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AUTOMATIC ELECTRIC
PRIVATE INTERIOR TELEPHONE SYSTEMS

Distributed by: AMERICAN AUTOMATIC ELECTRIC SALES COMPANY, 1033 West Van Buren Street, Chicago, Illinois



CATALOG 4033

Private Telephone Systems and Accessories

CATALOG 4033

AMERICAN AUTOMATIC ELECTRIC SALES COMPANY

1033 West Van Buren Street, Chicago, U. S. A.

Distributor for Products of **AUTOMATIC ELECTRIC COMPANY** *and other Companies*

EXPORT DISTRIBUTORS: AUTOMATIC ELECTRIC SALES COMPANY, LIMITED

Ordering Information

When ordering, please specify quantity of each item desired, catalog number, and description as given in catalog. Also specify whether shipment should be made by freight, express, or parcel post, and give preferred routing. In the absence of instructions, we will use our best judgment in routing shipments to give you the very best service.

Prices

Prices shown in this catalog are F. O. B. Chicago, effective June 1, 1939, and do not include any Sales, Excise, or other taxes. Prices are necessarily subject to change without notice, but where we cannot fill orders at the prices specified on order, we will fill at lowest possible prices.

Shipments

Whenever possible, items are shipped from stock immediately upon receipt of your order. Manual central battery and magneto switchboards, which are made to order, may require several weeks for assembly.

Claims

Goods are carefully packed by experienced packers, and a packer's ticket is placed in each case. Every order is double checked to prevent shortages, but if shortage does occur, please notify us promptly, returning the packer's ticket.

Our receipt from the transportation company certifies that each package was received in good order. Claims for breakage or loss should be made directly to the local agent of the transportation company through whom you received the shipment. We will be glad to co-operate with you in securing a satisfactory adjustment of such claims.

GUARANTEE

Apparatus manufactured by Automatic Electric Company is guaranteed to be free from mechanical or electrical defects, and any part or unit which proves defective under normal conditions, and when used as intended, will be replaced or repaired without charge, if returned to us within one year. Apparatus of other makes bears the standard guarantees of the manufacturers. Please secure our consent and shipping instructions before returning goods for replacement or repair.

The telephone systems shown in this catalog are intended for private service only. They cannot be connected to public exchange lines.

FOREWORD

Private interior telephone systems have so thoroughly proved their economy and usefulness in every type of business and industrial organization that they have become standard and accepted tools of business efficiency. Their capacity to save time and steps and their effectiveness in improving internal coordination have resulted in a demand for a wide range of systems which combine high standards of performance at reasonable cost.

The systems shown in this catalog meet these requirements to the fullest extent possible within each price bracket. All of them are products of Automatic Electric Company—an organization which has achieved a leading position in the field of telephone manufacture through fifty years of experience in the design, manufacture and installation of equipment for both private and public service.

The listings herein have been especially arranged to provide the alert electrical wholesaler or contractor with such information as will permit the ready sale and installation of private telephone systems without the need for specialized technical knowledge or skill. This fact, coupled with the contacts which they already enjoy with their present customers, and the steadily increasing demand for interior telephone systems from every type of business, place the wholesaler and contractor in an unexcelled position to profit from this new and growing market.

The range of apparatus shown will be found sufficiently comprehensive to meet all ordinary needs. However, as specialists in every branch of telephone communication, we are in a position to supply equipment to meet every requirement, from simple two-station systems to comprehensive private automatic exchanges of many hundreds of lines in size. Our sales engineers are available for consultation and will be glad to make recommendations to meet special conditions. Write or telephone the nearest office of:

AMERICAN AUTOMATIC ELECTRIC SALES COMPANY
1033 WEST VAN BUREN STREET - - - - - CHICAGO

New York, N. Y.	Kansas City, Mo.	Los Angeles, Calif.	Cleveland, Ohio	Pittsburgh, Pa.
Boston, Mass.	Detroit, Mich.	San Francisco, Calif.	Washington, D. C.	Philadelphia, Pa.

A System for Every Requirement

Automatic Electric Intercom.

Full-size handset telephones, in both wall and self-contained desk types, with handset of molded plastic. Systems of the following capacities*: 2 Stations, Private Line; 6 or 10 Stations, Selective Signaling; 11 or 100 Stations, Master-Station Operation.

The Auto-Com.

Selective-signaling system, providing for 10 telephones, and up to five conversations. Wall and desk type handset telephones.

Idealfones

Handset telephones (wall-type only) assembled on a compact wall box, beautifully finished in black japan, and with full-size handset of molded plastic. Systems of the following capacities*: 2 Stations, Private Line; 5 Stations, Selective Signaling; 6 Stations, Master-Station Operation; 10 Stations, Code Signaling.

Serv-U-Fones

All-metal wall or desk telephones, with handsets, slightly smaller than standard size. Finished throughout in "old brass" enamel. Systems of the following capacities*: 2 Stations, Private Line; 3 or 8 Stations, Master-Station Operation; 7 Stations, Selective Signaling; 10 Stations, Code Signaling.

P-A-X (Private Automatic Exchange) Systems

Lightning-fast, absolutely secret service, provided by a central automatic switchboard, under control of a dial on each telephone. Telephones of the most modern wall and desk types—including instruments in color, and with gold- or chromium-plated trim! Only two or three wires to each telephone. Systems for all requirements—for 4 telephones or 400—the larger systems providing many Special Services, if desired.

Monotype Manual (C. B.) Systems

For use where operator-controlled service is desired. Floor-type or desk-type switchboards, and telephones of the highest commercial grade. Systems of the following capacities: 10, 16, 50, 100, or 320 lines.

Monotype Magneto (L. B.) Systems

For organizations, such as railroads and pipe-line companies, where communication is desired over long outside lines. Each telephone has its own power supply, and hand-operated magneto generator for signaling. A number of telephones can be placed on one line, requiring no switchboard. Or, larger systems can be served through switchboards of the following capacities: 10, 20, 30, 50, 100 or 150 lines.

* Intercom., Idealfone and Serv-U-Fone systems are all of the "pushbutton, common-talking" type—that is, pushbuttons on each telephone provide for signaling the station desired. Four methods of operation are available:

Private line—for two stations. A pushbutton on each telephone provides for signaling the other station.

Selective signaling—sounding the signal at only the particular station desired. Each telephone is equipped with a number of pushbuttons—one for each station—and all telephones are connected by a cable.

Code signaling—sounding the signals at all stations at once, and indicating by means of a prearranged code the particular person desired. Each telephone has one pushbutton, and only a pair of wires are required for signaling.

Master-station operation—In this method of operation, one "master" station can make calls to a number of outlying stations (selective signaling is provided), and the outlying stations can call the master station, but cannot call one another (except that the master station may complete such calls if desired).

TO FIND THE RIGHT SYSTEM FOR YOUR NEEDS:

1. Determine how many telephones you will need (including a reasonable allowance for growth of your organization).
2. Determine approximately the *maximum* number of calls which will ever be in progress at one time.
3. Is it desirable to assure secrecy for all telephone conversations?
4. Refer to page 5, Columns (1), (2) and (3), and find the system or systems (shown in Column 4) which will provide for the desired number of telephones and telephone calls, and the required degree of secrecy. (Note that the minimum capacities shown in Column 1 are only suggested minimums—any system may be used for a smaller number of telephones than shown.)
5. Where two or more systems are shown which meet the requirements, select from Column 5 the type of system which will be most satisfactory.
6. Refer to Column 6 for complete information on the system you have selected.

Check List of Private Telephone Systems

In the following table, the various Automatic Electric Private Telephone Systems are arranged in order according to the grade of equipment and service provided by each class of system, and the capacity of systems in each classification. From this table, you can quickly select exactly the system which will best meet any specific requirements.

1 No. of Tels.	2 No. of Calls	3 Secrecy?	4 Name of System	5 Type of System	6 For complete Information, see
			Serv-U-Fone		
2	1	No	Green Label	Private line, pushbutton signaling	Page 14
3	1	No	Red Label	Master-station system, pushbutton selective signaling	Page 16
3-7	1	No	Yellow Label	Pushbutton selective signaling system	Page 17
4-8	1	No	Blue Label	Master-station system, pushbutton selective signaling	Page 15
4-10	1	No	Silver Label	Pushbutton code signaling system	Page 16
			Idealfone		
2	1	No	Type 33	Private line, pushbutton signaling	Page 12
3-5	1	No	Type 55	Pushbutton selective signaling system	Page 13
3-6	1	No	Type 66	Master-station system, pushbutton selective signaling	Page 13
3-10	1	No	Type 44	Pushbutton code signaling system	Page 12
			Intercom.		
2	1	No	Type 32A47	Private line, pushbutton signaling	Page 6
3-6	1	No	Type 32A48	Pushbutton selective signaling system	Page 7
3-11	1	No	Type 33A18	Master-station system, pushbutton selective signaling	Page 9
7-10	1	No	Type 33A17	Pushbutton selective signaling system	Page 8
100	1	No	Type 33A10	Master-station system, providing signaling of outlying stations by means of a key cabinet	Page 10
3-10	5	No	Auto-Com	Dial-operated selective pushbutton signaling system. No switchboard	Page 11
			P-A-X		
3-10	1	Yes	Type 34A16	Automatic switchboard system	Page 19
3-10	2	Yes	Type 32A1	Automatic switchboard system	Page 20
11-22	3	Yes	Type 32A21	Automatic switchboard system	Page 20
20-50	7	Yes	Type 32A31	Automatic switchboard system. Provides special services	‡
100	1*	No*	Type 32A38	Automatic switchboard system. Provides special services	‡
20-100	7	Yes	Type 25	Automatic switchboard system. Provides special services	‡
50, or more	7, or more	Yes	Type 50	Automatic switchboard system. Provides special services	‡
			Monotype Manual (C.B.) Switchboards		
3-16	5	Yes†	Cordless	Key type, operator-controlled, central-battery system	Page 23
15-50, or more	15	Yes†	Floor-Type	Cord-type, operator-controlled, central-battery system	Page 24
			Monotype Magneto (L.B.) Switchboards		
3-30	5	Yes**	Wall-Type	Cord-type switchboard, magneto signaling, local-battery talking. For use on long outside lines	Page 26
30-50, or more	15	Yes**	Floor-Type	Cord-type switchboard, magneto signaling, local-battery talking. For use on long outside lines	Page 27

‡ Full information on request.

* Under certain conditions, two calls can be made at once, and secrecy is provided.

† Except that the operator can intercept connections.

** Except that conversations can be overheard by the operator, and by other parties on the line, if party lines are used.

Intercom. Systems

Common-Talking Pushbutton Systems with Full-Size Telephones —for 2 to 100 Stations

The telephones for Automatic Electric Intercom. systems are handsome in appearance—of regular commercial size and finish, and with handsets of molded plastic. And they provide the highest quality of transmission, through transmitter and receiver units *especially designed* for private telephone service.

Automatic Electric Intercom. systems are available

in capacities of 2, 6 and 10 stations, for common-talking, selective signaling service. Master-Station systems are also available in capacities of 10 and 100 outlying stations.

All telephones are furnished with terminal blocks providing screw terminals for all connections, and full instructions for wiring are supplied with each system.

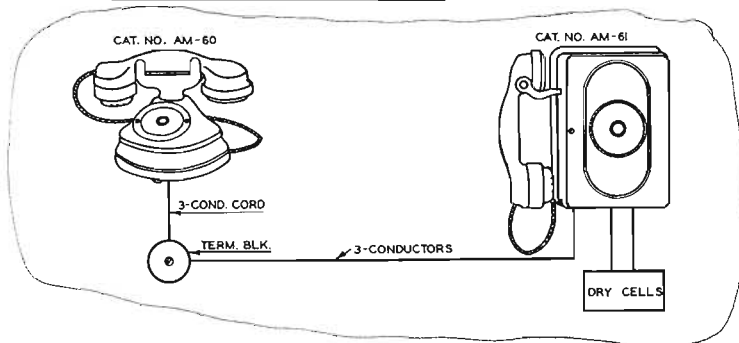
The Type 32A47 Intercom. System (2 Station—Private Line)

Recommended for service between an executive and his assistant, between house and garage, service desk and shops, etc., and in large organizations, to supplement existing telephone facilities between two points. The telephones may be of either desk or wall type as shown on this page, or of the "compact" wall type shown on page 7. Each telephone has a single pushbutton and calls are made by simply lifting the handset and pressing the button.

The desk telephone is self-contained, including a signal bell mounted in the base. It is connected by a flexible cord to a small molded terminal block, with screw terminals for connections. The wall telephone is completely assembled in a black-japanned steel wall box, and includes a bell signal. The "compact" wall telephone consists of a small plastic wall box, with pushbutton, terminal block and signal buzzer (this telephone cannot be provided with a bell).

The Type 32A47 Intercom. system operates from dry cells. Use 4 cells for distances up to 500 feet—for greater distances, use additional batteries. Triplex line wire required for this system is listed below.

Cat. No.	Description	Net Wt.	Ship. Wt.	Sched.	Price
AM-60	Desk Telephone	4 lbs.	6 lbs.	A	\$30.00 ea.
AM-61	Wall Telephone	6 lbs.	8 lbs.	A	30.00 ea.
AM-62	Compact Wall Tel.	2½ lbs.	4½ lbs.	A	30.00 ea.
D-22-C	Inside Wire—200 ft.		6 lbs.	F	2.60
S-22-C	Outside Wire—100 ft.		3½ lbs.	F	1.30



Cat. No. AM-60

Diam., 6⅜ in.; height, 6¼ in.;
handset, 9 in. long.



Cat. No. AM-61

Height, 9½ in.;
depth, 3¾ in.;
handset, 9 in. lg.;
width (box only),
7 in.

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The Type 32A48 Intercom. System

(Capacity, 6 Stations—Selective Signaling)

In this system, each telephone is equipped with six pushbuttons, providing for a system of six stations, with selective signaling. An extension telephone may be added on any line, using the "home" button for signaling between main and extension telephones.

The desk telephone is of the self-contained type, with the signal bell within the base of the instrument. It is provided with a flexible cord, and with a compact terminal block with neat metal cover (not illustrated) having screw terminals for connections. Wall telephones are available in two types, as shown, Cat. No. AM-64 containing a bell, and Cat. No. AM-65, containing a buzzer signal. Both types of wall telephones have built-in terminal blocks, with screw terminals.

