

Section **T**

# of TELEPHONE EQUIPMENT & SUPPLIES CATALOG

ISSUED AUGUST, 1969

SUPERSEDES SECTION T  
DATED SEPTEMBER 1967

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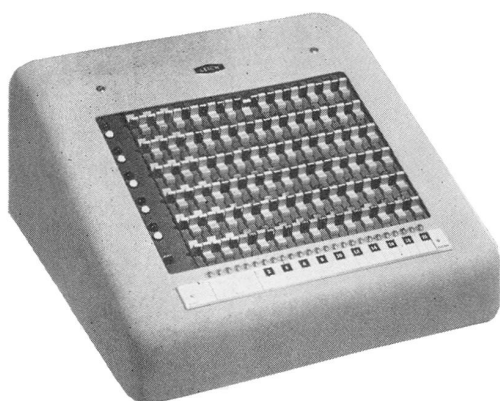
## **AUTOMATIC ELECTRIC COMPANY**

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

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## Types 12B and 20B Cordless PBX



Type 20B PBX

## Type 12B PBX

Designed specifically for small businesses and motels which need no more than 12 lines, 5 trunks and 5 conversation channels.

The keyboard has six horizontal rows (channels) of 18 keys each. In each of five channels, 5 keys are for trunk answering, 1 key for station answering and 12 keys for extension to a station. The sixth channel is for trunk hold and extension ring.

The 12B is arranged for local manual service and for connection to either automatic or manual central offices. Standard two-conductor telephone instruments with SL Ringers are used as station apparatus. Special equipment such as key telephones, speakerphones and key systems can also be used.

Neutral gray case is easily removed for access to the equipment inside. All equipment is easily accessible for repair and maintenance. The attendant's telephone is a complimentary medium gray Type 80 phone without ringer. Operates on 24 v., d.c. provided by Power Pack, which includes 30 cycle ringing supply. Order separately. Dimensions: height, 7½-in.; width, 16-in.; depth, 16½-in.

## Type 20B PBX

Same unit as the 12B but with 20 lines. Each channel has 20 keys for extension to stations.

## Types 12B and 20B Cordless PBX

Ordering No.	Description	Equip-Weight,	
		Wired	ped Lbs.
<b>416022</b>	12B Cordless PBX Switchboard		47
	Lines	12	12
	Trunks	5	5
	Conversation Channels	5	5
<b>416023</b>	20B Cordless PBX Switchboard		47
	Lines	20	20
	Trunks	5	5
	Conversation Channels	5	5

NOTE: For Power and Cable Requirements, See Pages 16 and 17.

## Basic Package Adders

Ordering No.	Description	Weight, Lbs.
<b>308311</b>	Z-26396-1 Gray Type 80 Attendant's Telephone, Without Ringer	12
.....	NC-866002-ASL Black Auxiliary 6-Key Attendant's Telephone to Enable Attendant to Answer up to 5 Incoming Calls When All Conversation Channels are Busy	12

## Optional Package Adders

<b>424271</b>	015025-A Hand Generator With Housing for Standby Operation	15
<b>426920</b>	H-880145-7 Power Relay for Transferring to D.C. Battery Supply on A.C. Power Failure	6
<b>437774</b>	MO-19251 Spare Parts	....
.....	Additional Set of Prints	....

## Line Equipment

## Mounts Externally

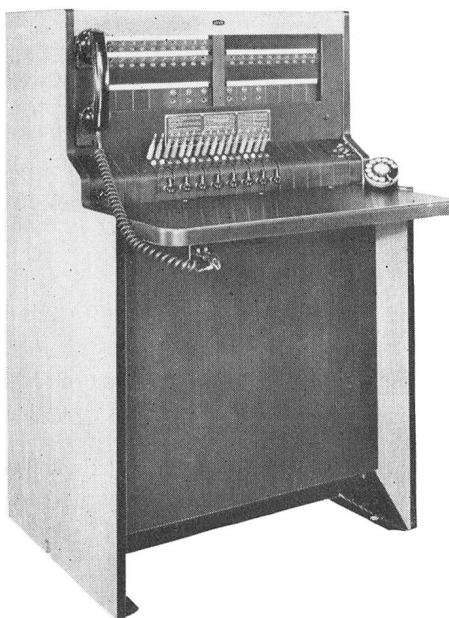
<b>426881</b>	015026-B Line Relays For Station Loops Exceeding 300 Ohms	1
<b>429051</b>	015026-A Line Relay Housing Unit Without Relays. For 18 Line Relays	10
.....	MO-18596-A Modification Material To Provide Audible Signal If Station Lamp Is Open. One Lot Required	1
.....	MO-18596-B Station Lamp Material For One Line	1

## Trunk Equipment

Mounts Externally in Standard Housing Units  
10¾" x 7¾" x 3¾"

<b>417730</b>	015018 Tie Line, 2-Way Ringdown For Magneto Line Or Trunk Service, With Housing	20
<b>417735</b>	015040 Tie Line, 2-Way Ringdown For Idle Line Termination On Carrier Or Voice Repeater Circuits, With Housing	20
<b>410071</b>	SC-6282 Central Office Trunk Adapter For 2-Way Ringdown With Automatic Ringoff. Specify For Rack (W.E. Co. 19") Or Wall Mounting	25
.....	017817-A Trunk Adapter For Kick Coil Operation Into A Magneto Switchboard With Housing For 5 Circuits. 1500 Ohm Loop Limit Unless Located At Distant Office Where Loop Limit Reduces To 300 Ohms. 1 Circuit	12
.....	017817-B Same As Above, 2 Circuits	14
.....	017817-C Same As Above, 3 Circuits	16
.....	017817-D Same As Above, 4 Circuits	18
.....	017817-E Same As Above, 5 Circuits	20

## L55 Cord Type PBX



An efficient PBX for customers whose requirements can best be met with an operator-controlled switchboard. Three models are available: the A3 for 30 to 60 lines; the B4 for 40 to 120 lines; the 200 for 200 lines. All three models accommodate up to 14 central office trunks and 15 cord circuits. The L55 operates at 24 volts and has jack-in components for easy expansion and replacement.

**Standard Features** include a split key to prevent an outside party from hearing a call announced to an extension, and two-way supervision so that an inside party can dial his own call or have the operator dial it; an audible signal, which can be turned off during peak hours; night answering service; use of standard two-conductor telephones as station apparatus. Many optional features custom built for any application.

Three cabinet finishes: Webb Walnut, Blonde Ash or Brown Mahogany in mar-resistant Pionite. Dimensions: 46" H x 29 $\frac{3}{8}$ " W x 29 $\frac{1}{2}$ " D. The keyshelf is 30" from the floor.

The sloped keyboard is located above the writing shelf for accessibility. The writing shelf is free of keys and cords, giving the operator an uncluttered space for taking notes or performing other duties.

Ordering No.	Description	Wired	Equip- ped	Weight Lbs.
<b>416041</b> —(A)*	L55-A3* Cord PBX Switchboard			400
<b>416043</b> —(B)*				
<b>416045</b> —(C)*				
<b>416047</b> —(D)*	Stations	60	30	
	Trunks	14	6	
	Cord Circuits	15	8	
<b>416042</b> —(A)*	L55-B4* Cord PBX Switchboard			450
<b>416044</b> —(B)*				
<b>416045</b> —(C)*				
<b>416046</b> —(D)*	Stations	80	40	
	Trunks	14	8	
	Cord Circuits	15	10	

Ordering No.	Description	Wired	Equip- ped	Weight, Lbs.
<b>416049</b> —(A)*	L55-200* Cord PBX Switchboard			450
<b>416050</b> —(B)*				
<b>416051</b> —(C)*				
<b>416052</b> —(D)*	Stations	200	120	
	Trunks	14	8	
	Cord Circuits	15	10	

\*Specify Cabinet Finish As Follows:

A—Brown TV Mahogany

B—Walnut

C—Blonde Ash

D—Unfinished Bay Poplar (Not Stocked)

**NOTE:** For Power & Cable Requirements, See Pages 16, 17 of this section.

## Basic Package Adders

Ordering No.	Description	Weight, Lbs.
<b>S-713050</b>	MO-17721 Operator's Headset	5
<b>427250</b>	MO-17717 Operator's Handset and Mounting	5
<b>423873</b>	MO-16498 Dial and Dial Mounting	5
<b>413630</b>	MO-16490-D Jack and Lamp Equipment To Add Lines To L55-A3, 10 Per Strip, Lines 31-40	5
<b>413631</b>	MO-16490-E Same As Above, Lines 41-50	5
<b>413632</b>	MO-16490-F Same As Above, Lines 51-60	5
<b>413633</b>	MO-16491-C Jack and Lamp Equipment To Add Lines To L55-B4, 20 Per Strip, Lines 41-60	20
<b>413634</b>	MO-16491-D Same As Above, Lines 61-80	20
<b>413635</b>	MO-16491-E Same As Above, Lines 81-100	20
<b>413636</b>	MO-16491-F Same As Above, Lines 101-120	20
<b>422041</b>	MO-17714 Local Cable and Terminal Block For Lines 81-120 Of L55-B4	15

Prices on application.

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**L55 Cord Type PBX—Continued**

**Basic Package Adders—Continued**

Ordering No.	Description	Weight, Lbs.
<b>413637</b>	MO-19911-G Jack and Lamp Equipment to Add Lines to L55-200, 20 Per Strip, Lines 121-140	20
<b>413638</b>	MO-19911-H Same As Above, Lines 141-160	20
<b>413639</b>	MO-19911-J Same As Above, Lines 161-180	20
<b>413640</b>	MO-19911-K Same As Above, Lines 181-200	20
<b>417711</b>	MO-16270 Central Office Trunk	15
<b>410940</b>	MO-16271-A Cord Circuit, Without Cords	20
<b>423752</b>	MO-17725-A Red Cord Pair, Includes Plugs, Weights and Lamp Caps	5
<b>423751</b>	MO-17725-B Gray Cord Pair, Includes Plugs, Weights and Lamp Caps	5
<b>Optional Package Adders</b>		
<b>424272</b>	MO-16497 Hand Generator for Standby, Requires Trunk/Jack Position	10
<b>426920</b>	H-880145-7 Power Relay for Transferring to D.C. Battery on A.C. Power Failures	6
.....	MO-19634-AA Patch Cord Assembly without Sleeve Lead; 1 Trunk, 2 Stations	2
<b>423695</b>	MO-19634-AB Patch Cord Assembly without Sleeve Lead; 1 Trunk, 3 Stations	3
.....	MO-19634-AC Patch cord Assembly without Sleeve Lead; 1 Trunk, 4 Stations	4
.....	MO-19634-BA Patch Cord Assembly with Sleeve Lead; 1 Trunk, 2 Stations	2
.....	MO-19634-BB Patch Cord Assembly with Sleeve Lead; 1 Trunk, 3 Stations	3
.....	MO-19634-BC Patch Cord Assembly with Sleeve Lead; 1 Trunk, 4 Stations	4
<b>420201</b>	MO-17715 Adapter Plate To Mount Up To 4 Relay Bars In Base Of L55-A3 Or B4. Additional Circuits Must Be Mounted Externally On 23" Rack	5
<b>420250</b>	MO-19910 Adapter Plate To Mount Up To 2 Relay Bars In Base Of L55-200. Additional Circuits Must Be Mounted Externally On 23" Rack	2
<b>578950</b>	MO-17770 Maintenance Tools	10
.....	MO-20161-A Spare Parts L55 A3/B4	...
.....	MO-20161-B Spare Parts L55-200 Additional Set Of Prints	...

