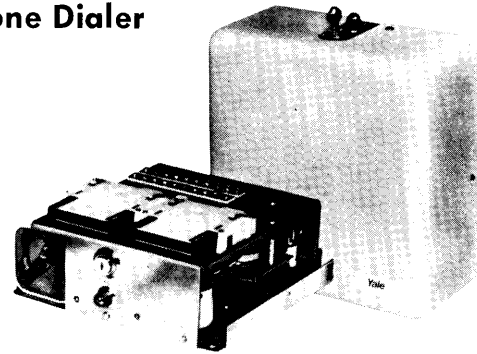
WW-8472-1* Replacement Low Voltage Power Supply Unit.

Prices on request.

M-43

Yale® Automatic Telephone Dialer

Dials pre-determined telephone numbers electronically by means of a pre-recorded tape cartridge, when triggered by sensing device. These devices include magnetic switches, fire and smoke detectors, radio remote control, radar, microwave, infrared, etc. DC-8C unit can be programmed to supervise one type of emergency; the DC-8D, two types. Dialer repeats message twice as each number answers. If number is busy or fails to answer after several rings, unit automatically calls the next number. At end of transmission cycle, dialer automatically shuts itself off and resets to accept another state of emergency. Dialer automatically releases telephone lines between each call. Cannot tie up police, fire, hospital or other emergency lines. Works through any existing telephone system. Dimensions: 9" x 9" x 4".



411291	DC-8C Automatic Dialer, with single tape deck.	each	\$218.50*
411292	DC-8D Automatic Dialer, with double tape deck.	each	253.00*
417345	DC-8E Power Battery Supply, for use with either dialer. Supplies 6.3V at .450A.	each	35.00*
430952	Plug-in Tape Cartridge with continuous magnetic loop. For use with either DC-8C (one required) or DC-8D (two required). Tapes are programmed at the factory. Contact your GTE Automatic Electric sales representative for additional ordering information.	each	6.25*



Enterphone™ System

Enterphone provides telephone communication between building tenants and the lobby. It also enables tenants to control the entrance with their telephones. They can screen their callers and admit only those they wish.

A tenant can answer Enterphone calls from a main telephone or extension. There is no need for a speaker in the suite, as with an ordinary intercom system. High-grade voice reproduction and dependable operation are assured since standard telephone equipment is used.

An Enterphone system is provided as part of telephone service. The apartment telephone can have rotary dial or Touch Calling operation, and can control several entrances. Installation is simple and economical as the system makes use of existing telephone wiring. For building management, Enterphone service means a more secure building, no intercom investment, and no maintenance obligations.

Equipment includes a control panel and one or more directory panels for the lobby entrance, a control unit to be located near the building terminal box, and connecting cable. The control panel is equipped with a telephone-type keypad, and either a telephone handset or a speaker/microphone combination, as desired. The directory panel contains tenants' names and either suite numbers or a numerical code.

Applications include apartment buildings, dormitories, warehouses, private clubs, institutions, office buildings and military installations—wherever security is important.

Enterphone features

- **Keypad Convenience.** To call a tenant, visitor has only to select the desired party and key out the associated number on the keypad. No hunting for individual suite buttons.
- **Simple, Economical Installation.** There is no need for costly renovations to install an Enterphone system. No special wiring to suites—existing telephone wires are used. One 20-conductor cable connects the entrance control panel to the common matrix equipment. This results in distinct savings in cable and conduit cost.
- **Handy Packaging.** System supplied as complete packaged unit, ready to install.
- **Modular Construction.** Entrance control panel can be mounted with any number of directory panels as a unit, or installed at a remote location.
- **Minimum Cut-out Work.** One standard-size wall cut-out is required for the entrance control panel; directory panels mount on surface.