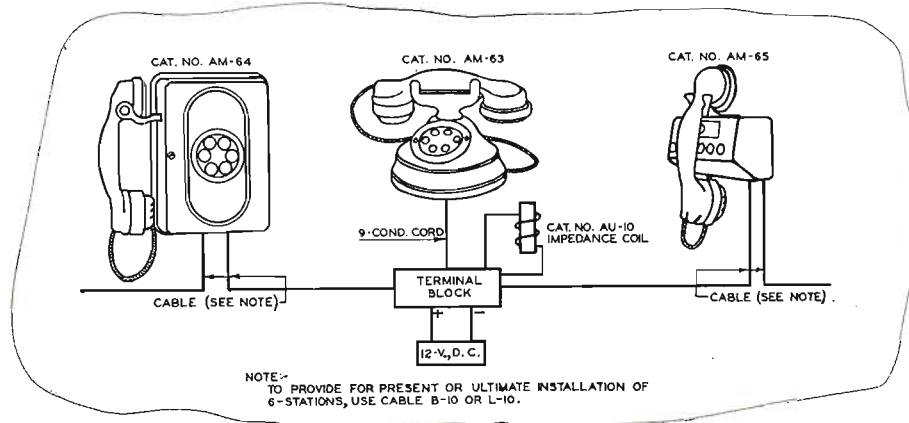
The Type 32A48 Intercom. system operates on 12 volts, direct current. Where reliable 105-125-volt, 50-60-cycle A.C. commercial power supply is available, we recommend use of Automatic Electric Battery Eliminator, Cat. No. PE-10 (see page 35). Or two 12-volt dry batteries (each consisting of eight cells in series) may be used, one for talking, the other for the ringing current supply.

The current supply apparatus should be as centrally located as possible with respect to the wiring of the system, so as to avoid excessive resistance between the current source and the station located farthest from it. One impedance coil, listed below, must be ordered for each system, and connected in the negative talking current lead.

Ten-conductor cable, Cat. No. B-10 or L-10, is recommended on original installations of 6 stations, or where an installation is likely to grow to this capacity. If the system is to be only partially equipped, use regular telephone wire (see page 33), and provide three wires common to all telephones, with an additional wire for each station installed.

Cat. No.	Description	Net Wt.	Ship. Wt.	Sched.	Price
AM-63	Desk Telephone with Terminal Block	4 lbs.	6 lbs.	A	\$39.00 ea.
AM-64	Wall Telephone	6 lbs.	8 lbs.	A	39.00 ea.
AM-65	Compact Wall Tel.	2½ lbs.	4½ lbs.	A	39.00 ea.
AU-10	Impedance Coil	8 oz.	1 lb.	A	2.80 ea.
PE-10	Battery Eliminator	17 lbs.	27 lbs.	A	66.50 ea.

For Wiring Supplies, see pp. 33-35, incl.



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Cat. No. AM-63

Diam., 6⅞ in.; height, 6¼ in.;
handset, 9 in. long.

Includes cord and terminal block.



Cat. No. AM-64

Height, 9½ in.;
depth, 3¾ in.;
handset, 9 in. lg.;
width (box only),
7 in.



Cat. No. AM-65
Height, 3¾ in.;
handset, 9 in. lg.;
overall depth,
4½ in.;
width (box
only), 5½ in.

The Type 33A17 Intercom. System

(Capacity, 10 Stations—Selective Signaling)

This is a comprehensive intercommunicating system for ten telephones or less, providing full-selective signaling by means of ten pushbuttons on each telephone. An extension station may be added on any line, using the "home" button for signaling between main and extension telephones.

Two types of telephones as shown, are available for this system. The desk telephone is provided with a flexible cord, ending in a terminal block which has screw terminals for connections. The wall telephone has a similar block built in.

The Type 33A17 Intercom. system operates on 12 volts, direct current, and where a reliable supply of 105-125-volt, 50-60-cycle alternating current is available, we recommend the use of Automatic Electric Battery Eliminator, Cat. No. PE-10 (see page 35). An alternative method is to use two 12-volt dry batteries (each consisting of eight cells in series), one for talking current and the other for ringing current supply.

The current supply apparatus should be located as centrally as possible with respect to the wiring of the system, so as to avoid excessive resistance between the current source and the most distant station. An impedance coil, listed below, must be ordered for each system, and connected in the negative talking current lead.

For the complete system of ten lines, thirteen wires are required between stations. Fifteen-conductor cable, Cat. No. B-15 or L-15, is recommended on all installations.



Cat. No. AM-66

Diam., 6 3/8 in.; height, 6 1/4 in.;
handset, 9 in. long.

Includes cord and terminal block.

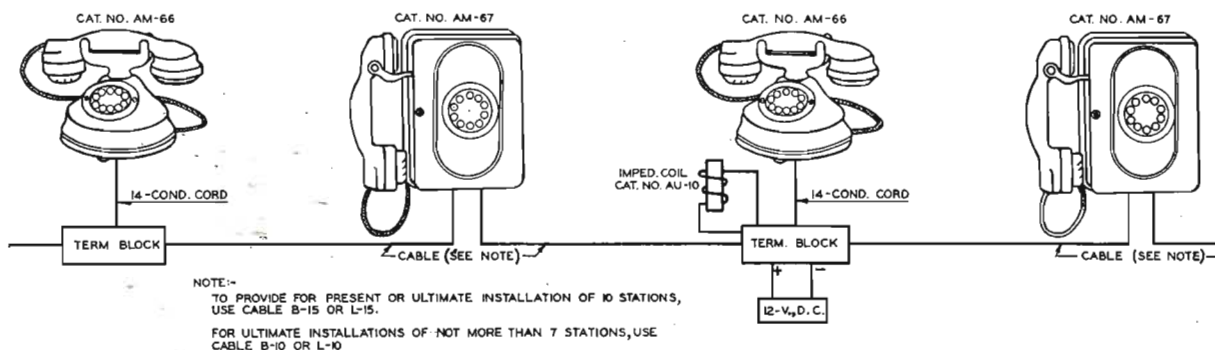


Cat. No. AM-67

Height, 9 1/2 in.;
depth, 3 3/4 in.;
handset, 9 in. lg.;
width (box only),
7 in.

Cat. No.	Description	Net Wt.	Ship. Wt.	Sched.	Price
AM-66	Desk Telephone, with Terminal Block	4 lbs.	6 lbs.	A	\$45.00 ea.
AM-67	Wall Telephone	6 lbs.	8 lbs.	A	45.00 ea.
AU-10	Impedance Coil	8 oz.	1 lb.	A	2.80 ea.
PE-10	Battery Eliminator	17 lbs.	27 lbs.	A	66.50 ea.

For Wiring Supplies, see pp. 33-35, incl.



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The Type 33A18 Intercom. System

(Master-Station System—Capacity, 10 Outlying Stations)

This system is recommended for use in organizations where it is desired to have all calls pass through a central point; also for schools and similar organizations where it is desired to supervise all calls. It consists of one master telephone with ten numbered pushbuttons for selective signaling, and a maximum of ten outlying stations, each with one pushbutton. The outlying telephones can signal only the master station, but any call may, if desired, be extended to another outlying station.

The master station telephone and outlying stations may be of either the wall or desk type; the outlying stations can be furnished also in the "compact" wall type. Four wires are required to each outlying telephone—three common leads and one individual lead to each station. Screw terminals are provided for all connections.

The Type 33A18 Intercom. system operates on 12 volts, direct current, and where a reliable source of 105-125-volt, 50-60-cycle alternating current is available, we recommend use of Automatic Electric Battery Eliminator, Cat. No. PE-10 (see page 35). Or, two 12-volt dry batteries (each consisting of eight cells in series), may be used, one for talking, the other for ringing current supply. An impedance coil, listed below, must be ordered for each system, and connected in the negative talking current lead.

Cat. No.	Description	Net Wt.	Ship. Wt.	Sched.	Price
AM-68	Master Desk Tel. with Term. Block	4 lbs.	6 lbs.	A	\$45.00 ea.
AM-69	Master Wall Tel.	6 lbs.	8 lbs.	A	45.00 ea.
AM-70	Outlying Desk Tel. with Term. Block	4 lbs.	6 lbs.	A	30.00 ea.
AM-71	Outlying Wall Tel.	6 lbs.	8 lbs.	A	30.00 ea.
AM-72	Compact Wall Tel.	2½ lbs.	4½ lbs.	A	30.00 ea.
AU-10	Impedance Coil	8 oz.	1 lb.	A	2.80 ea.
PE-10	Battery Eliminator	30 lbs.	40 lbs.	A	66.50 ea.

For Wiring Supplies, see pages 33-35, incl.



Cat. No. AM-68

Diam., 6⅜ in.; height, 6¼ in.;
handset, 9 in. long.

Includes cord and terminal block.



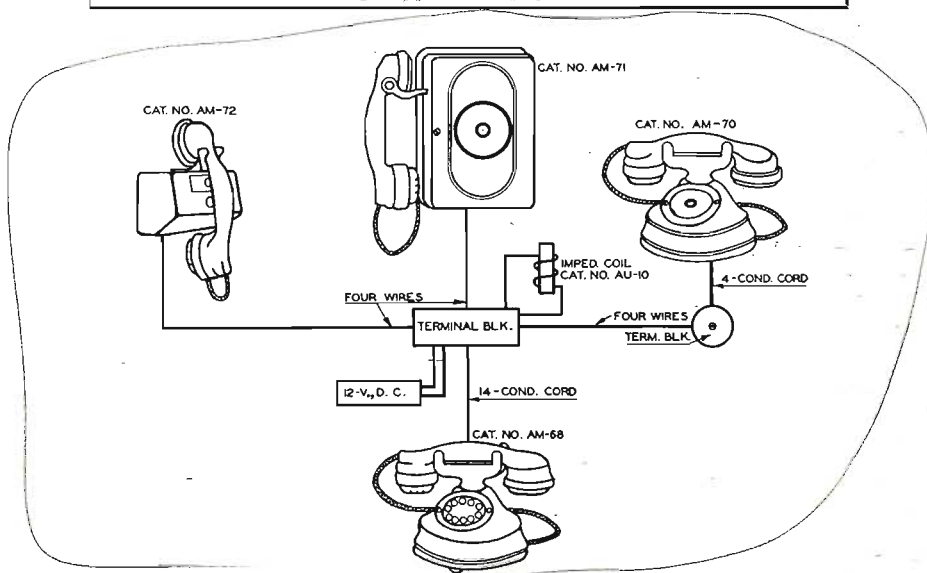
Cat. No. AM-71

Height, 9½ in.;
depth, 3¾ in.;
handset, 9 in. lg.;
width (box only),
7 in.



Cat. No. AM-72

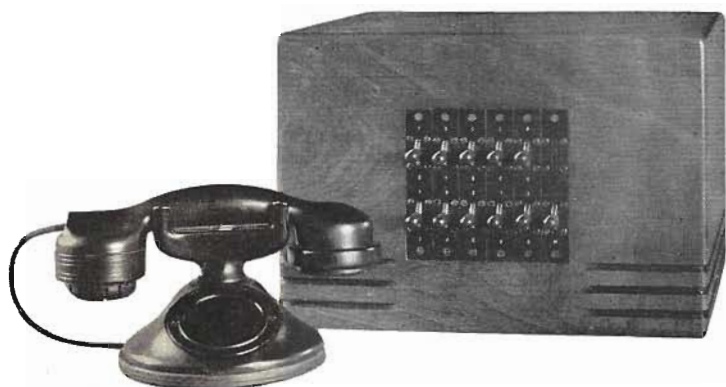
Height, 3¾ in.;
handset, 9 in. lg.;
overall depth,
4½ in.;
width (box only),
5½ in.



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The Type 33A10 Intercom. System

(Master-Station System—Capacity, 100 Outlying Stations)



Cat. No. TS-83

Tel.—diam. 5 $\frac{5}{8}$ in.; height, 5 in.;
handset, 9 in. long.

Key Box—height, 9 in.; width, 13 in.;
depth, 11 in.



Cat. No. AC-15

Width (box only), 5 $\frac{1}{2}$ in.;
height, 3 $\frac{3}{4}$ in.; handset, 9 in. lg.;
overall depth, 4 $\frac{1}{2}$ in.

Recommended for schools and other organizations, to meet any need for a master-station system with capacity of more than ten outlying stations. A feature of this system is "group ringing," which permits arranging the telephones in groups of ten, and signaling one or more complete groups by simple key operation.

In the Type 33A10 Intercom. system, the master station has 10 keys, mounted in a small walnut desk cabinet, for station selection. Five keys select the "tens" groups, and the other five select individual lines in the groups. Thus, to call any line, it is necessary merely to operate a "tens" key, and then a "units" key, which rings the desired bell. For "Group ringing" all of the stations in one or more groups, the "tens" keys of these groups are operated, and the operation of a master ringing key then rings the signals of the desired stations.

The outlying telephones may be of either of the types shown herewith. These telephones have no pushbuttons—the master station is signaled automatically, the instant a handset is removed at any station. Each telephone is equipped with a buzzer signal.

The Type 33A10 Intercom. system operates on 12 volts, D.C. Where the commercial current is 105-125-volt, 50-60-cycle, A.C., we recommend the use of Battery Eliminator, Cat. No. PE-10 for talking current supply, and a transformer to supply ringing current. Where this commercial current is not available, storage batteries and a battery charger will be required (full information on request). The power supply should be connected to the master station. Wiring required includes two common talking wires, connected to all stations, and a separate signaling wire from the master station to each outlying station.



Cat. No. AC-17

Diam., 6 $\frac{3}{8}$ in.; height, 6 $\frac{1}{4}$ in.;
handset, 9 in. long.

Cat. No.	Description	Net Wt.	Shipping Wt.	Schedule	Price
TS-83	Master Station Telephone and Key Cabinet			A	\$210.00 ea.
AC-15	Outlying Wall Telephone	2 $\frac{1}{2}$ lbs.	4 $\frac{1}{2}$ lbs.	A	28.50 ea.
AC-17	Outlying Desk Telephone	4 lbs.	6 lbs.	A	28.50 ea.
PE-10	Battery Eliminator	17 lbs.	27 lbs.	A	66.50 ea.
PA-38	Ringing Transformer	3 $\frac{3}{4}$ lbs.	5 lbs.	F	3.25 ea.

For Wiring Supplies, see pp. 33 and 34

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The Auto-Com System

A De Luxe, Dial-Type System Providing *Selective Talking*— Capacity, 10 Stations, 5 Simultaneous Conversations

We recommend this system where a de luxe intercommunicating system is desired, for ten stations or less. Auto-Com telephones provide station selection by means of "dial" operation—modern, simple, and familiar to everybody. And the Auto-Com permits not only one, but any number of conversations at one time.

