



GraybaR

A.I.A. File No. 3115

Inter-Phones
and
Accessories

TABLE OF CONTENTS



	PAGES
General Information	1-3
No. 1-A System	4-5
No. 11 System	6-7
No. 12 System	8-10
Nos. 12-A and 12-AC Systems	11-13
Nos. 12-B and 12-C Systems	14-15
No. 12-SS System	16
Nos. 14 and 14-C Systems	17
No. 15 System	18
No. 18-C System	19-20
Outfits Nos. 31-A and 31-B.....	21
Description of Apartment House Systems	22
No. 20 Apartment House System	23-24
No. 21 Apartment House System	25-26
No. 22 Apartment House System	27
Description of Common Talking Inter-Phones	28-32
Description of Apartment House Inter-Phones	33-37
Inter-Phone Switchboards	38-40
Inter-Phones Used with Switchboards	41
Inter-Phone Accessories	42-46
Component Parts of Inter-Phone Systems	47-48
Specifications for Inter-Phone Systems	49
List of Graybar Offices in 79 Cities	Back Cover

Save Footsteps and You'll Save Dollars!

A STEP ahead—that's what marks the leader in every field of endeavor. And quite literally, that's just where an inter-communicating telephone system will put you. In fact, you'll be many steps ahead at the end of the day! Those saved steps mean time saved. Time saved means money saved. That means greater efficiency and greater profits.

Graybar Inter-Phones, too, are a step ahead of the inter-communicating telephone field. They give you quick, unfailing communication throughout your office, factory, apartment or hotel. By thus releasing your switchboard from the unnecessary burden of calls that do not go beyond your own roof, you are making your outside telephone far more efficient and thus avoiding inconvenience and possible loss of business or good-will through frequent delays. At the same time you have the benefit of a double internal system which permits you to talk privately to any member of your organization concerning a problem while someone waits on the outside 'phone for the answer.

Graybar Inter-Phone systems are readily adaptable to any type of communication problem. This book is designed to suggest one that best fits your own situation. Systems and equipment are described in detail. There are undoubtedly many questions that you want answered and this book will be of much help in finding the right solution to your needs. There again Graybar is ready and eager to serve you. Inter-Phone Specialists in key cities of the country can give you the advice you require. That is their job. Call on them for help and find out how great a service Graybar Inter-Phones have to offer you. (See list of Graybar offices on back cover.)

**Keep a step ahead of competition with
MODERN INTER-PHONE SYSTEM**

What to Look for in Selecting an Interior Telephone System

<i>System Number</i>	<i>General Features of Systems</i>	<i>Limits of Stations</i>	<i>Number of Conversations</i>	<i>Method of Ringing</i>	<i>Battery Arrangement</i>
No. 1-A	Selective Ringing, Selective Talking	7-25	As many as instrument pairs	Selective two-way from any station	Two sets of Batteries — one for ringing, one for talking
No. 11	Selective Ringing, Common Talking	3-9	Only one at a time	Selective two-way from any station	Battery and retard coil at one station
No. 12	Master Station, Common Talking	2-16 Outlying	*Only one at a time	Two-way between master and outlying stations	Battery and retard coil at master station
No. 12-A	Master Station, Common Talking with Annunciator	18 or more outlying	*Only one at a time	Two-way between master and outlying stations	Battery and retard coil at master station
No. 12-SS	Master Station, with Selective Ringing, Selective Talking between master and any one outlying station	6-24 Outlying	*Only one at a time	Two-way between master and outlying stations	Battery and retard coil at master station
No. 18-C	Master Station, with jack and plug annunciator. Communication between outlying stations through connection made at master station	10 to 100	One or more depending upon number of connecting cords	Two-way between master and outlying stations	Battery at master station
No. 14	Private line with two stations —two wire	2	One	Two-way	Batteries at each station
No. 14-C	Private line with two stations —three wire	2	One	Two-way	Battery and retard coil at one station
No. 15	Code ringing common talking —four wire	2-6	Only one at a time	Code, between all stations	Battery and retard coil at one station
No. 31-A	Same as 14-C except comes complete as package outfit with interior wiring materials	2	Same as 14-C	Same as 14-C	Same as 14-C
No. 31-B	Same as 14-C except comes complete with exterior wiring materials	2	Same as 14-C	Same as 14-C	Same as 14-C

* No communication between outlying stations.

THERE are five fundamental types of Inter-Phone Systems, distinctly different in their uses and operation. Variations of these five types make up the ten Graybar Inter-Phone Systems. Any intercommunication requirement in any type of business, home, apartment or institution can be met by one of these systems.

Where two or more conversations must take

place simultaneously, and where the advantages of selective ringing and selective talking are desired, the Graybar No. 1-A Inter-Phone System has proved a satisfactory answer to hundreds of users—offices, factories, banks, institutions, hospitals, warehouses, government departments, stores, schools, etc., limited to a total of 25 stations.

For smaller organizations where only one conversation at a time will be needed and there is no objection to the common talking feature (anyone can talk or listen), the Graybar No. 11 Inter-Phone System has proved itself most satisfactory to the same type of users as for the No. 1-A System, except as to the size of the organization. The limit on stations is 9 or less.

The third fundamental type of system is the Master Station (No. 12 System). This system consists of a master station and outlying stations up to a limit of 16. This is a common talking system and there is no communication between outlying stations. The No. 12-A System differs from the No. 12 only in that an annunciator is located at the master station to show what outlying station has called. Eighteen outlying

stations are the limit. The No. 12-SS differs from the No. 12-A only by the fact that the push buttons at the master station are located on the annunciator panel instead of on the desk set. Twenty-four outlying stations are the limit.

The fourth general type system is a selective ringing, selective talking system between a master station and any one outlying station. One conversation only at any time. Equipped with annunciator carrying push buttons.

The fifth fundamental type system is the two station private line. No. 14 System has two wires with batteries at each station and is used for long line service—1000-6000 feet. The No. 14-C is a two station, three wire system with batteries at only one station, used for short line service—less than 1000 feet.

OFFICE USE

There are many time and step saving uses for Inter-Phone Systems in offices. Getting information from another individual while an outside telephone connection is held, giving instructions or calling assistants into executive offices, brief office conferences of three or more individuals—all these and many more daily needs are satisfactorily met by Graybar Inter-Phone Systems.

FACTORY USE

Messages go quickly from Plant Superintendent to Foremen, from Executive Offices to Plant Superintendent, from any point in the plant to any point in the offices by means of Graybar Inter-Phone Systems. We have saved footsteps and dollars for industrial plants in every part of the U. S. A.—our experience is at your service.

USE IN STORES

Instant communication between stockroom, shipping department, sales departments and executive offices. Information secured, instructions promptly and properly given to the right person by means of Graybar Inter-Phone Systems. Results—time saved, footsteps saved, dollars saved and orders saved because of quicker, more efficient service.

SCHOOL APPLICATION

Any room in the school building can be quickly reached without disturbance to others with a Graybar Inter-Phone System. Instructions to teachers, janitor or assistants can be quickly delivered from Principal's Office, also conferences arranged between any group of teachers and the Principal. Any needed inter-communication between classrooms also provided for, giving a well rounded time saving service. All these and other advantages through a Graybar Inter-Phone System.

USE IN APARTMENTS

Reliable communication between vestibule and apartments and between apartments and superintendent, by means of a Graybar Inter-Phone System. Apartment Owners and Managers appreciate the need for a dependable, trouble free signaling system and our experience in installing hundreds of them awaits your call.

INSTITUTIONAL USES

For hospitals; municipal, county, state and federal office buildings; libraries, prisons, courtrooms and many other public buildings Graybar Inter-Phones supply the means of quick, private and always dependable inter-communication.

No. 1-A Inter-Phone System Selective Ringing Selective Talking

GENERAL DESCRIPTION

The Graybar No. 1-A System is recognized as the most satisfactory interior communication system for general Office, Factory and Institutional use—except for small organizations. It is the only system allowing for several simultaneous conversations. Wherever large or medium sized organizations are concerned, there are many times during every working day when a one conversation system would prove most unsatisfactory.

In both appearance and operation the Graybar No. 1-A Inter-Phone System keeps pace with the exacting requirements of current business conditions. The latest feature of this system is the convenient Combination Hand Set and Key Box Inter-Phone—it is readily convertible for wall or desk mounting, providing a flexibility never before possible. Only this one standard instrument need be ordered.

OTHER OUTSTANDING FEATURES OF THE GRAYBAR NO. 1-A INTER-PHONE SYSTEM ARE:

1. The operation of the system is simple since it is only necessary to remove the hand set and operate the proper push button to call the party desired. This establishes direct communication with the party called.
2. No additional operation is required with these Inter-Phones. The nameplate opposite each push button clearly indicates the name or station number of each party in the system, no memory test is necessary for calling the party required.
3. The Inter-Phone Sets are compact and pleasing in design and will harmonize with any surroundings. All parts of the Inter-Phone are substantially constructed to operate under the most severe conditions. There is no delicate mechanism to be adjusted at any time. This is one of the recognized features of our Inter-Phones.

4. The No. 1-A Inter-Phone System provides selective ringing and selective talking service, as many separate conversations can be carried on as there are pairs of Inter-Phones in the system. Such selective features can only be obtained by means of a "full metallic" circuit installation. We do not recommend the so-called "common return" type of installation for the reason that it is not possible to eliminate "cross-talk" usually experienced when more than one conversation is being carried on in the system at the same time.

5. Complete instructions and wiring diagrams are furnished with each Inter-Phone in order to guide the installer in the proper installation methods. We have set the standard for Inter-Phone installation practices with the result that after the system has been installed and in operating condition, no further attention is required. The only maintenance necessary is the replacement of dry cell batteries. Even this maintenance is not required when a RectiFilter is used for the battery supply.

SERVICE AND OPERATION

Inter-Phone System No. 1-A is recommended for business organizations, industries, stores, institutions, large residences, etc., where more than one conversation will take place at the same time, and where instantaneous connections without loss of time are necessary and the highest grade of transmission is required.

The operation is such that each station can, by merely pressing a button, selectively ring and talk with any other station without disturbing the rest of the stations in the system and as many separate conversations can be carried on simultaneously as there are pairs of Inter-Phones. For example, in a system consisting of six Inter-Phones, three separate conversations can be carried on at the same time.

INTER-PHONE PUSH BUTTON CAPACITY

For each station in the system one push button is required in each Inter-Phone. The Inter-Phones are available in standard sizes as follows:

Push Button Capacity	No. of Stations which may be connected in the System
6 Buttons	7 Stations
12 "	13 "
16 "	17 "
20 "	21 "
24 "	25 "

CONSTRUCTION OF INTER-PHONES

The No. 6140-C type Inter-Phone consists of a combination key box and cradle type unit. The push button keys and their operating mechanism are mounted in a rigid metal frame, the operation of these keys is as follows:

Each key consists of a hard rubber push button mounted on a metal plunger, which passes through a hole in a movable locking plate. When the button is completely depressed the spring makes contact with the ringing battery supply, causing the ringing current to flow to the station to which this particular key is connected, and ringing the bell at that station. When the pressure is released, the plunger returns to an intermediate position, breaking the ringing contact and placing the inter-phone on the line of the station called ready for conversation. While the conversation is taking place, the plunger is automatically held in the talking position by the locking plate until the hand set is replaced on the cradle bracket. This releases the locking plate and the key is restored to its normal position.



6140-C
DESK SET



No. of Buttons	Code No.	Dimensions in Inches—Key Box Only			Finish
		Width	Length	Depth	
6	6140-C6	5	7½	2⅝	Dull black with nickel trim
12	6140-C12	5	7½	2⅝	
16	6140-C16	5¾	10¾	2⅝	
20	6140-C20	5¾	10¾	2⅝	
24	6140-C24	5¾	10¾	2⅝	

Accessories for Use with No. 1-A System

CABLE

For connections between various stations cable especially designed for Inter-Phones should always be used. This cable includes the necessary number of wire conductors (2 pairs for battery supply, 1 pair for each station in the system) and is furnished in three different types to suit the various locations and conditions. Lead covered cable should always be used especially where there is moisture present, and where there is a possibility of the cable being damaged after its installation. The lead covered cable is an added protection for all installations where the cable is to be run in conduit or exposed locations. Cables are described in detail elsewhere—see page 43.

Type	STATIONS				
	7	13	17	21	25
Fireproof Braid	244B	246B	248B	249-B	250-B
Brown Cotton Braid	245B	247B	—	—	—
Lead Covered	244BL	246BL	248BL	249-BL	250-BL

CABLE TERMINALS

A cable terminal should be used wherever a junction is to be made between cables, also for each desk mounting. In cases where cable can be run direct to the Inter-Phone, no cable terminal is necessary. The number of cable terminals required should be determined by the installer.

Code No.	Capacity Pairs	Length Inches	Width Inches	Depth Inches	Use with No. of Stations
19AC	15	8	5¼	2½	7, 13
19BC	27	14	5¼	2½	17, 21, 25

STRANDED FLEXIBLE CABLES

Stranded flexible cable is for use with the No. 6140C Inter-Phone when mounted on a desk, and where it is required to move the Inter-Phone about the desk.

This cable is furnished in silk covered, mercerized or common cotton brown braid as required.

Cord Code No.	Number of Single Conductors	Used with Inter-Phone
418	18	6 button
430	30	12 "
438	38	16 "
446	46	20 "
454	54	24 "

RECTIFIERS

RectiFilters are recommended in place of dry cells to deliver noiseless direct current for Inter-Phone systems. These are copperoxide units designed to operate from 110 volts A.C. source and will supply necessary direct current voltage for the talking circuit of the No. 1 system also, alternating current for the ringing circuit.

Catalog No.	A.C. Volts	D.C. Volts	D.C. Amps.	A.C. Volts	Cabinet Size		
					Wide	Deep	High
6RC61D4	115 V. 60 cyc.	6	0.350	6, 12 and 18	11⅞	6⅝	7⅞
1024	115 V. 60 cyc.	6	0.5	6, 12, 18 and 24	9½	5¼	10¾

Inter-Phones for Replacements and Additions to No. 1 System Installations

DESK SET INTER-PHONES

Where replacements or additions are required for the No. 1 Inter-Phone System (replaced by the No. 1-A System) the following common equipment may be ordered, depending upon whether the key box or Inter-Phone is required.

Key Box Code No.	No. of Buttons	Desk Stand Code No.	Complete Code No.	Hand Set Code No.	Complete Code No.
328C6	6	1140-BE	6016D6	1003-R	6016HR6
328C12	12	1140-BE	6016D12	1003-R	6016HR12
328C16	16	1140-BE	6016D16	1003-R	6016HR16
328C20	20	1140-BE	6016D20	1003-R	6016HR20
328C24	24	1140-BE	6016D24	1003-R	6016HR24

WALL SET INTER-PHONES

No. of Buttons	Code No.	Mounting	Height	Dimensions—Inches	
				Housing Width	Depth
6	1324C-6	Surface	10	6¾	3
12	1324C-12	Surface	10	6¾	3
16	1324C-16	Surface	14⅞	7⅞	3
20	1324C-20	Surface	14⅞	7⅞	3
24	1324C-24	Surface	14⅞	7⅞	3



6140-C
WALL SET



System Number Eleven

Selective Ringing . . . Common Talking

Service. For use in residences, banks, institutions, warehouses, stores or other mercantile establishments where conversations can be limited to one at a time.

Operation. Each Inter-Phone in the system is equipped with a number of push buttons (one for each other station in the system). By depressing the button marked with the name or number of the station wanted, the bell at that station will ring and there only.

Any station in the system can selectively ring any other station. Only one conversation can be carried on at a time.

Capacities. The wall type Inter-Phones can be furnished in capacities of 2, 3, 4, 6 and 8 buttons, accommodating 3, 4, 5, 7 and 9 stations respectively in a system.

The desk and hand set Inter-Phones are furnished in capacities of 4 and 8 buttons, accommodating 5 and 9 stations respectively in a system.

Wall Type Inter-Phones

Metal wall Inter-Phones having black enamel finish and made rust-proof by the Parker Process.