**Line Equipment**

Ordering No.	Description	Weight, Lbs.
<b>426882</b>	MO-17716-B Line Relays For Station Loops Exceeding 300 Ohms	1
<b>429052</b>	MO-17716-A Mounting Strip For 10 Line Relays, Mounts On MO-17715 Or MO-19910 Adapter Plates	6

**Attendant Position Equipment**

Ordering No.	Description	Weight, Lbs.
<b>426115</b>	MO-16271-B Material to Convert Cord Circuits to Through Supervision on Outward Calls and Blocked Supervision on Inward Calls	5
<b>425325</b>	MO-16496 Second Operator's Jack	5
<b>428060</b>	MO-16472-A Footswitch for Buzzer, Without 2-Conductor Cord	5

**Trunk Equipment**

Mounts on MO-17715 or MO-19910 Adapter Plates

<b>417731</b>	MO-16492-A Tie Line, 2-Way Ringdown for Full Period Talk, Magneto Central Office and Magneto Line Circuits	25
<b>427960</b>	MO-16492-B Material to Add Pad Socket	1
<b>417732</b>	MO-16493-A Tie Trunk, Manual to Manual, 24 Volt PBX	25
<b>417733</b>	MO-16493-B Tie Trunk, Manual to Manual, 48 Volt PBX	25
<b>417734</b>	MO-16494 Tie Trunk To PABX With Reverse Battery Supervision	35
<b>420110</b>	MO-19045 Long Line Adapter For 2500 Ohms To 24 Volt Central Office Or 4000 Ohms to 48 Volt Central Office	30

**Optional Feature Adders**

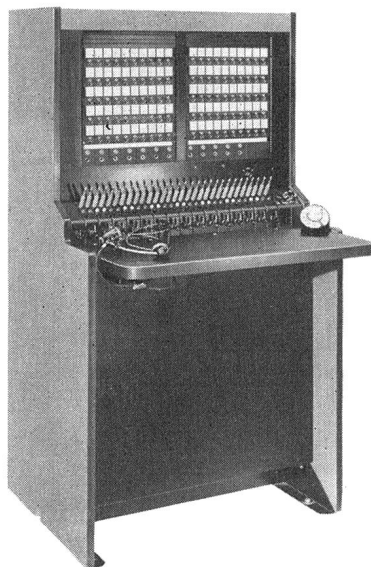
.....	MO-20092-A Dictation Control Link For Mounting On 19" Relay Rack. NOTE: Requires C.O. Trunk for Access.	..
.....	MO-20092-B Dictation Control Link With Wall Mounting Bracket	..
<b>410955</b>	MO-16495 Conference Circuit For 1 Trunk, 4 Stations, Mounts On MO-17715 Or MO-19910 Adapter Plates	30

**Material Required for a 2-Position Board**

<b>426501</b>	MO-16272-B Material To Add Position Grouping	8
<b>422880</b>	MO-16272-C Material To Add Busy Test	5
<b>426140</b>	MO-16272-D Material To Add Monitoring	5
<b>423757</b>	MO-17719-A Red Cord Pair, 8 Ft.	5
<b>423756</b>	MO-17719-B Gray Cord Pair, 8 Ft.	5
<b>426320</b>	MO-17720 Material To Add Fuse Panel and Fuses To Position 1	10
<b>422051</b>	MO-17718-A Equipment To Provide Cross Connecting Facilities In Bottom Of Switchboard. 3 Blocks.	10
<b>422052</b>	MO-17718-B Same As Above. 4 Blocks.	10



## TAS-100 Cord Type PBX



A modified L55 PBX designed specifically for Telephone Answering Services. Calls placed to a customer's office are automatically extended to the switchboard of the telephone answering service where they are answered, usually after a certain number of rings.

The TAS-100 can be equipped with 100 secretarial lines, 14 trunks, primary and answering, and 15 cord circuits. The 13th trunk position is for inter-position or connecting two or more TAS-100 boards together. If inter-position is not needed, this space can be used for primary or answer trunks. The 14th trunk position is open and can be used for primary or answer trunks or for a hand generator for use in case of commercial power failure.

**Standard Features** include lamp and jack field terminated on wire-wrap pins that are insulated from metal plates which also mount amphenol receptacles. This allows quick strapping and easy connection to external line conductors and equipment. Through supervision is normally provided on the cord circuits, but can be changed easily to non-through supervision by a simple strapping change. The standard board also features a battery cut-off key, monitor key and miscellaneous terminal blocks for internal switchboard wiring. The designation holders are made of one inch metal so that magnets can be used to hold notes. Many auxiliary features.

The TAS-100 has plug-ended trunk, cord, dial and operator's telephone jack circuits for easy installation, removal and repairs.

The unit is arranged for use with either Automatic Electric or Western Electric Concentrator-Identifier Systems, or can be used by itself, depending on the most desirable central office arrangement.

Ordering No.	Description	Wired	Equip- ped	Weight Lbs.
<b>416024</b>	TAS-100 Switchboard with Webb Walnut Cabinet Finish			....
	Station Lines, Less Line Relays (Jack Eqpt. Only)	100	100	
	Trunks	13	0	
	Cord Circuits	15	0	
	Operator's Circuit	1	1	
	Dial	1	1	

### Basic Package Adders

Ordering No.	Description	Weight Lbs.
<b>S-713050</b>	Operator's Headset (52AW)	5
<b>417729</b>	MO-20146 Primary Trunk Circuit, 2-Way	15
<b>417700</b>	MO-20147 Answer Only Trunk Circuit, 1-Way Incoming	15
<b>410941</b>	MO-20145 Cord Circuit, Less Cords	20
<b>423757</b>	MO-17719-A Red Cord Pair, Includes Plugs, Weights & Lamp Caps, 8 Ft.	5
<b>423756</b>	MO-17719-B Gray Cord Pair, Includes Plugs, Weights & Lamp Caps, 8 Ft.	5
<b>417997</b>	MO-20148 Secretarial Line Relay Unit*; 10 Lines & 1 Line Lamp Test Relay. Mounts In 10A2 Key System Cabinet H-886768-1 (4 Per Cabinet) & On 23" Relay Rack. Requires 50 Conductor Running Cable—Connector Ended	

\*Not required when secretarial lines are connected to Concentrator-Identifier.

### Optional Package Adders

Ordering No.	Description	Weight Lbs.
<b>417998</b>	MO-20149 Secrecy Secretarial Line Relay Unit*; 10 Lines & 1 Line Lamp Test Relay. Mounts In 10A2 Key System Cabinet H-886768-1 (2 Per Cabinet) Or On 23" Relay Rack (4 Mtg. Spaces). Requires 100 Conductor Running Cable—Connector Ended	....
	*Not required when secretarial lines are connected to Concentrator—Identifier.	
<b>425610</b>	MO-20153 Line Lamp Test Keys & Designation Strip, 10 Keys Per Strip (1 Key Per 10 Line Lamps)	....
<b>417999</b>	MO-20150 100 Secretarial Or Auxiliary Answering Service Line Lamp Test Relay Unit & Line Lamp Test Key Strip. Mounts In Cabinet H-886768-1 & On 23" Relay Rack. Requires 150 Conductor Running Cable— Connector Ended.	....
	<b>NOTE:</b> Required When Secretarial Lines Are Connected to Concentrator Identifier.	
<b>412980</b>	H-886768-1 Cabinet For Housing Secretarial Line Relay Units	....
<b>416680</b>	H-884720-1 23" Relay Rack, 7'6" High, Can Mount 20 Units Of MO-20149	....
<b>424272</b>	MO-16497 Hand Generator For Standby, Requires Trunk Jack Position	10
<b>421486</b>	MO-20142 Type 45 Bell & Mounting Material, Mounts On Terminal Board Mounting Strip In Back Of Switchboard	....
<b>578950</b>	MO-17770 Maintenance Tools	10
<b>437779</b>	MO-20152 Spare Parts	....
<b>425325</b>	MO-16496 Second Operator's Jack Assembly & Mounting Material	5
<b>428060</b>	MO-16472-A Footswitch For Buzzer Less 2 Conductor Cord Additional Set Of Prints	5 ....

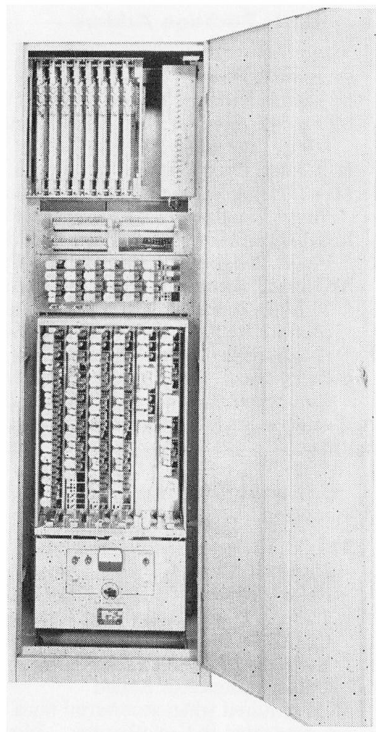
### Material Required for a 2nd Position

<b>426502</b>	MO-20143 Material To Add Position Grouping	....
<b>428201</b>	MO-20144 Inter-Position Trunk Circuits, Mounts In 13th Trunk Position (Provides 2 Circuits, 1 Required Per Position)	....
	<b>NOTE:</b> For Power & Cable Requirements, See Pages 16, 17 of this section.	

Prices on application.

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**Type 25M Common Control PABX**



**Type 25M All Relay Switching and Power Equipment**

For small businesses who want the latest in automatic telephone communications. Equipped with up to 30 lines, 3 links and 4 central office trunks. NOTE: This unit is readily adaptable for motel use. It can provide room to room dialing, automatic access to the local exchange areas, message waiting, toll restriction, single digit access to special features.

The switching and power equipment is completely enclosed in a gray lacquered metal cabinet, 72" H x 24" W x 15" D. Swing-out doors, both front and rear, provide easy access to the relay bars and switches. Line bars are accessed from the left side. The right side of the bay can be placed against a wall. Quiet operation allows the unit to be placed in an office and not distract the workers.

A Type 186 Key Telephone is provided for the attendant's use. It will accommodate 4 central office trunks, an information trunk, and hold facilities. When a call comes in, the attendant presses the correct trunk key, then extends it by using the dial on the key telephone.