Auto-Com telephones are available in both desk and wall styles. The desk telephone has a signal buzzer, a terminal block for line connections, and an impedance coil (required in the talking current supply circuit), contained in a compact wall box, and connected to the telephone by means of a 6-foot flexible cord. The wall box is fitted with screw terminals for the spade tips of the cord, and solder terminals for the line cable. The wall telephone contains a similar terminal block.

A call is made by removing the handset from the cradle and turning the dial from the number of the called station to the finger stop. The dial remains in this position, connecting to the desired line, and the called station is signaled by pressing a push-button on the telephone. When the handset is replaced after conversation, the dial automatically returns to its normal position.

The Auto-Com system requires a separate wire for each station, together with one common pair for signaling, and one wire for common talking return—a total of 13 wires. Fifteen-conductor cable, Cat. No. B-15 or L-15, is recommended for this system.

The system operates on a direct current supply of 6-12 volts. Where reliable 105-125-volt, 50-60-cycle A.C. commercial power is available, we recommend the use of Battery Eliminator, Cat. No. PE-10. An alternative method is to use two 6-12-volt dry batteries (each consisting of four to eight cells in series), one for the talking and the other for the ringing current supply.



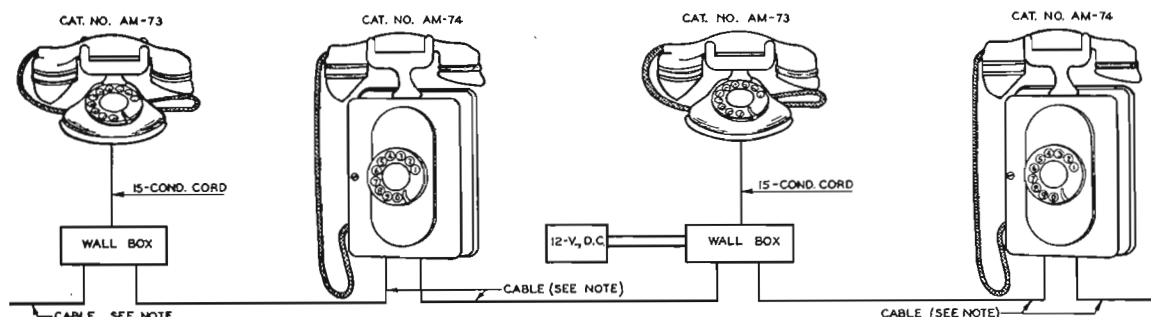
Cat. No. AM-73
Diam., 5½ in.; height, 5 in.;
handset, 9 in. long.
Includes cord, and wall box—
9¾ x 2⅞ x 2⅜ in.



Cat. No. AM-74
Dims., 12 x 9 x 4 in.

Cat. No.	Description	Net Wt.	Ship. Wt.	Sched.	Price
AM-73	Desk Telephone, with Wall Box	5½ lbs.	7½ lbs.	A	\$54.50 ea.
AM-74	Wall Telephone	7 lbs.	11 lbs.	A	54.50 ea.
PE-10	Battery Eliminator	17 lbs.	27 lbs.	A	66.50 ea.

For Wiring Supplies, see pp. 33-35, incl.



NOTE:—
TO PROVIDE FOR PRESENT OR ULTIMATE INSTALLATIONS OF 10 STATIONS,
USE CABLE B-15 OR L-15.
FOR ULTIMATE INSTALLATIONS OF NOT MORE THAN 7 STATIONS, USE
CABLE B-10 OR L-10.

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Idealfone Systems

Common-Talking Pushbutton Systems—Wall-Type Telephones with Molded Plastic Handsets—for 2 to 10 Stations

Idealfone systems provide pushbutton common-talking service, similar to that offered by the Automatic Electric Intercom., through a wall-type telephone which is somewhat smaller than Intercom. telephones but includes the same type of molded plastic handset. The compact metal wall box of this telephone contains a signal bell, and pushbuttons as required for signaling

are provided in the front of the box. The box is beautifully finished in black japan. Screw terminals provide for connections to be looped between telephones; and a separate terminal box with ten pairs of terminals is available for use at any telephone where three or more lines are to be brought together. Full instructions for wiring are supplied with each telephone.

The Type 33 Idealfone System (2-Station, Private Line)

This simple system inexpensively provides a private line for point-to-point service. Each telephone has a single pushbutton, and calls are made by simply lifting the handset and pressing the button. System consists of two Cat. No. AM-34 telephones

(listed below), a 4-wire line, and two 6-volt batteries (each consisting of 4 cells) for distances up to 500 feet—for greater distances, simply use additional batteries. (This system does not require an impedance coil.)

The Type 44 Idealfone System (Capacity, 10 Stations—Code Signaling)

A complete system for ten stations or less, using the same one-button telephone as used in the above system. The pushbutton is used to form code signals, which are sounded at all telephones at the same time. A 4-wire line is required between stations.

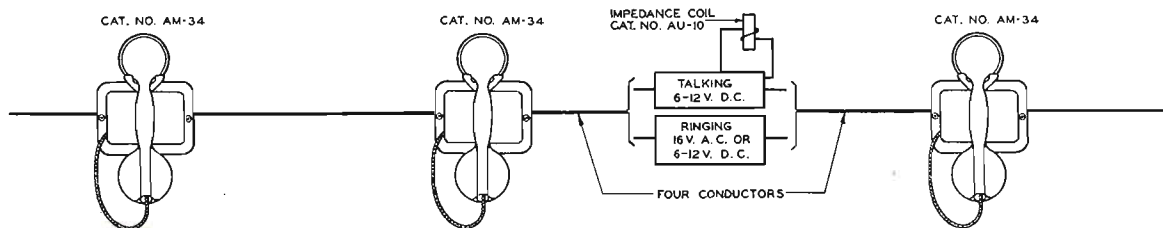
This system operates on 6-12 volts, direct current. Where reliable 105-125-volt, 50-60-cycle A.C. commercial power is available, we recommend use of Battery Eliminator, Cat. No. PE-10 (see page 35) for talking current supply, and a transformer to supply ringing current. Or, two 6-12-volt dry batteries (each consisting of 4-8 cells in series) may be used, one for talking, the other for the ringing current supply. One impedance coil, listed below, must be ordered for each system, and connected in the negative talking current lead.



Cat. No. AM-34
Wall box, 5½ in. x
4 in. x 2 in.;
handset, 9 in. long.

Cat. No.	Description	Net Wt.	Ship. Wt.	Sched.	Price
AM-34	Idealfone Telephone	2½ lbs.	4 lbs.	G	\$12.50 ea.
AU-10	Impedance Coil	8 oz.	1 lb.	A	2.80 ea.
AV-18	Terminal Box	12 oz.	1½ lbs.	G	2.50 ea.
PE-10	Battery Eliminator	17 lbs.	27 lbs.	A	66.50 ea.
PA-38	Ringing Transformer	3¾ lbs.	5 lbs.	F	3.25 ea.

For Wiring Supplies, see pp. 33-35, incl.



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The Type 55 Idealfone System

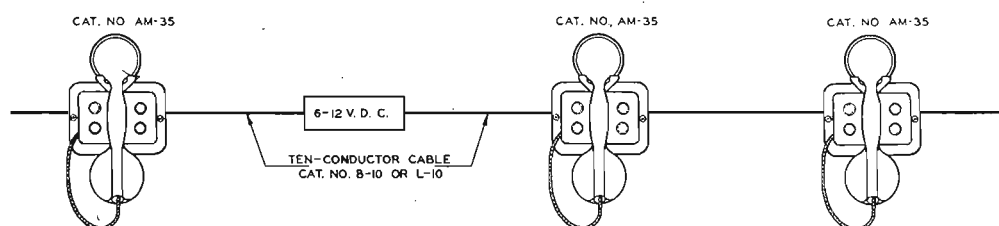
(Capacity, 5 Stations—Selective Signaling)

Five numbered pushbuttons on the Type 55 Idealfone provide for a system of five stations, with selective signaling. An extension telephone may be added on any line, using the "home" button for signaling between the main and extension telephones.

This system uses power equipment as described, below, for the Type 66 system; and 10-conductor cable is recommended between telephones. A terminal box is available for use at telephones where three or more cables are to be brought together.

Cat. No.	Description	Net Wt.	Ship. Wt.	Schedule	Price
AM-35	Idealfone Telephone	2½ lbs.	4 lbs.	G	\$15.00 ea.
AV-18	Terminal Box	12 oz.	1½ lbs.	G	2.50 ea.

For Wiring Supplies, see pp. 33-35, incl.



Cat. No. AM-35
Wall box, 5½ in. x
4 in. x 2 in.;
handset, 9 in. long.

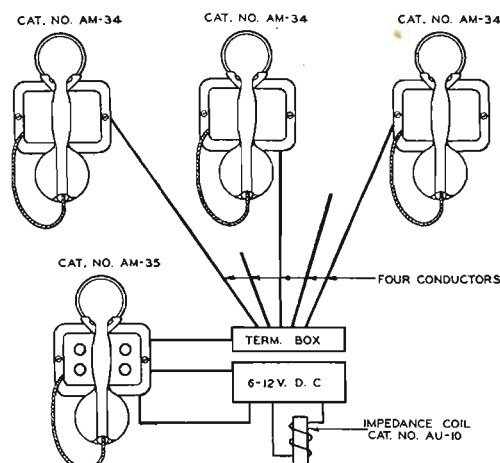
The Type 66 Idealfone System

(Capacity, 6 Stations—Master-Station Operation)

This system consists of one master telephone with five numbered push-buttons for selective signaling, and a maximum of five outlying stations, each with one pushbutton. The outlying stations can signal only the master station, but the master station may, if desired, extend any call to another outlying station.

System operates on 6-12 volts, direct current, and where a reliable source of 105-125-volt, 50-60-cycle A.C. is available, we recommend use of Battery Eliminator, Cat. No. PE-10 (see page 35). Or, two 6-12-volt dry batteries (each consisting of 4-8 cells in series), may be used, one for talking, the other for ringing current supply. An impedance coil, listed below, must be ordered for each system, and connected in the negative talking current lead.

Four conductors are required between telephones, and a terminal box is available for use at telephones where three or more lines are to be brought together.



Cat. No.	Description	Net Wt.	Ship. Wt.	Schedule	Price
AM-35	Master-Station Telephone	2½ lbs.	4 lbs.	G	\$15.00 ea.
AM-34	Outlying Telephone	2½ lbs.	4 lbs.	G	12.50 ea.
AV-18	Terminal Box	12 oz.	1½ lbs.	G	2.50 ea.
AU-10	Impedance Coil	8 oz.	1 lb.	A	2.80 ea.
PE-10	Battery Eliminator	16 lbs.	27 lbs.	A	66.50 ea.

For Wiring Supplies, see pp. 33-35, incl.

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Serv-U-Fone Systems

Attractively Priced, Common-Talking Pushbutton Systems, for Two to Ten Stations—Dry Cell Operation

These modern private telephone systems provide the time-saving and step-saving advantages of interior telephone communication, and the convenience of compact handsets—at attractively low prices. The telephones are slightly smaller and more compact than ordinary public-exchange telephones, and the handsets are of metal instead of molded plastic, as used in the larger systems. However, the telephones are durably constructed and nicely finished and as they operate on dry cells, operating cost is negligible. Serv-U-Fone systems may therefore be recommended where private telephone service is desired at lowest possible cost.

Signaling is accomplished by simply pressing the plunger on which the handset normally rests (or, where selective signaling is employed, pushbuttons

are provided for this purpose). Each instrument is furnished with a terminal block providing screw terminals for connections to dry cells and telephone line, and full instructions for wiring are supplied with each system.

Descriptive Labeling

Although the telephones of various Serv-U-Fone systems are identical in appearance, they have different wiring, and must be used only in the system for which they are intended. To prevent confusion, the various telephones and other parts are individually boxed, and plainly labeled, the color of the label on each carton indicating the particular system in which it is to be used. Thus, when a system is ordered, it is easy to avoid error, by merely verifying that all packages bear labels of the same color.

Green-Label Serv-U-Fone System

(2 Station, Private Line)

A simple but effective call-and-return system for service between rooms, from house to garage, store to stockroom, etc.

Complete system consists of two wall or desk type telephones (or one wall and one desk telephone), a two-wire line, and four dry cells (two at each station). The desk telephone is entirely self-contained, including the signal buzzer, and is furnished with a 3-conductor flexible cord, ending in a small terminal block to which the battery and the line are connected. The wall telephone is similar to that shown on page 15, and contains a signal bell, and a terminal strip. Telephones are durably finished in "old brass" enamel.

Each telephone is furnished with 50 feet of single-conductor wire, suitable for inside use in dry locations. Additional wire can be supplied for inside or outside use, as listed below. Serv-U-Fones will operate over a distance of 500 feet with four dry cells—for greater distances, use additional batteries.



Cat. No. RP128

5 1/4 in. diam.; handset, 8 in. lg.;
overall height, 3 3/8 in.
Includes cord and terminal block.

Cat. No.	Description	Net Wt.	Shipping Wt.	Schedule	Price
RP-128	Desk Telephone	1 3/4 lbs.	2 1/4 lbs.	D	\$6.00 ea.
RP-126	Wall Telephone	2 lbs.	3 lbs.	D	6.00 ea.
6	Telephone Dry Cell		2 1/2 lbs.	F	.25 ea.
2	Battery Box—2-Cell Capacity		1 1/4 lbs.	D	2.10 ea.
RP-361	Single-Conductor Inside Wire		8 oz.	D	.80 C ft.
RP-418	Single Conductor Outside Wire		1 1/4 lbs.	D	1.20 C ft.
3	Blake Insulated Staples		2 lbs.	F	1.50 M

All Prices F. O. B. Chicago, Effective June 1, 1939, and Subject to Change Without Notice

Blue-Label Serv-U-Fone System

(Capacity, 8 Stations—Master-Station Operation)

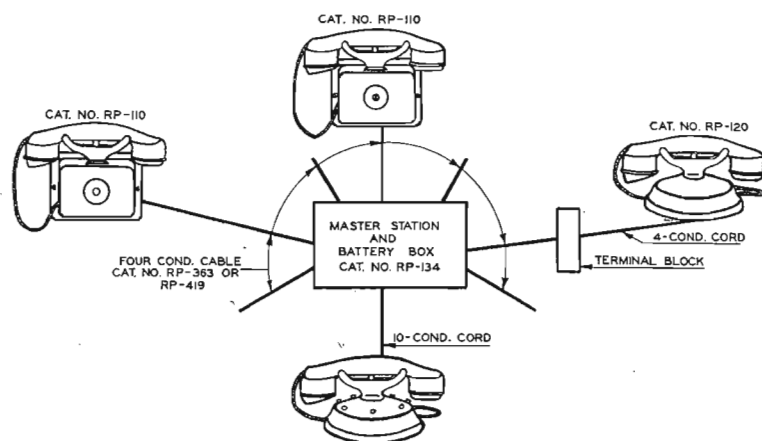
Particularly well suited to locations where all calls must pass from, to or through a central point. System consists of one master desk telephone with seven numbered pushbuttons arranged to signal any of the other stations, and from two to seven outlying instruments. The outlying telephones can signal only the master station, but any call may, if desired, be extended to another outlying station.