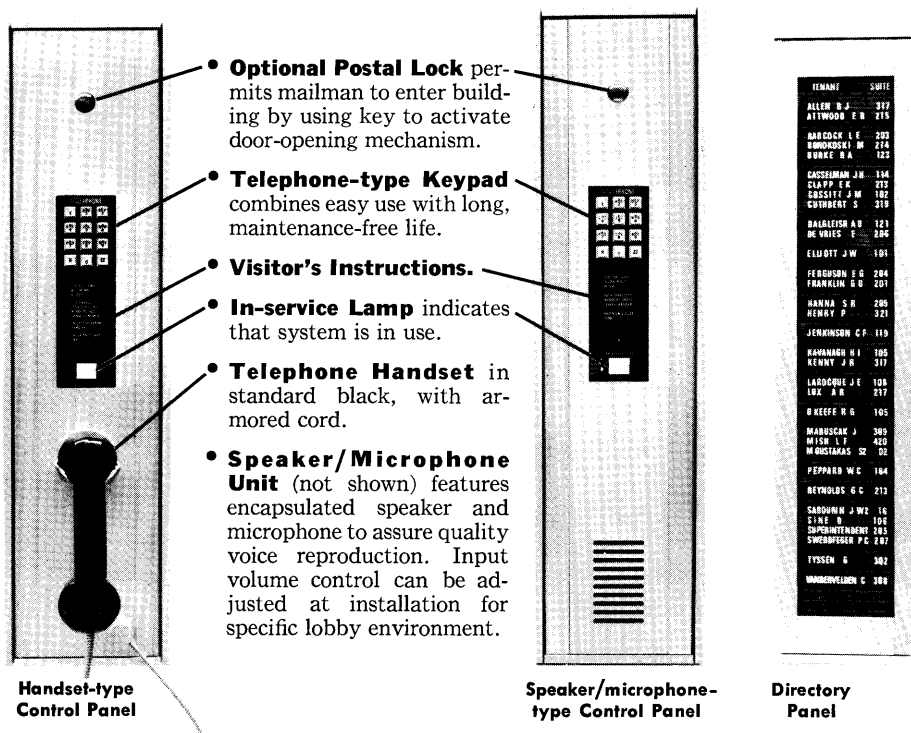
Enterphone™ System—Continued

- **Vandal-proof Design.** All external components securely fastened from inside of panel; all panels locked in place. Telephone handset is anchored to entrance control panel by an armored cord.
- **No Off-hook Problems.** Enterphone control unit automatically resets itself for another call if handset is left off-hook, if insufficient digits are dialed, or if a non-existent number is called.
- **Equipment Compatibility.** The Enterphone system is compatible with all standard subscriber station and central office equipment, whether rotary dial or Touch Calling.
- **Equipment Economy.** Second and third entrance applications require only an additional control panel each, one or more directory panels each, plus connecting cable. No additional common equipment is required.

ENTRANCE PANELS

There are two basic types of entrance panels; the control panel, and the directory panel. The control panel comes with either a standard telephone handset or a speaker/microphone unit. The handset model is available from stock; the speaker/microphone model is optional. Both include a keypad, transmission card,

and in-service lamp. (In the case of the speaker/microphone model, an illuminated reset button serves as both in-service lamp and hookswitch.) All entrance panels are of brushed aluminum, anodized for easy care and lasting beauty.



- **Directory Panel** has hinged door with clear plexiglass front. Each panel contains 55 individual rubber name carriers in a metal tray. Names can be changed by simply folding back a rubber retaining strip and removing the carrier. When major name changes are required, the entire carrier tray may be removed. A supply of letters and numbers is included with each directory panel.

- **Tenant's Instructions**, printed on a handy card, are included with each Enterphone system in a quantity sufficient for the planned installation. Additional copies available on request.

Enterphone Equipment

Control Unit

The control unit consists of:

- Common relay equipment, printed-wiring tone and timer card and miscellaneous circuit components, mounted in a Type 10A2 key equipment cabinet, protected by a sound-proof fiberglass cover. Cabinet is 26½" wide, 17¾" high, 9½" deep.
- Line relay bars and relays (one for each tenant). Each bar has 123-conductor, 24-gauge, 35-foot length of cable.