The 25M uses standard two-conductor telephones as station instruments. It can accommodate key telephones, key systems, speakerphones and most special station apparatus.

**Standard Features** include 2-digit local dialing, station-controlled trunk transfer, consultation and conference, two-station power failure transfer and night restriction of station-to-station calling. Night answering is provided by universal night answering so that the trunks can be answered from any station. Trunks can be arranged in two groups and stations can be restricted from accessing either or both of them on an individual line basis. Many optional features are also available.

A self contained power pack requires 115 volt, 60 cycle a.c. input, and provides 50 volt, 3 amp. d.c. output. Included in the power pack is a 4.5 watt, 20 cycle transistorized ringing supply and 25 milliwatt transistorized tone generator.



**Attendant's Type 186 Telephone**

**Type 25M Common Control PABX**

Ordering No.	Description	Wired	Equip- ped	Weight, Lbs.
.....	25M PABX Switchboard			490
	Lines	30	30	
	Links	2	2	
	Trunks	3	2	
	Attendant Line	1	1	
	Optional Circuit			
	Position	0	1	

NOTE: For Cable Requirements, See Page 17.

**Basic Package Adders**

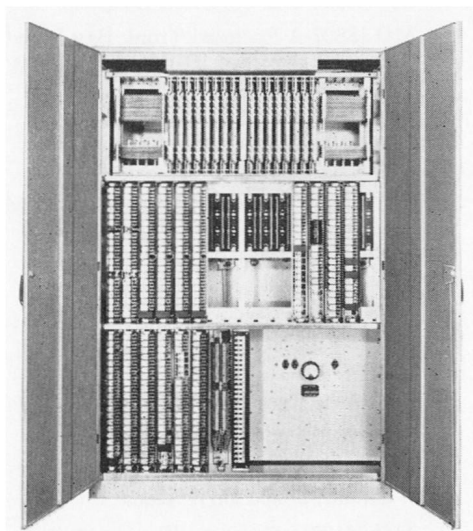
.....	NC-866100-ASL Type 86 Attendant Telephone with Dial and Straight Line Ringer. Beige.	8
.....	NC-866000-ASL Same as Above, Black	8
.....	MO-20101 Neon Lamps for Attendant Telephones	1½
.....	MO-20100 City Trunk Circuit, 2-Way, for Adding Trunks 3 and 4	32
.....	MO-20099 Installation Material and Prints to Add 4 MO-20100 Trunk Circuits	2

**Optional Package Adders**

.....	MO-20102 Auxiliary Link for use as Overflow Link or Attendant Link	32
.....	MO-19895-A City Trunk Circuit, 1-Way Outgoing, Loop Dial Outward, 1 Trunk Circuit	26
.....	MO-19895-B Same as Above, 2 Trunk Circuits	32
.....	MO-19897-A Toll Trunk Circuit, 1-Way Outgoing, Loop Seizure Outward, CLR Holding and Re-Ring, 1 Trunk Circuit	26
.....	MO-19897-B Same as Above, 2 Trunk Circuits	32
.....	MO-20053 Toll Restriction Adapter, Wall Mounting	30
.....	MO-20052 Wall Mounting Bracket for Toll Restrictor. Swing out type.	2½
<b>423971</b>	MO-19385 Dolly Assembly for Switchboard Bay	45
.....	Additional Set of Prints	....



**Type 40B Common Control PABX**



**Type 40B All Relay Switching and Power Equipment**



**Attendant's Desk Turret with Busy Lamp Field**

An all-relay, common control PABX for businesses which will not easily outgrow 40 lines, 6 links and 10 central office trunks. A built in power pack provides 48 v., d.c. from 115 v., a.c. commercial power. It can be converted to function as a battery charger if continuous service during commercial power failure is necessary.

The switching and power equipment is completely enclosed in a gray lacquered metal cabinet, 72" H x 48" W x 15" D. The cabinet has two lift-off type hinged doors, both front and rear, for easy access to the equipment.

An easy to operate cordless turret, equipped with jack-in handset, is used by the attendant. It measures 6" H x 11" W x 9" D, and is available in beige, gray or green plastic. The turret is no bigger than a typewriter and can be placed anywhere that its modern lines and color will add to the decor of the office area. Busy lamp field is optional equipment to show attendant when local stations are busy.

The 40B uses standard two-conductor telephones as station apparatus. Key telephones, key systems, speakerphones and most other special equipment can be used.

**Standard features** include 2-digit local dialing, station controlled trunk transfer, consultation and conference, and 10-station power failure transfer. For night operation, either universal night answer or predetermined night answer is provided, depending on the application. Trunks may be split into three groups and stations can be denied access to any or all of the groups on a per line basis. Local links are dropped when trunks, conference or dictation facilities are accessed. Links are tied up only on inside calls and some special services. Each trunk group may be arranged, by wiring option, so that outgoing calls will always select one of the first trunks in the group, thus keeping some trunks available for incoming calls, if necessary. Attendant busy override permits the attendant to break into any busy connection. Many optional features are available to increase the efficiency and flexibility of the unit.

**Type 40B Common Control PABX**

Ordering No.	Description	Wired	Equip- ped	Weight, Lbs.
<b>416002</b>	40B PABX Switchboard			768
	Lines	40	40	
	Links	6	0	
	Trunks	10	0	
	Inward Attendant			
	Trunk	2	0	
	Outward Attendant			
	Trunk	1	0	
	Optional Circuit			
	Position	0	3	

NOTE: For Cable and Power Requirements, See Pages 16 and 17.

**Basic Package Adders**

.....	MO-20168-B 10 Trunk, Plug-ended Attendant's Turret with Plug-In Handset, Gray	20
<b>417752</b>	MO-20168-C Same as Above, Beige	20
.....	MO-20168-F Same as Above, Green	20
<b>417360</b>	MO-17648 Link Circuit (Minimum of 4 Recommended)	15
<b>417718</b>	MO-20157 City Trunk Circuit	32
<b>417702</b>	MO-18333 Attendant's Trunks, 2 Inward, 1 Outward	15
<b>417705</b>	MO-18334 Attendant's Trunks and Conference, 2 Inward and 1 Outward Trunks; 3 Station, 1 Trunk Conference or 4 Station	49
<b>417706</b>	MO-19982 Same as Above, 3 Station, 2 Trunk Conference	50

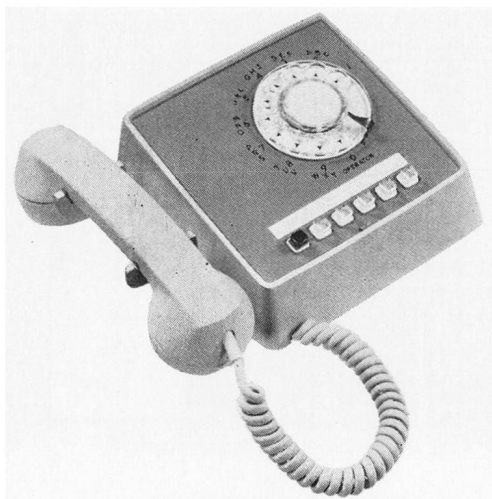
Prices on application.

## Type 40B Common Control PABX—Continued

Optional Package Adders			Ordering No.	Description	Weight, Lbs.
Ordering No.	Description	Weight, Lbs.			
<b>425670</b>	MO-19487 Magneto Line Circuit	35	<b>410051</b>	MO-18828 Toll Diversion Adapter	22
<b>410076</b>	MO-20141 2-Way Ringdown Adapter, 3 Circuits	22	<b>410481</b>	MO-18827-A Enclosed Trunk Bay Wired for Toll Diversion Trunks 1-6, 2' W x 6' W	250
<b>437777</b>	S-0241 Spare Parts Kit	2	<b>410482</b>	MO-18827-B Cabinet Only, Wired for Field Addition of Toll Diversion Trunks 7-12	60
.....	NL-12955 Test Rack and Extension Cable for Trouble Shooting Relay Bars without Removing from Operation	5	<b>410483</b>	MO-18827-C Enclosed Trunk Bay Wired for Toll Diversion Trunks 1-12, 2' W x 6' H	350
<b>578951</b>	MO-18650-A Set Of Maintenance Tools, Includes Relay and Switch Spring Adjusters, Contact Burnishers, Double End Adjusters and Line Bar Pulling Tool	1½	<b>423971</b>	MO-19385 Dolly Assembly for Auxiliary Bay	45
<b>578952</b>	MO-18650-B Set of Test Equipment, Includes Test Lamp and Hand Test Telephone	2½	<b>410854</b>	MO-18810 Code Call for 36 Code Numbers	23
<b>578953</b>	MO-18650-C Set of Maintenance Tools and Test Equipment	3	<b>415954</b>	MO-18354 Executive Right-Of-Way	40
<b>423976</b>	MO-19192 Dolly Assembly for Switchboard Bay	88	<b>423801</b>	MO-17659 Public Address Cut-In	7
.....	Additional Set of Prints	....	.....	MO-20130 Paging and Answer Back Circuit, Single Digit Access	11
<b>Optional Feature Adders</b>			.....	MO-20132-A Camp-on Busy Scanning Circuit (For 20 City Trunk Circuits) and Adapter for 5 City Trunk Circuits, 1-5	34
.....	MO-20171-B Line Busy Lamp Field Applique Plug-ended For 40 Lines; Used With 10 Trunk Turret, Gray	12	.....	MO-20132-B Camp-on Busy Scanning Only for 5 City Trunks (For Trunks 6-10 and/or 11-15 and/or 16-20)	21
<b>412082</b>	MO-20171-C Same As Above, Beige	12	<b>410966</b>	MO-19421 Centralized Dictation Control For Maximum Of 5 Dictation Paths	19
.....	MO-20171-F Same As Above, Green	12	<b>414311</b>	MO-19420 Centralized Dictation Control Link	32
.....	MO-20127 Applique Circuit for FN Signal	2	.....	MO-19495 Extended Range Long Line Adapter For Use On Station Loops Beyond 1200 Ohm Limit For Loops 750 To 3500 Ohms	....
<b>417681</b>	MO-19486 Turret Transfer Relays To Switch Complete Operation From One Turret To Another, Wall Mounted	18	<b>Add the following Suffix to the Complete Ordering Number</b>		
.....	MO-20138 Main Discharge Fuse Assembly. To be furnished when batteries are supplied	1	<b>A</b>	2 Circuits Without Voltage Regulators For 19" Relay Rack Mounting	15
<b>410301</b>	MO-19467-A Power Pack Applique To Convert Power Pack To Battery Charger When Batteries Are Used, Warren	8	<b>B</b>	2 Circuits With Voltage Regulators For 19" Relay Rack Mounting	19
<b>410303</b>	MO-19467-C Same As Above, Lorain	8	<b>C</b>	2 Circuits Without Voltage Regulators For 23" Relay Rack Mounting	15
<b>438990</b>	MO-18825 60 Point Relay Switch For Optional Use Or Spare	13	<b>D</b>	2 Circuits With Voltage Regulators For 23" Relay Rack Mounting	19
<b>420255</b>	MO-19984 Night Signal Release Adapter	2	<b>E</b>	Wall Mounting Bracket	....
<b>410041</b>	MO-19484 Zoned Universal Night Answering	5	.....	MO-20159 Enclosed Auxiliary Switch Shelf and Relay Bar Mounting— Consists of 8 Relay Switch Positions and 6 Relay Bar Positions	....
<b>426922</b>	MO-19484-A Switching Relay Required With Zoned Universal Night Answering For More Than 2 Zones	2	.....	MO-20133 Third Trunk Control. For Serial Numbers 1 to 449 only. Note: To Be Used When Adding Tie Trunks to This Series of Serial Numbers	....
.....	MO-20131 Selected Station Night Answering Adapter for 3 C.O. Trunks	20	.....	MO-20134 Tie Trunk on Switch. Two-way with E and M Signaling	27
<b>412701</b>	MO-18355-A Rotary Hunting Equipped With 2 Groups Of 3 Lines, Wired For 1 Group of 5 and 1 Group Of 6 Lines	16	.....	MO-20135 Tie Trunk on Switch. Two-way, Battery and Ground or Loop Pulsing with Reverse Battery Supervision to Distant End	27
<b>417330</b>	MO-18824 City Trunk Storage For Maximum Of 3 Trunks	18			