The master telephone is a desk-type instrument, provided with a 10-conductor flexible cord for connection to a battery box, which contains the signal buzzer. The outlying stations may be either desk or wall type, the wall set having a bell, and the desk set a buzzer signal. Desk telephone has a 4-conductor cord and terminal block; wall set has built-in terminal strip. All telephones are finely finished in "old brass" enamel.

The battery box furnished with the master telephone provides for four dry cells (order separately), which are adequate to operate the system for many months under normal conditions, for distances of up to 500 feet between the most distant stations. It contains also an impedance coil, and terminal strips providing screw connections for the telephone lines.

Order four-conductor wire to run from these terminal strips directly to the terminals of each outlying telephone. Complete wiring instructions are enclosed with the master station.

Cat. No.	Description	Net Wt.	Ship. Wt.	Sched.	Price
RP134	Master Telephone and Battery Box	5¼ lbs.	6¼ lbs.	C	\$19.75 ea.
RP120	Outlying Desk Tel. with Term. Block	1¾ lbs.	2¼ lbs.	C	7.00 ea.
RP110	Outlying Wall Tel.	2 lbs.	3 lbs.	C	7.00 ea.
6	Dry Cell		2½ lbs.	F	.25 ea.
RP363	4-cond. Inside Wire		2½ lbs.	C	2.50 C ft.
RP419	4-cond. Outside Wire		3¼ lbs.	C	5.00 C ft.
6	Insulated Staples		2½ lbs.	F	1.60 M



Cat. No. RP134

Tel., 5¼ in. diam.; handset, 8 in. lg.; overall height, 3⅝ in.

Batt. Box, 11¼ in. x 8¼ in. x 5¾ in. deep.



Cat. No. RP120

5¼ in. diam.; handset, 8 in. lg.; overall height, 3⅝ in.

Includes cord and terminal block.



Cat. No. RP110

Wall box, 5½ in. x 4 in. x 2 in.; handset, 8 in. long; overall height, 5¾ in.

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Red-Label Serv-U-Fone System

(3 Stations—Master-Station Operation)

A simplified master-station system, ideal for small homes or apartments—or for doctors' offices where one attendant serves two doctors. The master station telephone is of the desk type, with one pushbutton; it can signal either outlying station. The two outlying stations may be either desk or wall type, as shown below; they have no pushbutton, and can signal only the master station. Calls between the outlying stations can be completed, however, through the master station.

Order three dry cells for the master station, for distances up to 125 feet.

Cat. No.	Description	Net Wt.	Ship. Wt.	Sched.	Price
RP127	Master Desk Tel.	1¾ lbs.	2¼ lbs.	C	\$8.50 ea.
RP133	Outlying Desk Tel.	1¾ lbs.	2¼ lbs.	C	7.00 ea.
RP132	Outlying Wall Tel.	2 lbs.	3 lbs.	C	7.00 ea.
3	Battery Box—3-cell		1½ lbs.	D	2.30 ea.

For wire and accessories, see table below.

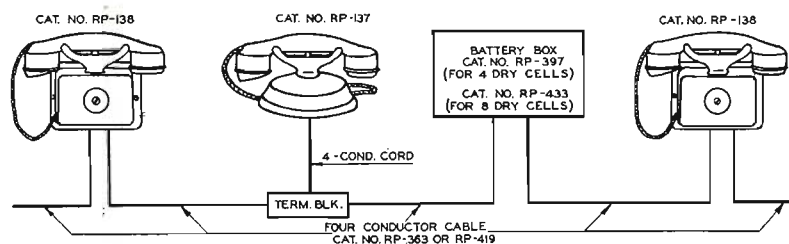
Silver-Label Serv-U-Fone System

(Capacity, 10 Stations—Code Signaling)

This "code-signaling" system is particularly suitable for use where individuals move about, and it may be necessary to locate them without delay. Each station can signal all the others by depressing the handset cradle plunger, and can designate, by means of a code of short and long rings, the particular individual wanted.

The system includes a battery box which contains an impedance coil, terminals, and complete wiring instructions. Four to eight dry cells (depending on the number of telephones and the length of the lines) will operate the system for many months under ordinary conditions.

Cat. No.	Description	Net Wt.	Ship. Wt.	Sched.	Price
RP137	Desk Telephone, with Terminal Block	1¾ lbs.	2¼ lbs.	C	\$8.00 ea.
RP138	Wall Telephone	2 lbs.	3 lbs.	C	8.00 ea.
RP397	Battery Box—4-cell	3½ lbs.	4½ lbs.	C	4.75 ea.
RP433	Battery Box—8-cell	3¾ lbs.	5 lbs.	C	6.00 ea.
6	Dry Cell		2½ lbs.	F	.25 ea.
RP363	4-cond. Inside Wire		2½ lbs.	C	2.50 C ft.
RP419	4-cond. Outside Wire		3¼ lbs.	C	5.00 C ft.
6	Insulated Staples		2½ lbs.	F	1.60 M



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Cat. No. RP127

5¼ in. diam.; handset, 8 in. lg.;
overall height, 3⅝ in.

Includes cord and terminal block.



Cat. No. RP133

(For Red-Label System)

Cat. No. RP137

(For Silver-Label System)

5¼ in. diam.; handset, 8 in. lg.;
overall height, 3⅝ in.

Includes cord and terminal block.



Cat. No. RP132

(For Red-Label System)

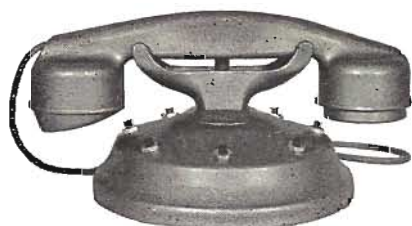
Cat. No. RP138

(For Silver-Label System)

Wall box, 5½ in. x 4 in. x 2 in.;
handset, 8 in. long;
overall height, 5¾ in.

Yellow-Label Serv-U-Fone System

(Capacity, 7 Stations—Selective Signaling)



Cat. No. RP129

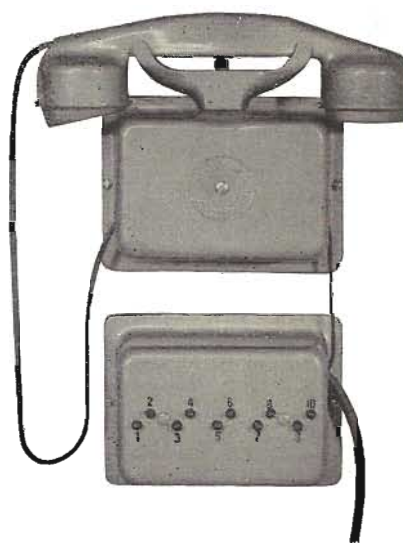
5¼ in. diam.; handset, 8 in. lg.;
overall height, 3⅝ in.

From a service standpoint, this is the most complete of all Serv-U-Fone systems. Each telephone is supplied with pushbuttons permitting any station to signal any other station without disturbing the remaining telephones, and to secure connection without passing through a central station. A ten-conductor cable connects all stations.

Telephones for this system are available in both wall and desk types. The desk type has seven numbered pushbuttons in its base; pushbuttons for the wall telephone are contained in a key box connected to the telephone, and designed to mount on the wall immediately below it. The desk telephone, and the key box of the wall telephone, are each provided with a ten-conductor flexible cord.

Each telephone requires a separate terminal box, which contains a bell or buzzer signal, and screw terminals for connecting the telephone cords to the line cable. A separate battery box is also required for the system, containing an impedance coil and terminals, and providing for four dry cells, which are ample to operate the system for many months under normal conditions, for distances of up to 500 feet between the most distant stations.

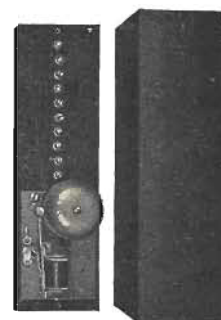
Order ten-conductor inside cable or lead-covered cable to connect all terminal boxes and the battery box, as shown in the diagram herewith. Screw terminals are provided for all connections, and complete wiring instructions are supplied with the battery box.



Cat. No. RP135

Wall boxes 5¼ in. x 4 in. x 2 in.;
handset, 8 in. long; overall
height, approximately 10 in.

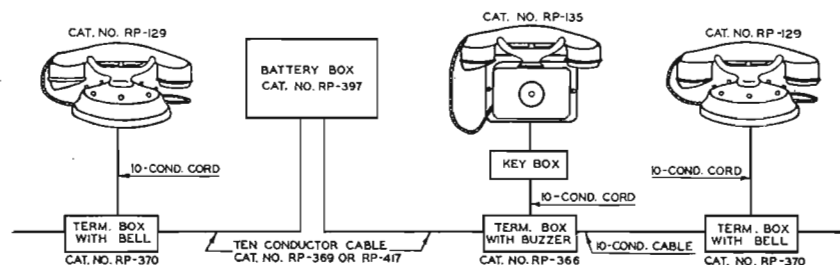
Cat. No.	Description	Net Wt.	Ship. Wt.	Sched.	Price
RP135	Wall Telephone	3 lbs.	4 lbs.	C	\$14.00 ea.
RP129	Desk Telephone	1¾ lbs.	2¼ lbs.	C	12.50 ea.
RP366	Term. Box, with Buzzer	1¾ lbs.	2 lbs.	C	2.25 ea.
RP370	Term. Box, with Bell	1¾ lbs.	2 lbs.	C	3.50 ea.
RP397	Battery Box—4-cell	3½ lbs.	4½ lbs.	C	4.75 ea.
RP369	10-cond. Inside Cable		2½ lbs.	C	4.50 C ft.
RP417	10-cond. L. C. Cable		30 lbs.	C	12.50 C ft.
4-0	One-hole Cable Clamp		1 lb.	F	.74 C
6	Telephone Dry Cell		2½ lbs.	F	.25 ea.



Cat. No. RP-366 (with Buzzer)

Cat. No. RP370 (with Bell)

10 in. x 3 in.; 2¼ in. deep



Cat. No. RP397

11¼ in. x 8¼ in.; 5¼ in. deep

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P-A-X (Private Automatic Exchange) Systems

**Provide Convenient Dial Operation—Lightning-Fast Service—
Absolute Secrecy—Do Not Require Costly Multiple Cables**

Automatic Electric P-A-X places the most modern type of interior telephone service within reach of any organization. It brings lightning-fast service, absolute secrecy on all connections, and the convenience of modern "dial" operation, with automatic ringing and automatic busy tone. It provides the finest facilities and services anywhere available for interior communication purposes.

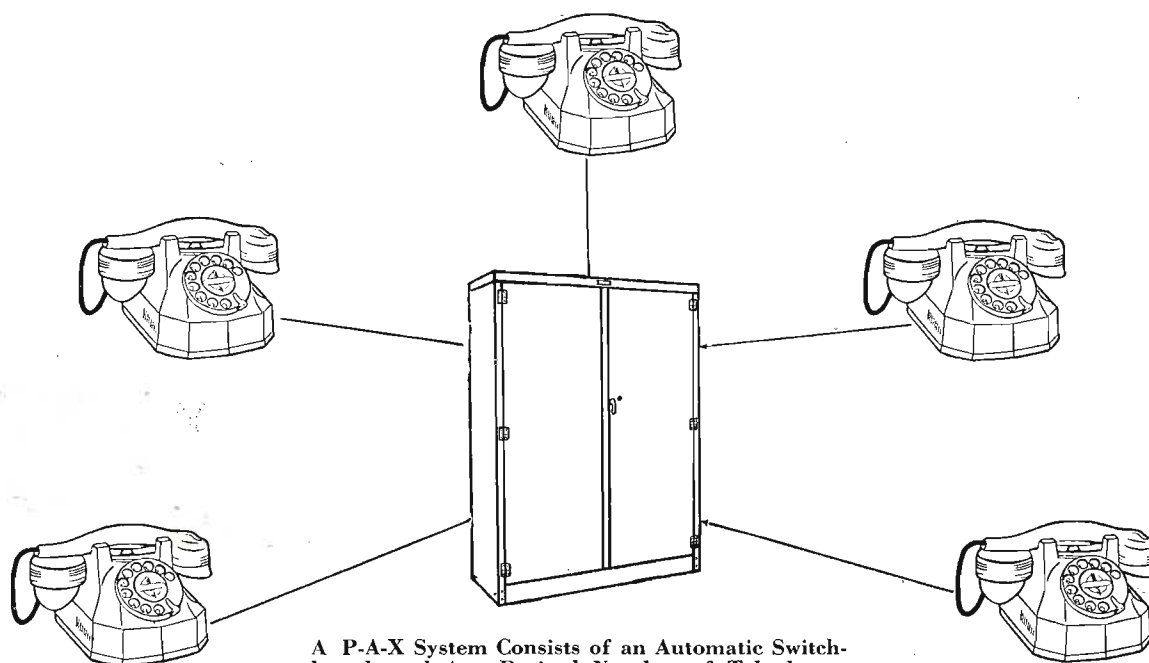
P-A-X systems operate just like the equipment in public automatic telephone exchanges. Connections are completed by an automatic switchboard, under control of a dial on each telephone, and the switchboard equipment automatically rings the called line (or, if it is busy, returns "busy tone" to the person calling).

A complete P-A-X system consists of the automatic switchboard (with power equipment), the telephones, and the telephone lines. The switchboard is a complete, self-contained unit, which may be placed anywhere, requiring connection only to the telephone lines, and to the commercial power supply. The telephones are of the most modern designs, equal in appearance and

operating efficiency to the finest telephones offered for public exchange service. Only two or three wires are required to each telephone.

On the following pages, we show three types of P-A-X's, designed for organizations requiring from five to twenty or 25 telephones. These are simple, standardized units which will provide automatic, secret telephone service at very low cost.

Larger P-A-X systems provide also a number of "Special Services" which greatly increase the usefulness of P-A-X in larger organizations. These Special Services include: Code Call—which quickly locates any desired person for telephone communication; Conference service—permitting a number of persons to join in a conference without leaving their desks; Executive Loud-Speaking—which frees the executive from using the dial and handset on most of his calls; and many others. A complete listing of all types of P-A-X's is given on page 5, and we will be glad to give you complete information on any of these types and their associated Special Services.