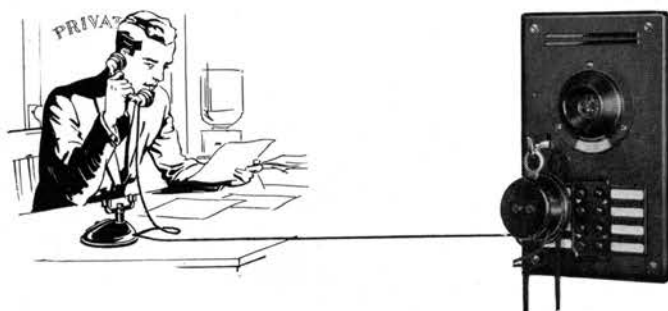
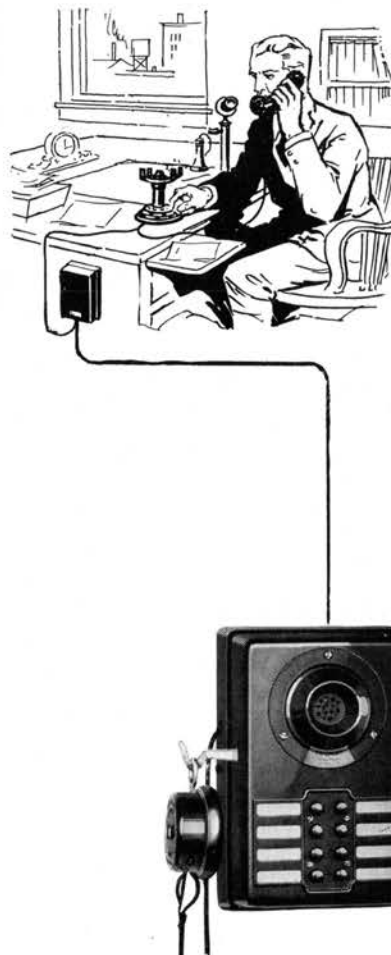
The No. 2527 type Inter-Phone has a surface mounting metal housing which contains all of the talking and signaling apparatus, also a metal back-board with a hinge arrangement for mounting the set to the wall.

The No. 2539 type Inter-Phone has a flush steel face plate on which is mounted all of the talking and signaling apparatus, also a metal outlet box and a set of outlet box hangers for mounting the set in the wall.

No. of Buttons	Surface Type Code No.	Flush Type Code No.
2	2527C-2	2539C-2
3	2527C-3	2539C-3
4	2527C-4	2539C-4
6	2527C-6	2539C-6
8	2527C-8	2539C-8

Dimensions . . . Inches

Code No.	Mounting	High	Dimensions of Housing			
			Wide	Deep		
2527C-2 to C-8	Surface	7½	5	2⅝		
Dimensions of Face Plate			Dimensions of Outlet Box			
Code No.	Mounting	High	Wide	High	Wide	Deep
2539C-2 to C-8	Flush	9	5⅝	7½	4	2⅝



Note: The No. 2527C type Inter-Phone can be furnished in larger capacities of 10, 12, 14 and 16 buttons. These sizes are described in detail under "Further Description of Common Talking Inter-Phones."

Cradle Type Inter-Phones

This Inter-Phone consists of a hand set with a cradle type mounting having push buttons mounted in the base. The hand set is black moulded Bakelite. The Inter-Phone set includes an apparatus box containing a bell and a connecting block.

Number of Buttons

4
8

Code Number

6145C-4
6145C-8



No. 6145C-8



Hand Set of No. 6139 Type

No. 6139 Type (Hand Set Inter-Phone)

This hand set unit is designed for installation at the side of a desk, on the wall, or any vertical surface, also recommended for residential purposes for mounting at the bedside, either on the bed or on the wall within reach of the bed. The Inter-Phone set includes the metal push button block and apparatus box as described above for the No. 6034 type.

Number of Buttons

4
8

Code Number

6139C-4
6139C-8

No. 6034 Type (Hand Set Inter-Phone)

This Inter-Phone consists of a hand set, a push button block and an apparatus box. All metal parts with the exception of the hand set transmitter and receiver unit are finished in black enamel. The hand set has a "press-to-talk" lever.

Number of Buttons

4
8

Code Number

6034 BG
6034 BH



No. 6034BH

ACCESSORIES

Retardation Coil

A No. 51H retardation coil must be ordered separately for installation near the battery of each system.

Cable

Three common wires and one individual wire for each station. Cables are described under "Inter-Phone accessories."

Batteries

Five dry cells are required for the complete operation of this system. If 110 volt alternating current is available a rectifier may be used in place of batteries. For further data refer to listings of rectifiers under "Inter-Phone accessories" herewith.

Note: Detailed information covering wiring diagrams of systems and Inter-Phones, can be found in booklet "Installing and Maintaining Graybar Inter-Phones," a copy of which will be furnished upon request.



System Number Twelve

Master Station . . . Common Talking

Service. Consists of one centrally located "Master Station" Inter-Phone to which are connected other "outlying station" Inter-Phones. The system provides for communication from a central point to different stations.

Operation. The Master Station Inter-Phone is equipped with a number of push buttons; one for each outlying station in the system. By depressing the button marked with the name or number of the outlying station wanted, the bell at that station will ring and there only.

The outlying stations are equipped with only one button which will ring the master station when depressed. Only one conversation can be carried on at a time.

Capacity. One Master Station and from two to sixteen outlying stations.

Types of Inter-Phones. Wall, desk and hand set Inter-Phones may be used in this system for either the master or outlying stations, as indicated in the code number listings.

Master Station Wall Inter-Phones



Metal wall Inter-Phones have black enamel finish and are made rust-proof by the Parker Process.

The No. 2527 type Inter-Phone has a surface mounting metal housing which contains all of the talking and signaling apparatus, also a metal back-board with a hinge arrangement for mounting the set to the wall.

The No. 2539 type Inter-Phone has a flush steel face plate on which is mounted all of the talking and signaling apparatus, also a metal outlet box and a set of outlet box hangers for mounting the set in the wall.

No. of Buttons	Surface Type Code No.	Flush Type Code No.
2	2527C-2	2539C-2
3	2527C-3	2539C-3
4	2527C-4	2539C-4
6	2527C-6	2539C-6
8	2527C-8	2539C-8

Dimensions . . . Inches

Code No.	Mounting	Dimensions of Housing		
		High	Wide	Deep
2527C-2 to C-8	Surface	7½	5	2⅝

Code No.	Mounting	Dimensions of Face Plate		Dimensions of Outlet Box		
		High	Wide	High	Wide	Deep
2539C-2 to C-8	Flush	9	5⅝	7½	4	2⅝

Note: The No. 2527-C type Inter-Phone can be furnished in larger capacities of 10, 12, 14 and 16 buttons. These sizes are described in detail under "Further Description of Common Talking Inter-Phones."



Hand Set Inter-Phones**NO. 6034 TYPE**

This Inter-Phone consists of a hand set, a push button block and an apparatus box. All metal parts with the exception of the hand set transmitter and receiver unit are finished in black enamel.

<i>Number of Buttons</i>	<i>Code Number</i>
4	6034 BG
8	6034 BH

*No. 2527C-8**No. 2539C-8***NO. 6139 TYPE**

This hand set unit is designed for installation at the side of a desk, on the wall, or any vertical surface, also recommended for residential purposes for mounting at the bedside, either on the bed or on the wall within reach of the bed. The Inter-Phone consists of a hand set, a push button block and an apparatus box. All parts are finished in black.

<i>Number of Buttons</i>	<i>Code Number</i>
4	6139C-4
8	6139C-8

*Hand Set of No. 6139 Type***CRADLE TYPE INTER-PHONES**

This Inter-Phone consists of a hand set with a cradle type mounting having push buttons mounted in the base. The hand set is black moulded Bakelite, is light in weight, pleasing in appearance and efficient in service. The Inter-Phone set includes an apparatus box containing a bell and a connecting block.

<i>Number of Buttons</i>	<i>Code Number</i>
4	6145C-4
8	6145C-8

*No. 6034BH**No. 6145C-8*



No. 2539C-1

System Number Twelve

Outlying Station Inter-Phones

OUTLYING STATIONS

The following outlying station Inter-Phones are similar in construction to the master station Inter-Phones except that only one button is provided in each set for ringing the master station.



No. 2527C-1

No. of
Buttons
1

Metal Wall Type Inter-Phones
Surface 2527C-1
Flush 2539C-1

Hand Set Inter-Phones

	Surface	Flush
Cradle	Box Type	Box Type
Type	6043E	6042K
6145C-1	6139C-1	



No. 6145C-1

ACCESSORIES

Retardation Coil

A No. 51H retardation coil must be ordered separately with each master station Inter-Phone and installed near the battery of the system.

Wiring

For connections between the outlying stations and the master station either cable or insulated wires can be used, depending largely upon the layout of the system. Three common wires are required throughout the system, and, in addition, one individual wire from the master to each outlying station. Where there is a long run of a large number of wires, it will be found economical to use cable, and at all distributing and junction points, to install connecting blocks. From these connecting blocks separate wires can be

run to the Inter-Phones. The sizes of cable and the number of connecting blocks required should be determined in accordance with the installation instructions.

Batteries

Five dry cells are required for the operation of this system when the distance between the master station and most distant outlying station is 750 feet or less, based on using standard Inter-Phone Cable which consists of No. 22 B. & S. gauge conductors.

Note: Detailed information covering wiring diagrams, connection of wires and cables, connecting blocks, etc., can be found in our booklet, "Installing and Maintaining Graybar Inter-Phones," which will be furnished upon request.



No. 6043E



No. 6139C-1



No. 6042K



Systems Number Twelve "A" and Twelve "AC"

MASTER ANNUNCIATOR SYSTEM . . . COMMON TALKING

Service. A master annunciator system to conform with Inter-Phone system requirements for schools. The system consists of an annunciator for use in the principal's office for registering the calls from the class rooms, also a desk stand and a push button block for calling each class room Inter-Phone.

SYSTEM NO. 12-A

Operation. In System No. 12-A the principal's or master station equipment consists of an electric reset annunciator and a push button block with one drop and button for each class room station in the system. The push button block also contains buttons for electrically resetting the operated drops. The principal is signalled from the class room set by means of the push button on each set.

SYSTEM NO. 12-AC

Operation. System No. 12-AC differs from System No. 12-A outlined above in that a ring-all button is furnished in the push button block at the principal's station. This button will ring all stations simultaneously for school period purposes and for fire drills.



No. 2527C-1

TYPES OF INTER-PHONES

The master station equipment of the No. 12-A and No. 12-AC Inter-Phone System consists of the following apparatus:

1. A cradle set Inter-Phone.
2. A push button block with buttons for each outlying station, also drop reset button.
3. A terminal box.
4. An electric reset annunciator (flush or surface type) equipped with drops for each station in the system.



No. 2539C-1



System Number Twelve "A"

MASTER STATION EQUIPMENT

No. of Classroom Stations	Push Button Block No. (U)	Group Code No. Consists of					Annunciator Code No.	
		Cradle Set No.	Cable Ter- minal No.	Retard Coil No.	Surface (S)	Flush (S)		
8	190-G10	6145C-0	19AC	51H	403- 8		409- 8	
10	190-G12	6145C-0	19AC	51H	403-10		409-10	
12	190-G14	6145C-0	19AC	51H	403-12		409-12	
14	190-G16	6145C-0	19AC	51H	403-14		409-14	
16	190-G18	6145C-0	19AC	51H	403-16		409-16	
18	190-G20	6145C-0	19AC	51H	403-18		409-18	

(S) Select flush or surface type as required.
(U) The push-button block includes a 6 ft. connecting cord.



No. 2527C-1

ANNUNCIATOR AND CRADLE SET

An electric reset annunciator having an all metal case of pleasing symmetrical design with a standard black finish. The drop indicator is a white arrow which points directly at a white drop number, it can be seen from any angle. The audible signal is a new type double adjusting buzzer. The No. 6145C-0 desk stand is equipped with a 5½ ft. connecting cord.

PUSH BUTTON BLOCK

The push-button block is furnished in oak or walnut with nickel plates or mahogany with brass plate as required. Two buttons are provided in each block for electrically resetting annunciator drops. A brown mercerized cord in 6 ft. length is attached to the block, also an extra cord eyelet is provided for attaching the desk stand cord.



No. 2539C-1

CABLE TERMINAL

The No. 19 type cable terminal is made of hard wood, numbered and shellacked, and equipped with a sheet steel cover. Finished in black enamel.

If a flush wall cable terminal box is required information will be furnished on request.

WIRING AND BATTERY REQUIREMENTS

Two wires common to all stations in the system and two individual wires for each outlying station.

A battery of five dry cells, connected in series, to furnish current for ringing and talking.



No. 6042K

No. 6043E



Master Station Annunciator

OUTLYING STATIONS

No. of Buttons	Metal Wall Inter-Phones		Hand-Set Inter-Phones		
	Surface	Flush	Cradle Type	Surface Box Type	Flush Box Type
1	2527C-1	2539C-1	6145C-1	6043E	6042K
..	.....	.....	.....	6139C-1	.....

System Number Twelve "AC"

MASTER STATION EQUIPMENT

<i>No. of Class- room Stations</i>	<i>Push Button Block No. (S)</i>	<i>Group Code No. Consists of</i>			<i>Annunciator Code No.</i>	
		<i>Cradle Set No.</i>	<i>Cable Ter- minal No.</i>	<i>Retard Coil No.</i>	<i>Surface (U)</i>	<i>Flush (U)</i>
10	190R10	6145C-0	19AC	51H	403C-10	409C-10
12	190R12	6145C-0	19AC	51H	403C-12	409C-12
14	190R14	6145C-0	19BC	51H	403C-14	409C-14
16	190R16	6145C-0	19BC	51H	403C-16	409C-16
20	190R20	6145C-0	19BC	51H	403C-20	409C-20
24	190R24	6145C-0	19BC	51H	403C-24	409C-24
26	190R26	6145C-0	2-19AC	51H	403C-26	409C-26
30	190R30	6145C-0	1-19AC & 1-19BC	51H	403C-30	409C-30

(S) The push-button block includes a 6 ft. connecting cord.

(U) Unless otherwise specified the No. 403 type annunciator will be furnished.



No. 2527AC-1



No. 6145AC-1



No. 2539AC-1

ANNUNCIATOR AND CRADLE SET

The annunciator is of the electric reset type having an all metal case with a standard black finish. The drop indicator is a white arrow which points directly at a white drop number, it can be seen from any angle. The signal consists of a new double adjusting buzzer. The drops are wound to operate on 24 volts. The No. 6145C-0 desk stand is a standard cradle type instrument equipped with a 5½ ft. connecting cord.

PUSH BUTTON BLOCK

The push button block is finished in oak, walnut or mahogany as specified; other finishes special. A brown mercerized cord, 6 ft. in length, is attached, also an extra cord eyelet for attaching the desk stand cord.

Each block includes "Ring-all" buttons for ringing all stations simultaneously, also "Drop Reset" buttons for electrically resetting the operated drops.

CABLE TERMINAL

The No. 19 type cable terminal is made of hard wood, numbered and shellacked and equipped with a sheet steel cover. Finished in black enamel.

If a flush wall cable terminal is required information will be furnished on request.

OUTLYING STATIONS

Equipped with 24-volt ringers.

<i>No. of Buttons</i>	<i>Metal Wall Inter-Phones</i>		<i>Cradle Type</i>
	<i>Surface</i>	<i>Flush</i>	
1	2527AC-1	2539AC-1	6145AC-1

WIRING AND BATTERY REQUIREMENTS

Two wires common to all stations in the system and two individual wires for each outlying station.

A battery of dry cells or storage batteries to total 24 volts may be used for the ringing and talking battery supply.

Systems Number Twelve "B" and Twelve "C"

Master Annunciator System

Service. Provides for communication between a master station annunciator and a number of outlying stations.

The master station annunciator (Electric Reset Type) is equipped with a hand set Inter-Phone, and can be obtained with or without push buttons, depending upon the kind of ringing service required, as follows:

SYSTEM NUMBER 12B

One-Way Ringing (Annunciator without Push Buttons) enabling the outlying stations to ring the master station, but the master station cannot ring the outlying stations.

SYSTEM NUMBER 12C

Two-Way Ringing (Annunciator Equipped with Push Buttons, One for Each Outlying Station) enabling the outlying stations to ring the master station and the master station to ring the outlying stations individually. *Operation.* Each outlying station is equipped with a push button for signaling the master station. The call will also be registered at the master station annunciator.

Only one conversation can be carried on at a time.

Capacity. One master station and any number of outlying stations up to 24 or more.

MASTER STATION ANNUNCIATORS

The annunciators are equipped complete with electrical reset drops for each outlying station. The indication is a white arrow which points directly at the number plate. It can be easily seen from any angle.

The annunciator includes push buttons for resetting the drops and terminals for the reset buttons to permit remote restoring of the drops.

System No. 12-B	
<i>One-Way Service Annunciators</i>	
Code No.	No. of Drops
1204B	4
1206B	6
1208B	8
1210B	10
1212B	12
1216B	16
1220B	20
1224B	24
1230B	30

System No. 12-C	
<i>Two-Way Service Annunciators</i>	
Code No.	No. of Drops
1204C	4
1206C	6
1208C	8
1210C	10
1212C	12
1216C	16
1220C	20
1224C	24
1230C	30

Hand Set—A No. 1003D hand set must be ordered separately with each annunciator. This set is equipped with a three-foot cord, and can be hung on the hook on the side of the annunciator.