Relay bars mount on hinged iron frame in the control cabinet. Each relay bar may be equipped initially with 10 line relays (expandable in the field to 20) or fully equipped with 20 line relays. Single relays may be ordered. Each relay switches a tenant's line from central office to foyer calls or

vice versa.

Cable provided runs from the control unit to the main distribution box in the building.

DTMF Touch Calling Receiver

DTMF receiver permits use of the Enterphone system when one or more tenants have DTMF (Touch Calling) telephones. Receiver converts DTMF tones to marks recognized by the relay switching equipment. May be mounted externally or in the Enterphone control cabinet.

Power Supply

Order an RT-7, RT-5 or RT-5M Lorain power supply, or equivalent.

To order, see following page.

M-45

ENTERPHONE™ ORDERING INFORMATION

Ordering No.	Common Control Equipment for Basic Installation	Price Each
S-410802	Equipment Cabinet (26¼" wide, 17¾" high, 9½" deep), with common equipment, and maintenance drawings. Wired to accept 100 line relays, which will serve 100 apartments. (Only 80 line relays can be accommodated if Touch Calling receiver is mounted inside cabinet.) Order line relay bars separately	\$680.00
S-410801	Equipment Cabinet only. For use when installation exceeds line relay capacity of above cabinet. Accommodates maximum of 8 line relay bars (160 line relays)	75.00
S-410422	10-line Relay Bar, expandable to 20. With strapping block, 35-ft. cable stub (123 cond.)	130.00
S-410423	20-line Relay Bar. With strapping block, 35-ft. cable stub (123 cond.)	220.00
S-414201	Single-line Relay Kit, to expand S-410422 from 10 to 20 lines. One required for each line.	6.50
S-416730	Touch Calling Receiver with 15-ft. cable stub (12 cond.). Can mount in equipment cabinet S-410802 or externally, if desired	485.00
S-418007	Lorain RT-7 Power Supply for 20-Hz. ringing	168.91
S-418005	Lorain RT-5 Power Supply for 30-Hz. ringing	153.55
S-418006	Lorain RT-5M Power Supply for multi-frequency ringing (5 frequencies)	387.72
S-426856	Postal Lock Relay Kit (postal authorities to provide lock). One required per system.	7.50
BB-1431-1	Extra Set of Maintenance Drawings for common control equipment	14.00*
S-415949	Test Set for entrance control panel (both pushbutton and keypad types)	75.00

Entrance Equipment for Basic Installation

S-415946	Handset-type Entrance Control Panel, less handset. Complete with shipping container, frame, panel door, instruction label, cord anchor block and in-service lamp	120.00
L-9073-CAR	Type 811 Black Handset (435386) with armored cord	12.00
415947	Speaker/Microphone-type Entrance Control Panel. Complete with shipping container, frame, panel door, instruction label and in-service lamp	237.00*
S-415948	Directory Panel. Complete with frame, panel door, 800 letters, 200 numbers, 55 tenant instruction cards and 55 rubber name carriers	62.00
S-422334	Back-box Assembly, consisting of rough-in box and frame for mounting entrance control panel	20.30
S-414565	Keypad Matrix "A", with 10-ft. cable stub (100 cond.). Complete with plate, four card connectors, a control card, two selection digit cards and maintenance drawings	190.00
S-414566	Keypad Matrix "B", with 10-ft. cable stub (100 cond.)	61.00
S-423115	Matrix Selection Digit Card	56.50
S-423116	Matrix Auxiliary Digit Card	50.00
S-424141	L-shaped Side Extension for entrance control panel. (Order two if directory panels are to be mounted separately from control panel.)	2.75
S-425630	Postal Lock Kit for control panel. Complete with plate, microswitch and mounting details. One required for each control panel that has a postal lock	7.95
BK-88011-A	Extra Set of Maintenance Drawings for entrance equipment and associated matrix	7.65*