A P-A-X System Consists of an Automatic Switchboard, and Any Desired Number of Telephones

The Type 34A16 P-A-X

(Capacity, 10 Stations; One Call at a Time)



Cat. No. AC-12
Diam., 6 $\frac{3}{8}$ in.;
height, 6 $\frac{1}{4}$ in.;
handset, 9 in. long.
Includes cord and terminal
block.

With this simple, compact and inexpensive system, organizations requiring not more than ten telephones can secure most of the advantages provided by automatic telephone systems in larger organizations. The Type 34A16 P-A-X provides secret service, with dial-controlled selective ringing, and automatic busy tone. It also provides Executive Priority service, which permits the executive to interrupt established connections at any time, to request the use of the system. With this feature, the one talking path provided is always available for the executive.

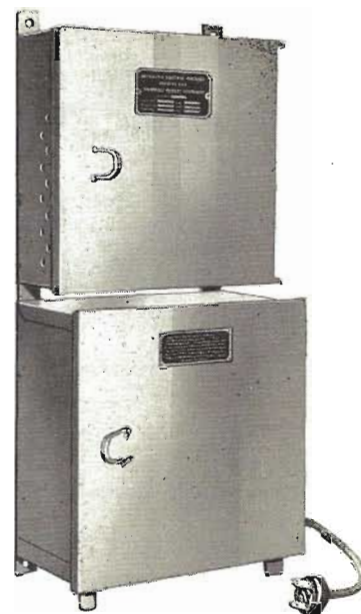
To make a call it is necessary only to remove the telephone handset, listen for "dial tone," and then dial the two digits of the desired number. The first digit selects the called telephone, the second rings the bell at the called station; if the call is not answered, the ringing signal may be repeated by re-dialing the second digit.

Installation of this system is very simple. The Type 34A16 P-A-X switchboard is a complete, self-contained unit, comprising automatic switching equipment and a 12-volt battery eliminator, which operates from 105-125-volt, 50-60 cycle A.C. It may be mounted on a wall or placed on a table, and screw terminals are provided for connections to the telephone lines.

Telephones

The telephones used with the Type 34A16 P-A-X are of the self-contained handset type, employing a molded plastic handset, and are constructed to high standards of durability. The desk telephone is of the modern type which requires no separate bell box. It is connected to the telephone line through a three-conductor cord and a small terminal block. The wall telephone consists of a handset mounted on the side of a black-japanned steel wall box, with screw terminals within the box, for the line connections.

The Type 34A16 P-A-X requires three wires to each telephone, and triplex wire for this purpose is listed below.



Cat. No. TS-16
Height, 23 in.; width, 11 in.;
depth, 7 in.



Cat. No. AC-13
Wall box 9 $\frac{1}{2}$ x
7 x 3 $\frac{3}{4}$ in.

Cat. No.	Description	Net Wt.	Shipping Wt.	Schedule	Price
TS-16	Type 34A16 P-A-X Switchboard, with Battery Eliminator	46 lbs.	66 lbs.	B	\$231.50
AC-12	Desk Telephone	4 lbs.	6 lbs.	B	19.00
AC-13	Wall Telephone	6 lbs.	8 lbs.	B	19.00
D-22-C	Inside Wire—200 ft.		6 lbs.	F	2.60
S-22-C	Outside Wire—100 ft.		3 $\frac{1}{2}$ lbs.	F	1.30

Where 105-125-volt, 50-60-cycle power is not available, a dry cell cabinet is supplied instead of a battery eliminator, and telephones with D. C. buzzers must be used. Full details upon request.

All Prices F. O. B. Chicago, Effective June 1, 1939, and Subject to Change Without Notice

The Type 32A1 P-A-X

(Capacity, 10 Lines; Two Calls at a Time)



**Type 32A1 P-A-X Switchboard,
Complete, in Cabinet**

This system differs from the Type 34A16 P-A-X in that it permits two conversations to be in progress at the same time—a call can be made by anyone, at any time, even though the system is already in use. The Type 32A1 P-A-X provides also a completely automatic service—dialing a single digit causes the switchboard to select the called line, signal it automatically (or return the “busy” signal, if the called telephone is in use), and lock the connection when the called station answers, thus assuring absolute privacy for conversation.

The Type 32A1 P-A-X operates on 24 volts, D.C., and is supplied with an Automatic Electric Battery Eliminator, for connection to 105-125-volt, 50-60-cycle A.C. supply. The switchboard and the battery eliminator are installed in an all-metal cabinet, 4 ft. 3 in. high, 2 ft. 1 in. wide, and 1 ft. 2 in. deep, nicely finished in olive green enamel. The entire switchboard equipment makes a handsome self-contained unit which may be installed almost anywhere about the premises to be served.

Telephones for use with this system may be selected from the following pages. Each telephone requires only two wires to the switchboard.

<i>Cat. No.</i>	<i>Description</i>	<i>Net Wt.</i>	<i>Shipping Wt.</i>	<i>Schedule</i>	<i>Price</i>
TS-18	Type 32A1 P-A-X, Complete	200 lbs.	300 lbs.	B	\$478.00
D-22-B	Double Inside Wire—200 ft.		4 lbs.	F	1.74
S-22-B	Double Outside Wire—100 ft.		2½ lbs.	F	.87

Where 105-125-volt, 50-60-cycle power is not available, a storage battery can be supplied, with charging equipment for operation on any specified type of current. Full details on request.



**Type 32A21 P-A-X Switchboard,
Complete, in Cabinet**

The Type 32A21 P-A-X

(Capacity, 22 Lines; Three Calls at a Time)

Provides full-automatic service, with automatic signaling, busy tone, and absolutely private connections, for a maximum of 22 telephones, and permits three conversations at once. Equipment and operation are similar to the Type 32A1 P-A-X, described above, but telephone numbers consist of 1, 2, or 3 digits.

The Type 32A21 P-A-X operates on 24 volts, D.C., and is supplied with an Automatic Electric Battery Eliminator, for connection to 105-125-volt, 50-60-cycle commercial current. Switchboard and battery eliminator are installed in a steel cabinet, 4 ft. 3 in. high, 2 ft. 1 in. wide, and 1 ft. 2 in. deep, which is nicely finished in olive green enamel.

Telephones for use with this system may be selected from the following pages. Each telephone requires only two wires to the switchboard.

<i>Cat. No.</i>	<i>Description</i>	<i>Net Wt.</i>	<i>Shipping Wt.</i>	<i>Schedule</i>	<i>Price</i>
TS-20	Type 32A21 P-A-X, Complete	225 lbs.	325 lbs.	B	\$594.00
D-22-B	Double Inside Wire—200 ft.		4 lbs.	F	1.74
S-22-B	Double Outside Wire—100 ft.		2½ lbs.	F	.87

Where 105-125-volt, 50-60-cycle power is not available, a storage battery can be supplied, with charging equipment for operation on any specified type of current. Full details on request.

All Prices F. O. B. Chicago, Effective June 1, 1939, and Subject to Change Without Notice

P-A-X Telephones

Monophones for Type 32A1 and Type 32A21 P-A-X Systems

For beautiful appearance, convenient operation and efficient transmission, P-A-X Monophones are outstanding among all modern telephones. They are

identical with the telephones regularly supplied for public telephone service, and can be depended upon for a lifetime of trouble-free operation.

The Type 40 Desk Monophone

This instrument is of the modern, "self-contained" type, with all apparatus complete in one unit, including the bell and other apparatus formerly contained in a separate bell box. Line connections are carried through a desk stand cord, ending in a small terminal block. The Monophone handset and desk stand base, and the terminal block, are molded of plastic, and have a permanent, lustrous black finish.

The Type 40 Monophone, providing a complete telephone station in one unit, is an ideal instrument for use with the Portable Telephone Plug and Jack (see page 30).

The Type 35A5 Wall-Mounting Monophone

A new standard of beauty and convenience in wall-mounting telephones. This instrument is handsome and compact, mounts out of the way on the wall, yet provides all the convenience and freedom of a desk telephone. It does not need to be placed high up on the wall, but can be installed at a height convenient for the seated user. Thus, the user may be comfortably seated or standing, or may move about at will, within a cord's-length of the wall box.

In the Type 35A5 Monophone, the handset rests in a cradle which is so shaped that the handset is removed by pulling forward instead of lifting. Thus, there is no interference with the dial, and both the dial and the handset are placed in the most convenient position.

All working parts are mounted on the base of the Monophone, and large screw terminals are provided for line connections. Base, cover and handset are all molded of lustrous black plastic.

The Outdoor Monophone Set

A compact, light-weight, "splashproof" telephone, providing the convenience of the Monophone in outdoor locations, and in indoor locations exposed to moisture, dampness, or dust. All wiring is rubber-covered, ringer and induction-coil windings are impregnated with waterproofing compound, and materials throughout are selected and finished to withstand extreme humidity.

The set is enclosed in a case of cast aluminum alloy, with a cam-locking door closing tightly against a rubber gasket. A lock is provided, with two keys. Tapped conduit openings at both top and bottom of the case permit the use of 1/2 in. conduit for the line wires. Case is handsomely finished in black "crackle" enamel.

Cat. No.	Description	Net Wt.	Ship. Wt.	Sched.	Price
AA-46	Type 40 P-A-X Monophone	6½ lbs.	13 lbs.	F	\$21.45 ea.
AA-14	Type 35A5 P-A-X Monophone	7 lbs.	13 lbs.	F	21.00 ea.
AM-10	P-A-X Outdoor Monophone Set	28 lbs.	45 lbs.	F	65.10 ea.

Types 40 and 35A5 Monophones can also be supplied in beautiful colored plastics, with metal trim gold- or chromium-plated. Full information on request.



Cat. No. AA-46

Height, 5½ in.; width of base, 5¾ in.; depth of base, 7¾ in.; handset, 9 in. long.



Cat. No. AA-14

Height, 9½ in.; width, 5¾ in.; depth, 5 in.; handset, 9 in. long.



Cat. No. AM-10

Height, 12 in.; width, 8⅝ in.; depth, 8½ in.

All Prices F. O. B. Chicago, Effective June 1, 1939, and Subject to Change Without Notice

P-A-X Telephones—Cont.

For Type 32A1 and Type 32A21 P-A-X Systems

P-A-X telephones are not to be compared with the instruments generally furnished with intercommunication systems. They are especially designed and sturdily built to withstand the constant use they'll get in P-A-X service; and, because of their distinctive design and fine finish, P-A-X telephones are objects of pride, wherever they are installed. The quality of construction assures from each telephone a long life of useful service.



Cat. No. AC-10

Diam., 6 $\frac{3}{8}$ in.; height, 6 $\frac{1}{4}$ in.;
handset, 9 in. long.

Type 32A14 Handset Telephones

These telephones have molded plastic handsets and the standard Automatic Electric dial, and are, in appearance and convenience, generally similar to Monophones. They are perfectly adapted for P-A-X service under all ordinary conditions, and have long life in this service.

The Type 32A14 Handset Desk Telephone—a "self-contained" unit requiring no separate bell box. The signal bell is in the base of the telephone, and openings in the base plate permit passage of sound. A desk stand cord is provided, with a small terminal block for connection to the telephone line. Handset, desk stand base, and terminal strip are all molded plastic, and the lustrous black finish is permanent.

The Type 32A14 Handset Wall Telephone consists of a molded black plastic handset mounted on the side of a black-japanned steel wall box, with the dial on the front, and all other apparatus within the box. Screw terminals are provided for the telephone line connections.



Cat. No. AC-14

Height, 9 $\frac{1}{2}$ in.;
depth, 3 $\frac{3}{4}$ in.;
handset, 9 in. long;
width (box only),
7 in.

Flush Wall Telephone

This type of telephone is designed to be mounted over a steel outlet box set into the wall. Used in hotels, theatres, and corridors, where a distinctive wall instrument is desired and the usual type of wall telephone might be subject to damage. Used also as an elevator cab telephone.

The flush wall telephone is equipped with a buzzer signal, a small hand receiver, and a conventional transmitter and dial. All of the equipment is mounted on a phenol fibre face plate, which acts also as a resonator for the buzzer. Supplied with standard outlet box, 5 $\frac{3}{4}$ in. wide, 9 $\frac{5}{8}$ in. high, and 1 $\frac{1}{2}$ in. deep.



Cat. No. AM-21

Height, 10 $\frac{3}{4}$ in.; width, 7 $\frac{1}{8}$ in.

Cat. No.	Description	Net Wt.	Ship. Wt.	Schedule	Price
AC-10	Type 32A14 P-A-X Desk Set	4 lbs.	6 lbs.	B	\$19.00 ea.
AC-14	Type 32A14 P-A-X Wall Set	6 lbs.	8 lbs.	B	19.00 ea.
AM-21	P-A-X Flush Wall Telephone	3 lbs.	6 lbs.	F	23.10 ea.

All Prices F. O. B. Chicago, Effective June 1, 1939, and Subject to Change Without Notice

Manual Telephone Systems

Operator-Controlled Interior Communication Systems—High-Grade Telephones and Switchboards—Wide Range of Capacities

In private manual telephone systems, an operator completes all connections through a central switchboard—just as in the public manual exchange. The telephones are identical with those used for public telephone service, and only two wires are required from each telephone to the switchboard. And the service provided by these systems is the type of service which has been used for many years, in thousands of organizations—large and small, and in all fields of business and industry.

Monotype switchboards, and the telephones shown on these pages, are identical in quality of design and construction with the equipment which we supply for public exchange service. They are made by the same

workmen, to the same exacting standards, and their simple and rugged construction assures high operating efficiency and long life, in the most "heavy-duty" private service.

A complete manual telephone system consists of the switchboard, with power and ringing current supply, the telephones, and the telephone lines. Monotype switchboards can be supplied in capacities to meet any requirement, and the larger sizes are designed to permit addition of telephone lines and connecting equipment as required. This flexibility, coupled with the exceptional ruggedness of the equipment, makes a Monotype manual system a lifetime investment for any organization.

Monotype Cordless Central-Battery Switchboards

(Capacities, 10 and 16 Lines; 5 Calls at a Time)

"Cordless" switchboards are small, compact units, designed to provide service for organizations requiring not more than 16 local lines (more than 16 telephones can be served by placing two telephones on a line, provided not more than five connections will ever be required at one time). This type of board has no cords—all switching is done by means of keys, and operation is simple and easily learned. The switchboard mounts on a desk or table, and is supplied with a desk-type Monophone for the use of the operator. In most organizations, it can be operated by a receptionist, mail clerk, or other employee, without noticeably affecting her other duties. A "night alarm" signal is provided, and may be switched into service whenever the attendant leaves the switchboard; this gives an audible call signal, which can be heard for a considerable distance.