## Type 40/80KS Common Control PABX



Type 186 Telephone



Type 860 Call Commander® Telephone

Similar to the 40B and 80A PABX except for attendant facilities. Instead of terminating the Central Office trunks in a turret, they are arranged for termination on standard key telephones, Type 186 or Type 860 Call Commander®. These key telephones are called Control Stations. By assigning specific Central Office trunks to the control stations and listing the corresponding numbers in the directory, incoming calls are received directly at the control station in the department. The control stations receive and extend incoming calls by means of the transfer feature of the Type 40B and 80A PABX.

The 40/80 KS combines the features of a 10A2 Key Telephone System with the larger line and trunk capacity of the 40B or 80A PABX, permitting a maximum of 40 or 80 station lines and 10 or 18 Central Office trunks respectively. Standard features include direct outward calling from all nonrestricted telephones, restricted and semirestricted service for local stations, two or three digit intercom service, station control trunk transfer, two-party conference.

The 40/80 KS is designed for departmentalized organizations and is ideal for businesses such as department stores, court houses, city halls, etc. where individual departments may be listed in the directory for direct inward calling. Each department has the convenience of its own directory listing, receives its own incoming calls, and has the advantage of full company-wide dial intercom service.

### Type 40KS Common Control PABX

Ordering No.	Description	Wired	Equip- ped	Weight, Lbs.
<b>416006</b>	40KS PABX Switchboard			768
	Lines	40	40	
	Links	6	0	
	Trunks	10	0	
	Power Failure Transfer	10	0	
	Executive Link	0	0	
	Intercom Hold and			
	Wink Circuits	0	0	
	Optional Circuit			
	Position	0	5	

NOTE: For Cable and Power Requirements, See Pages 16 and 17.

### Basic Package Adders

Ordering No.	Description	Weight, Lbs.
<b>417360</b>	MO-17648 Link Circuit (Minimum of 4 Recommended)	15
<b>417721</b>	MO-20104 City Trunk Circuit	32
<b>410056</b>	MO-20105 Intercom Line Adapter, 6 Circuits	15
<b>417677</b>	MO-20109 Power Failure Transfer for 10 Stations	15

### Optional Package Adders

.....	NL-12955 Test Rack and Extension Cable For Trouble Shooting Relay Bars Without Removing From Operation	5
<b>410301</b>	MO-19467-A Power Pack Applique to Convert Power Pack to Battery Charger When Batteries Are Used, Warren	8
<b>410303</b>	MO-19467-C Same As Above, Lorain	8
<b>578951</b>	MO-18650-A Set of Maintenance Tools, Includes Relay and Switch Spring Adjusters, Contact Burnishers, Double End Adjusters and Line Bar Pulling Tool	1½
<b>578952</b>	MO-18650-B Set of Test Equipment, Includes Test Lamp and Hand Test Telephone	2½
<b>578953</b>	MO-18650-C Set of Maintenance Tools and Test Equipment	3
<b>423976</b>	MO-19192 Dolly Assembly for Switchboard Bay	88
<b>437777</b>	S-0241 Spare Parts Kit	2
.....	Additional Set of Prints	...

### Optional Feature Adders

<b>438990</b>	MO-18825 60 Point Relay Switch for Optional Use or Spare	13
<b>412701</b>	MO-18355-A Rotary Trunk Hunting Equipment With 2 Groups of 3 Lines, Wired for 1 Group of 5 and 1 Group of 6 Lines	16
<b>414304</b>	MO-20107-A Executive Link, Includes 1 Link, 1 Selection Control and 1 Relay Switch, 2 Circuits	42

Prices on application.

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## Type 40/80KS Common Control PABX—Continued

## Optional Feature Adders—Continued

Ordering No.	Description	Weight, Lbs.
<b>414305</b>	MO-20107-B Executive Link, Includes 1 Link and 1 Relay Switch for Field Addition of Second Link	26
<b>414306</b>	MO-20107-C Executive Link, Includes 2 Links, 1 Selection Control and 1 Relay Switch, 2 Circuits	65
.....	MO-20138 Main Discharge Fuse Assembly. Furnished when batteries are supplied.	1
<b>423801</b>	MO-17659 Public Address Cut-In	7
.....	MO-20130 Paging and Answer Back Circuit	11
<b>410966</b>	MO-19421 Centralized Dictation Control	19
<b>414311</b>	MO-19420 Centralized Dictation Control Link	32
<b>410029</b>	MO-20106 Recorder Access Control Adapter, 3 Circuits	19
<b>410958</b>	MO-20108 Meet-me Conference, 3 Station, 1 Trunk or 4 Stations	50
<b>418054</b>	MO-18810 Call code for 36 Numbers	23
<b>410978</b>	MO-20124 Ring Control Adapter, 10 circuits. NOTE: Each ringer requires approximately 1.2 watts. A separate ringing generator should be provided based on the number of ringers rung simultaneously	23
<b>410051</b>	MO-18828 Toll Diversion Adapter	22
<b>410481</b>	MO-18827-A Enclosed Trunk Bay. Wired for Toll Diversion Trunks 1-6	250
<b>410483</b>	MO-18827-C Enclosed Trunk Bay. Wired for Toll Diversion Trunks 1-12	350
<b>410482</b>	MO-18827-B Cabinet only. Wired for field addition of Toll Diversion Trunks 7-12	60
.....	MO-20159 Enclosed Auxiliary Switch Shelf and Relay Bar Mounting Rack. Consists of 8 Relay Switch Positions and 6 Relay Bar Positions	...

## Type 80KS Common Control PABX

Ordering No.	Description	Wired	Equip- ped	Weight, Lbs.
<b>416008</b>	80KS PABX Switchboard			1088
	Lines	80	80	
	Links	6	0	
	Trunks	18	0	
	Power Failure Transfer	10	0	
	Executive Link	0	0	
	Intercom Hold and Wink Circuits	0	0	
	Optional Circuit Position	0	5	

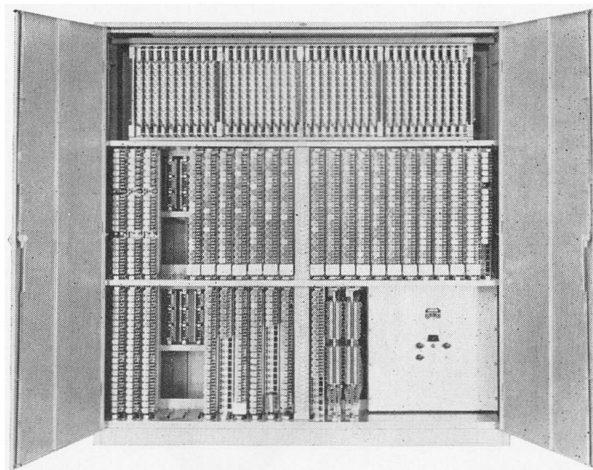
NOTE: For Power and Cable Requirements, See Pages 16 and 17.

## Basic Package Adders

<b>417361</b>	MO-18803 Link Circuit	15
<b>414313</b>	MO-20113 Common Equipment for Links 7-9	45
<b>414314</b>	MO-20114 Common Equipment for Links 10-12	45
<b>417724</b>	MO-20111 City Trunk Circuit for Trunks 1-18	38
<b>417725</b>	MO-20115 City Trunk Circuit for Trunk 19	38
<b>417726</b>	MO-20116 City Trunk Circuit for Trunk 20	38
<b>413390</b>	MO-20112 Intercom Line Adapter, 6 Circuits	15
<b>417676</b>	MO-20123 Power Failure Transfer for 10 Stations	23

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Prices on application.



Type 80KS All Relay Switching and Power Equipment

## Optional Package Adders

Ordering No.	Description	Weight, Lbs.
.....	NL-12955 Test Rack and Extension Cable for Trouble Shooting Relay Bars Without Removing from Operation	5
<b>578951</b>	MO-18650-A Set of Maintenance Tools, Includes Relay and Switch Spring Adjusters, Contact Burnishers, Double End Adjusters and Line Bar Pulling Tool	1½
<b>578952</b>	MO-18650-B Set of Test Equipment, Includes Test Lamp and Hand Test Telephone	2½
<b>578953</b>	MO-18650-C Set of Maintenance Tools and Test Equipment	3
<b>423977</b>	MO-19341 Dolly Assembly for Switchboard Bay	100
<b>437776</b>	S-0183 Spare Parts Kit	3
.....	Additional Set of Prints	...