Extra Equipment for more than one entrance

S-426855	Door Lock Control Relay (one required for each second and third entrance)	12.50
S-425623	Third Door Selection Relay Kit (one required for third entrance)	14.00

Replacement Equipment

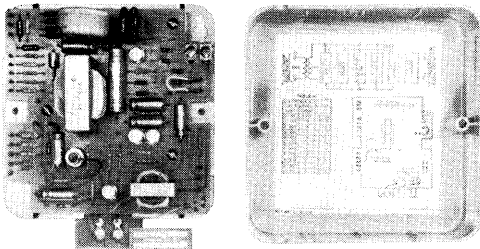
S-416750	Common Control Relay Equipment, less cabinet	600.00
S-430904	Tone and Timer Card	60.00
	Touch Calling Receiver Cards:	
S-410867	Low-band Detector	110.00
S-410868	Relay and Timer	120.00
S-410869	Filter and Limiter	120.00
S-410870	High-band Detector & Power Supply	110.00
S-439291	Entrance Control Panel Keypad Only	6.80
S-439292	Entrance Control Panel Keypad and Buffer Card	51.50
S-437390	In-service Lamp for Handset-type Entrance Control Panel	2.35
437391	In-service Lamp with Reset Button for speaker/microphone-type entrance control panel	6.40*
S-434804	Directory Letter & Number Font (800 letters and 200 numbers)	36.50
S-430905	Matrix Control Card	83.00
S-423115	Matrix Selection Digit Card	56.50
S-423116	Matrix Auxiliary Digit Card	50.00

Enterphone™ Literature

- C-1146-B** Sales Circular.
CI-481-134, Issue 3 Tenants Instruction Card, "How to Use Your Enterphone System."
GTE Practices 481-217-103 Enterphone—Building Entrance Control System with Keypad Control Panel. Description and installation.
GTE Practices 481-217-501 Enterphone—Building Entrance Control System with Keypad Control Panel. Testing and maintenance.

COUPLERS

GTE Automatic Electric Voice and Data Couplers



Data Coupler and Cover

Couplers provide protective interface for the electrical connection of customer-owned transmitting and receiving equipment to the public telephone network. Isolation is provided between the loop D-C path and the customer's equipment potentials. No D-C current is allowed to flow from the customer's equipment through the couplers.

Voice coupler's R-F suppressor reduces radio frequency voltage introduced into the line from a customer's transmitter. Peak limiter prevents extremely high amplitude signals emanating from the customer's equipment from being introduced into the telephone system and prevents high amplitude line

signals from reaching the customer's equipment. Transformer provides isolation from any ground potentials of the customer's side of the coupler.

Data coupler's suppressor limits lightning and power surges to 18V across the customer's interface terminals. The telephone circuit is opened by a special exclusion key with make-before-break contacts, and D-C continuity is maintained by a line-holding choke in the coupler. The maximum signal level allowed from the customer's data equipment is dependent upon the loop length. Installer's straps are provided. The average power detector is provided with a variable threshold which may be set by a nonsolder strap in 1dB steps from -10 to 0 dBm. Low pass filter attenuates frequencies above the telephone passband, reducing crosstalk and interference with carrier circuits.

L-7049-A Voice Coupler.....each **\$13.15**

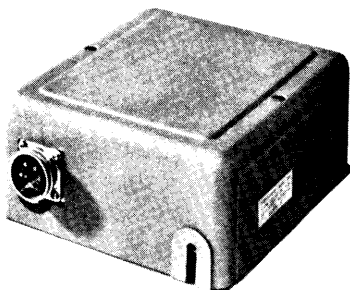
L-7050-A Data Coupler.....each **41.10**

TECHNICAL LITERATURE AVAILABLE ON REQUEST:

478-500-100, Voice Coupler, Description and Installation.