No. 6043D

OUTLYING STATIONS

Wall or hand set type Inter-Phones may be used interchangeably in accordance with the following list of code numbers. Each of these sets are equipped with one calling button.

The surface and flush type wall Inter-Phones have a black enamel finish and are made rust-proof by the Parker Process.

Hand set Inter-Phones can be obtained with surface or flush type apparatus boxes. The hand set is finished in black and the surface apparatus box has a black enamel finish. The face plate of the flush apparatus box is finished in brass.

No. of Buttons	Wall Type		Hand Set	
	Inter-Phone (Metal)		Inter-Phones	
	Surface	Flush	Surface	Flush
1	2527C-1	2539C-1	6043D	6042M

ACCESSORIES

WIRING

For System No. 12-B one wire, common to all stations in the system, and in addition, one individual wire from the master station to each outlying station.

For System No. 12-C one wire, common to all stations in the system, also two individual wires from the master station to each outlying station.

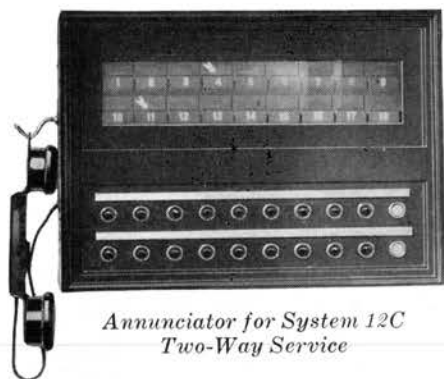
BATTERIES

Only one battery is required for the operation of the system. This should consist of three or four dry cells, where the distance between the master station and the farthest outlying station is 250 feet or less, and No. 22 B. & S. gauge copper wire is used. On lines of greater length it is recommended that instead of increasing the number of dry cells to more than four, larger wires be used.

Detailed information for installing, wiring, diagrams, battery requirements, cable connections, etc., are included in our bulletin, "Installing and Maintaining Graybar Inter-Phones," which will be furnished upon request.



No. 6042M



Annunciator for System 12C
Two-Way Service



Annunciator for
System 12B
One-Way Service

System Number Twelve "SS"

Master Station Secret Service

SERVICE

To provide non-interfering or secret service between the master station and any number of outlying stations. The master station can connect his line to any one of the outlying stations and no other outlying station can listen in on the conversation.

OPERATION

The master station will press the button of the station to be called to its "way-down" position. This will ring the bell at the outlying station and the button in the key box will remain locked in the "talking

position." This button will be reset when the master station operator makes another call.

Each outlying station is equipped with a push button for calling the master. This will signal the master and will operate the annunciator drop. The master station operator will answer the call by operating the button in the key box corresponding to the number of the drop.

CAPACITY

One master station and from six to twenty-four outlying stations.



No. 2527C-1



Master Station Annunciator



No. 2539C-1

MASTER STATION EQUIPMENT

No. of Outlying Stations	Desk Set Key Box No.	Cradle Set. No.	Cable Terminal Number	Flexible Cable Code No.	Surface	Annunciator Flush	Desk
6	328C-6	1145C-0	19-AC	418	403-6	409-6	673-6
12	328C-12	1145C-0	19-AC	430	403-12	409-12	673-12
16	328C-16	1145C-0	19-BC	438	403-16	409-16	673-16
20	328C-20	1145C-0	19-BC	446	403-20	409-20	673-20
24	328C-24	1145C-0	19-BC	454	403-24	409-24	673-24

Note: The last button in each key box may be used for annunciator reset if wall type of annunciators are to be furnished. This means that one outlying station must be deducted from the total number mentioned above.

OUTLYING STATION INTER-PHONES

No. of Buttons	Metal Wall Inter-Phones		Hand Set Inter-Phones		
	Surface	Flush	Cradle Type	Surface Box Type	Flush Box Type
1	2527C-1	2539C-1	6145C-1	6043E	6042K
.....	.....	.....	.....	6139C-1	.....



No. 6139C-1

WIRING AND BATTERY REQUIREMENTS

Only one battery is required for furnishing the talking and ringing current. Not more than five dry cells should be used for this battery. This will take up to 750 feet of No. 22 B. & S. gauge Inter-Phone cable wire. On lines of greater length larger wires should be used as follows:

750-1,000 feet No. 20 B. & S. gauge
1,000-1,500 feet No. 18 B. & S. gauge
1,500-2,500 feet No. 16 B. & S. gauge



No. 6043E No. 6042K



System Number Fourteen and Fourteen C

Two-Station Private Line

SYSTEM NO. 14

The No. 14 Inter-Phone system requires two wires for connecting the Inter-Phones, dry cells must be installed at each station.

SYSTEM NO. 14-C

The No. 14-C system requires three wires for connecting the Inter-Phones, dry cells being required at one station only.



No. 6139B-1



No. 6043P

Service

For use where only two stations are required.

Operation

Either station can ring the other by simply depressing the push button of the set.

Note: Refer also to the pages on description of Inter-Phone outfits composed of two hand set Inter-Phones and the necessary installing material complete.

Types of Inter-Phones

Wall, desk or hand set Inter-Phones may be used interchangeably.



No. 6145B-1

No. of Buttons	Wall Type Inter-Phones	
	Surface	Flush
1	2527C-1	2539C-1

No. of Buttons	Hand Set Inter-Phones		
	Cradle Type	Surface Box Type	Flush Box Type
1	6145B-1	6043P	6042AE
.....	.....	6139B-1	.....

Wiring and Battery Requirements

System No. 14. The No. 14 system requires three dry cells at each station for both talking and ringing services. If the length of line is more than 750 feet additional dry cells are required.

System No. 14-C. The No. 14-C system requires five dry cells at one station for both talking and ringing purposes. If the line length is more than 750 feet larger wires should be used in accordance with installation instructions given in our installation bulletin.



No. 2527C-1



System Number Fifteen

Code Ringing . . . Common Talking

Operation. Each station is equipped with one push button which, when depressed, rings the bells at all the other stations.

The various stations are called by signaling each one with a different code ring. For instance: Two rings for Station No. 2, three rings for Station No. 3, etc.

Capacity. Two to six stations may be operated in this system.

WALL TYPE INTER-PHONES

The No. 2527 type Inter-Phone has a surface mounting metal housing which contains all of the talking and signaling apparatus, also a metal back-board with a hinge arrangement for mounting the set to the wall.



No. 2527C-1

The No. 2539 type Inter-Phone has a flush steel face plate on which is mounted all of the talking and signaling apparatus, also a metal outlet box and a set of outlet box hangers for mounting the set in the wall.

No. of
Buttons
1

Surface Type
Code No.
2527C-1

Flush Type
Code No.
2539C-1



No. 2539C-1

CRADLE TYPE INTER-PHONES

The Cradle type Inter-Phone consists of a hand set with a cradle mounting having a push button and buzzer mounted in the base of the stand. The hand set is black moulded Bakelite. A connecting block is furnished for making the line connections to the set.

No. of Buttons
1

Code No.
6145D-1

HAND SET INTER-PHONES

These hand set Inter-Phones can be obtained with surface or flush type apparatus boxes. The hand set proper is finished in black, and the surface type apparatus box has a black enamel finish. The flush type apparatus box contains the standard switch box with face plate, which is regularly furnished with brass finish.

No. of
Buttons
1
1

Surface Type
Code No.
6043-CD
6139D-1

Flush Type
Code No.
6042-CD
.....



No. 6043-CD



No. 6042-CD

Accessories

RETARDATION COIL

A No. 51 H retardation coil must be ordered separately and installed near the battery of the system.

WIRING

Four wires are required for connecting the Inter-Phones.

BATTERIES

Only one battery is required to furnish current for talking and ringing. Do not use more than five dry cells connected in series. The battery requirements of this system are determined by the number of Inter-Phones to be connected, the length of line and the size of wire to be used. Further information on request.



No. 6139D-1



No. 6145D-1



System Number Eighteen "C"

Master Annunciator System (Non-Interfering)

Service. For use in hotels, clubs, schools, hospitals, etc., to provide for communication between a central or master station and a large number of outlying stations. The master station can selectively ring and talk with any of the outlying stations and the outlying stations can call the master station. Communication can be arranged between any two outlying stations through the medium of a connecting cord at the master station.

Operation. The master station annunciator consists of a number of drops and jacks (one for each outlying station in the system), a push button for ringing, a hand set Inter-Phone and a cord and plug for calling and answering and for interconnections between stations.

1. To call an outlying station, the master station operator inserts the plug into the jack corresponding to the station wanted and depresses the ringing button of the annunciator. The operator converses with the outlying station by pressing the talking lever of the hand set Inter-Phone.

2. Each outlying station Inter-Phone is equipped with a push button for ringing the master station and at the same time operating one of the annunciator drops, thereby registering the call. The master station operator answers by inserting the answering plug into the jack corresponding to the drop operated and pressing the talking lever of the hand set.

General Note. This system is only recommended for two-way service between the master annunciator and each outlying station. One connecting cord is provided for connections between stations, the cord is equipped with a supervisory signal.

For large installations where connections are required between stations a Private Branch Exchange Switchboard is recommended. Switchboards are equipped with standard lamp signals in place of drops and the jack for each outlying station is mounted beneath the lamp signal for that station, making a compact and efficient installation. In addition, the board is equipped with cord circuits for interconnecting any two outlying stations. These connections are supervised from the switchboard and a total of five cord circuits can be furnished for the purpose.

Further information regarding the installation of our Private Branch Exchange Switchboard for either flush or surface mounting will be furnished upon request.



System Number Eighteen "C" (Continued)

THE MASTER STATION ANNUNCIATOR

A master station annunciator, surface mounting type. The annunciator is equipped with an electrical reset drop and metallic jack for each outlying station. The equipment includes push buttons for resetting the drops and a ringing button for calling the stations. Each annunciator is furnished with an answering cord and a connecting cord. Extra connecting cords can be furnished as required.

HAND SET INTER-PHONE

A hand set No. 1003K type must be ordered separately for this annunciator. This hand set is finished in black and equipped with a 3-foot cord.

OUTLYING STATIONS

The surface and flush type wall Inter-Phones have a black enamel finish and are made rust-proof by the Parker Process.

The hand set Inter-Phones can be obtained with surface or flush type apparatus boxes. The hand set is finished in black and the surface apparatus box has a black enamel finish. The face plate of the flush apparatus box is finished in brass.

No. of Buttons	Wall Type Inter-Phone (Metal)		Hand Set Inter-Phones	
	Surface	Flush	Surface	Flush
1	2527C-1	2539C-1	6043D	6042M

WIRING

One wire, common to all stations in the system, is required, and, in addition, two individual wires between the master and each outlying station. Where there is a long run of a large number of wires, it will be found economical to use cable and install cable terminals or connecting blocks at all distributing and junction points.

BATTERIES

Five or more dry cells are required for operating the system. The cells can be placed in the basement or any other accessible place. If 110 volts alternating current is available, a power filter may be used and further data will be furnished upon request.

Detailed information for installing, including wiring diagrams, battery requirements, cable connections, etc., are included in our bulletin, "Installing and Maintaining Inter-Phones," which will be furnished upon request.



Annunciator for System 18

CODE NUMBERS

Code No.	No. of Drops and Jacks		Height	Width	Depth
1810C	10		15 1/8"	11 1/4"	5 1/4"
1814C	14		15 1/8"	14 1/4"	5 1/4"
1816C	16		15 1/8"	17 1/4"	5 1/4"
1820C	20		15 1/8"	18 3/4"	5 1/4"
1825C	25		19 3/8"	17 1/4"	5 1/4"
1830C	30		19 3/8"	18 3/4"	5 1/4"
1836C	36		19 3/8"	21 3/4"	5 1/4"
1842C	42		23 3/4"	20 1/4"	5 1/4"
1849C	49		23 3/4"	23 1/4"	5 1/4"
1856C	56		23 3/4"	24 3/4"	5 1/4"
1864C	64		28 1/8"	23 1/4"	5 1/4"
1872C	72		28 1/8"	26 1/4"	5 1/4"
1881C	81		32 3/8"	24 3/4"	5 1/4"
1890C	90		32 3/8"	26 1/4"	5 1/4"
1900C	100		32 3/8"	29 1/4"	5 1/4"



No. 2539C-1



No. 6042M



No. 6043D



No. 2527C-1



Outfits Numbers 31-A and 31-B

The following two types of Inter-Phone outfits consist of two Inter-Phones with all of the necessary wiring material and installation data (excepting batteries) for installation in the home or in the business office.

Outfit No. 31-A is for an inside installation such as in the home, between the main bedroom and the kitchen, or in the business office between the main office and hall clerk's desk.

Outfit No. 31-B is recommended where intercommunication is desired between two points in the home or in business, and where it is necessary to run the wiring in the open, such as connecting a house with a garage. This outfit contains all of the necessary equipment (excepting batteries) also installation information for connecting up the two Inter-Phone sets for an outdoor installation.



No. 2527C-1

OUTFIT NO. 31-A

The No. 31-A Inter-Phone outfit is recommended for installation where the wiring is to be run entirely under cover. This outfit consists of two 6043-P Inter-Phones and a 51-H retardation coil in one box. Another box contains wiring material consisting of 75 ft. of insulated three-conductor copper wire, two battery connectors, insulated nails for fastening wires, and illustrated installing instructions. This outfit does not include batteries, which must be ordered separately. For average conditions four or five dry cells will be sufficient.

OUTFIT NO. 31-B

The No. 31-B Inter-Phone outfit is for use in connecting up two points and where the wiring is to be run outdoors and exposed to the weather. This outfit consists of two 6043-P Inter-Phones and one 51-H retardation coil in one box. Another box contains wiring material for outdoor use consisting of 150 ft. of weatherproof three-conductor copper wire, two brackets with screws, hooks and knobs to attach wires to building, two porcelain tubes to insulate wires when entering building, two battery connectors, 25 insulated nails for fastening wires inside building, and illustrated installing instructions.



No. 6043P



Apartment House Inter-Phones



Description of Systems

TYPES OF SYSTEMS

Graybar Apartment House Inter-Phone Systems are designed to provide service between the vestibule, apartments, janitor and tradesmen. The systems are planned throughout with the utmost care to cover the practical service requirements of apartment houses.

There are two main types of systems, the selection of which depends upon the individual service requirements as follows:

COMMON TALKING SYSTEMS

By common talking is meant that only one conversation can take place at a time in the system between the vestibule, janitor's or tradesmen's Inter-Phone and any one of the apartment Inter-Phones.

Common talking systems are divided into groups known as Systems No. 20 and No. 21.

System No. 20 consists of a vestibule set equipped with the usual hand receiver with flexible armored cord. This system in turn is divided

into different groups to conform with the service requirements between the vestibule, janitor or tradesmen's and the apartments, and known as Systems 20-A, D, E, G, H and J.

System No. 21 includes the loud-speaking vestibule set and is divided into groups known as Systems 21-A, D, E, G, H, J, AR, DR and GR.

SECTIONAL TALKING SYSTEMS

Sectional talking systems are recommended where the same janitor serves several buildings, each having one or more vestibule entrances or one building having several vestibule entrances. This system consists of two or more common talking systems terminating at one janitor's station and connected so as to permit conversation taking place between each vestibule and apartment group without interference. These systems are coded as No. 22. System No. 22 is arranged with the vestibule set having the usual hand receiver with flexible armored cord. This system is in turn divided into groups to conform with the service requirements between the vestibule, janitor or tradesmen and the apartment. They are known as Systems 22-D, G and J.



No. 1520-R

Apartment House System No. 20

Selective Ringing . . . Common Talking

General Vestibule Equipment Consisting of the No.
1520-R Armored Receiver Cord Type Inter-Phone

System No. 20-A

SERVICE

Vestibule can call apartments; apartments can open door.

VESTIBULE

†1 No. 1520R Inter-Phone, push-button plate and mail boxes as required.

APARTMENTS

Code No.

2527C-0 Surface wall Inter-Phone, or

2527C-1 Surface wall Inter-Phone (button for door), or

2539C-0 Flush wall Inter-Phone, or

2539C-1 Flush wall Inter-Phone (button for door).

WIRING AND BATTERIES

*3 wires common to all Inter-Phones. 1 wire for each apartment Inter-Phone, batteries to furnish operating current, 1 door opener and miscellaneous installing material.

System No. 20-D

SERVICE

Vestibule can call apartments and janitor; apartments can open door and call janitor.

VESTIBULE

†1 No. 1520R Inter-Phone, push-button plate and mail boxes as required.

APARTMENTS

Code No.

2527C-1 Surface wall Inter-Phone, 1 button (for janitor), or

2527C-2 Surface wall Inter-Phone, 2 buttons (for janitor and door), or

2539C-1 Flush wall Inter-Phone, 1 button (for janitor), or

2539C-2 Flush wall Inter-Phone, 2 buttons (for janitor and door).