## Optional Feature Adders

.....	MO-20139 Main Discharge Fuse Assembly. Furnished when batteries are supplied	1
<b>438991</b>	MO-18829 100 Point Relay Switch for Optional Use or Spare	13
.....	MO-20120-A Rotary Trunk Hunting, 3 Digit, 2 Groups of 3 Lines	16
<b>412707</b>	MO-20120-B Rotary Trunk Hunting, 3 Digit, 2 Groups of 3 Lines and 1 Group of 5 Lines	30
<b>412720</b>	MO-20120-C Rotary Trunk Hunting, 3 Digit, 2 Groups of 3 Lines and 2 Groups of 5 Lines	38
.....	MO-20125 Executive Link, Includes 1 Link, 1 Selection Control and 1 Relay Switch (2 Circuits)	...
.....	Executive Link, Includes 1 Link and 1 Relay Switch For Addition of Second Link	...
.....	Executive Link, Includes 2 Links, 1 Selection Control and 1 Relay Switch (2 Circuits)	...
<b>410967</b>	MO-20118 Centralized Dictation Control	19
<b>414315</b>	MO-20119 Centralized Dictation Control Link	32



**Type 40/80KS Common Control PABX—Continued**

**Optional Feature Adders—Continued**

Ordering No.	Description	Weight, Lbs.
<b>423801</b>	MO-17659 Public Address Cut-In Adapter	7
.....	MO-20130 Paging and Answer Back Circuit, Single Digit Access.	11
<b>410855</b>	MO-20117 Code Call for 36 Numbers	23
<b>426970</b>	MO-18837 Resistors for Partially Restricted Lines (Provides Quantity of 40)	10
<b>410962</b>	MO-20121 Recorder Access Control Adapter	19
<b>410959</b>	MO-20122 Conference, 4 Station or 3 Station, 1 Trunk	50
<b>410978</b>	MO-20124 Ring Control Adapter, 10 Circuits	23

NOTE: Each Ringer Requires Approximately  
1.2 Watts. A Separate Ringing Generator  
Should Be Provided Based On The  
Number Of Ringers That Are Rung  
Simultaneously

Ordering No.	Description	Weight, Lbs.
<b>410051</b>	MO-18828 Toll Diversion Adapter	22
<b>410481</b>	MO-18827-A Enclosed Trunk Bay. Wired for Toll Diversion Trunks 1-6	250
<b>410483</b>	MO-18827-C Enclosed Trunk Bay. Wired for Toll Diversion Trunks 1-12	350
<b>410482</b>	MO-18827-B Cabinet only. Wired for field addition of Toll Diversion Trunks 7-12	60
.....	MO-20160 Enclosed Auxiliary Switch Shelf and Mounting Rack. Consists of 8 Relay Switch Positions and 6 Relay Bar Positions	...

NOTE: For Power and Cable Requirements, See Pages 16 and 17.

**Type 40M Common Control PABX**



Attendant's Desk Turret

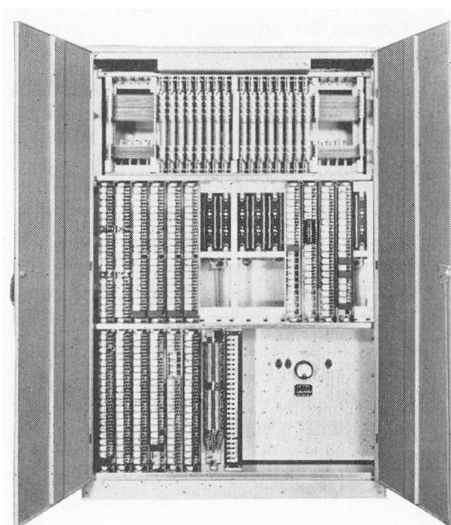
Similar in design and operation to the 40B but modified for the motel market. Provides a motel with only 30 or 40 units the same communications advantages of a large motel.

The features of the 40M are the same as the 40B with the following exceptions:

Station controlled trunk transfer, and consultation and transfer are not available. Message metering is easily added by furnishing a message metering cabinet and meters; outgoing calls are automatically counted without going through the operator.

Line and link capacity are the same as the 40B (40 lines and 6 links), but trunk capacity is reduced to 6. The switching equipment cabinet is arranged for 6 toll diversion adapters which can be mounted in the cabinet without special modifications or use of an auxiliary trunk bay. The toll diverters either stop a toll call from being made or divert it to the attendant for handling.

The 40M is also wired for addition of message waiting equipment. When a guest cannot be reached and a message is left at the desk, the operator turns a key on the message waiting cabinet. A light in the guest's telephone then flashes until he calls the desk for his message.



Type 40M All Relay Switching and Power Equipment

**Type 40M Common Control PABX**

Ordering No.	Description	Wired	Equip- ped	Weight, Lbs.
<b>416003</b>	40M PABX Switchboard			768
	Lines	40	40	
	Links	6	0	
	Trunks	6	0	
	Inward Attendant Trunk	2	0	
	Outward Attendant Trunk	1	0	
	Toll Diversion	6	0	
	Optional Circuit Position	0	1	

NOTE: For Cable and Power Requirements, See Pages 16 and 17.

## Type 40M Common Control PABX—Continued

## Basic Package Adders

Ordering No.	Description	Weight, Lbs.
.....	MO-20168-B 10 Trunk Plug-Ended Attendant's Turret With Plug-In Handset, Gray	15
<b>417752</b>	MO-20168-C Same As Above, Beige	15
.....	MO-20168-F Same As Above, Green	15
<b>417360</b>	MO-17648 Link Circuit (Minimum Of 4 Recommended)	15
<b>417713</b>	MO-18794 City Trunk Circuit	38
<b>417701</b>	MO-18816 Attendant's Trunks, 2 Inward, 1 Outward	15

## Optional Package Adders

NOTE: For Trunk on Switch Operation, Order MO-18825  
Relay Switch for Each Equipped Trunk

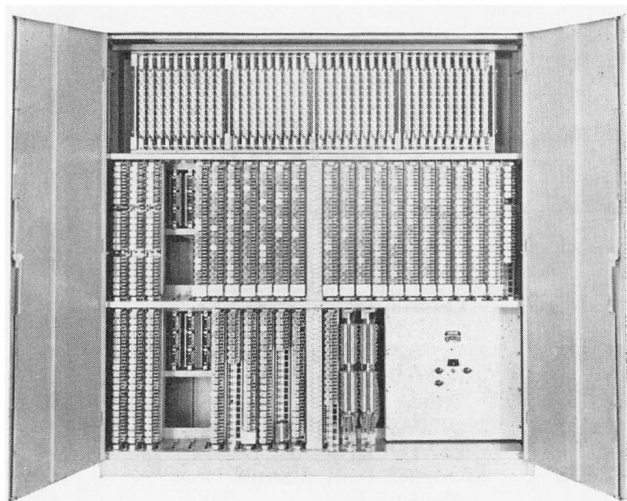
<b>417717</b>	MO-18826-A 1-Way Outward Trunk, 2 Circuits	18
<b>417727</b>	MO-18826-B 1-Way Outward Trunk and Material To Add 3rd Trunk Control To Interrupter	18
<b>437776</b>	S-0183 Spare Parts Kit	2
.....	NL-12955 Test Rack and Extension Cable For Trouble Shooting Relay Bars Without Removing From Operation	5
<b>578951</b>	MO-18650-A Set Of Maintenance Tools, Includes Relay and Switch Spring Adjusters, Contact Burnishers, Double End Adjusters and Line Bar Pulling Tool ½	1½
<b>578952</b>	MO-18650-B Set Of Test Equipment, Includes Test Lamp and Hand Test Telephone	2½
<b>578953</b>	MO-18650-C Set Of Maintenance Tools and Test Equipment	3
<b>423976</b>	MO-19192 Dolly Assembly For Switchboard Bay	88
.....	Additional Set Of Prints	....

## Optional Feature Adders

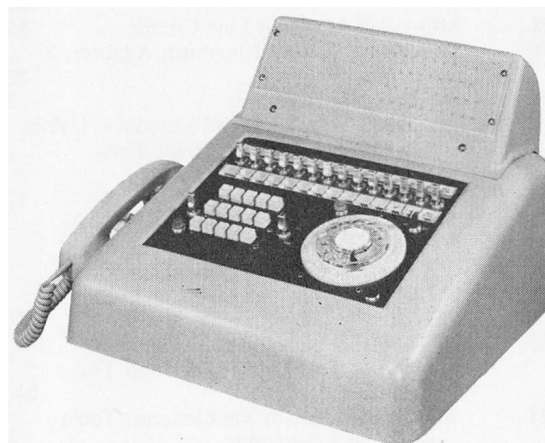
Ordering No.	Description	Weight, Lbs.
.....	MO-20159 Enclosed Auxiliary Shelf and Relay Bar Mounting Rack—Consists of 8 Relay Switch Positions and 6 Relay Bar Positions	....
.....	MO-20172-B Line Busy Lamp Field Applique Plug-Ended For 40 Lines, Used With 10 Trunk Turret, Gray	12
<b>412083</b>	MO-20172-C Same As Above, Beige	12
.....	MO-20172-F Same As Above, Green	12
.....	MO-20138 Main Discharge Fuse. Furnished when batteries are supplied	1
<b>410301</b>	MO-19467-A Power Pack Applique To Convert Power Pack To Battery Charger When Batteries Are Used, Warren	8
<b>410303</b>	MO-19467-C Same As Above, Lorain	8
<b>438990</b>	MO-18825 60 Point Relay Switch For Optional Use Or Spare	13
<b>417075</b>	MO-18817 Attendant's Trunk and PBX Trunk Selection, 2 Inward and 1 Outward Trunks, Single Digit Access; 1 Group Of 4 and 1 Group Of 3 Stations Or 1 Group Of 7 Stations	20
<b>410051</b>	MO-18828 Toll Diversion Adapter	22
.....	MO-20127 Applique Circuit for FN Signal	2
.....	MO-20130 Paging and Answer Back Circuit. Single Digit Access	11



## Type 80A Common Control PABX



Type 80A All Relay Switching and Power Equipment



Attendant's Desk Turret With Busy Lamp Field

The 80A PABX is similar to the 40B, but with a larger capacity. It is capable of serving a maximum of 80 lines (79 local lines and the attendant's turret), 12 links and 18 trunks. A built-in power pack provides 48 v., d.c. from 115 v., a.c. commercial power. Power pack can be converted to function as a battery charger if continuous service during commercial power failure is necessary. For batteries, see page 16.

The switching equipment cabinet measures 72" H x 72" W x 15" D, with snap on center panels between the lift-off hinged doors, both front and rear. The attendant's turret is larger, measuring 8" H x 16" W x 17" D, but operates the same as the 40B turret, and is available in gray, beige or green. Two attendant's turrets can be connected to one PABX if trunk traffic becomes too heavy for one attendant to handle efficiently.

Optional equipment is available for an extra three local links or two city trunks. The system can be equipped with four attendant's information trunks, and an attendant's intercom line.

**Standard Features.** 3-digit local dialing and station controlled trunk transfer. Standard two-conductor telephones are used as station apparatus. Local links are held only on inside station calls and dropped upon connection in other calls. On a fully equipped 80A, 32 simultaneous telephone conversations can be held. The station loop limit is 1000 ohms, excluding the station instrument. Stations may be divided into three different groups providing classes of restricted, non-restricted and partially restricted service. Trunks may be split into three groups which permit access to different central offices and tie trunk groups. Two types of night service are available without special equipment: universal night answer and transfer, and predetermined night answer. Attendant busy-override allows the attendant to break in on busy lines in emergencies.

## Type 80A Common Control PABX

Ordering No.	Description	Wired	Equip- ped	Weight, Lbs.
<b>416004</b>	80A PABX Switchboard			1088
	Lines	80	80	
	Links	6	0	
	Trunks	18	0	
	Inward Attendant			
	Trunk	4	3	
	Outward Attendant			
	Trunk	1	1	
	Optional Circuit			
	Position	0	6	

NOTE: For Cable and Power Requirements, See Pages 16 and 17.