555-001-100, Data Coupler, Description and Installation.

Recorder-Connectors



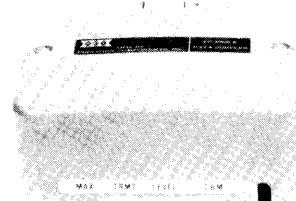
For connecting customer-owned voice recorder to telephone line. Provides a high impedance bridging connection, a transmission path with amplification and AVC, and an automatic 15-second beep tone. AVC and beep tone may be disconnected, if desired. For use with rotary dial or Touch Calling telephones. Screw terminals permit quick connection to line, telephone, and low voltage AC power supply (order separately). Unit comes with wall mounting bracket and gray cover. Dimensions: 6 $\frac{7}{8}$ " x 7 $\frac{1}{2}$ " x 3 $\frac{1}{2}$ ". Ship. wt., 4 lbs.

S-410960 19645-2 Recorder-Connector.....each **\$150.00**

S-428148 Precision Components 2012B-60 Transformer. Mounts in standard 115V outlet. Provides 16.2V at 132 MA. U.L. approved. Color, sand beige.....each **3.00**

Precision Components

Types PC-1000A and PC-1000B Data Couplers



Type PC-1000A connects customer-provided equipment to switched telecommunications network or private line facilities. Type PC-1000B is used for data and voice communications. Two-way transmission path permits alternate voice and data transmission. Unit automatically restricts data signals to a prescribed signal power.

Coupler protects customer equipment from metallic and longitudinal surges on telephone facilities; protects telephone company personnel and equipment from hazardous voltages from customer equipment.

Provides test circuitry for manual remote test capabilities.

PC-1000A is line-powered. PC-1000B requires transformer PC-2012B.

Both couplers are for wall mounting and come with a gray plastic housing. Dimensions: 5 $\frac{1}{4}$ " x 5 $\frac{1}{4}$ " x 2". Ship. wt., 1 $\frac{1}{2}$ lbs.

411137 PC-1000A Data Coupler.....each **\$ 85.00***

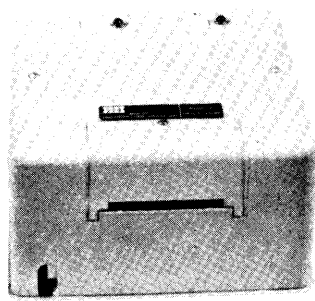
..... PC-1000B Data Coupler.....each **80.00***

S-428148 PC-2012B Transformer, for use with PC-1000B Data Coupler.....each **3.00**

Prices are subject to change without notice.

M-47

TYPES 1001A and 1001B Data Couplers



Connects customer-provided automatic data equipment to switched telecommunications network. For both data and voice communications. Unit provides the data access arrangement (DAA) and Network Control Signaling Unit as described in appropriate tariffs. Both couplers provide:

- Protection of customer equipment from metallic and longitudinal surges in excess of 50 volts occurring on telephone facilities.
- Automatic linear control of signal level.
- Detection of incoming ringing signals to permit customer to operate in unattended answering mode.
- Test circuitry for manual remote test capabilities.
- Switchhook control which allows customer to originate calls by dial-pulsing.
- Indication of switchhook status on associated telephone set, if provided.
- Two-way transmission path.