JANITOR OR LAUNDRY

1 No. 2527C-0 Surface wall Inter-Phone.

WIRING AND BATTERIES

*4 wires common to all Inter-Phones. 1 wire for each apartment Inter-Phone, batteries to furnish operating current, 1 door opener and miscellaneous installing material.

System No. 20-E

SERVICE

Vestibule can call apartments and janitor; apartments can open door and call janitor and laundry.

VESTIBULE

†1 No. 1520R Inter-Phone, push-button plate and mail boxes as required.

APARTMENTS

Code No.

2527C-2 Surface wall Inter-Phone, 2 buttons (for janitor and laundry), or

2527C-3 Surface wall Inter-Phone, 3 buttons (for janitor, laundry and door), or

2539C-2 Flush wall Inter-Phone, 2 buttons (for janitor and laundry), or

2539C-3 Flush wall Inter-Phone, 3 buttons (for janitor, laundry and door).

JANITOR AND LAUNDRY

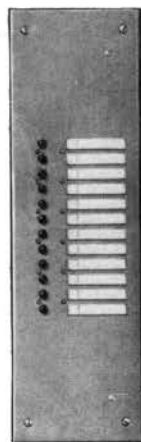
2 No. 2527C-0 Surface wall Inter-Phones.

WIRING AND BATTERIES

*5 wires common to all Inter-Phones. 1 wire for each apartment Inter-Phone, batteries to furnish operating current, 1 door opener and miscellaneous installing material.

Note. *One wire may be omitted if door opener is not used.

† See "Description of Apartment House Inter-Phones" for selecting proper type of vestibule equipment.



No. 412-A
Push-Button Plate



No. 2527C-1

Apartment House System No. 20

Selective Ringing . . . Common Talking

System No. 20-G

SERVICE

Vestibule can call apartments and janitor; apartments can open door and call janitor, and janitor can call apartments.

VESTIBULE

†1 No. 1520R Inter-Phone, push button plate and mail boxes as required.

APARTMENTS

Code No.

2527C-1 Surface Wall Inter-Phone, 1 button (for janitor), or

2527C-2 Surface Wall Inter-Phone, 2 buttons (for janitor and door), or

2539C-1 Flush Wall Inter-Phone, 1 button (for janitor), or

2539C-2 Flush Wall Inter-Phone, 2 buttons (for janitor and door).

JANITOR OR LAUNDRY

1 No. 2527C-2 to 2527C-16 surface wall Inter-Phones (depending upon number of push buttons required).

WIRING AND BATTERIES

*4 wires common to all Inter-Phones. 1 wire for each apartment Inter-Phone, batteries to furnish operating current, 1 door opener and miscellaneous installing material.

System No. 20-H

SERVICE

Vestibule can call apartments and janitor; apartments can open door and call janitor and laundry, janitor and laundry can call apartments.

VESTIBULE

†1 No. 1520-R Inter-Phone, push button plate and mail boxes as required.

APARTMENTS

Code No.

2527C-2 Surface Wall Inter-Phone, 2 buttons (for janitor and laundry), or

2527C-3 Surface Wall Inter-Phone, 3 buttons (for janitor, laundry and door), or

2539C-2 Flush Wall Inter-Phone, 2 buttons (for janitor and laundry), or

2539C-3 Flush Wall Inter-Phone, 3 buttons (for janitor, laundry and door).

JANITOR AND LAUNDRY

2 Nos. 2527C-2 to 2527C-16 surface wall Inter-Phones (depending upon number of push buttons required).

WIRING AND BATTERIES

*5 wires common to all Inter-Phones. 1 wire for each apartment Inter-Phone, batteries to furnish operating current, 1 door opener and miscellaneous installing material.

System No. 20-J

SERVICE

Vestibule can call apartments and janitor; apartments can open door and call janitor, and janitor can call apartments.

VESTIBULE

†1 No. 1520R Inter-Phone, push button plate and mail boxes as required.

APARTMENTS

Code No.

2527C-1 Surface Wall Inter-Phone, 1 button (for janitor), or

2527C-2 Surface Wall Inter-Phone, 2 buttons (for janitor and door), or

2539C-1 Flush Wall Inter-Phone, 1 button (for janitor), or

2539C-2 Flush Wall Inter-Phone, 2 buttons (for janitor and door).

JANITOR

1—List No. 2010 to No. 2100 annunciator, depending upon the number of drops and push buttons required (see "Description of Annunciators" elsewhere).

1—No. 1003K hand set Inter-Phone.

WIRING AND BATTERIES

*4 wires common to all Inter-Phones. 1 wire for each apartment Inter-Phone, batteries to furnish operating current, 1 door opener and miscellaneous installing material.

Note. *One wire may be omitted if door opener is not used.

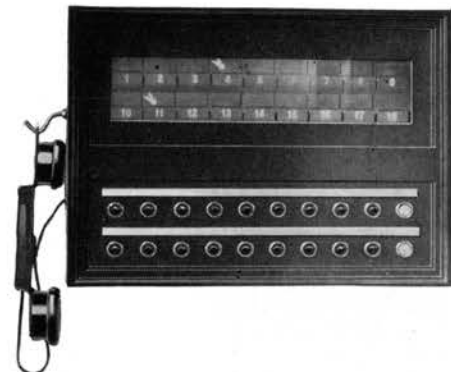
† See "Description of Apartment House Inter-Phones" for selecting proper type of vestibule equipment.



No. 2539C-1



No. 2527C-16



Janitor Annunciator
List No. 2010 to 2100

Apartment House System No. 21

Selective Ringing . . . Common Talking

General Vestibule Equipment Consisting of the No.
1524-E & F Loud Speaking, Cordless Type Inter-Phone



No. 1524-E

SERVICE

Vestibule can call apartments; apartments can open door.

VESTIBULE

†1 No. 1524E Inter-Phone (with press-to-talk button), or
†1 No. 1524F Inter-Phone (relay operated).
Push button plate and mail boxes as required.

APARTMENTS

Code No.

2527C-0 Surface Wall Inter-Phone, or
2527C-1 Surface Wall Inter-Phone (button for door), or
2539C-0 Flush Wall Inter-Phone, or
2539C-1 Flush Wall Inter-Phone (button for door).

WIRING AND BATTERIES

*3 wires common to all Inter-Phones. 1 wire for each apartment Inter-Phone, batteries to furnish operating current, 1 door opener and miscellaneous installing material.

System No. 21-D & DR

SERVICE

Vestibule can call apartments and janitor; apartments can open door and call janitor.

VESTIBULE

†1 No. 1524E Inter-Phone (with press-to-talk button), or
†1 No. 1524F Inter-Phone (relay operated).
Push button plate and mail boxes as required.

APARTMENTS

Code No.

2527C-1 Surface Wall Inter-Phone, 1 button (for janitor), or
2527C-2 Surface Wall Inter-Phone, 2 buttons (for janitor and door), or
2539C-1 Flush Wall Inter-Phone, 1 button (for janitor), or
2539C-2 Flush Wall Inter-Phone, 2 buttons (for janitor and door).

JANITOR OR LAUNDRY

1 No. 2527C-0 Surface Wall Inter-Phone.

WIRING AND BATTERIES

*4 wires common to all Inter-Phones. 1 wire for each apartment Inter-Phone, batteries to furnish operating current, 1 door opener and miscellaneous installing material.

System No. 21-E

SERVICE

Vestibule can call apartments and janitor; apartments can open door and call janitor and laundry.

VESTIBULE

†1 No. 1524E Inter-Phone, push-button plate and mail boxes as required.

APARTMENTS

Code No.

2527C-2 Surface Wall Inter-Phone, 2 buttons (for janitor and laundry), or
2527C-3 Surface Wall Inter-Phone, 3 buttons (for janitor, laundry and door), or
2539C-2 Flush Wall Inter-Phone, 2 buttons (for janitor and laundry), or
2539C-3 Flush Wall Inter-Phone, 3 buttons (for janitor, laundry and door).

JANITOR AND LAUNDRY

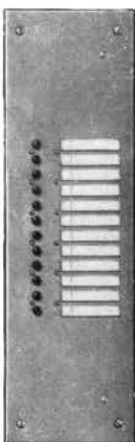
2 No. 2529C-0 Surface Wall Inter-Phones.

WIRING AND BATTERIES

*5 wires common to all Inter-Phones. A wire for each apartment Inter-Phone, batteries to furnish operating current, one door opener and miscellaneous installing material.

Note. *One wire may be omitted if door opener is not used.

† See "Description of Apartment House Inter-Phones" for selecting proper type of vestibule equipment.



No. 412-A
Push Button Plate



No. 2527C-2

Apartment House System No. 21

Selective Ringing . . . Common Talking

SERVICE

System No. 21-G & GR

Vestibule can call apartments and janitor; apartments can open door and call janitor, and janitor can call apartments.

VESTIBULE

†1 No. 1524E Inter-Phone (with press-to-talk button), or

†1 No. 1524F Inter-Phone (relay operated).

Push button plate and mail boxes as required.

APARTMENTS

Code No.

2527C-1 Surface wall Inter-Phone, 1 button (for janitor), or

2527C-2 Surface wall Inter-Phone, 2 buttons (for janitor and door), or

2539C-1 Flush wall Inter-Phone, 1 button (for janitor), or

2539C-2 Flush wall Inter-Phone, 2 buttons (for janitor and door).

JANITOR OR LAUNDRY

1 Nos. 2527C-2 to 2527C-16 surface wall Inter-Phones (depending upon number of push buttons required).

WIRING AND BATTERIES

*4 wires common to all Inter-Phones. 1 wire for each apartment Inter-Phone, batteries to furnish operating current. 1 door opener and miscellaneous installing material.

SERVICE

System No. 21-H

Vestibule can call apartments and janitor; apartments can open door and call janitor and laundry; janitor and laundry can call apartments.

VESTIBULE

†1 No. 1524E Inter-Phone, push-button plate and mail boxes as required.

APARTMENTS

Code No.

2527C-2 Surface wall Inter-Phone, 2 buttons (for janitor and laundry), or

2527C-3 Surface wall Inter-Phone, 3 buttons (for janitor, laundry and door), or

2539C-2 Flush wall Inter-Phone, 2 buttons (for janitor and laundry), or

2539C-3 Flush wall Inter-Phone, 3 buttons (for janitor, laundry and door).

JANITOR AND LAUNDRY

2 Nos. 2527C-2 to 2527C-16 surface wall Inter-Phones (depending upon number of push buttons required).

WIRING AND BATTERIES

*5 wires common to all Inter-Phones. 1 wire for each apartment Inter-Phone, batteries to furnish operating current. 1 door opener and miscellaneous installing material.

SERVICE

System No. 21-J

Vestibule can call apartments and janitor; apartments can open door and call janitor, and janitor can call apartments.

VESTIBULE

†1 No. 1524E Inter-Phone, push-button plate and mail boxes as required.

APARTMENTS

Code No.

2527C-1 Surface wall Inter-Phone, 1 button (for janitor), or

2527C-2 Surface wall Inter-Phone, 2 buttons (for janitor and door),

or

2539C-1 Flush wall Inter-Phone, 1 button (for janitor), or

2539C-2 Flush wall Inter-Phone, 2 buttons (for janitor and door).

JANITOR

1 List No. 2010 to No. 2100 annunciators, depending upon the number of drops and push buttons required (see "Description of Annunciators" elsewhere).

WIRING AND BATTERIES

*4 wires common to all Inter-Phones. 1 wire for each apartment Inter-Phone, batteries to furnish operating current, 1 door opener and miscellaneous installing material.

Note. *One wire may be omitted if door opener is not used.

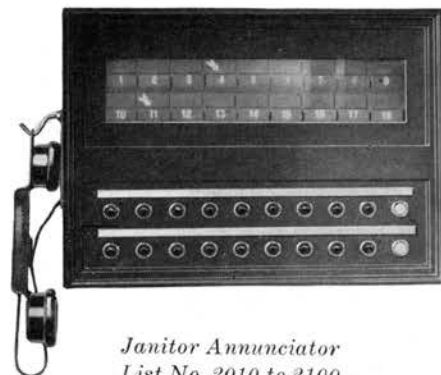
† See "Description of Apartment House Inter-Phones" for selecting proper type of vestibule equipment.



No. 2539C-1



No. 2527C-16



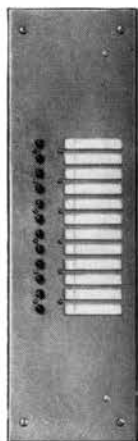
Janitor Annunciator
List No. 2010 to 2100

Apartment House System No. 22

Sectional Common Talking Systems



No. 1520-R

No. 412-A
Push-Button PlateJanitor Annunciator
List No. 2202-D to 2206-D

GENERAL

These systems consist of two or more common talking systems (System No. 20) each section terminating at one janitor's annunciator and connected so as to permit conversation taking place between each vestibule and apartment group without interference. Vestibule equipment consisting of No. 1520-R armored cord type Inter-Phone.

SERVICE

Vestibule can call apartments and janitor; apartments can call janitor and open door. Janitor can open doors.

VESTIBULE

2 or more No. 1520-R Inter-Phones, push-button plates and mail boxes.

APARTMENTS

Code No.

No. 2527C-2 Surface Wall Inter-Phone, 2 buttons (for janitor and door) or
No. 2539C-2 Flush Wall Inter-Phone, 2 buttons (for janitor and door).

JANITOR

1 No. 2202-D to 2206-D Annunciator, depending upon the number of drops, jacks and door-buttons required (see description of annunciators).

1 No. 1003-K hand set Inter-Phone.

WIRING AND BATTERIES

†4 wires common to all Inter-Phones, 1 individual wire for each apartment Inter-Phone, batteries to furnish operating current, door openers and miscellaneous installing material.

SERVICE

Vestibule can call apartments and janitor; apartments can call janitor and open door. Janitor can call each apartment and open doors.

VESTIBULE

2 or more No. 1520-R Inter-Phones, push-button plates and mail boxes.

APARTMENTS

Code No.

No. 2527C-2 Surface Wall Inter-Phone, 2 buttons (for janitor and door) or
No. 2539C-2 Flush Wall Inter-Phone, 2 buttons (for janitor and door).

JANITOR

1 No. 2202G to 2206G Annunciator, depending upon the number of drops, jacks and push-buttons required (see description of annunciators elsewhere).

1 No. 1003K hand set Inter-Phone.

WIRING AND BATTERIES

†4 wires common to all Inter-Phones, 1 individual wire for each apartment Inter-Phone, batteries to furnish operating current, door openers and miscellaneous installing material.

SERVICE

Vestibule can call apartment and janitor; apartments can call janitor (individual drops) and open door. Janitor can call each apartment and open doors.

System No. 22-J

VESTIBULE

2 or more No. 1520-R Inter-Phones, push-button plates and mail boxes.

APARTMENTS

Code No.

No. 2527C-2 Surface Wall Inter-Phone, 2 buttons (for janitor and door) or

No. 2539C-2 Flush Wall Inter-Phone, 2 buttons (for janitor and door).

JANITOR

1 No. 2202J to 2206J Annunciator, depending upon the number of drops, jacks and push-buttons required (see description of annunciators elsewhere).

1 No. 1003K hand set Inter-Phone.

WIRING AND BATTERIES

†3 wires common to all Inter-Phones, 2 individual wires for each apartment Inter-Phone, batteries to furnish operating current, door openers and miscellaneous installing material.

Note. †One wire may be omitted if door opener is not used.

Description of Inter-Phones

WALL INTER-PHONES NUMBERS 2527C AND 2539C

Selective Ringing . . . Common Talking

NUMBER 2527C (SURFACE TYPE)

The *Housing* of the set is of rugged construction, being formed out of sheet steel, and is equipped with hinge hooks which match up with slots in the base of the metal backboard. This arrangement permits fastening the backboard in place on the wall and then mounting the housing unit to it.

The *Metal Backboard* is designed to permit the entrance of wires or cabling from either the top, bottom or center of the set; also, a metal guide ring is located near the cable entrance at the base of the backboard so that the connecting wires may be looped through this ring to hold them in place and provide a proper bending point when the housing is swung forward.

The *Finish* is durable dull black enamel with chrome nickel trimmings.

Watch-Case Type Receivers are regularly furnished with these Inter-Phones.

Dimensions of Housings up to 8 buttons $7\frac{1}{2}$ in. high, 5 in. wide and $2\frac{5}{8}$ in. deep.

Code No.	No. of Buttons	For System	Code No.	No. of Buttons	For System
2527C-0	0	20, 21	2527C-8	8	11, 12
2527C-1	1	12, 14, 15, 18, 20, 21	2527A	0	108, 116 & 1801
2527C-2	2	20, 21, 22			P.B.X.
2527C-3	3	11, 12, 20, 21	2527AC-1	1	12AC
2527C-4	4	11, 12	2527AP	0	109 & 117
2527C-6	6	11, 12			P.B.X.