## Basic Package Adders

Ordering No.	Description	Weight, Lbs.
.....	MO-20168-B 10 Trunk Attendant's Turret; Plug-ended With Plug-In Handset, Gray	20
<b>417752</b>	MO-20168-C Same As Above, Beige	20
.....	MO-20168-F Same As Above, Green	20
.....	MO-20169-B 20 Trunk Attendant's Turret; Plug-ended With Plug-In Handset, Gray	60
<b>417756</b>	MO-20169-C Same As Above, Beige	60
.....	MO-20169-F Same As Above, Green	60
<b>417361</b>	MO-18803 Link Circuit	15
<b>414301</b>	MO-20166 Common Equipment For Links 7-9	45
<b>414302</b>	MO-20167 Common Equipment For Links 10-12	45
<b>417714</b>	MO-20154 City Trunk Circuit For Trunks 1-18	38
<b>417715</b>	MO-20155 City Trunk Circuit For Trunk 19	38
<b>417716</b>	MO-20156 City Trunk Circuit For Trunk 20	38

Prices on application.

## Type 80A Common Control PABX—Continued

Optional Package Adders					
Ordering No.	Description	Weight, Lbs.	Ordering No.	Description	Weight, Lbs.
<b>425671</b>	MO-19488 Magneto Line Circuit	35	<b>412704</b>	MO-19250-B Rotary Trunk Hunting, 3 Digit, 2 Groups of 3 Lines, 1 Group of 5 Lines	30
<b>410076</b>	MO-20141 2-Way Ringdown Adapter, 3 Circuits	22	<b>412706</b>	MO-19250-C Rotary Trunk Hunting, 3 Digit, 2 Groups of 3 Lines, 2 Groups of 5 Lines	38
<b>437776</b>	S-0183 Spare Parts Kit	3	<b>417330</b>	MO-18824 City Trunk Storage For Maximum of 3 Trunks	18
.....	NL-12955 Test Rack and Extension Cable For Trouble Shooting Relay Bars Without Removing From Operation	15	<b>410051</b>	MO-18828 Toll Diversion Adapter	22
<b>578951</b>	MO-18650-A Set of Maintenance Tools, Includes Relay and Switch Spring Adjusters, Contact Burnishers, Double End Adjusters and Line Bar Pulling Tool	1½	<b>410481</b>	MO-18827-A Enclosed Trunk Bay Wired For Toll Diversion, Trunks 1-6, 2' W x 6' H	250
<b>578952</b>	MO-18650-B Set of Test Equipment, Includes Test Lamp and Hand Test Telephone	2½	<b>410482</b>	MO-18827-B Cabinet Only Wired For Field Additions To Toll Diversion, Trunks 7-12	60
<b>578953</b>	MO-18650-C Set of Maintenance Tools and Test Equipment	3	<b>410483</b>	MO-18827-C Enclosed Trunk Bay Wired For Toll Diversion, Trunks 1-12	350
<b>423977</b>	MO-19341 Dolly Assembly For Switchboard Bay	100	<b>423971</b>	MO-19385 Dolly Assembly For Auxiliary Bay	45
.....	Additional Set of Prints	....	<b>410854</b>	MO-18810 Code Call For 36 Number	23
<b>Optional Feature Adders</b>			<b>415952</b>	MO-18820 Executive Right-Of-Way	40
.....	MO-20173-B Line Busy Lamp Field Applique For 80 Lines, Used With 20 Trunk Turret Only, Gray	24	<b>423801</b>	MO-17659 Public Address Cut-In, Mounts Externally	7
<b>412084</b>	MO 20173-C Same As Above, Beige	24	.....	MO-20130 Paging and Answer Back Circuit, Single Digit Access	11
.....	MO-20173-F Same As Above, Green	24	<b>410965</b>	MO-18821 Centralized Dictation Control	19
.....	MO-20128 Applique Circuit for FN Signal	2	<b>413310</b>	MO-18822 Centralized Dictation Control Link	32
.....	MO-20110A-B Auxiliary Turret and Common Equipment For Adding Second Turret, 10 Trunk, To Split City Trunks At Peak Loads	395	<b>410957</b>	MO-18809 Meet-Me Conference, 3 Station, 1 Trunk	50
<b>417771</b>	MO-20110A-C Same As Above, Beige	395	.....	MO-19985 Meet-Me Conference, 3 Station, 2 Trunks	50
.....	MO-20110A-F Same As Above, Green	395	.....	MO-19495 Extended Range Long Line Adapter For Use When Loops Are 1200 Ohm Limit For Loops 750 To 3500 Ohms	....
.....	MO-20139 Main Discharge Fuse Assembly, Furnished when batteries are supplied	1	<b>Add the Following Suffix to the Complete Ordering Number</b>		
.....	MO-20132-A Camp-on Busy Scanning Circuit (For 20 City Trunk Circuits) and Adapter for 5 City Trunk Circuits 1-5	34	<b>A</b>	2 Circuits Without Voltage Regulators For 19" Relay Rack Mounting	15
.....	MO-20132-B Camp-on Busy Adapter for 5 City Trunks (For Trunks 6-10 and/or 11-15 and/or 16-20)	21	<b>B</b>	2 Circuits With Voltage Regulators For 19" Relay Rack Mounting	19
<b>438991</b>	MO-18829 100 Point Relay Switch For Optional Use Or Spare	13	<b>C</b>	2 Circuits Without Voltage Regulator For 23" Relay Rack Mounting	15
<b>420255</b>	MO-19984 Night Signal Release Adapter	2	<b>D</b>	2 Circuits With Voltage Regulator For 23" Relay Rack Mounting	19
<b>410042</b>	MO-19485 Zoned Universal Night Answering	5	<b>E</b>	Wall Mounting Bracket	....
<b>426921</b>	MO-19485-A Switching Relay Required With Zoned Universal Night Answering For More Than 2 Zones	2	<b>417738</b>	MO-20137-A Tie Trunk on Switch. Two-way battery and ground or loop pulsing with reverse battery supervision to distant end	....
.....	MO-20131 Selected Station Night Answering Adapter for 3 C.O. Trunks	....	.....	MO-20137-B Switching Control Relay. One per switchboard bay	....
<b>426970</b>	MO-18837 Resistors For Partially Restricted Lines (Provides Quantity Of 40)	10	.....	MO-20129 Turret Transfer Circuit. Switches complete operation from one Turret to Another	30
<b>412702</b>	MO-18823 Rotary Trunk Hunting, Single Digit, Equipped With 1 Group Of 3 and 1 Group Of 4 Lines, Wired For 1 Group Of 3 Lines	16	<b>417736</b>	MO-20136-A Tie Trunk on Switch. Two-way with E and M Signaling	27
<b>412705</b>	MO-19250-A Rotary Trunk Hunting, 3 Digit, 2 Groups Of 3 Lines	16	.....	MO-20136-B Switching Control Relay. One Per Switchboard Bay	2
			.....	MO-20160 Enclosed Auxiliary Switch Shelf and Relay Bar Mounting Rack—Consists of 8 Relay Switch Positions and 6 Relay Bar Positions	....

## Type 80M Common Control PABX



Attendant's Desk Turret with Busy Lamp Field

The 80M operates the same as the 40M but has larger capacities. The 80M has a capacity of 80 lines, 12 links, 10 trunks and 10 toll diversion adapters. This unit uses the same turret as the 40M (10 trunk capacity). Dimensions: 72" H. x 72" W. x 15" D.

## Type 80M Common Control PABX

Ordering No.	Description	Wired	Equip- ped	Weight, Lbs.
.....	80M PABX Switchboard			1042
	Lines	80	80	
	Links	12	0	
	Trunks	10	0	
	Inward Attendant Trunk	2	0	
	Outward Attendant Trunk	1	0	
	Toll Diversion	10	0	
	Optional Circuit Position	0	2	

NOTE: For Cable and Power Requirements, See Pages 16 and 17.

## Basic Package Adders

Ordering No.	Description	Weight, Lbs.
.....	MO-20168-B 10 Trunk Attendant's Turret; Plug-Ended With Plug-In Handset, Gray	20
<b>417752</b>	MO-20168-C Same As Above, Beige	20
.....	MO-20168-F Same As Above, Green	
.....	MO-20169-B#20 Trunk Attendant's Turret; Plug-Ended With Plug-In Handset, Gray	60
<b>417756</b>	MO-20169-C Same As Above, Beige	60
.....	MO-20169-F Same As Above, Green	60
<b>417361</b>	MO-18803 Link Circuit	15
<b>414303</b>	MO-19222 Common Equipment For Links 7-9 Or 10-12	45
<b>417719</b>	MO-19211 City Trunk Circuit	38
<b>417701</b>	MO-18816 Attendant's Trunk	15

## Optional Package Adders

Ordering No.	Description	Weight, Lbs.
<b>417720</b>	MO-19247 1-Way Outward Trunk, 2 Circuits	18
<b>437776</b>	S-0183 Spare Parts Kit	3
.....	NL-12955 Test Rack and Extension Cable For Trouble Shooting Relay Bars Without Removing From Operation	15
<b>578951</b>	MO-18650-A Set Of Maintenance Tools, Includes Relay and Switch Spring Adjusters, Contact Burnishers, Double End Adjusters and Line Bar Pulling Tool	1½
<b>578952</b>	MO-18650-B Set Of Test Equipment, Includes Test Lamp and Hand Test Telephone	2½
<b>578953</b>	MO-18650-C Set Of Maintenance Tools and Test Equipment	3
<b>423977</b>	MO-19341 Dolly Assembly For Switchboard Bay	100
.....	Additional Set of Prints	....

## Optional Feature Adders

.....	MO-20139 Main Discharge Fuse Assembly. Furnished when batteries are supplied	....
.....	MO-20174-B Line Busy Lamp Field Applique For 80 Lines, Used With 20 Trunk Turret Only, Gray	24
<b>412085</b>	MO-20174-C Same As Above, Beige	24
.....	MO-20174-F Same As Above, Green	24
.....	MO-20127 Applique Circuit for FN signal	2
<b>417075</b>	MO-18817 Attendant's Trunk and PBX trunk Selection, 2 Inward and 1 Outward Trunks, Single Digit Access, 1 Group Of 4 and 1 Group Of 3 Stations Or 1 Group Of 7 Stations	20
<b>412703</b>	MO-19227 PBX Trunk Selection Relay Bar, Single Digit Access, 1 Group Of 4 Stations and 2 Groups Of 3 Stations Or 1 Group Of 7 Stations and 1 Group Of 3 Stations	15
<b>438991</b>	MO-18829 Relay Switch For Optional Use Or Spare	13
<b>410051</b>	MO-18828 Toll Diversion Adapter	22
<b>426780</b>	MO-19238 Message Registers, Strip Of 10	5
.....	MO-20160 Enclosed Auxiliary Switch Shelf and Relay Bar Mounting Rack—Consists of 8 Relay Switch Positions and 6 Relay Bar Positions	....
.....	MO-20130 Paging and Answer Back Circuit. Single Digit Access	11

Prices on application.