Switchboard cabinets are oak, golden oak finished; front panel is satin finish phenol fibre. Top, back and sides of the cabinet are assembled as a unit, which may be readily lifted off for installation or for inspection of the equipment.

Monotype Cordless switchboards operate on 24 volts, D.C., and when dependable 105-125-volt, 50-60-cycle commercial current is available, an Automatic Electric battery eliminator is recommended to supply noiseless direct current. Or a storage battery with proper charging equipment may be used.



A Typical Monotype Cordless Switchboard,
as Installed

A hand generator is provided, for ringing. Where desired, ringing current can be supplied by a ringing machine, operating from the power supply of the switchboard. The hand generator is then used only for emergency service.

Ask for price of a Monotype Cordless manual switchboard to meet your requirements. Please specify number of lines, and approximate resistance of longest line (or give length and type of construction). Also, mention voltage (and frequency, if A.C.) available for operation.

Monotype Floor-Type Central-Battery Switchboards

(Capacities, 50, 100 or 320 Lines; 5, 10 or 15 Calls at a Time)

These switchboards are of the conventional type, using cords and plugs for completing connections, and can be furnished with equipment for from 20 to 320 lines, and 5, 10, or 15 connecting circuits, as required. They are of modern "skyscraper" construction, with the cabinet work, and all mechanical parts, supported on a steel framework. The cabinet panels—sides, front and back—are removable for installation or inspection of the equipment.

Monotype switchboards are of handsome appearance and will grace any surroundings. The wooden panels are of oak, golden oak finished, and face panel and shelf are made of black phenol fibre, which is very durable and has a beautiful and permanent satin finish. The operator's transmitter is suspended from a highly polished nickel-plated arm, which is adjustable up-and-down, and in-and-out, as required.

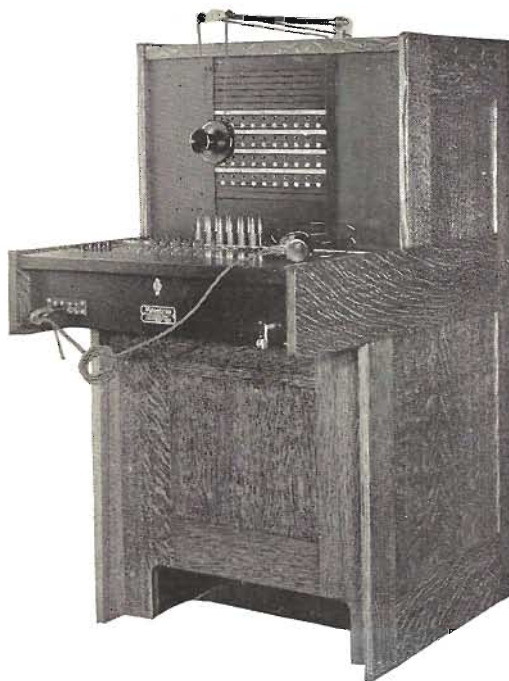
When telephone traffic is light, and does not require the entire attention of the operator, she may perform other duties. A "night alarm" signal is provided, and may be switched into service whenever the attendant leaves the switchboard. This gives an audible call signal, which can be heard for a considerable distance.

Monotype switchboards operate on 24 volts, D.C., and when dependable 105-125-volt, 50-60-cycle commercial current is available, an Automatic Electric telephone-type battery eliminator is recommended to supply noiseless direct current. Or a storage battery with proper charging equipment may be used.

Ring current is supplied by a ringing machine, operating from commercial power or from the storage battery, if battery is used for switchboard power supply. A hand generator is supplied, for emergency ringing.

Monotype switchboards are made in three capacities, as described above, but any size can be furnished partially equipped, for any desired number of lines. Additions may be made to a partly equipped board at any time, as desired, up to the full capacity of the switchboard.

Dimensions of the 50-line switchboard are: height, 3 ft. 10 in.; width, 2 ft. 1 in.; overall depth, 2 ft. 9 in. Dimensions of the 100-line and 320-line cabinets are:



A Typical Monotype Floor-Type Switchboard, as Installed

height, 4 ft. 3 in.; width, 2 ft. 3 in.; overall depth, 2 ft. 10 in.

Ask for price of a Monotype Floor-type manual switchboard to meet your requirements. Please specify number of lines, and approximate resistance of longest line (or give length, and type of construction). Also, mention voltage (and frequency, if A.C.) available for operation.

Monotype Floor-type manual switchboards can also be furnished with the following modifications from the specifications given above:

Walnut or mahogany finished cabinets instead of oak.

Breastplate-type operator's transmitter instead of suspended type.

Trunk-line equipment for connections to other switchboards, either central-battery manual or magneto.

Long-line circuits for exceptionally long lines.

Manual Telephones

For Central Battery Systems

The Type 40 Desk Monophone

A modern, "self-contained" type, including the bell and other apparatus formerly contained in a separate bell box. Line connections are carried through a desk set cord, ending in a small terminal block. Adapted for use as a portable telephone using Telephone Plug Cat. No. AZ-10 (see p. 30).



Cat. No. AA-48
Height, 5¼ in.;
base, 5¼ in. wide,
8 in. long; hand-
set, 9 in. long.

The Type 35A5 Wall-Mounting Monophone

This handsome and compact instrument mounts out of the way on the wall, at any height, and the user may be comfortably seated or standing, or may move about at will. Large screw terminals are provided for line connections.

Cat. No. AA-16
Height, 9½ in.;
width, 5¾ in.;
depth, 5 in.;
handset, 9 in. long.



The Outdoor Monophone Set

For outdoor locations, and indoor locations exposed to moisture, dampness, or dust. All wiring is rubber-covered, windings are impregnated, and materials throughout are selected and finished to withstand extreme humidity. The case is cast aluminum alloy, and the gasketed door is fitted with a lock.



Cat. No. AM-12
Height, 12 in.;
width, 8⅝ in.;
depth, 8½ in.

The Type 32A14 Desk Telephone

"Self-contained"—requires no separate bell box. A desk stand cord is provided, with a small terminal block for connection to the telephone line. Adapted for use as a portable telephone, using Telephone Plug Cat. No. AZ-10 (see page 30).

Cat. No. AC-18
Diam., 6⅜ in.;
height, 6¼ in.;
handset, 9 in. long.



The Type 32A14 Wall Telephone

Consists of a molded plastic handset mounted on the side of a black-japanned steel wall box, which contains all the other apparatus. Screw terminals are provided for the telephone line connections.



Cat. No. AC-19
Width of box, 7 in.;
height, 9½ in.;
depth, 3¾ in.;
handset, 9 in. long.

Flush Wall Telephone

For use where a distinctive wall instrument is desired and the usual type of wall telephone might be subject to damage. Equipped with buzzer signal, receiver and transmitter, mounted on a phenol fibre face plate. Supplied with standard outlet box, 5¾ in. wide, 9⅞ in. high, and 1½ in. deep.



Cat. No. AM-22
Height, 10¾ in.;
width, 7⅛ in.

Cat. No.	Description	Net Wt.	Ship. Wt.	Sched.	Price
AA-48	Type 40 Monophone	6½ lbs.	13 lbs.	F	\$17.45 ea.
AA-16	Type 35A5 Monophone	7 lbs.	13 lbs.	F	17.00 ea.
AM-12	Outdoor Monophone	28 lbs.	45 lbs.	F	61.10 ea.
AC-18	Type 32A14 Desk Set	4 lbs.	6 lbs.	B	15.00 ea.
AC-19	Type 32A14 Wall Set	6 lbs.	8 lbs.	B	15.00 ea.
AM-22	Flush Wall Telephone	3 lbs.	6 lbs.	F	19.10 ea.

All Prices F. O. B. Chicago, Effective June 1, 1939, and Subject to Change Without Notice

Magneto Telephone Systems

**Local-Battery Telephones, with Hand Magneto Generators—
Operate Over Long Lines—Require No Central Power Supply**

Magneto telephone systems are recommended for providing telephone service over long lines, or in locations where a central power supply is not available. Each telephone has its own power supply—a hand-operated magneto generator for signaling, and a number of dry cells for telephone transmission—which assures dependable transmission of signals and speech over long distances. These systems are in widespread use by railroads, pipe-line companies, lumber companies—on ranches and plantations—where inexpensive and dependable communication is needed.

Magneto telephone systems permit marked economies in line construction. Several telephones may be con-

nected to each line, as the hand magneto generators provide ample power for operating as many as ten bells at once. And under some conditions, single-wire lines (with a ground return) can be used, instead of the usual two-wire lines, greatly reducing the cost of line construction. However, the use of ground-return lines can be recommended only in areas which are free from grounded power lines or from other sources of interference.

The organization considering the purchase of a magneto switchboard could have no finer guarantee of satisfaction than that now being given by the scores of Monotype magneto switchboards in actual service.

The Monotype "Wall-Type" Magneto Switchboard

(10, 20, or 30 Lines; 5 Calls at a Time)

This is a small unit, which may be hung on a wall, or stood upon a desk or table. It is completely wired for a capacity of 30 lines, but may be furnished with initial equipment for 10, 20 or 30 lines, as desired. Partly-equipped units may be added to, at will, up to the full capacity of the switchboard.

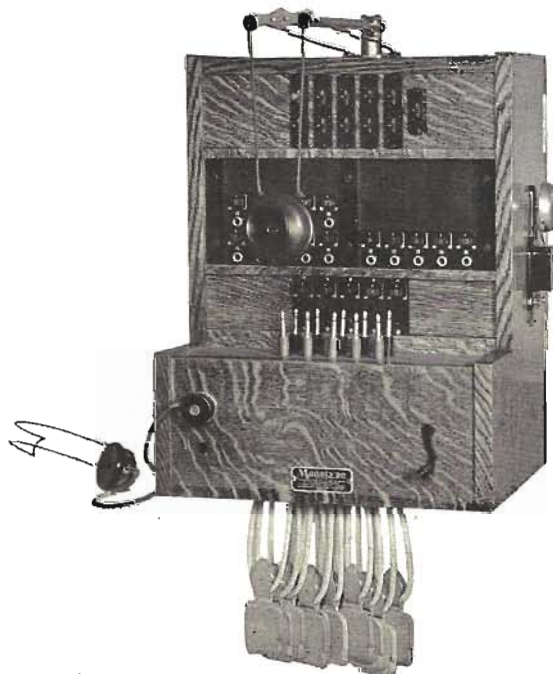
Five pairs of connecting cords provide circuits for a maximum of five calls at one time. Four of these circuits are used for completing connections between two full-metallic or two grounded lines. The fifth cord circuit is especially equipped to permit connections between full-metallic and grounded lines, as well.

For use at night, or during light-load periods, a night alarm circuit is provided, consisting of a switching key and a bell. The key is thrown when the operator leaves the board; then, whenever a drop operates, the bell rings.

The operator's telephone set consists of a headband receiver, and a suspended transmitter, hung on an arm which provides in-and-out and up-and-down adjustment.

The switchboard cabinet is quarter-sawed oak, with highly polished golden oak finish. Overall dimensions are: height, 21 in.; width, 16 in.; depth, 13½ in. The front is hinged, and when swung open exposes all interior parts. Terminal racks within the cabinet provide for connections to the telephone lines.

Ask for price on a Monotype Wall-Type Magneto Switchboard to meet your requirements. Please specify number of lines desired.



**A Typical Monotype Wall-Type
Magneto Switchboard, as Installed**

The Monotype "Floor-Type" Magneto Switchboard

(Capacities 50, 100, 150 Lines; 15 Calls at a Time)

A high-efficiency magneto switchboard, with features which enable an operator to handle a heavy load of calls, rapidly and without excessive fatigue. Signals are of a type which is noted for easy visibility from any angle in front of the board; and all signals are "self-restoring."

This switchboard has a capacity of 150 telephone lines and 15 connecting circuits, but may be furnished arranged and wired for only 50 or 100 lines, and equipped initially for any desired number of lines. Units which are furnished partly equipped may be added to, at will, up to the full capacity of the switchboard.

All connecting circuits are equipped for completing connections between two full-metallic lines or two ground-return lines, or between a full-metallic line and a ground-return line. In other words, the operator may take any pair of cords for any connection.

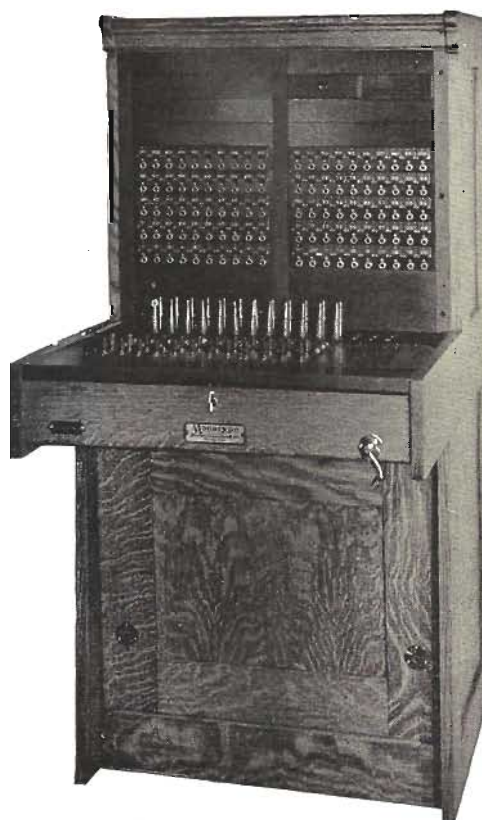
With magneto boards of this size, ringing current for the operator is usually provided by an automatic ringing machine. However, a hand generator is furnished in the switchboard, together with a key for switching it into service.

For use at night, or during light-load periods, a night alarm circuit is provided, consisting of a switching key and a bell. The key is thrown when the operator leaves the board; then, whenever a signal operates, the bell gives a continuous ring until the signal is restored.

The operator's telephone set consists of a headband receiver and a suspended transmitter, hung on an arm which provides in-and-out and up-and-down adjustment. Transmitter arm is finished in highly polished nickel plate.

The switchboard cabinet is quarter-sawed oak with golden oak finish. Overall dimensions are: height, 54 in.; width, 26 in.; depth, 30½ in. It is constructed so that the board is easy to install and maintain.

If a source of commercial current is available, current supply for the operator's transmitter and the night alarm may be obtained through a battery eliminator. Or, dry cells may be used for supplying power.