NUMBERS 2527C-10 TO 16 (SURFACE TYPE)

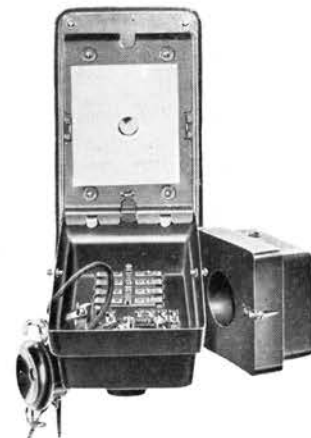
The Nos. 2527C-10 to C-16 Inter-Phones are designed for systems where larger than eight-button capacity wall Inter-Phones are required. The complete set is composed of a No. 2527C type wall Inter-Phone and a metal push button unit, both of which are mounted on a wood backboard.

The wood backboard on which the apparatus mounts is finished in ebony to match the Inter-Phone and has four screw holes for mounting on the wall. The backboard also includes a hinged wood mounting block for the push button unit. This block can be swung out from the backboard proper for line-connecting purposes, also to provide a clearance for swinging down the cover of the Inter-Phone set for wiring or inspection. (See illustration.)

Code No.	No. of Buttons	Composed of			For Inter-Phone Systems
		Wall Inter-Phone	Push Button	Back-board	
2527C-10	10	2527C-2	108A	3A	11, 12, 20, 21
2527C-12	12	2527C-4	108A	3A	11, 12, 20, 21
2527C-14	14	2527C-6	108A	3A	11, 12, 20, 21
2527C-16	16	2527C-8	108A	3A	11, 12, 20, 21



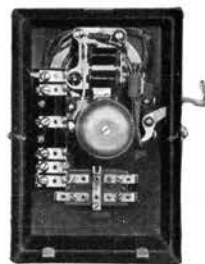
No. 2527C-16
Front View



No. 2527C-16
Open View



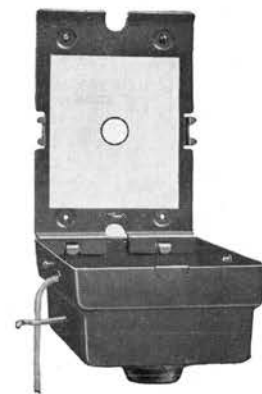
No. 2527C-4



Interior of Housing



No. 2527C-2



Open View
Showing Backboard

Wall Inter-Phones

(Continued)

NUMBER 2539C (FLUSH TYPE)

The *Outlet Box* is of unique design in that metal aligning strips are fastened at the top and bottom front of the box (see illustration), so as to properly align the set after the face plate unit is fastened to the outlet box (in case the outlet box is installed out of plumb). It is equipped with adjustable ears for mounting it in the wall, the same as are furnished on standard sectional outlet boxes. Knockouts are provided at the top, bottom and back for the entrance of 1/2-inch conduit or connecting wires.

Outlet Box Hangers are furnished with each Inter-Phone. These hangers provide an adjustable and easy method of mounting the wall outlet box. A set includes two supporting strips and two lath holders. They are 16 1/2 inches long for nailing between wall studs. The lath holders are made of Terne Plate sheet metal formed to hold the lath in place and permit a quick, substantial installation.

The advantages of this outlet box hanger over other methods of mounting are as follows:

1. An outlet box can be hung in five minutes and in any desired location between studding.
2. The box is perfectly aligned in the walls.
3. Eliminates the necessity of building wood mounting support or frame.
4. The laths are held firmly in place.
5. Boxes can be moved back and forth 1/2 inch after setting to line up with the finished walls.
6. Rigid support.
7. Boxes supported at all four corners.

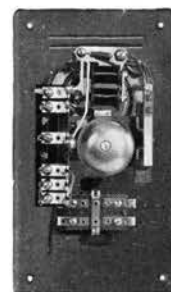
The *Finish* is durable dull black enamel with chrome nickel trimmings.

Code No.	No. of Buttons	For Systems
2539C-0	0	20, 21
2539C-1	1	12, 14, 15, 18, 20, 21
2539C-2	2	20, 21, 22
2539C-3	3	11, 12, 20, 21
2539C-4	4	11, 12
2539C-6	6	11, 12
2539C-8	8	11, 12
2539AC-1	1	12AC

Dimensions of Face Plate		Dimensions of Outlet Box (For Wall Opening)		
High	Wide	High	Wide	Deep
9 Ins.	5 1/8 Ins.	7 1/2 Ins.	4 Ins.	2 5/8 Ins.



No. 2539C-4



Back of Face Plate for 2539C Type



Outlet Box for 2539C Type

Hand Set Inter-Phones

NUMBER 6034 TYPE

This Inter-Phone consists of an efficient light-weight type of hand-set. Also a metal push button block and apparatus box. The push button block is equipped with cord and terminals for connecting the hand set cord. The apparatus box contains necessary connecting block for making the line connection, also a bell for signaling.



No. 6034BH

No. of Buttons	Code No.	<i>Hand Set</i>		<i>Includes</i> <i>Push Button Block</i>		Apparatus Box	For System
		Code No.	Cord Ft.	Code No.	Cord Ft.		
4	6034BG	1003AD	6	104AC	6	35B	11, 12
8	6034BH	1003AD	6	108AC	6	35B	11, 12

NUMBER 6139 TYPE

This hand set unit was designed for installation at the side of a desk, on the wall, or any vertical surface. The set may be installed at one end, side or in the alcove of the desk; also recommended for residential purposes for mounting at the bedside, either on the bed or on the wall within reach of the bed.

The hand set is made of Bakelite, reinforced, and represents the most efficient unit available both from a design and transmission standpoint.

The switch-hook box contains a switch-hook unit for holding the hand set in place. This hook operates on the same principle as the standard telephone hook; a four-foot cord connects the hand set to the switch-hook box. Dimensions of box are 2 $\frac{3}{4}$ " x 2 $\frac{1}{8}$ " x 4".



No. 6139C-1

No. of Buttons	Code No.	<i>Includes</i>				For System
		Hand Set and Switch Box	Push Button Block	Apparatus Box	Connecting Block	
1	6139B-1	1139B-1	.....	....	12E	14 and 14C
1	6139C-1	1139C-1	.....	....	2 No. 11A	12
1	6139D-1	1139D-1	.....	....	2 No. 11A	15
4	6139C-4	1139CB	104-AC	35-B	.....	11 and 12
8	6139C-8	1139CB	108-AC	35-B	.....	11 and 12

CRADLE TYPES

These cradle type hand sets represent the latest development in Graybar desk type Inter-Phones and are the most convenient type of talking equipment available, as the transmitter and receiver are part of the hand set, which can be held with one hand, leaving the other hand free.

The hand set is made of phenol fibre, is pleasing in appearance and is designed to conform with the contour of the head so that it can be held in comfortable and natural position when in use.

The cradle mounting for supporting the hand set consists of a phenol fibre base with a black enamel finish. It contains a switch for closing the talking circuit when the hand set is removed from the stand and opens the circuit when the hand set is replaced on the mounting.

The No. 6145C-0 Inter-Phone is for general use; that is, where a hand set is required without the push buttons or signals included. The set is equipped with a two-conductor cord, also a connecting block with two terminals for the line connections.

The No. 6145B-1, C-1, D-1 and AC-1 are each equipped with a push button and buzzer, which are mounted in the base of the cradle stand.

The four and eight button types have the push buttons mounted on the base of the stand (including the blank name or number plates), which makes a compact and neat arrangement. The apparatus box used with these four and eight button sets contains the bell and connecting block for making the line connections.



No. 6145B-1



No. 6145C-8

No. of Buttons	Code No.	Hand Set and Cradle	Cord Ft.	Buzzer (In Base)	Connecting Block	Apparatus Box	System No.
0	6145C-0	1145C-0	6	.....	11-A	....	.....
1	6145B-1	1145B-1	6	No. 0-C	12-E	....	14 and 14C
1	6145C-1	1145C-1	6	No. 0-C	2 No. 11-A	....	12
1	6145D-1	1145D-1	6	No. 0-C	2 No. 11-A	....	15
1	6145AC-1	1145AC-1	6	Special	2 No. 11-A	....	12-AC
4	6145C-4	1145C-4	6	.....	.....	35-B	11 and 12
8	6145C-8	1145C-8	6	.....	.....	35-B	11 and 12

Hand Set Inter-Phones

(Continued)

NUMBER 1003 TYPES

The transmitter and receiver are a part of the hand set, which can be held and operated with one hand, leaving the other free. A bar marked "Press to talk," mounted in the hand set handle, is held down by the natural position of the hand while talking. When not in use, the hand set can be hung on a hook or laid down in any position. The hand set is finished in dull black.

Surface Mounting Apparatus Units (No. 383 type) are equipped with an insulated base, black finished round metal cover and nickel hook. Approximate size $3\frac{1}{8}$ inches in diameter by $1\frac{5}{8}$ inches deep. The hand set cord is permanently attached to the apparatus unit.

Flush Mounting Apparatus Boxes (No. 382 type) are intended to be set in the wall and are equipped with a brush brass finished face plate. These boxes consist of three parts—a Gem A Union sectional switchbox, an apparatus unit and a face plate. The face plate is $4\frac{1}{2} \times 2\frac{3}{4}$ inches, the wall box $2 \times 3 \times 3$ inches deep. The hand set cord is permanently attached to the box. Except the Number 6042K (systems 12A and 12B). This cord is equipped with a plug. The plug can be inserted or removed from the receptacle located in the center of the face plate.

An important point to be observed is that wall box and face plate are the same as those used in electric light wiring for push button switches.



No. 6042K



No. 6043E

Number 6042 Flush Types

No. of Buttons	Hand Set			Apparatus (Flush Type)			For Systems
	Code No.	Code No.	Cord Ft.	Code No.	*Switch- box	Face Plate No.	
1	6042K	**1003G	3	382EB	Gem A	12007	12 & 12A
1	6042M	1003K	3	382JB	Gem A	12007	12B & 18C
1	6042AE	1003AA	3	382JB	Gem A	12007	14 & 14C
1	6042CD	1003N	3	382CD	Gem A	12007	15

*Switch boxes $2 \times 3 \times 3$ inches deep (standard).

**Hand set cord equipped with plug.

Number 6043 Surface Types

No. of Buttons	Code No.	Hand Set	Cord Ft.	Apparatus Box (Surface Type)	For Systems
1	6043E	1003J	3	383J	12 & 12A
1	6043D	1003E	3	383J	12B & 18C
1	6043P	1003AB	3	383J	14 & 14C
1	6043CD	1003N	3	383CD	15

Description of Apartment House Inter-Phones

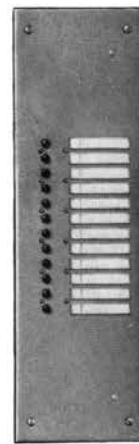
VESTIBULE INTER-PHONES



No. 1520-R



No. 1524-E

No. 412-A
Push-Button Plate

No. 1520-R and No. 1524-E & F Vestibule Inter-Phones

Systems 20, 21 and 22

General Construction

THESE are flush wall mounting vestibule Inter-Phones conforming with the 16½" size mail boxes and the sets are designed for common talking selective ringing service for systems 20 and 21, as described in detail elsewhere.

The No. 1520-R Inter-Phone is recommended for apartment house service where the requirements call for an inexpensive vestibule set equipped with the regulation watch-case type receiver with armored cord.

The No. 1524-E Inter-Phone set is recommended for apartment house service where a loud speaking type vestibule set is required, and where it is necessary to operate a talking button to carry on a conversation with the apartment.

The No. 1524-F Inter-Phone is recommended for apartment service where a loud speaking type vestibule set is required. This unit differs from the No. 1524-E in that it is equipped with a relay in place of the talking button, so that the talking circuit is automatically closed through the operation of the relay when the apartment party removes the receiver from the switch hook enabling the party in the vestibule to communicate directly with the apartment without any further operation.

The apparatus block of the above Inter-Phone set

is made of hard maple wood, boiled in oil, and stained black. This block supports the transmitting and receiving apparatus of the set.

The face plate is drawn brass 5" x 16½" in size, having squared corners to match up with the mail boxes. It is equipped with a metal transmitter mouthpiece and a push button name plate holder is furnished for the janitor button. Four corner mounting screw holes are provided for mounting by means of wood screws. On the No. 1524-E set an instruction plate for operating the set is fastened below the transmitter mouthpiece.

Each Inter-Phone set includes an outlet box. This box has flanges at the top and bottom for mounting and knockouts are provided at the top and bottom and both sides of the box for the entrance of ½" conduit or connecting wires. The dimensions of the outlet box are 14" long, 4¾" wide and 4½" deep.

Each set includes a circuit label, also a label showing the wall-cut dimensions for mounting the Inter-Phones and the associated push button plates and mail boxes.

The Inter-Phone sets are finished in bronze brass, and the steel or iron parts with the exception of the transmitter and receiver unit are treated with the Parker rustproof process.

Description of Apartment House Inter-Phones

VESTIBULE INTER-PHONES

(Continued)

<i>Code No.</i>	<i>Description</i>	<i>Face Plate Dimensions</i>	<i>Used in Systems</i>
1520-R	Watch Case Receiver with Armored Cord	5" x 16½"	20-A, D, E, G, H, and J also 22-D, G and J
1524-E	Loud Speaking Inter-Phone (equipped with press to talk button)	5" x 16½"	21-A, D, E, G, H and J
1524-F	Loud Speaking Inter-Phone (Relay Operated)	5" x 16½"	21-AR, DR and GR

NO. 400 SERIES PUSH-BUTTON PLATES

For Use with No. 1520-R and No. 1524-E & F Vestibule Inter-Phones

General Construction

The No. 400 series Push-Button Plates are designed for mounting with the No. 1520-R and No. 1524-E and F Vestibule Inter-Phones for calling selectively each apartment Inter-Phone in the system, depend-

ing upon the total number of buttons required. For larger than 24 buttons, additional push-button plates may be installed. These plates are made of drawn brass.

<i>Code No.</i>	<i>No. of Buttons</i>	<i>Face Plates Dimensions</i>	<i>Finish</i>
400-A	Blank	5" x 16½"	Bronze Brass
406-A	6	5" x 16½"	Bronze Brass
412-A	12	5" x 16½"	Bronze Brass
416-A	16	5" x 16½"	Bronze Brass
420-A	20	5" x 16½"	Bronze Brass
424-A	24	5" x 16½"	Bronze Brass

Description of Inter-Phones for Apartment House Systems

Annunciators

JANITOR ANSWERING AND CALLING ANNUNCIATORS

Common Talking Systems 20-J and 21-J

General Construction

A janitor answering and calling annunciator for Systems 20-J and 21-J equipped with electrical reset drops, one for each apartment and the vestibule, also push-buttons for calling each apartment and for

opening the door. A reset button is provided for electrically resetting the operated drops. The annunciators are finished in "Black Duco."

List No.	No. of Drops and Buttons	No. of Rows	List No.	No. of Drops and Buttons	No. of Rows
2010	10	2	2049	49	5
2016	16	2	2056	56	5
2020	20	2	2064	64	5
2025	25	3	2072	72	5
2030	30	3	2081	81	6
2036	36	4	2090	90	6
2042	42	4	2100	100	7

Hand Set Inter-Phone (Order Separately)

No. 1003-K hand set, black finish, equipped with 3-ft. cord.

Sectional Talking System No. 22

General Construction

There are three main types of janitor's answering and calling annunciators for sectional talking Systems 22-D, G and J, depending upon the service requirements as follows:

1. System No. 22-D janitor annunciator is equipped with electrical reset drops, one for each section of the system, also a jack for each section for answering calls. Push-buttons are provided for opening the doors of each section and for electrically resetting the operated drops.

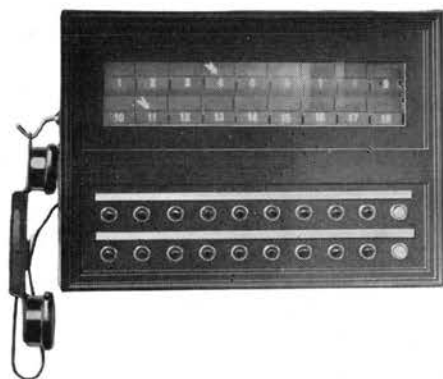
2. System No. 22-G janitor annunciator is equipped with electrical reset drops, one for each section of the system, also a jack for each section for calling and receiving calls. Push-buttons are provided for calling each apartment and for opening

the doors of each section, also for electrically resetting the operated drops.

3. System No. 22-J janitor annunciator is equipped with electrical reset drops, one for each apartment in each section of the system, also a jack for each section for calling and receiving calls. Push-buttons are provided for calling each apartment and for opening the doors of each section, also for electrically resetting the operated drops.

The annunciators are equipped with a hook on one side for mounting a hand set Inter-Phone, also a cord bushing for the entrance of the hand set cord. The hand set Inter-Phone is not included with the annunciator but must be ordered separately.