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## Power Equipment

## Batteries

Ordering No.	Capacity	Busy Hr. Reserve	Wt. Lbs.	12B & 20B	L55	TAS 100	25M	40B	40KS	40M	80A	80KS	80M
.....	8 Amps.	8 Hr.	.....	X	X								
.....	16 Amps.	8 Hr.	.....			X							
.....	50 Amps.	*	.....					X	X	X	X	X	X
.....	50 Amps.	*	.....					X	X	X	X	X	X
.....	75 Amps.	5 Hr.	.....								X	X	X
.....	75 Amps.	5 Hr.	.....								X	X	X
.....	100 Amps.	8 Hr.	.....								X	X	X
.....	100 Amps.	8 Hr.	.....								X	X	X
.....	*Provides 8 Hr. Reserve On Type 40's & 3 Hr. Reserve On Type 80's												
.....	MO-20138 Main Discharge Fuse Assembly, Provide When Using Batteries.....		1					X	X	X			
.....	MO-20139 Main Discharge Fuse Assembly, Provide When Using Battery.....		1								X	X	X
<b>416641</b>	15170 Enclosed Battery Rack, 2 Tier, 4 Ft., 24 Cell Capacity.....		256					X	X	X	X	X	X

NOTE: Refer To Section Q Of This Catalog For Battery Prices And Ordering Information.

## Power Packs

Ordering No.	Description	Wt. Lbs.	12B & 20B	L55	TAS 100	25M	40B	40KS	40M	80A	80KS	80M
<b>418003</b>	FD-1040-CP Lorain RT3B, 24 Volt, D.C. Power Unit With 30 Cycle Ringing .....	20	X	X								
<b>418004</b>	RT4B Lorain, 24 Volt, 4 Amp, 30 Cycle Ringing Power Supply For 2-Position Boards (TAS-100 Requires 1 Per Position & Each Position Requires 3 Amps).....	35		X	X							
<b>411075</b>	M7.5-60 Lorain Sub-Cycle Ringing Supply.....	20	X	X	X							
<b>410901</b>	U24A Battery Charger, 24 Volt, 1 Amp.....	25	X									
<b>410903</b>	U75A Battery Charger, 24 Volt, 3 Amp, For 2-Position Boards (TAS-100 Requires 1 Per Position).....	80		X	X							
<b>416251</b>	FD-1040-CL Message Waiting Power Supply, Wall Mounted.....			X		X	X		X	X		X
.....	FD-1040-FP Power Supply, 18 Volt, D.C.....							X			X	
.....	RB5A Lorain Booster Pwr. Supply 48 Volt, D.C. Input, 24 Volt, D.C. Output.....	25					X			X		



## Cable Requirements &amp; Associated Material

## Cable

Ordering No.	Type	Pr.	From	To	Description	For	Wt. Lbs.	12B & 20B	L55	TAS 100	25M	40B	40KS	40M	80A	80KS	80M
710803	D-910003-A	11	Swbd. Bay	Dist. Box	City Trunks		.....				X	X	X	X			X
710808	D-910008-A	20	Swbd. Bay	Dist. Box	City Trunks		.....								X	X	
710812	D-910012-A	30	Swbd. Bay	MDF	City Trunks, Key Tel. Leads		.....						X			X	
710812	D-910012-A	30	Swbd. Bay	Dist. Box	4 Trks. & 25 Stations		.....				X						
710821	D-910021-A	100	Swbd. Bay	Dist. Box Trks., & 80 Stations	City Trunks, Stations Optional		.....								X	X	X
710808	D-910008-A	20	Swbd. Bay	MDF	6 Line Ckt. Adapters		.....										
710816	D-910016-A	40	Swbd. Bay	Dist. Box	Key Tel. Leads		.....						X				
710816	D-910016-A	40	Swbd. Bay	Dist. Box	Station Lines		.....					X	X	X	X	X	X
710818	D-910018-A	50	Swbd. Bay	Dist. Box	City Trk. Lines & Stations		.....						X				
710815	D-910015-A	26PR & 26S	Swbd. Bay	Att. Turret	Att. Turret		.....					X		X			X
710819	D-910019-A	40PR & 40S	Swbd. Bay	Att. Turret	Att. Turret		.....							X	X		X
710810	D-910010-A	25	Swbd. Bay	Att. Turret	Busy Lamp Field		.....					X		X			
710818	D-910018-A	50	Swbd. Bay	Att. Turret	Busy Lamp Field		.....								X		X
710800	D-910000-A	4	Swbd. Bay	Ext. Mt. Key	UNA Key		.....						X				
710810	D-910010-A	25	Swbd. Bay	Msg. Wtg. Turret	Msg. Wtg. Or Register		.....					X		X			
710818	D-910018-A	50	Swbd. Bay	Msg. Wtg. Turret	Msg. Wtg. Or Register		.....								X		X
710800	D-910000-A	4	Swbd. Bay	Msg. Wtg. Turret	Msg. Wtg. Only		.....								X		X
710821	D-910021-A	100	Swbd. Bay	Aux. Sw. Cab.	City Trks. 4 Aux. Serv.		.....					X	X	X	X	X	X
710812	D-910012-A	30	Swbd. Bay	Aux. Sw. Cab.	Finder Guard & Misc.		.....					X	X	X			
710803	D-910003-A	11	Swbd. Bay	Aux. Sw. Cab.	Finder Guard & Sel.		.....										
					Routing Ckt.		.....								X	X	X
.....	W-2000-Y12	—	Swbd. Bay	Aux. Sw. Cab.	Fuse Panel (12 Ga.-BK)		.....					X	X	X	X	X	X
.....	W-2004-Y12	—	Swbd. Bay	Aux. Sw. Cab.	Fuse Panel (12 Ga.-W)		.....					X	X	X	X	X	X
710816	D-910016-A	40	Swbd. Bay	Toll Div. Enc. Cab.	Toll Div. Pos. 1-6		.....					X	X		X	X	
710816	D-910016-A	40	Swbd. Bay	Toll Div. Enc. Cab.	Toll Div. Pos. 7-12		.....					X	X		X	X	
710800	D-910000-A	4	Swbd. Bay	Toll Div. Enc. Cab.	Interrupter & Controls		.....					X	X		X	X	
.....	W-2000-Y12	—	Swbd. Bay	Toll Div. Enc. Cab.	Fuse Panel (12 Ga. Bk.)		.....					X	X		X	X	

Note: for Cable prices, refer to section "F" of this Catalog

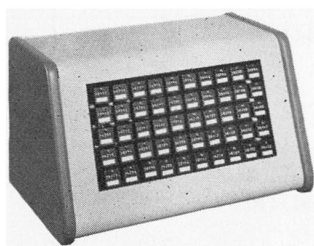
Ordering No.	Description	Wt. Lbs.	12B & 20B	L55	TAS 100	25M	40B	40KS	40M	80A	80KS	80M
S-550787*	D-543486-A 50 Conductor Connector Cable (Beige) With Connector On 1 End Only, 50 Ft., Swbd. Bay To Attendant Telephone.....	.....				X						
S-550788*	D-543486-B 50 Conductor Connector Cable (Beige) With Connector on 1 End Only, 100 Gt., Swbd. Bay To Attendant Telephone.....	.....				X						
S-550793*	30 Ft. 50 Conductor Running Cable (Beige) Connector Ended.....	.....			X							
S-550794*	80 Ft. 50 Conductor Running Cable (Beige) Connector Ended.....	.....			X							
S-550795*	100 Ft. 50 Conductor Running Cable (Beige) Connector Ended.....	.....			X							
S-550796*	200 Ft. 50 Conductor Running Cable (Beige) Connector Ended.....	.....			X							
S-550762*	100 Ft. 150 Conductor Running Cable (Beige) Connector Ended.....	.....			X							
<b>ASSOCIATED MATERIAL</b>												
H-56605-8*	Interior Junction Box For 104 Pr.....	.....								X	X	X
H-56605-7	Interior Junction Box For 52 Pr.....	.....				X	X	X	X			
427115	MO-18654 Lot of Runway Equipment, 2 Ft. Includes 1 Lot of Cable Trough.....	15					X	X	X	X	X	X

\*Refer to section "K" of this Catalog For Prices.

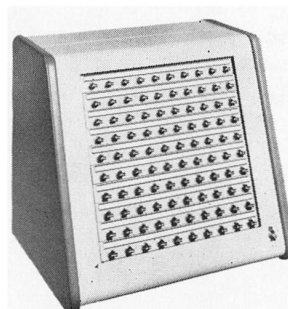
Prices on application.

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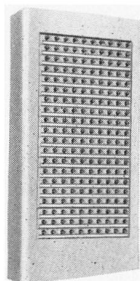
## Motel Equipment



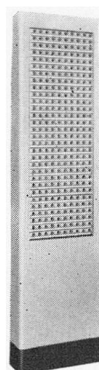
Universal Desk Message  
Metering Cabinet for 50 lines



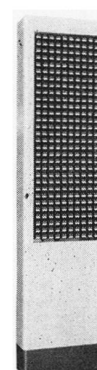
Universal Message Waiting  
Desk Cabinet for 100 lines



Universal Wall Message  
Waiting Cabinet for 200 lines



Universal Floor/Wall Message  
Metering Cabinet for 300 lines



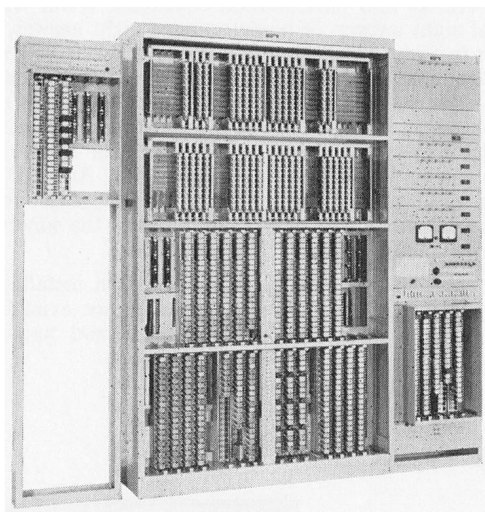
Universal Wall Message  
Waiting Cabinet for 300 lines

Ordering No.	Pr.	Description	To	For	Wt., Lbs.	12B & 20B	L55	25M	40B	40KS	40M	80A	80KS	80M
.....		H-885494-1 Universal Message Metering and Waiting Wall Cabinet For 200 Lines (Wired Only)			80		X							
.....		H-885552-1 Universal Message Metering and Waiting Floor/Wall Cabinet For 300 Lines (Wired Only)			135		X							
<b>410809</b>		H-887248-1 Universal Message Metering and Waiting Desk Cabinet For 50 Lines (Wired Only)			59		X	X	X		X	X		X
<b>410810</b>		H-887249-1 Universal Message Metering and Waiting Desk Cabinet For 100 Lines (Wired Only)			73		X					X		X
<b>425550</b>		H-885764-6 Spacer and Junctioning Material For 2-Position H-887249-1			3		X					X		X
.....		H-885493-3 Veeder Root 3 Digit Resettable Meter, Strip of 10			3						X			X
<b>414570</b>		H-885493-6 ATEA 5 Digit Non-Resettable Meter, Strip of 10			5						X			X
<b>425648</b>		D-530339-A Meter Labels, 50 Per Sheet		.....							X			X
<b>414160</b>		H-885493-5 Message Waiting Keys, Strip of 10			2		X	X	X		X	X		X
<b>413402</b>		DH-75516-72A Message Waiting Interrupter, 19" Relay Rack Mounting		.....			X							
<b>422391</b>		H-886578-1 Wall Mounting Bracket For DH-75516-72A			5		X							
<b>416251</b>		FD-1040-CL Message Waiting Power Supply, Wall Mounting			8		X	X	X		X	X		X
<b>422028</b>		H-885150-9 Blank Strip of 10 For Unequipped Positions For Wall, Floor/Wall and Desk Cabinets			2		X	X	X		X	X		X

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Prices on application.