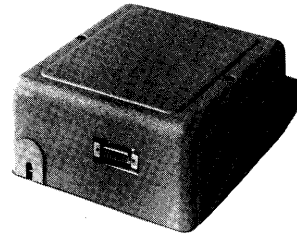
Type 1001A—Uniform Service Order Code CBS. The 1001A has a voltage interface for use with terminal equipment which cannot tolerate the contact bounce and electromagnetic radiation associated with contact closure devices. Interface control leads meet voltages as specified in Electronics Industries Association Standard RS-232-B. The 1001A also isolates customer equipment for protection of telephone plant and personnel. It provides a call-delay timer on incoming calls to permit proper operation of automatic message accounting equipment. Coupler may interface customer equipment directly to local loop facilities, key system lines, or PBX lines. Customer must not call by tone dialing through coupler. End-to-end signaling is permitted after the call is set up. External transformer supplies nominal voltage to internal rectifier. Internal rectifier provides dc supply to all coupler circuitry except to automatic level control circuit, which is powered from dc telephone line current. Gray metal housing. Dimensions: 8" x 7 $\frac{3}{4}$ " x 4 $\frac{3}{8}$ ". Ship. wt., 6 lbs.

Type 1001B—USOC CBT. The 1001B provides timed delay on all calls to protect automatic message accounting. Has contact-type interface control leads. Customer equipment may be connected through coupler to local loop facilities or PBX lines. Gray metal housing. Requires external 20-28 volt dc power at 100 ma. Dimensions: 8" x 7 $\frac{3}{4}$ " x 4 $\frac{3}{8}$ ". Ship. wt., 5 $\frac{1}{2}$ lbs.

S-411123 1001A Data Coupler.....each **\$196.25**

S-411121 1001B Data Coupler.....each **139.30**

Type 20445 Alarm Couplers



Connects speech, pulsing and power supply leads of customer-provided alarm device to telephone line. Has screw terminals for terminating line, telephone, and A and A1 leads from a 1A1 or 1A2 key telephone system.

Model L1 enables customer to monitor progress of an alarm call.

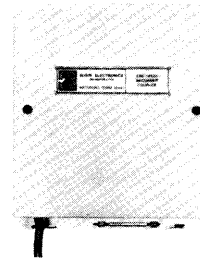
Model L2 also permits customer to test and control operation of alarm system from a remote Touch Calling telephone. Provides means for resetting customer's alarm system for 20-second time-out for disconnect of control unit after ring-up, if Touch Calling tone is not received from distant party. Provides 2125Hz tone acknowledgment to distant party.

Requires 18 \pm 3 volts AC or DC power. Peak voltage (including ripple) should not exceed 25 volts with initial current surge of 1 amp. 18-volt current requirements for Model L1: 2.5 ma standby, 50 ma operating. For Model L2: 10 ma standby, 70 ma operating.

For wall mounting. Olive gray metal housing measures 6 $\frac{7}{8}$ " x 7 $\frac{3}{8}$ " x 3 $\frac{3}{8}$ ". Ship. wt., Model L1, 4 lbs.; Model L2, 4 $\frac{1}{2}$ lbs.

S-411128 20445 Model L1 Alarm Coupler....each **\$127.00**
..... PC-20445 Model L2 Alarm Coupler.....each **195.00***

Recorder Couplers



Connects customer-provided recording equipment to telephone line. May be used with 1- or 2-party service. Screw-type terminals connect coupler to telephone line and associated telephone set.

Recorder coupler automatically answers incoming calls; couples recorded announcement from customer unit to telephone line; reverses direction of transmission at end of announcement to enable recording of incoming message; transmits short beep tone to telephone line at start and end of recording period; disconnects from telephone line at end of automatic cycle, or at end of predetermined timing interval, in the absence of speech. Should the customer decide to enter an automatically answered call, he can reset the coupler's automatic cycle by using a remote start switch located on his own equipment.

Metal cover measures 6 $\frac{7}{8}$ " x 7 $\frac{1}{2}$ " x 3 $\frac{1}{2}$ ". For wall mounting only. Equipped with 6-foot, 3-conductor power cord with 3-wire, parallel blade grounding cap for connection to a 3-wire, grounded 115V AC convenience outlet. If only dc power is available, a dc-ac inverter must be used. Ship. wt., 5 lbs.

S-411127 19522-2 Recorder Coupler.....each **\$153.00**