The annunciators are finished in "Black Duco."



Janitor Annunciator
List No. 2010 to 2100



Janitor Annunciator
List No. 2202-D to 2206-D

Description of Inter-Phones for Apartment House Systems

Annunciators

Annunciators for System 22-D

<i>List No.</i>	<i>No. of Drops, Jacks and Door Buttons</i>	<i>For No. of Sections</i>
2202-D	2	2
2203-D	3	3
2204-D	4	4
2205-D	5	5
2206-D	6	6

Note. Additional sections may be ordered as required.

Hand Set Inter-Phone (order separately)

No. 1003-K Hand Set, black finish, equipped with 3 ft. cord.

Annunciators for System 22-G

<i>List No.</i>	<i>No. of Calling Buttons</i>	<i>No. of Drops, Jacks and Door Buttons</i>	<i>For No. of Sections</i>
2202-G	12	2	2
2203-G	18	3	3
2204-G	24	4	4
2205-G	30	5	5
2206-G	36	6	6

Note. Additional sections and additional apartment push-button may be ordered as required.

Hand Set Inter-Phone (order separately)

No. 1003-K Hand Set, black finish, equipped with 3 ft. cord.

Annunciators for System 22-J

<i>List No.</i>	<i>No. of Drops</i>	<i>No. of Calling Buttons</i>	<i>No. of Jacks and Door Buttons</i>	<i>For No. of Sections</i>
2202-J	12	12	2	2
2203-J	18	18	3	3
2204-J	24	24	4	4
2205-J	30	30	5	5
2206-J	36	36	6	6

Note. Additional sections and additional drops and push-buttons may be ordered, as required.

Hand Set Inter-Phone (order separately)

No. 1003-K Hand Set, black finish, equipped with 3 ft. cord.



*Janitor Annunciator
List No. 2202-G to 2206-G*



*Janitor Annunciator
List No. 2202-J to 2206-J*

Description of Inter-Phones for Apartment House Systems

Mail Boxes

Mail boxes are made in gangs of 3, 4, 5, 6, 7, and 8 units to a gang. Each unit accommodates the mail for one tenant and each gang is provided for mounting post office lock which is furnished and installed, free, by the Post Office Department. By combining these gangs in various multiples, using 8 unit gangs wherever permissible, and the smaller gangs where the number of apartments is less than eight, or where the number of apartments to be served is not an even multiple of eight, any requirement can be fulfilled.

Mail boxes are finished in attractive old (sprayed) brass. Other finishes are special.

CONSTRUCTURAL FEATURES OF MAIL BOXES

1. Solid brass front—cannot rust; enduring and beautifully finished. The front surface presents a perfectly flat plane with no projecting parts, as hinges and all other constructional details are concealed on the inside. *Drawn return flange* on edges of brass front, for reinforcement; perfect alignment of boxes when assembled in gangs.

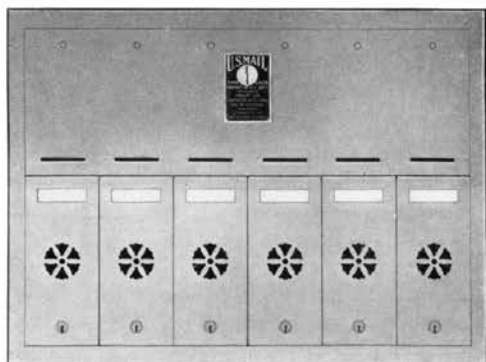
2. Reinforced master door—has no sharp edges projecting on the inside to interfere with the insertion of mail—rigidly constructed to prevent tampering when door is locked. Brass number plates mounted over each tenant's unit on the inside of master door, identifying the key change of lock.

3. Concealed hinges—reinforced without any protruding edges to interfere with the removal of mail or possible injury to tenant's hands.

4. Tenant's Card Holder—placed at the upper edge of tenant's door, visible to postman when master door is open, facilitating reading of tenant's name for inserting mail. An additional card holder is provided in the upper portion of tenant's compartment, for additional subtenants' names, if desired.

5. Tenant's lock—is of the flat cylinder type and provision is made for easy replacement if keys are lost and lock cannot be opened.

6. Dovetail clips—for rapid assembly and perfect alignment, in making up sets of boxes in double row mounting.



Wall Opening for United New Regulation Solid Brass Front
Apartment House Mail Boxes No. 30A

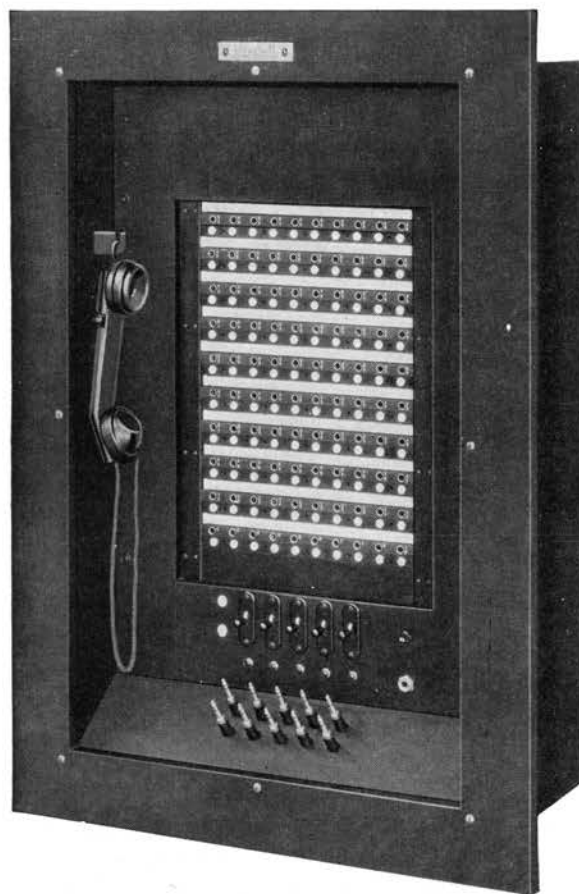
SINGLE ROW MOUNTING					DOUBLE ROW MOUNTING				
No. of Units	Wall Opening Width	Wall Opening Height	Overall Dim. Width	Overall Dim. Height	No. of Units	Wall Opening Width	Wall Opening Height	Overall Dim. Width	Overall Dim. Height
3	10 $\frac{3}{4}$	15 $\frac{1}{4}$	11 $\frac{5}{8}$	16 $\frac{1}{2}$	8	14 $\frac{1}{8}$	31 $\frac{3}{4}$	15	33
4	14 $\frac{1}{8}$	15 $\frac{1}{4}$	15	16 $\frac{1}{2}$	10	17 $\frac{1}{2}$	31 $\frac{3}{4}$	18 $\frac{3}{8}$	33
5	17 $\frac{1}{2}$	15 $\frac{1}{4}$	18 $\frac{3}{8}$	16 $\frac{1}{2}$	12	20 $\frac{7}{8}$	31 $\frac{3}{4}$	21 $\frac{3}{4}$	33
6	20 $\frac{7}{8}$	15 $\frac{1}{4}$	21 $\frac{3}{4}$	16 $\frac{1}{2}$	14	24 $\frac{1}{4}$	31 $\frac{3}{4}$	25 $\frac{1}{8}$	33
7	24 $\frac{1}{4}$	15 $\frac{1}{4}$	25 $\frac{1}{8}$	16 $\frac{1}{2}$	16	27 $\frac{5}{8}$	31 $\frac{3}{4}$	28 $\frac{1}{2}$	33
8	27 $\frac{5}{8}$	15 $\frac{1}{4}$	28 $\frac{1}{2}$	16 $\frac{1}{2}$	18	32 $\frac{1}{2}$	31 $\frac{3}{4}$	33 $\frac{3}{8}$	33
9	32 $\frac{1}{2}$	15 $\frac{1}{4}$	33 $\frac{3}{8}$	16 $\frac{1}{2}$	20	35 $\frac{7}{8}$	31 $\frac{3}{4}$	36 $\frac{3}{8}$	33
10	35 $\frac{7}{8}$	15 $\frac{1}{4}$	36 $\frac{3}{4}$	16 $\frac{1}{2}$	22	39 $\frac{1}{4}$	31 $\frac{3}{4}$	40 $\frac{1}{8}$	33
11	39 $\frac{1}{4}$	15 $\frac{1}{4}$	40 $\frac{1}{8}$	16 $\frac{1}{2}$	24	42 $\frac{5}{8}$	31 $\frac{3}{4}$	43 $\frac{1}{2}$	33
12	42 $\frac{5}{8}$	15 $\frac{1}{4}$	43 $\frac{1}{2}$	16 $\frac{1}{2}$	26	46	31 $\frac{3}{4}$	46 $\frac{7}{8}$	33
13	46	15 $\frac{1}{4}$	46 $\frac{7}{8}$	16 $\frac{1}{2}$	28	49 $\frac{3}{8}$	31 $\frac{3}{4}$	50 $\frac{1}{4}$	33
14	49 $\frac{3}{8}$	15 $\frac{1}{4}$	50 $\frac{1}{4}$	16 $\frac{1}{2}$	30	52 $\frac{3}{4}$	31 $\frac{3}{4}$	53 $\frac{5}{8}$	33
15	52 $\frac{3}{4}$	15 $\frac{1}{4}$	53 $\frac{5}{8}$	16 $\frac{1}{2}$	32	56 $\frac{1}{8}$	31 $\frac{3}{4}$	57	33
16	56 $\frac{1}{8}$	15 $\frac{1}{4}$	57	16 $\frac{1}{2}$	34	61	31 $\frac{3}{4}$	61 $\frac{7}{8}$	33
17	61	15 $\frac{1}{4}$	61 $\frac{7}{8}$	16 $\frac{1}{2}$	36	64 $\frac{3}{8}$	31 $\frac{3}{4}$	65 $\frac{1}{4}$	33
18	64 $\frac{3}{8}$	15 $\frac{1}{4}$	65 $\frac{1}{4}$	16 $\frac{1}{2}$	38	67 $\frac{3}{4}$	31 $\frac{3}{4}$	68 $\frac{3}{8}$	33
19	67 $\frac{3}{4}$	15 $\frac{1}{4}$	68 $\frac{3}{8}$	16 $\frac{1}{2}$	40	71 $\frac{1}{2}$	31 $\frac{3}{4}$	72	33
20	71 $\frac{1}{2}$	15 $\frac{1}{4}$	72	16 $\frac{1}{2}$	42	74 $\frac{1}{2}$	31 $\frac{3}{4}$	75 $\frac{3}{8}$	33
21	74 $\frac{1}{2}$	15 $\frac{1}{4}$	75 $\frac{3}{8}$	16 $\frac{1}{2}$	44	77 $\frac{7}{8}$	31 $\frac{3}{4}$	78 $\frac{3}{4}$	33
22	77 $\frac{7}{8}$	15 $\frac{1}{4}$	78 $\frac{3}{4}$	16 $\frac{1}{2}$	46	81 $\frac{1}{4}$	31 $\frac{3}{4}$	82 $\frac{1}{8}$	33
23	81 $\frac{1}{4}$	15 $\frac{1}{4}$	82 $\frac{1}{8}$	16 $\frac{1}{2}$	48	84 $\frac{3}{8}$	31 $\frac{3}{4}$	85 $\frac{1}{2}$	33
24	84 $\frac{3}{8}$	15 $\frac{1}{4}$	85 $\frac{1}{2}$	16 $\frac{1}{2}$	50	89 $\frac{1}{2}$	31 $\frac{3}{4}$	90 $\frac{3}{8}$	33
25	89 $\frac{1}{2}$	15 $\frac{1}{4}$	90 $\frac{3}{8}$	16 $\frac{1}{2}$	52	92 $\frac{7}{8}$	31 $\frac{3}{4}$	93 $\frac{3}{4}$	33
26	92 $\frac{7}{8}$	15 $\frac{1}{4}$	93 $\frac{3}{4}$	16 $\frac{1}{2}$	54	96 $\frac{1}{4}$	31 $\frac{3}{4}$	97 $\frac{1}{8}$	33
27	96 $\frac{1}{4}$	15 $\frac{1}{4}$	97 $\frac{1}{8}$	16 $\frac{1}{2}$	56	99 $\frac{5}{8}$	31 $\frac{3}{4}$	100 $\frac{1}{2}$	33
28	99 $\frac{5}{8}$	15 $\frac{1}{4}$	100 $\frac{1}{2}$	16 $\frac{1}{2}$	58	103	31 $\frac{3}{4}$	103 $\frac{7}{8}$	33
29	103	15 $\frac{1}{4}$	103 $\frac{7}{8}$	16 $\frac{1}{2}$	60	106 $\frac{3}{8}$	31 $\frac{3}{4}$	107 $\frac{1}{4}$	33
30	106 $\frac{3}{8}$	15 $\frac{1}{4}$	107 $\frac{1}{4}$	16 $\frac{1}{2}$					

TOP OF WALL OPENING
60 INCHES FROM FLOOR

TOP OF WALL OPENING
67 INCHES FROM FLOOR

Mail Box is 4 $\frac{5}{8}$ " Deep. Make Wall Opening 4 $\frac{3}{4}$ " Deep.
Furnished in 3, 4, 5, 6, 7, 8 Units to a Gang.

Flush Wall Mounting Inter-Phone Switchboard Nos. 108 and 109



Flush Wall Mounting Switchboard Nos. 108 and 109 Type

GRAYBAR designed the flush wall mounting lamp signal switchboard in order to properly satisfy the growing need of apartments, apartment hotels, and other public buildings for an Inter-Phone Switchboard that combined mechanical perfection with compactness and attractive appearance. This switchboard has achieved that purpose.

Standing type switchboards are rapidly becoming out of harmony with the general plan and decorative scheme of entrance halls and lobbies of many of the larger apartments and other buildings. This flush type switchboard which can be mounted

compactly and neatly into the wall does not take up precious space, yet it gives all the service of the standing type and even greater convenience.

In most lobbies or entrance halls, the board, if properly mounted, is instantly visible from almost any angle or distance. Unless the board is continuously in use, this might make possible a reduction in personnel in some cases, as the operator could be utilized at other nearby tasks between calls. This is usually more difficult with the standing type due to its construction and the fact that its bulkiness causes it to be placed in some remote corner.

Nos. 108 and 109 Type Inter-Phone Switchboards*General Description***GENERAL DESCRIPTION OF NO. 108
TYPE INTER-PHONE SWITCHBOARD**

The No. 108 Type Inter-Phone Switchboard is a flush wall type unit designed for a THREE-WIRE SYSTEM and is arranged for single supervision. One battery is required for operating the signaling and talking circuit of the system, and the outlying telephone sets are equipped with vibrating bells or buzzers for operation on 24 volts DC. A single supervisory lamp is furnished with each cord circuit. The operating characteristics and the circuit arrangement of the No. 108 Type Switchboard are similar to the No. 116 type described on page 40.

**GENERAL DESCRIPTION OF NO. 109
TYPE INTER-PHONE SWITCHBOARD**

The No. 109 Type Inter-Phone Switchboard is a flush wall type unit and is similar in construction to the No. 108 type described above except that it is arranged for a TWO-WIRE SYSTEM and for single supervision of the connecting cord circuits. This system requires one battery for operating the talking and line lamp signal circuits, also a ringing machine for operating the ringing circuit of the system. The line connections to each outlying station in the system consist of a pair of wires and a single lamp is provided to supervise the talking and answering sides of each cord circuit. The operating characteristics and the circuit arrangement of this switchboard are similar to the No. 117 Type Inter-Phone Switchboard described on page 40.

**CODE NUMBERS
AND CAPACITIES**

There are four main types of No. 108 and No. 109 Inter-Phone Switchboards which can be obtained in single or double panel types, as follows:

**No. 108-A and 109-A Single Panel
Switchboards**

(Total capacity—50 lines, 5 cord pairs)

<i>Lines</i>	<i>Cord Pairs</i>
20	2
30	3
40	4
50	5

**No. 108-B and 109-B Double Panel
Switchboards**

(Total capacity—100 lines, 10 cord pairs)

<i>Lines</i>	<i>Cord Pairs</i>
60	6
70	8
80	8
90	10
100	10

**No. 108-C and 109-C Single Panel
Switchboards**

(Total capacity—100 lines, 10 cord pairs)

<i>Lines</i>	<i>Cord Pairs</i>
60	5
70	5
80	5
90	5
100	5

**No. 108-D and 109-D Double Panel
Switchboards**

(Total capacity—200 lines, 10 cord pairs)

<i>Lines</i>	<i>Cord Pairs</i>
120	10
140	10
160	10
180	10
200	10

Note: These switchboards are described in bulletin GBT-113, a copy of which will be furnished upon request.