**A Typical Monotype Floor-Type Magneto Switchboard.
Furnished complete with Operator's Transmitter
and Receiver (not shown)**

Commercial current, if available, may also be used to operate a ringing converter, providing ringing current for the operator's use.

Lightning arresters, with or without fuses, must be provided for all lines entering the switchboard from outside the building. Connections from the switchboard are carried out through a line cable which extends twelve feet from the top of the switchboard. To complete installation of the board, it is merely necessary to connect this cable to the lightning arresters.

Ask for price on a Monotype Floor-Type Switchboard to meet your requirements. Please specify number of lines and number of connecting circuits desired; also, voltage (and frequency, if A.C.) of commercial current available.

Magneto Monophones



Cat. No. AE-10
Base, 5 in. wide, 6 in. long;
handset, 9 in. long;
overall height, 10 in.

These modern instruments provide new convenience for magneto telephone users. The Type 8 Desk Monophone, shown above, is a self-contained instrument which may be placed on a desk or table, for most convenient operation. By using the Portable Telephone Plug and Jack (see page 30), this Monophone may also be made into a portable telephone, where such an instrument is desired. Types 10 and 18 Wall Monophones shown at the right, mount out of the way on a wall, and, because they are built around the Monophone handset, permit comfortable telephoning and efficient transmission, whether the user is seated or standing, or even moving about.

The Type 8 Desk Monophone

This instrument does not require a bell box. All of the equipment (except batteries) is contained in a compact table set, equipped with a 6-foot cord and a small terminal block for connection to the line wires and the battery. This instrument has a 2-bar generator and 1000-ohm ringer. It is not intended for use on long or heavily loaded lines, but is suitable for short lines with not more than four telephones.

The Type 10 Monophone

Includes the same equipment as the Type 8 (including 2-bar generator and 1000-ohm ringer) and is also intended for use only on short, lightly loaded lines. It is assembled in a metal case, with a telephone number card holder on the front cover.

The Type 18 Monophone

The Type 18 Monophone has more powerful ringing equipment, and is recommended for longer lines. There are two models—one with 3-bar generator and 1000-ohm ringer, for lines with not more than seven stations; the other with a 5-bar generator and 1600-ohm ringer, for long lines with up to ten stations. These instruments have oak cases, slightly larger than the Type 10 Monophone.



Cat. No. AE-12
Height, 12 in.; width, 9 in.;
depth, 4 in., overall;
handset, 9 in. long.



Cat. No. AE-13, -14, -18
Height, 12¾ in.; width,
9 in.; depth, 5½ in.,
overall; handset,
9 in. long.

Cat. No.	Description	Net Wt.	Shipping Wt.	Schedule	Price
AE-10	Type 8 Desk Monophone	11 lbs.	15 lbs.	F	\$27.75 ea.
AE-12	Type 10 Wall Monophone	11 lbs.	15 lbs.	F	24.90 ea.
AE-13	Type 18 Wall Monophone— 3-bar Gen., 1000-ohm Rgr.	15 lbs.	20 lbs.	F	24.90 ea.
AE-14	5-bar Gen., 1600-ohm Rgr.	15 lbs.	20 lbs.	F	25.90 ea.
AE-18	5-bar Gen., 2500-ohm Rgr.	15 lbs.	20 lbs.	F	26.15 ea.

All Prices F. O. B. Chicago, Effective June 1, 1939, and Subject to Change Without Notice

Type 200 Magneto Telephones



Cat. No. AG-15, -16, -17

Desk Stand—height, 11½ in.;
diam. of base, 5⅝ in.
Ringer Box—height, 9¼ in.;
width, 7¾ in.; depth, 5½ in.



Cat. No. AG-11, -12, -13

Height, 15¼ in.; width, 7¼ in.;
depth, 10¼ in. overall.

These instruments are of the familiar type having separate hand receivers. Desk telephones are furnished with bell boxes which contain signal bell and the magneto generator, and provide screw terminals for connection to the batteries and the telephone line (batteries may be placed in a battery box nearby). Wall telephones are entirely self-contained, including space for dry cells. *Dry cells are not included.*

Type 200 Desk Telephone

A gracefully designed desk stand, with the transmitter post set back of the center of the base, providing space for a telephone number card. Fitted with a 6-foot cord for connection to the bell-box.

Bell-boxes are supplied with 5-bar generator and 2500-ohm ringer, for long lines with as many as ten stations, or even more; 5-bar generator and 1600-ohm ringer, for shorter lines, with not more than ten stations; or 3-bar generator and 1000-ohm ringer, for short lines with approximately seven stations or less.

Type 200 Wall Telephone

Instruments of compact design, with handsome lines of modern simplicity. Cat. Nos. AG-13, -12, and -11, respectively, include ringer and generator combinations as listed above, and may be used to meet all ordinary requirements. These instruments provide space for two standard (No. 6) dry cells.

Cat. No. AG-14 is a larger telephone with extra power, for use on long lines which have many telephones, and in locations where a particularly loud ringing signal is required. This instrument (not shown) has a 5-bar generator, and a special ringer of 2500-ohm resistance, with 3 in. gongs mounted *outside* of the cabinet, and the case provides space for three dry cells. This telephone meets the requirements of the U. S. Forestry Service.

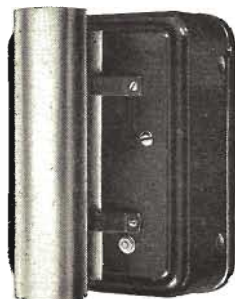
Type 200 wall telephones, and the ringer boxes for the desk telephones, are enclosed in oak cases, handsomely finished in golden oak. The receiver, and transmitter mouthpiece, are of molded plastic, and all exposed metal parts are beautifully black japanned.

Cat. No.	Description	Net Wt.	Shipping Wt.	Schedule	Price
	Type 200 Desk Telephone				
AG-15	5-bar Gen., 2500-ohm Rgr.	20 lbs.	28 lbs.	F	\$24.15 ea.
AG-16	5-bar Gen., 1600-ohm Rgr.	20 lbs.	28 lbs.	F	23.90 ea.
AG-17	3-bar Gen., 1000-ohm Rgr.	20 lbs.	28 lbs.	F	23.10 ea.
	Type 200 Wall Telephone				
AG-13	5-bar Gen., 2500-ohm Rgr.	19 lbs.	22 lbs.	F	22.45 ea.
AG-12	5-bar Gen., 1600-ohm Rgr.	19 lbs.	22 lbs.	F	22.15 ea.
AG-11	3-bar Gen., 1000-ohm Rgr.	19 lbs.	22 lbs.	F	21.20 ea.
AG-14	5-bar Gen., 2500-ohm (Spl.) Rgr.	24 lbs.	30 lbs.	F	22.45 ea.

All Prices F. O. B. Chicago, Effective June 1, 1939, and Subject to Change Without Notice

Telephone Accessories

The Monochime



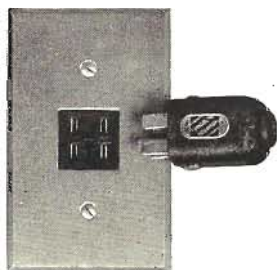
This "single-stroke" telephone gong gives a pleasant-sounding signal which is welcomed in banks, offices, homes, etc. It operates directly from ringing current, requiring no relay or other wiring. To install, simply connect the Monochime directly across the line, and disconnect the ringer in the telephone. (Telephones can be furnished without ringer, if desired, for use with the Monochime.)

The Monochime is assembled in a case of lustrous black plastic, with the tone bar and resonator chamber, mounted on the cover, finished in highly polished chromium plate. It is 7 in. high, 5½ in. wide, and 5½ in. deep, over all. *Not recommended for use on code-ringing lines.*

Net weight—4 lbs. Shipping weight—5 lbs.

Cat. No.	Description	Sched.	Price
AO-37	For Type 35A5 or Type 40 Monophone	F	\$13.50 ea.
AO-61	For Type 32A14 Tel.	F	13.50 ea.
AO-63	For Magneto Tel.	F	13.50 ea.

Portable Telephone Plugs and Jacks



It is often convenient to have facilities for temporarily plugging in telephones at points where permanent telephones would not be desired. This convenience can readily be secured through the use of self-contained telephones, and these telephone plugs and jacks.

Two-conductor plugs and jacks are required for use with the Type 40 Monophone and the Type 32A14 Desk Telephone, in P-A-X or manual systems. Four-conductor plugs and jacks are required for the Type 8 Monophone, in magneto systems. Jacks are designed to mount in a standard sectional-type switch box (not furnished), and are supplied complete with wall plate.

Cat. No.	Description	Sched.	Price
AZ-10	2-conductor Plug	F	\$0.35 ea.
AZ-11	2-cond. Jack, with Plate	F	.85 ea.
AZ-12	4-conductor Plug	F	.45 ea.
AZ-13	4-cond. Jack, with Plate	F	.95 ea.

Desk Lamp Signal and Relay



This silent signal consists of a bronze-lacquered metal base, 2¾ in. in diameter and 1½ in. high, containing a lamp under a dome of red glass. Lamp operates from a battery or transformer, controlled by a relay

which responds to ringing current. The relay is cased in a box of molded black plastic, 5½ in. long, 3 in. wide, and 2½ in. high. Signal is supplied with 6-foot cord.

Cat. No.	Description	Sched.	Price, Comp.
AS-76	Lamp Sig. & Rly.—12-v.	F	\$13.10
AS-77	24-volt	F	13.10
AS-78	48-volt	F	13.10

Telephone Switching Keys

Used for connecting a telephone to two or more lines, connecting two or three telephones to one line, etc. In black-japanned steel case, 5¾ in. long over all, 3½ in. wide, 1½ in. high.



Cat. No.	Description	Sched.	Price
AY-10	2-cond., 2-way	F	\$5.50 ea.
AY-11	2-cond., 3-way	F	6.00 ea.

Splashproof Loud-Ringing Bells

Operate directly from ringing current of P-A-X, manual, or magneto systems and can be used outdoors as well as indoors. (Not recommended, however, for use in locations directly exposed to the weather.) Height 12 in.; width, 13 in. Have condenser in series with ringer coils.



Net weight—12½ lbs. Shipping weight—21 lbs.

Cat. No.	Description	Ringer	Sched.	Price
AS-52	Splashproof Bell	1600-ohm	F	\$11.45 ea.
AS-65	Splashproof Bell	2500-ohm	F	11.40 ea.

All Prices F. O. B. Chicago, Effective June 1, 1939, and Subject to Change Without Notice

Telephone Cords

Monotype cords are original equipment on all Automatic Electric telephones. They are made by Automatic Electric Company, to meet the most rigid speci-

fications for insulation quality, handsome appearance, and long life. Order "Monotype" when replacing cords, and be assured of long and satisfactory service.

<i>Cat. No.</i>	<i>Description</i>	<i>Schedule</i>	<i>Price</i>
Telephone Handset Cords			
AH-27	For Monophone handset in Type 40 Monophone	F	\$0.40 ea.
AH-11	For Auto-Com. handsets, Monophone handsets in Types 8, 10, 18 and 35A5 Monophones, and handset of operator's telephone for Monotype Cordless switchboards	F	.40 ea.
AH-17	For Monophone handset in Outdoor Monophone Set	F	.56 ea.
AH-26	For Intercom., Idealfone, and Type 32A14 handsets	F	.39 ea.
Telephone Receiver Cord			
AR-14	For receivers on Type 200 magneto telephones	F	.18 ea.
Desk Set Cords			
For connecting desk stands to line terminal block or ringer box			
AD-18	For Type 40 Monophone	F	.27 ea.
AD-13	For Type 8 Monophone	F	.54 ea.
AD-10	For Type 200 telephone	F	.43 ea.
AD-12	For Type 32A14 desk set	F	.27 ea.
AD-16	For P-A-X desk set, Cat. No. AC-12	F	.43 ea.
AD-13	For Type 32A47 Intercom. desk set	F	.54 ea.
AD-60	For Type 32A48 Intercom. desk set	F	2.57 ea.
AD-17	For Type 33A17 Intercom. desk set	F	3.62 ea.
AD-17	For Type 33A18 Intercom. master station	F	3.62 ea.
AD-13	For Type 33A18 Intercom. outlying station	F	.54 ea.
AD-12	For Type 33A10 Intercom. master station	F	.27 ea.
AD-10	For Type 33A10 Intercom. outlying station	F	.43 ea.
AD-21	For Auto-Com telephone	F	4.77 ea.

E-X-T-E-N-S-I-C-O-R-D

Extensicord is a new handset cord that actually stretches! It is normally only 32 in. long, and settles down close to the telephone when not in use. But when the handset is lifted, Extensicord stretches easily in a straight line, to almost twice this length. Thus, it permits the handset user to stand, sit down, or move about with exceptional freedom. When the handset is replaced, the cord returns to its normal shortened form.

Extensicord has three conductors, each covered with black braid, for use on Type 40 Monophone; or with brown braid, for other Monophones and for Intercom., Idealfone, Auto-Com. or Type 32A14 handset telephones. (Also available for other makes of handsets—details on request.)

Net weight—3 oz. Shipping weight—7 oz.



<i>Cat. No.</i>	<i>Description</i>	<i>Schedule</i>	<i>Price</i>
AH-20	Extensicord—Brown	F	\$1.00 ea.
AH-21	Extensicord—Black	F	1.00 ea.

All Prices F. O. B. Chicago, Effective June 1, 1939, and Subject to Change Without Notice

Burns Telephone Brackets

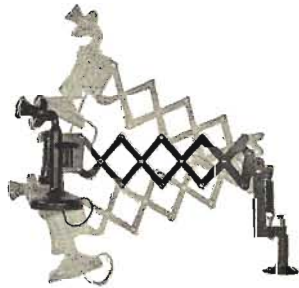
Keep Telephones Within Easy Reach—Yet Out of the Way

Telephones are more convenient—out of the way, yet always handy—when you use Burns Telephone Brackets. Increase working space on desks, give a more efficient appearance, and eliminate spilling ink wells and disturbance of papers.

Brackets are available in four styles as shown, and can be supplied with mounting for any installation (see below). Unless otherwise ordered, we supply Cat. No. ZA-40 mounting, for use on wall or on side of desk. Other mountings supplied at no extra charge (except ZA-39, add 50c).

Burns "Hi-Lo" Bracket

Moves in-and-out, and up-and-down, so that the telephone can be conveniently used in either standing or sitting position. Furnished with clamp for handset type telephones, or for upright type—please specify when ordering. Lengths given are measured overall—including telephone.



Cat. No.	Length	Ship. Wt.	Sched.	Price
ZA-28	28 in.	6 lbs.	E	\$7.00* ea.
ZA-29	32 in.	6½ lbs.	E	7.50* ea.
ZA-30	36 in.	7 lbs.	E	8.00* ea.
ZA-31	40 in.	7½ lbs.	E	8.50* ea.

* Add 15c if for handset type telephones.

Burns "Regular" Bracket

Extends in-and-out, telephone swivels on bracket, and bracket revolves on mounting. Keeps the telephone suspended over the desk. Can be furnished with clamp for handset type telephones, or for upright type—please specify when ordering.

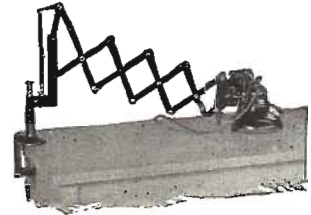


Cat. No.	Length	Ship. Wt.	Sched.	Price
ZA-23	26 in.	5 lbs.	E	\$5.00* ea.
ZA-24	30 in.	5¼ lbs.	E	5.50* ea.
ZA-25	34 in.	5½ lbs.	E	6.00* ea.
ZA-26	38 in.	5¾ lbs.	E	6.50* ea.
ZA-27	42 in.	6 lbs.	E	7.00* ea.

* Add 15c if for handset type telephones.

Burns "Dial" Bracket

For use with Type 32A14 dial telephone, Intercom., and Auto-Com telephones, and automatic public exchange telephones. Keeps telephone level, resting firmly on desk. When ordering, specify for handset type, or for upright type telephone.



Cat. No.	Length	Ship. Wt.	Sched.	Price
ZA-32	26 in.	6 lbs.	E	\$7.50* ea.
ZA-33	30 in.	6½ lbs.	E	8.00* ea.
ZA-34	34 in.	7 lbs.	E	8.50* ea.

* Add 15c if for handset type telephones.

Burns "E-Z" Bracket

A low-priced but serviceable telephone arm, with which the telephone can be lowered below the base, or raised above it. Does not provide in-and-out adjustment. Furnished with clamp for handset type telephones, or for upright type—please specify when ordering.



Cat. No.	Length	Ship. Wt.	Sched.	Price
ZA-50	24 in.	6 lbs.	E	\$4.00* ea.

* Add 15c if for handset type telephones.

Mountings

ZA-35 for wall, post, window frames, etc.

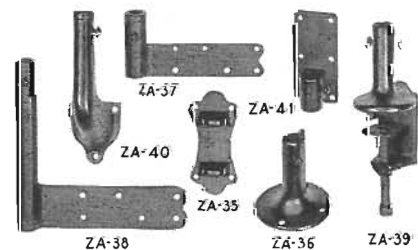
ZA-36 for top of flat top desk.

ZA-37, ZA-38 for side of roll top desk.

ZA-39 for clamping to edge of desk. (No screws required.)

ZA-40 for desk or for wall.

ZA-41 for window ledge, railing, etc.



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Telephone Wiring Supplies

Telephone Wire



No. 22 B & S gauge wire, for inside or outside use. Inside wire has brown braid covering (or ivory color on special order), and is suitable for inside wiring in locations free from dampness. Outside wire has black saturated weatherproof braid, and may be used outdoors or in damp locations indoors. It is not suitable for use where wire must be strung across open spaces.

Single wire is used with the Type 33A18 Intercom. system. Duplex wire is used with Types 33, 44 and 66 Idealfone systems, with Types 32A1 and 32A21 P-A-X's, and with manual central-battery and magneto systems. Triplex wire is used with the Type 34A16 P-A-X, and with Types 32A47, 33A10, and 33A18 Intercom. systems.

Standard package of inside wire is 1000 feet (five 200-foot coils); outside wire, approximately 500 feet.

Cat. No.	Description	Ship. Wt.	Price
D-22-A	Inside—Single	6 lbs.	\$4.33 M ft.
D-22-B	Inside—Duplex	12 lbs.	8.66 M ft.
D-22-C	Inside—Triplex	17 lbs.	12.99 M ft.
S-22-A	Outside—Single	6 lbs.	4.33 M ft.
S-22-B	Outside—Duplex	12 lbs.	8.66 M ft.
S-22-C	Outside—Triplex	17 lbs.	12.99 M ft.

Schedule F applies.

Intercom. Cable

Especially designed for use with Intercom., Auto-Com and Idealfone systems. It provides No. 18 B & S gauge conductors for talking leads, No. 22 gauge for signaling. Tinned copper conductors have single silk and single cotton insulation, color-coded.

For use in dry locations, cable is supplied with a substantial cotton braid saturated with a slate-colored fireproof paint. Lead-covered cable is to be used where there is a possibility of moisture.

Cables B-10 and L-10 have 6 single No. 22 ga. conductors, and 2 pair No. 18, and are suitable for use with Type 32A48 Intercom. and Type 55 Idealfone. Cables B-15 and L-15 have 11 single No. 22 ga. conductors, and 2 pair No. 18, and are suitable for use with Type 33A17 Intercom, and for Auto-Com. When ordering, state catalog number, whether braid- or lead-covered, and the number of feet wanted.

Prices upon application.

Cat. No.	Description	Diam.
B-10	Braid-covered Intercom. Cable	1/4 in.
B-15	Braid-covered Intercom. Cable	3/8 in.
L-10	Lead-covered Intercom. Cable	1/8 in.
L-15	Lead-covered Intercom. Cable	1/2 in.

For Wire and Cable for Serv-U-Fone systems, see pages 14-17, inclusive.

Telephone Cable



For connecting P-A-X or manual (common-battery or magneto) switchboards to junction boxes, from which the connections to the telephones can be made with telephone wire. No. 22 gauge tinned copper conductors, with double silk and single cotton insulation, color-coded.

"Switchboard" cable has a substantial cotton braid, finished with slate-colored fireproof paint. It is suitable for use in dry locations, only. Lead-covered cable has a heavy lead sheath, and should be used outdoors, and in indoor locations subject to dampness.

Prices upon application.

No. of Wires	Switchboard		Lead-Covered	
	Cat. No.	Diam.	Cat. No.	Diam.
6 pr.	WA-18	1/8 in.	WA-64	1/8 in.
11 pr.	WA-47	3/8 in.	WA-65	7/8 in.
16 pr.	WA-48	3/4 in.	WA-66	1 1/2 in.
26 pr.	WA-49	1/2 in.	WA-67	3/8 in.
51 pr.	WA-62	3/8 in.	WA-68	1 1/8 in.
102 pr.	WA-63	3/8 in.	WA-69	1 7/8 in.

Blake Insulated Staples



A double insulation of fibre protects the wires from contact with the metal portion of the staple, and prevents cutting the insulation of the wire. No. 3 for single wire and twisted pair, No. 6 for three or four wires.

Cat. No.	Ship. Wt.	Schedule	Price
3	2 lbs.	F	\$1.50 M
6	2 1/2 lbs.	F	1.60 M

One-Hole Cable Clamps



Made of steel, hot-galvanized. Sizes for all cables.

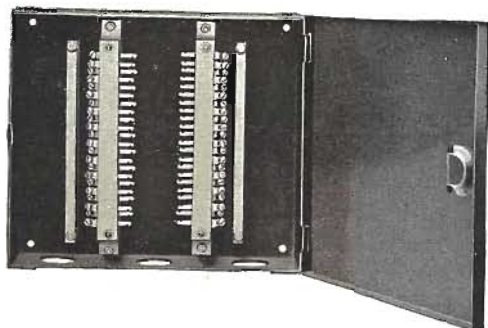
Cat. No.	Cable Size	Ship. Wt.	Price
4-0	1/8 in.	1 lb.	\$0.74 C
2-0	5/8 in.	1 1/4 lbs.	.81 C
0	1 1/8 in.	4 lbs.	1.98 C
1	3/4 in.	4 1/2 lbs.	2.29 C
1A	7/8 in.	5 lbs.	2.38 C
2A	1 in.	7 lbs.	2.61 C
2	1 1/8 in.	7 1/2 lbs.	2.70 C

Schedule F applies.

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Telephone Wiring Supplies

Type 75 Junction Boxes



Assembled in standard outlet boxes, 4 in. deep, with numerous knockouts in top and bottom. Terminal strips provide soldering lugs for cable, and screw terminals for line wire. Use for connections between building cable and telephone wire; also for "commoning" the leads in master-station systems.

Cat. No.	Capacity	Price, Each	
		1 to 9	10 or More
SB-10	11 pair	\$ 3.75	\$ 3.38
SB-11	13 pair	4.25	3.83
SB-12	16 pair	4.85	4.37
SB-13	22 pair	6.15	5.53
SB-14	26 pair	7.15	6.43
SB-16	52 pair	12.55	11.30
SB-17	104 pair	24.75	22.27

Schedule F applies.

Sands Type 15 Telephone Protector



When telephone lines are run between buildings, and thus exposed to lightning, or to contact with power wires, each line must be passed through a telephone protector before connecting to the telephone. Protector includes lightning arrester for grounding lightning discharges and

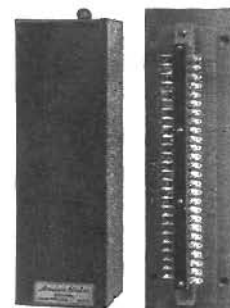
5-ampere fuses for protection against heavy currents.

The Sands Type 15 Protector may be mounted indoors or out. Hood is pure zinc, and mounting bracket is galvanized iron.

Cat. No.	Description	Sched.	Price, Each
SA-81	Type 15 Protector	F	1 to 24 \$1.20
			25 to 49 1.14
			50 or more 1.08

Type 125 Junction Boxes

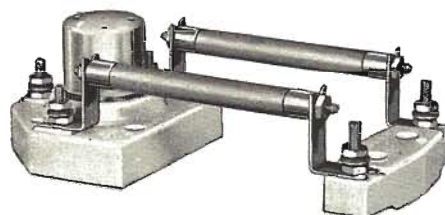
Small, inexpensive units for connections between building cable and telephone wire; also for "commoning" the leads in master-station systems. Consist of a terminal strip and fanning strip mounted on a wooden base with black-enameled metal cover. Terminal strips provide soldering lugs for cable, and screw terminals for line wire.



Cat. No.	Capacity	Dimensions	Price
SB-30	13 pair	9 in. x 2 $\frac{7}{8}$ in. x 3 in.	\$4.60 ea.
SB-31	21 pair	14 $\frac{1}{4}$ in. x 2 $\frac{7}{8}$ in. x 3 in.	5.50 ea.

Schedule F applies.

Sands Type 12 Telephone Protector



Comprises fuses and lightning arrester as employed in the Type 15 Protector, but is designed for indoor use only.

If protector is to be mounted on wood, an asbestos mat can be supplied to protect the mounting surface.

Cat. No.	Description	Price, Each
SA-74	Type 12 Protector	1 to 24 \$1.20
		25 to 99 1.14
		100 or more 1.08
SA-29	Asbestos Mat	.05

Schedule F applies.

Milonite Nails



Used for installing twisted pair. Furnished in olive green, dark green, grey, brown or black (olive green furnished unless otherwise specified). When ordering, please give length — $\frac{1}{2}$, $\frac{3}{8}$, $\frac{1}{4}$, or $\frac{3}{16}$ in. 1000 in carton.

Cat. No.	Description	Schedule	Price
TS-10	Milonite Nails	F	\$1.25 M

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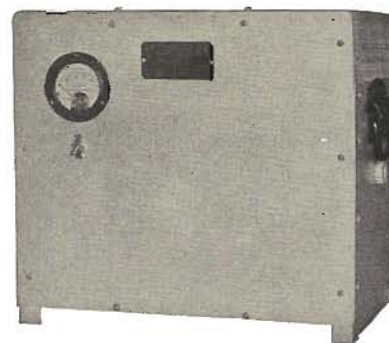
Automatic Electric Battery Eliminators

These units are recommended as the most satisfactory source of direct current for private telephone systems, wherever a dependable supply of 105-125-volt, 50-60-cycle A.C. is available. They are simple, self-contained, easy to install—and, once installed, require almost no attention.

Automatic Electric battery eliminators are especially designed for telephone service. They are equipped with carefully engineered filters which eliminate every trace of "hum" from the rectified current, thus providing noiseless current for telephone transmission.

The 12-volt unit (Cat. No. PE-10) is similar to the unit supplied with the Type 34A16 P-A-X, and is suitable for use with Types 33A17, 33A18, and 33A10 Intercom, and Types 44, 55 and 66 Idealfone systems, as well as with other systems requiring 12-volt current. This is a dry-plate type, using high-grade copper oxide rectifying units, and has an output capacity of 1.5 amperes. It is contained in a small sheet-metal cabinet, finished in aluminum paint and suitable for wall mounting.

The 24-volt unit (Cat. No. PE-11) is the unit supplied with Type 32A1 and 32A21 P-A-X's, and is recommended for use with manual systems, as well. It is supplied with two Tungar rectifying tubes, which are famous for long life and superior operating characteristics. A time-delay relay protects the tubes from damage after interruptions in the current supply, and greatly prolongs their life. This unit is assembled in a metal cabinet, finished in aluminum paint, and equipped with voltmeter and starting switch.



Cat. No. PE-11

Cat. No.	Description	Width	Depth	Height	Net Wt.	Ship. Wt.	Schedule	Price
PE-10	Battery Eliminator—12-volt, 1.5 amp.	10¾ in.	4¼ in.	10¼ in.	17 lbs.	27 lbs.	A	\$ 66.50 ea.
PE-11	Battery Eliminator—24-volt, 3 amp.	16¼ in.	9⅞ in.	15 in.	94 lbs.	120 lbs.	F	132.00 ea.
12x825	Spare Rectifier Tube for PE-11						F	3.00 ea.

Battery Boxes



These battery boxes provide a neat and convenient means of mounting No. 6 dry cells and protecting them from injury. May be hung on the wall or alongside of desk, placed on the floor or wherever needed. Made of sheet metal, black japanned and lined with insulating material.

Cat. No.	Capacity	Wt. Each	Schedule	Price
2	2 Cells	1¼ lbs.	D	\$2.10 ea.
3	3 Cells	1½ lbs.	D	2.30 ea.

Columbia Gray Label Dry Cell



This is not just an ordinary dry cell, but a special cell, intended specifically for telephone service. It is designed to have long life in this service and to provide a steady current, without disturbing noises. Use in Serv-U-Fone, Idealfone and Intercom. Systems, and in magneto telephones.

Standard package is 25 dry cells. Shipping weight, 57 lbs.

Cat. No.	Description	Sched.	Price
6	Dry Cell	F	\$0.25 ea.

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