Floor Standing Type Inter-Phone Switchboard

GENERAL DESCRIPTION OF NO. 116 TYPE INTER-PHONE SWITCHBOARD

The No. 116 Type Inter-Phone Switchboard is a floor standing type unit designed for a three-wire system and is arranged for single supervision. By this is meant the following:

1. One battery is required for operating both the signaling and talking circuit of the system.
2. The line connections to each station in the

system consist of two individual wires and one common wire.

3. The telephone sets are equipped with vibrating bells or buzzers for operating on 24 volts D.C.

4. A single supervisory lamp is furnished with each cord circuit.

GENERAL DESCRIPTION OF NO. 117 TYPE INTER-PHONE SWITCHBOARD

The No. 117 Type Inter-Phone Switchboard is a floor standing type and is similar in construction to the No. 116 type described above except that it is arranged for a two-wire system and for double supervision of the connecting cord circuits. By this is meant the following:

1. One battery is required for operating the talking and lamp signal circuit.

2. A ringing machine is required for operating the ringing circuit of the system.

3. The line connections to each outlying station in the system consist of a pair of wires.

4. The double supervision feature provides double lamps to supervise the talking and answering sides of each cord circuit.

CODE NUMBERS AND CAPACITIES

There are three main types of No. 116 and No. 117 Inter-Phone Switchboards, as follows:

No. 116-A and No. 117-A Switchboard of
50 line capacity

No. 116-B and No. 117-B Switchboard of

100 line capacity

No. 116-C and No. 117-C Switchboard of
200 line capacity and over

Note: These switchboards are fully described in bulletin GBT-113, a copy of which will be furnished upon request.



*No. 116 and 117 Type
Switchboards*

Inter-Phones for Numbers 108, 109, 116, 117 and 1801 Switchboards

GENERAL

Descriptive bulletins covering the No. 108, 109, 116 and 117 type switchboards will be furnished upon request. The Inter-Phones for these switchboards are listed below, including the No. 1801 private branch exchange switchboard systems A and B.

WALL TYPE INTER-PHONES

The surface and flush type metal wall Inter-Phones have a black enamel finish and are made rust proof by the Parker Process. The No. 2527 and 3537 type Inter-Phones have metal housings which contain talking and signaling apparatus. The 2539 type Inter-Phone has a flush steel face plate on which is mounted talking and signaling apparatus. This mounts in a metal outlet box set in the wall.

Code No.	Mounting	Dimension of Housing			For Use With Switchboard No.		
		High	Wide	Deep			
2527A	Surface	7½"	5"	2⅝"	108, 116, 1801		
2527AP	Surface	7½"	5"	2⅝"	109, 117		
3537A	Surface	9⅝"	6¾"	3"	108, 116, 1801		
3537AP	Surface	9⅝"	6¾"	3"	109, 117		
		Face Plate		Outlet Box			
		High	Wide	High	Wide	Deep	
2539A	Flush	9"	5⅛"	7½"	4"	2⅝"	108, 116, 1801
2539AP	Flush	9"	5⅛"	7½"	4"	2⅝"	109, 117

CRADLE TYPE INTER-PHONES

The cradle type Inter-Phone consists of a handset with cradle mounting having a buzzer mounted in the base. A connecting block is furnished for making the line connections.

Code No.	Consisting of		For Use With Switchboard No.
	Hand Set and Cradle	Connecting Block	
6245A	1245A	2 No. 11-A	108, 116, 1801
6245AP	1245AP	1 No. 11-A	109, 117

HAND SET INTER-PHONE

This Inter-Phone consists of a hand set and a surface type apparatus box finished in black enamel. The apparatus box contains the buzzer and terminals for making line connections.

Code No.	Hand Set	Apparatus Box	Connecting Block	For Use With Switchboard No.
6043R	1003AC	383H	.....	108, 116, 1801
6239A	1239A	....	2 No. 11-A	108, 116, 1801



No. 2539A & AP



No. 2527A & AP



No. 3537A & AP



No. 6043-R



No. 6245A & AP



No. 6239A

Accessories

COLUMBIA GRAY LABEL BATTERIES

This dry cell is specially made for telephone work, and for this purpose is the most satisfactory cell on the market. Size over all, 2 $\frac{5}{8}$ inches by 6 $\frac{3}{4}$ inches. Fahnestock clip top.



*Columbia Gray
Label Battery*

EDISON TYPE 75 BATTERIES

The Edison Type 75 Cell is 7 $\frac{1}{2}$ inches high and 3 inches in diameter over all, just slightly larger than a standard dry cell, but it has more than twice the capacity of the best of such cells. The cells can be furnished separately or in light, wood trays of from three to six units.

At a continuous discharge of 100 milliamperes, the No. 75 Cell will deliver at least 75 ampere hours to a cut-off voltage above .6. Even at a continuous discharge of 1 ampere, it will give in excess of 60 ampere hours to a cut-off voltage above .5. The proper ratio in figuring primary cells versus dry cells is to allow five (5) primary to three (3) dry cells.



No. 1A Battery Box

BATTERY BOXES

- 1A Black jammanned sheet metal box lined with an insulating material. Holds 3 dry cells. Size of box, 9 $\frac{7}{8}$ inches long by 3 $\frac{1}{4}$ inches wide by 7 $\frac{1}{2}$ inches high.
- 2A Similar to the No. 1A. Holds 4 dry cells. Size of box, 12 $\frac{7}{8}$ inches long by 7 $\frac{3}{8}$ inches high by 3 $\frac{7}{8}$ inches wide.
- 2B Similar to the No. 1A. Holds 9 dry cells. Size of box, 14 $\frac{5}{8}$ inches long by 5 $\frac{1}{2}$ inches deep by 7 $\frac{7}{8}$ inches high.

POWER FILTERS

Power filters are designed to replace dry cells and to deliver noiseless direct current for Inter-Phone system operation. These units operate from 110 volts alternating current source and there are different sizes available depending upon the voltage requirements of the system in which it is to operate. The type 1024 will supply 6 volts direct current for the talking circuit of the system, also 6, 12 and 18 volts alternating current taps for the ringing circuit of the system. The same as called for in our standard No. 1 Inter-Phone system.

The following code numbers apply to power filters for supplying battery to any of our Inter-Phone or PBX systems.



Rectifier for Battery Supply

Catalog No.	A.C. Volts	Cycles	D.C. Volts	D.C. Amperes	Ringing Volts	Cabinet Size		
						High	Wide	Deep
6RC61D4	115	60	6	0.35	6-12-18 A.C.	7 $\frac{1}{8}$ "	11 $\frac{3}{8}$ "	6 $\frac{1}{8}$ "
1024	115	60	6	0.5	6-12-18-24 A.C.	10 $\frac{3}{4}$ "	9 $\frac{1}{2}$ "	5 $\frac{1}{4}$ "
1026	115	60	12	0.5	6-12-18-24 A.C.	10 $\frac{3}{4}$ "	9 $\frac{1}{2}$ "	5 $\frac{1}{4}$ "
1027	115	60	24	0.5	6-12-18-24 A.C.	12 $\frac{3}{4}$ "	12 $\frac{3}{4}$ "	7 $\frac{1}{4}$ "
1044	115	60	24	1.0	6-12-18-24 A.C.	18 $\frac{1}{2}$ "	14 $\frac{1}{4}$ "	11"
1043	115	60	24	1.5	6-12-18-24 A.C.	18 $\frac{1}{2}$ "	14 $\frac{1}{4}$ "	11"
1040	115	60	24	3.0	.....	23 $\frac{3}{4}$ "	14 $\frac{1}{4}$ "	11"

INTER-PHONE CABLE

The conductors are provided with single silk and single cotton insulation, which is colored in such a way that each pair and each single wire can be identified. The cable is then impregnated with a waxing compound and is covered with servings of paper and a heavy braiding, which is given a heavy coat of fireproofing paint.

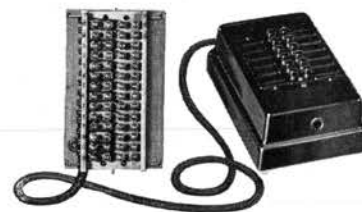
Three general types of cable are provided. Each type has its particular use, and care should be taken to order the proper cable for any desired purpose. These types are as follows:

1. *Interior cable* with outside braiding treated with gray fireproofing paint. *Use only in dry places.*

2. *Interior cable* with brown glazed cotton outside braiding. *Use only in dry places* where exposed to view.

3. *Outside cable*, lead covered. Always use this cable outside, and *inside in every case where there is apt to be moisture* even in a small degree. In conduit installations lead-covered cable should be used.

Lead-covered cables are not listed with separate code numbers. Any fireproofed type of cable may be ordered with a lead sheath.



Method of Connecting
Stranded Flexible Cable

Code No.	Conductors —B. & S. Gauge—		Covering	Approx. Outside Diam. Ins.	Wgt. Lbs. Per 100 Ft.	Spares No. 22
	No. 22	No. 18				
185B	4 singles	.....	Fireproofed braid	$\frac{1}{4}$	2.27	none
161B	7 singles	.....	Fireproofed braid	$\frac{5}{16}$	3.46	one (wire)
161B (Lead)	7 singles	.....	Lead sheath	$\frac{5}{16}$	22.70	one (wire)
142B	8 singles	.....	Brown cotton braid	$\frac{5}{16}$	3.50	none
162B	11 singles	.....	Fireproofed braid	$\frac{3}{8}$	4.44	one (wire)
162B (Lead)	11 singles	.....	Lead sheath	$\frac{3}{8}$	26.60	one (wire)
164B	6 singles	2 pair	Fireproofed braid	$\frac{3}{8}$	5.81	two (wires)
244B	8 pair	2 pair	Fireproofed braid	$\frac{3}{8}$	9.00	two (wires)
244B (Lead)	8 pair	2 pair	Lead sheath	$\frac{3}{8}$	34.00	two (wires)
245B	8 pair	2 pair	Brown cotton braid	$\frac{3}{8}$	9.00	two (wires)
246B	14 pair	2 pair	Fireproofed braid	$\frac{7}{16}$	15.00	two (wires)
246B (Lead)	14 pair	2 pair	Lead sheath	$\frac{7}{16}$	40.00	two (wires)
247B	14 pair	2 pair	Brown cotton braid	$\frac{7}{16}$	15.00	two (wires)
248B	18 pair	2 pair	Fireproofed braid	$\frac{7}{16}$	16.00	two (wires)
248B (Lead)	18 pair	2 pair	Lead sheath	$\frac{7}{16}$	45.00	two (wires)
249B	22 pair	2 pair	Fireproofed braid	$\frac{7}{16}$	19.00	two (wires)
249B (Lead)	22 pair	2 pair	Lead sheath	$\frac{7}{16}$	49.00	two (wires)
250B	26 pair	2 pair	Fireproofed braid	$\frac{7}{16}$	20.00	two (wires)
250B (Lead)	26 pair	2 pair	Lead sheath	$\frac{7}{16}$	53.00	two (wires)
251B	33 pair	2 pair	Fireproofed braid	$\frac{7}{16}$	25.00	two (wires)
251B (Lead)	33 pair	2 pair	Lead sheath	$\frac{7}{16}$	61.00	two (wires)

STRANDED FLEXIBLE CABLES

Stranded flexible cable is recommended for use with the key box of desk set Inter-Phones, furnished with system No. 1, where it is required to move the key box about the desk on which it is installed.

This stranded flexible cable is furnished in silk-covered, mercerized-covered or in common cotton braid. The standard outer color of the cable braid is brown.

Code No.	418	430	438	446	454
Single Conductors	18	30	38	46	54



Cable for
Interior Use

Cable for
Outside Use

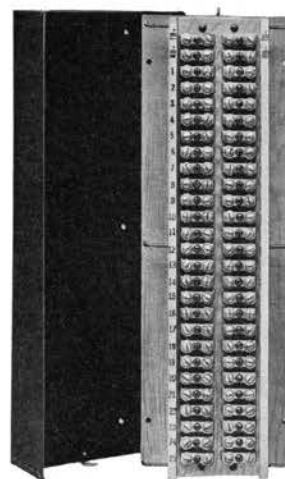
Accessories

(Continued)

NUMBER 19 TYPE CABLE TERMINALS

The No. 19 type cable terminal is admirably suited for interior distributing work. It was designed after a great deal of study, and is the best of its kind on the market. Made of hard wood, numbered and shellacked, and equipped with a sheet steel cover, treated with the Parker Rustproof Process, finished in Black Enamel.

<i>Code No.</i>	<i>Capacity in Pairs</i>	<i>Length Ins.</i>	<i>Width Ins.</i>	<i>Depth Ins.</i>
19AC	15	8	5 $\frac{7}{8}$	2 $\frac{1}{2}$
19BC	27	14	5 $\frac{7}{8}$	2 $\frac{1}{2}$



No. 19BC Cable Terminal

NUMBER 30 TYPE CONNECTING BLOCKS

These consist of brass studs embedded in a hard composition base. Studs fitted with two nuts (one a split check nut) and two washers.

<i>Code No.</i>	<i>Capacity in Pairs</i>	<i>Size of Base</i>		
		<i>Length Ins.</i>	<i>Width Ins.</i>	<i>Thickness Ins.</i>
30A	6	4 $\frac{3}{8}$	1 $\frac{1}{2}$	$\frac{1}{2}$
30B	11	7 $\frac{3}{8}$	1 $\frac{1}{2}$	$\frac{1}{2}$
30C	16	10 $\frac{3}{8}$	1 $\frac{1}{2}$	$\frac{1}{2}$
30D	26	16 $\frac{1}{8}$	1 $\frac{1}{2}$	$\frac{1}{2}$



No. 141A Hook

NUMBERS 11 AND 12 TYPE CONNECTING BLOCKS

These consist of a composition base in which the screw terminals are embedded. Each terminal consists of two screw bushings electrically connected by means of a metal strip, and provided with screws and washers.

<i>Code No.</i>	<i>No. of Terminals</i>	<i>Size of Base</i>		
		<i>Length Ins.</i>	<i>Width Ins.</i>	<i>Thickness Ins.</i>
11A	2	1 $\frac{1}{8}$	1 $\frac{3}{8}$	$\frac{3}{8}$
11B	Same as No. 11A except equipped with a cover.			
12E	3	1 $\frac{1}{8}$	1 $\frac{3}{8}$	$\frac{1}{4}$
12F	Same as 12E except equipped with a cover.			



No. 30A
Connecting Block

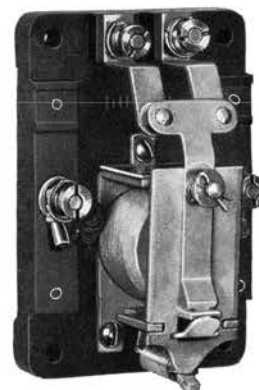
HAND SET HOOK

<i>Code No.</i>	<i>Description</i>
141A	A hook to be screwed into wall for holding No. 1003 type hand set.

RELAYS FOR LOUD RINGING OR LAMP SIGNALS

When a powerful vibrating bell or horn or a lamp signal is required in connection with an Inter-Phone system installation and where 110 volt direct or alternating current is available for operating the signal the type ABTX1 relay is recommended. The contacts of the relay are rated at 6 amperes, 110 volts, AC and 1 ampere, 115 volt DC.

This relay will be connected in the Inter-Phone circuit as illustrated herewith, replacing the bell or buzzer in the set. The loud ringing bell or signal will be connected to the relay contacts as shown so that when an Inter-Phone party signals the station with this special signal the relay will be operated and will close the signal circuit across its contacts.

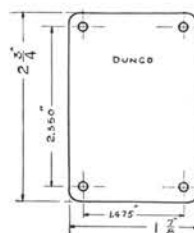


ABTX1 Relay

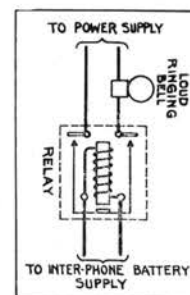
BELL RINGING TRANSFORMERS

In a number of instances it is more convenient to operate the ringing circuit of the system by means of a standard bell ringing transformer in place of batteries. The transformer, of course, cannot be used for supplying the talking current, therefore, if it is necessary to furnish both talking and ringing current we recommend the rectifier unit described elsewhere.

The type 231-101 transformer will operate on 100 to 120 volts alternating current, 50 to 133 cycles. The transformer has six secondary voltages of 4, 8, 12, 16, 20 and 24. The overall dimensions are 4 $\frac{1}{8}$ " long, 3 $\frac{5}{8}$ " wide, 3 $\frac{1}{8}$ " high and weighs six pounds.



Relay Mounting Dimensions



Method of Connecting Relay

Loud Ringing Bells

LOW VOLTAGE TYPE

No. 13 Lungen Bell equipped with a 6" gong may be used as a loud ringing bell to be connected in place of the signal in the Inter-Phone set and will operate directly from the Inter-Phone ringing battery. This bell should be ordered equipped with a 6" gong, also state battery voltage. The bell is finished in black and weighs 3 $\frac{1}{2}$ lbs.

HIGH VOLTAGE TYPE

Where 110 volt alternating current is available the No. 551 Bell equipped with a 6" gong is recommended. This is a weatherproof type of bell and its operation should be controlled through the ABTX1 relay described above.



Bell Ringing Transformer



No. 13 Bell



No. 551 Bell

Accessories (Continued)

TELEPHONE WIRES

We carry a wide variety of insulated wires for both interior and outdoor service, in single conductors, twisted pairs and triples.

Full information and prices on wire, to suit any condition, on request.

RETARDATION COILS

Code No.

Description

51G Has two 50-ohm windings, which are not connected together. Size overall, $1\frac{1}{8}$ " diameter by $1\frac{1}{8}$ " high.

51H Coil for use in Inter-Phone systems Nos. 11, 12, 15C and outfits 30 and 31. Same as No. 51G, but mounted on a maple base having screw terminals. Windings connected in series.

INSULATION TAPE

Furnished in $\frac{1}{2}$ -lb. rolls and in widths varying from $\frac{1}{2}$ " to 3". Black or white.

Graybar Electric "Victor," $\frac{3}{4}$ " wide.

MILONITE NAILS

"Milonite" perfection insulated nails.

Diameter of head in four sizes. Length of nail to suit. Prevent short circuiting. Color matches wire or wall. Wire can be taken down without cutting or injuring insulation.

BLAKE INSULATED STAPLES

Designed for use on all low voltage circuits of interior wiring, such as telephone, telegraph, messenger call, annunciator and bell work.

List No.

- 1... For hardwood, for single and twisted pair wire.
- 3... For general use, for single and twisted pair wire.
- 5... For hardwood, for twisted 3 wire and extra heavy pair wire.
- 6... For general use, for twisted 3 wire and extra heavy pair wire.
- 7... For soft wood, for twisted 3 wire and extra heavy pair wire.

IRON CONDUIT AND FITTINGS

We carry large stocks of both galvanized and enameled iron conduit and conduit fittings such as bushings, locknuts, etc. Consult our general supply catalog and write for market prices.

PIPE STRAPS—TINNED

For supporting Inter-Phone cable, conduit, etc.

List No.	Pipe Strap In.	Approx. Quan. per Lb.	Standard Package
291	$\frac{3}{8}$	30	1000
292	$\frac{1}{2}$	25	1000
293	$\frac{3}{4}$	20	500
294	1	18	100
295	$1\frac{1}{4}$	16	50
296	$1\frac{1}{2}$	10	25

GALVANIZED BRIDLE RINGS

Style	Eye	Size, Inches Opening	Shank
A	$1\frac{5}{8}$	$\frac{1}{4}$	$1\frac{1}{4}$
C	$1\frac{1}{4}$	$\frac{1}{4}$	$1\frac{1}{2}$
E	$\frac{5}{8}$	$\frac{1}{4}$	$\frac{7}{8}$
F	3	$\frac{1}{4}$	$1\frac{3}{4}$



No. 11A Connecting Block



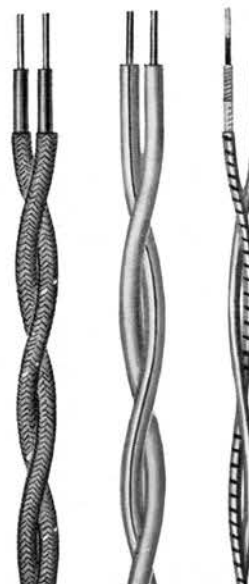
Insulating Tape



No. 1
Blake Staple



No. 22
Milonite
Nails



Telephone Wire

WALL TYPE CODE NO.	System Used In	Trans. No.	Rec. No.	Rec. Cord No.	Switch-Hook Assembly	Bell Assembly	Mouth- Piece	Push But- ton Only	Red But- ton Cap	Outlet Box
1324C-6 to C-24	No. 1	323-BW	143-AW	773	P-13825	101400	P-14153	P-14606	P-14607	.....
1355C-16 to C-24	No. 1	323-BW	143-AW	773	P-13825	101400	P-14153	P-14606	P-14607	P-14779
1520-R	No. 20	294-W	524-W	.....	P-14150	.....	P-17090	P-14104	.....	P-16902
1524-E	No. 21	362-W	528-BW	.....	.....	.....	P-17090	.....	69 Ind. Coil	P-16902
1524-F	No. 21	362-W	528-BW	.....	.....	.....	P-17090	B-42 Relay	69 Ind. Coil	P-16902
2527-A	1801	362-W	179-W	773	P-14150	P-19082	P-17082	.....	.....	.....
2527-C-0 to C-8	Common	294-W	179-W	773	P-14150	P-19081	P-17082	P-14104	.....	.....
2527AC-1	12AC	294-W	179-W	773	P-14150	P-19082	P-17082	P-14104	.....	.....
2527-AP	109 Swbd.	294-W	179-W	773	P-14150	P-22658	P-17082	.....	.....	.....
2539-A	1801	362-W	179-W	773	P-14150	P-19082	P-17082	.....	.....	P-14136
2539-C-0 to C-8	Common	294-W	179-W	773	P-14150	P-19081	P-17082	P-14104	.....	P-14136
2539AC-1	12AC	294-W	179-W	773	P-14150	P-19081	P-17082	P-14104	.....	P-14136
2539-AP	109 Swbd.	294-W	179-W	773	P-14150	P-22658	P-17082	.....	.....	P-14136

Note: For Push-Button Escutcheons and Groups refer to Push-Button Blocks below.

PUSH BUTTON BLOCKS	No. of Buttons	Sets Used With	Escutcheon No.	Push-Button Group No.	Name Card No.	Name Card Protector	Mounting Screws	Cord No.	Push-Button Only
101-A	1	.....	A-1	1-A	P-14119	P-14113	P-2530	.....	P-14104
102-A	2	.....	A-2	4-B	P-14119	P-14113	P-2530	.....	P-14104
103-A	3	.....	A-3	4-B	P-14119	P-14113	P-2530	.....	P-14104
104-A	4	.....	A-4	4-D	P-14120	P-14114	P-2530	.....	P-14104
104-AC	4	6034-AZ-BG	A-4	4-D	P-14120	P-14114	P-2530	431	P-14104
106-A	6	.....	A-6	4-D	P-14121	P-14115	P-2530	.....	P-14104
108-A	8	.....	A-8	2 No. 4-D	P-14122	P-14116	P-2530	.....	P-14104
108-AC	8	6034-BB-BH	A-8	2 No. 4-D	P-14122	P-14116	P-2530	432	P-14104

HAND SET TYPE	Sets Used With	System Used In	Trans. No.	Rec. No.	Rec. Cord No.	Set Cord No.	Misc. Cords	Trans. & Rec. Mtg. Screw	Cover Mtg. Screw	Ring Button	Talking Lever	Talking Lever Screw
1003-A	.....	.....	320-W	183-W	.....	.....	.....	P-14231	P-14230	.....	P-14223	P-14226
1003-B	.....	.....	320-W	183-W	.....	.....	.....	P-14231	P-14230	P-14235	P-14223	P-14226
1003-D	Annun.	No. 12-B	320-W	183-W	475-9 1/2"	477	476-4"	P-14231	P-14230	.....	P-14223	P-14226
1003-E	6043-D	No. 12-B	320-W	183-W	476-5 1/2"	507	476-5"	P-14231	P-14230	P-14235	P-14223	P-14226
1003-G	6042 E & K	No. 12 & 12-A	320-W	183-W	475-9 1/2"	478	P-14238	P-14231	P-14230	No. 142 Plug	P-14223	P-14226
1003-J	6043-E	No. 12 & 12-A	320-W	183-W	476-5"	480	P-14238	P-14231	P-14230	P-14235	P-14223	P-14226
1003-K	6042-D, M & CD	No. 12-B, G & 15	320-W	183-W	475-9 1/2"	477-3"	.....	P-14231	P-14230	.....	P-14223	P-14226
1003-N	6043-CD	No. 15	320-W	183-W	476-5"	505-3"	.....	P-14231	P-14230	P-14235	P-14223	P-14226
1003-P	6043-G	No. 18	320-W	183-W	475-9 1/2"	483	P-14237	P-14231	P-14230	P-14235	P-14223	P-14226
1003-R	6016-H	No. 1	320-W	183-W	476-5"	482	476-5"	P-14231	P-14230	.....	P-14223	P-14226
1003-AA	6042-AE & AF	No. 14 & 15-C	320-W	183-W	475-9 1/2"	776	P-14237	P-14231	P-14230	.....	P-14223	P-14226
1003-AB	6043-P	No. 14 & 15-C	320-W	183-W	476-5"	775	476-5"	P-14231	P-14230	P-14235	P-14223	P-14226
1003-AC	6043-R	No. 1801	368-W	183-W	475-9 1/2"	506	P-14237	P-14231	P-14230	.....	P-14223	P-14226
1003-AD	6042 D & M 6034 BG & BH	No. 12-B & 11 & 12	320-W	183-W	476-5"	477-6"	.....	P-14231	P-14230	.....	P-14223	P-14226

HAND SET TYPE	Sets Used With	Trans. No.	Rec. No.	Set Cord No.	Misc. Cords	Handle	Trans. Adapter	Trans. Collar	Trans. Mouth-Piece	Rec. Ear-Cap	Rec. Diaphragm
60C	Cradle Type	294-W	197-W	C-2-B (4 ft.)	T-I-E 15" & 4"	P-18396	P-18539	P-17846	P-17765	P-17764	P-17854
61C	Cradle Type	294-W	197-W	MC2F (4 ft.)	T-I-F (5")	P-24577	.....	P-23164	P-23166	P-23162	P-21433
62C	Cradle Type	P-24562	197-W	MC2F (4 ft.)	T-I-F (5")	P-22575	.....	P-23164	P-23166	P-23162	P-21433

CODE NO.	APPARATUS UNITS and BOXES	Type Set	Sets Used With	System Used in	Cover No.	Face Plate No.	Outlet Box No.	Buzzer No.	Hook No.	Mounting Screws		
	382-E & EB 382-J, JB & CD 383-H 383-J & CD	Flush Flush Surface Surface	6042-E, K 6042-D, M, AE, AF 6043-R 6043-D, E, P	12 & 12-A 12-B, 14, 15C & 18 1801 P.B.X. 12, 14, 15-C & 18	..... P-14372 P-14372	P-14753 P-14753	Gem-A Gem-A	No. 1 B No. 1 B No. 1 D No. 1 B	P-14383 ..... .....	..... P-14376 P-14376		
	DESK SET KEY BOXES	Type Set	Sets Used With	System Used in	Retard Coil No.	Buzzer No.	Push-Button only	Red Bottom Cap	Name Card Protector			
	328-C-6 to C-24	Surface	6016 & 6038	No. 1	51-G	12059	P-14606	P-14607	P-14115			
	RECEIVERS	Type Set	Sets Used With	System	Ear-Piece	Diaphragm	Case Assem.					
	143-AW	.....	1324, 1355, 1140-BE 1340-BF	.....	(See Telephone Catalog)	.....	.....			
	179-W 183-W 524-W	1003 Type	2527 & 2539 1520-R, U	..... ..... 7, 8, 9, 10 & 20	P-14259 P-14259 P-14259	P-14272 P-14272 P-14272	P-14267 P-14282					
	TRANSMITTERS	Type Set	Sets Used With	System Used in	Trans. Unit No.	Mouth-Piece	Case Assembly					
	294-W 320-W 323-W	1003 Type	1350, 1520, 1527	Common Common No. 1	..... 294-W (See Telephone Catalog)	P-14285	P-14286					
	362-W 368-W 374-W	1003-AC	1324, 1355 BJ, 1140-BE 1527-A, 1539-A 1524 Type	1801 1801 No. 21	..... 362-W	P-14285	P-14554					
	CABLE TERMINALS			Connector Assembly	Fanning Strip	Terminal Mounting	Cover					
	19-A 19-B	..... .....	No. 1 No. 1	P-14837 P-14837	P-14859 P-14865	P-14860 P-14866	P-14861 P-14867					

CODE NO. CORDS	CORD TIPS						CODE NO. CORDS	CORD TIPS					
DESK STAND CORDS	Set End	Rec. or Stand End	Tracer Colors	Stand-ard Length	Con-ductors	Sets Used with	HAND SET CORDS	Set End	Rec. or Stand End	Tracer Colors	Stand-ard Length	Con-ductors	Sets Used with
547	P-14347	P-11870	Yellow	9 7/8"	1	All	483	{P-14347 P-14162 P-14162	P-14347	BL. RD. YL. GR.	3'-0"	4	1003-P
HAND SET CORDS							505	{P-14162 P-14347	P-14347	BK. BL. GR. RD. YL.	3'-0"	5	1003-N
431	P-11870	P-11870	GR. BL. YL. RD. GN.	6'-0"	5	6034-AZ & BG	507	{P-14347 P-14162 P-14347	P-14347	BL. & RD.	3'-0"	2	1003-E
432	P-11870	P-11870		6'-0"	9	6034-BB & BH	775	{P-14162 P-11870	P-14347	BL. GR. YL.	3'-0"	3	1003-AB
475	P-14347	P-14347	Red	9 1/2"	1	1003 Types	776	{P-14162 P-14347	P-14347	GR. RD. YL.	3'-0"	3	1003-AA
476	P-14347	P-14347	Yellow	5"	1	1003 Types							
477	{P-14162 P-14347	P-14347	GR. RD.	3'-0" or 6'-0"	2	1003 D & K	MISCELLANEOUS CORDS						
478	P-14085	P-14347	RD. BL.	3'-0"	2	1003 F & G	329	P-14347	P-11870	Red	9 7/8"	1	
480	P-14347	{P-14347 P-14162	GR. RD. YL.	3'-0"	3	1003-J	330	P-14347	P-11870	Yellow	6'-0"	1	
482	P-14347	{P-14162 P-11870	BL. RD. YL. GR.	3'-0"	4	1003-R	494	P-14347	P-11870	White	9 1/2"	1	
							773	No. 35	P-14162	GR. RD.	2'-6"	2	2527 & 2539 Rec. Cord

Note: Outer braid of cords made of brown silk.

General Note: For component parts of complete sets such as the No. 6034 or 6042 types refer to Inter-Phone Catalog.

Specifications for

GraybaR

INTER-PHONE SYSTEMS

GENERAL

There shall be furnished and installed a complete Inter-Phone system having a total of.....stations, in accordance with these specifications, and located as designated on the plans.

All apparatus specified herewith shall be of Graybar Electric Company manufacture.

The instruments shall be wired for ringing and talking service as outlined for Inter-Phone System No.....

INTER-PHONE SETS

The following Inter-Phones shall be furnished and installed:

(Insert here code numbers and number of sets required)

BATTERY

The talking and ringing batteries shall be (dry cells) (Power Filter)—
If dry cells they shall be placed in a suitable cabinet or in a metal battery box and located in a dry, accessible place.

WIRING

This system shall be wired in accordance with specifications as outlined in Graybar Electric Installing and Maintaining bulletin system No.....

Graybar Electric (lead) (braided) covered cable No..... shall be used for wiring the system. The conductors shall be No. 22 B. & S. gauge, insulated, with a single wrapping of silk and a single wrapping of cotton, the whole cable being impregnated with beeswax compound.

Where individual wires are run the No. 18 B. & S. gauge braided rubber-covered wire will be used, except where the wiring is exposed to view, in which case No. 19 B. & S. gauge, olive green rubber-covered inside wire shall be used.

• FOR COMPLETE INFORMATION •

on Graybar Inter-Phone Systems or any of the 60,000 electrical items for Home, Office and Industry distributed by Graybar—simply write, call or phone your nearby Graybar Office. Warehouses and offices in each of the cities listed below:

Akron	Davenport	Kansas City	Oklahoma City	San Antonio
Albany	Dayton	Knoxville	Omaha	San Diego
Asheville	Denver	Los Angeles	Orlando	San Francisco
Atlanta	Detroit	Louisville	Philadelphia	Savannah
Baltimore	Duluth	Memphis	Phoenix	Seattle
Beaumont	Durham	Miami	Pittsburgh	Spokane
Birmingham	Flint	Milwaukee	Portland	Syracuse
Boston	Fort Worth	Minneapolis	Providence	Tacoma
Brooklyn	Fresno	Mount Vernon	Reading	Tampa
Buffalo	Grand Rapids	Nashville	Richmond	Toledo
Charlotte	Hammond	Newark	Roanoke	Washington, D. C.
Chicago	Harrisburg	New Haven	Rochester	Wichita
Cincinnati	Hartford	New Orleans	St. Louis	Winston-Salem
Cleveland	Houston	New York	St. Paul	Worcester
Columbus	Indianapolis	Norfolk	Sacramento	Youngstown
Dallas	Jacksonville	Oakland	Salt Lake City	