## Type 100 Common Control Expandable PABX



All Relay Switching and Power Equipment

## Type 100 Common Control Expandable PABX

This board comes in bays of 100 lines each, with each bay capable of containing 15 links. Four bays can be tied together to give a complete working system of 400 lines. Each bay will handle up to 16 trunks, but some auxiliary features will make use of the available trunk switches, thus decreasing the number of trunks the bay can be equipped with.

The Type 100 is a 48 v., d.c. system with a station loop limit of 1000 ohms, excluding the station instrument. Trunk loop limit is 1500 ohms, or the central office loop limit, whichever is less.

Each switchboard bay measures 89" H x 56" W x 15" D, and is equipped with front and rear sliding doors for access to the equipment. The front doors are clear plastic. The cabinet is gray finished steel. It contains the common equipment, jack-in lines and links. Trunk relay bars and miscellaneous equipment are mounted in a separate trunk bay measuring 89" H x 20 $\frac{3}{8}$ " W x 15" D, and a separate power bay is furnished measuring 89" H x 24" W x 15" D. The power bay houses ringing supply, ringing interrupter, circuit breakers, meter and test equipment, as required. DC power is furnished by a rack mounted power pack operating from 115 v., a.c. An external 48 volt battery and battery charger can also be used.

Attendant's facilities come in three sizes depending on the number of trunks required. Two turrets are available—a 12-trunk and a 26-trunk model. Both are small enough to be set on a desk top and are available in beige, gray or green. Also available is a 40 trunk, beige floor console which can be equipped with a 400 line capacity busy lamp field. The turrets cannot be equipped with busy lamp fields.

The Type 100 is a cross point switching system in which the functions of linefinder, selector and connector are performed by cross point switches. The links interconnect the cross point switches to complete a call.



Type 100 Floor Console With Busy Lamp Field

**Standard Features** of the Type 100 include station controlled trunk transfer, consultation and 3-party conference, 3-digit local dialing, 2-class restriction on an individual line basis, universal night answer and attendant busy override.

The Type 100 adapts well to special applications because of such optional features as conference, code call, paging cut-in adapters, rotary group hunting, dictation links and executive override circuits. A full array of tie trunks, WATS lines and FX trunks are available, and the trunks can be split into any number of groups. Individual lines can be restricted from accessing any one or all of the trunk groups. The Type 100 also provides message waiting and message metering for motel-type service. Special adaptation equipment such as no-dial alarm may also be added. An alarm will ring at the turret or console if an extension phone is off-hook for a predetermined length of time. With the many special features and adaptations, the Type 100 can be tailored to meet most needs.

**NOTE:** The Type 100 is not a stock board. Each one must be engineered to meet the specific application involved.



**Automatic Call Distribution**

ACD automatically routes and evenly distributes calls throughout a department or area such as credit, telephone ordering, reservations, etc. Incoming calls are directed to a specific telephone without appearing on the attendant turret, and are distributed on uniform rotation between different positions, assuring an equal work load.

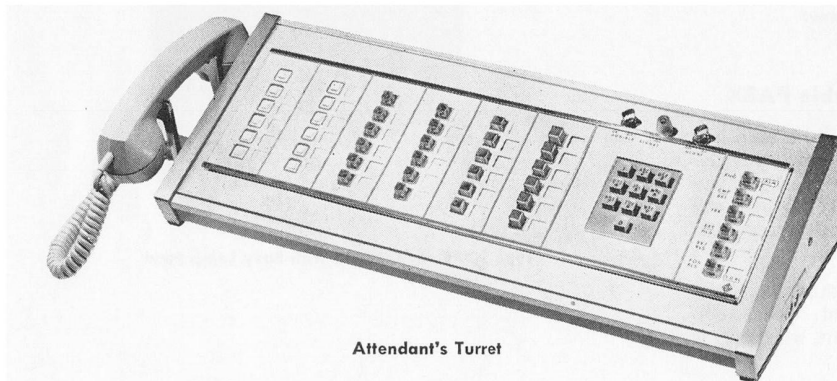
Equipment consists mainly of two additional circuits, an ACD trunk and an ACD distribution control, which may be added to any standard type 40 or 80 PABX System.

The ACD positions may be arranged as 1st and 2nd choice. Second choice positions do not receive calls unless all first choice positions are busy. Other PABX stations may access ACD positions by a single digit which puts the call in the distribution cycle. Each ACD position is also a PABX station capable of internal calling, accessing outgoing trunks and receiving calls.

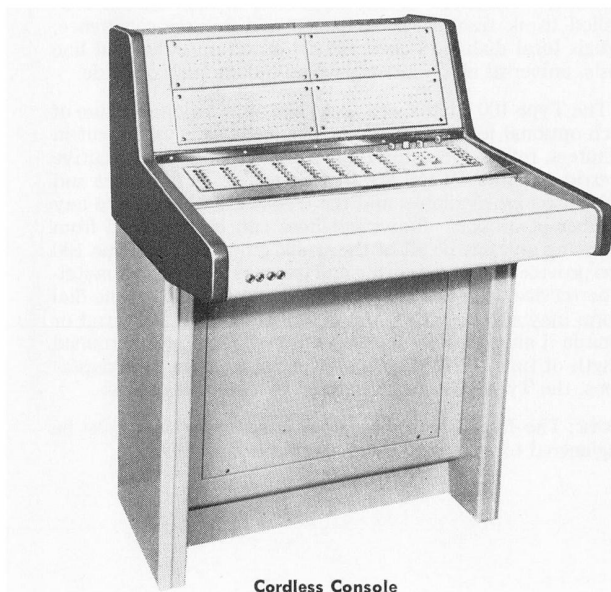
ACD trunks also have station controlled trunk transfer, universal night answer, or predetermined night answer, and a time-out feature. Time-out is adjustable from 3 to 80 seconds. The unanswered call can be routed to a regular PABX station, or a recorded announcement will tell the caller to wait until a line is open. If the timed-out call is sent to a recorder, it will be put back into the ACD distribution control to wait for an idle line as soon as the recording is completed. An ACD trunk also provides for a call waiting chain circuit that can activate an externally mounted call waiting meter at the supervisor's position to show how many calls are waiting.

ACD equipment is not a stock item; each installation is individually engineered. Many variations are available including special ACD position equipment and application features.

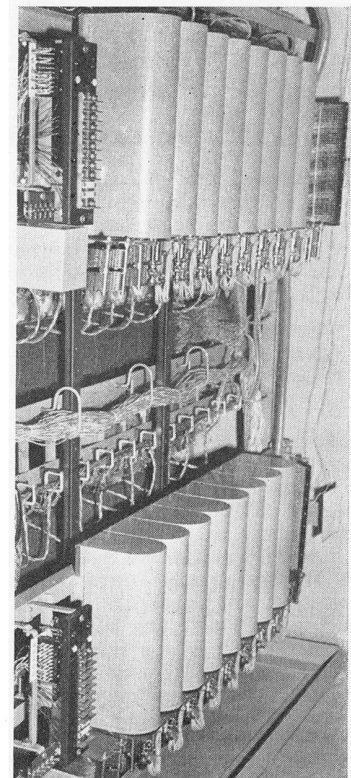
**Type 301 Step-By-Step PABX**



Attendant's Turret



Cordless Console



Switching Equipment

The 301 is an expandable, step-by-step PABX designed to provide a wide variety of services with standard two-wire telephones. The unit is indefinitely expandable from 60 lines up, but five multiple attendant positions are considered maximum. Trunking requirements dictate how large the 301 can grow. For complex trunking requirements a 311 PABX is recommended.

Central office trunks terminate on either a beige turret or floor console on a key per trunk basis. The turret, 10x21 3/4-in., provides supervision for up to 36 trunks with no busy lamps. The floor console provides supervision for up to 48 trunks and up to 400 busy lamps. It measures 42" H x 33" D x 29" W.



### Type 301 Step-By-Step PABX—Continued

Switches and trunk equipment of the 301 are normally mounted on 6' 6" high double-sided frames and racks designed to save floor space. Both sides of the switching equipment frame are gate mounted to swing outward and provide access to the rear of the equipment for ease of installation and servicing. The trunk equipment rack is single gated. Power equipment is mounted on a 6' 6" single-sided frame and 6' 6" MDF is also available for use with the 301.

**Standard Features.** Station controlled trunk transfer, 1 trunk—5 station conference, attendant busy override, camp-on busy, 10 station rotary group hunting, extendable information trunks. All of the normal standard features are also available on the 301 PABX. Trunks may be split into any number of groups and stations can be denied access to any or all of the groups on a per station basis.

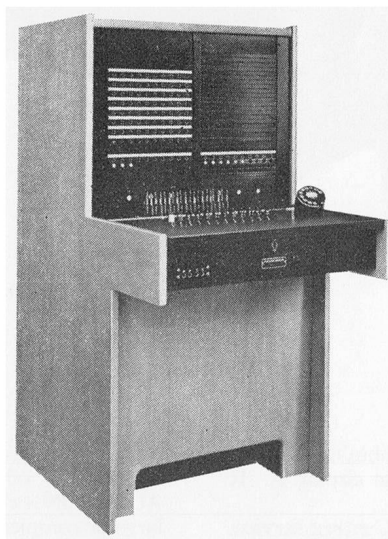
**Many additional features may be added** to the 301 so that the board may be tailored to meet any requirements. The 301 has a wide array of trunks including DID, WATS, FX or tie lines of any type needed. All of the usual auxiliary features such as paging, code call, executive right-of-way, public address cut-in, dictation links, message waiting and message metering are available. A progressive selection conference is

available on an optional basis. This is an attendant controlled conference and can be used instead of, or with standard conference which is station controlled. Either can be expanded from the basic 1 trunk—5 station in increments of 1 trunk—5 stations.

The basic 301 features universal night answer, but can be equipped with any of three alternates. Selected station night answering allows a pre-selected station to answer and transfer incoming trunk calls. The station does not require a special telephone and has full local and outgoing service. All other phones in the system are also operative. Zoned universal night answering segregates trunks into several groups, each with its own night signal. Only the signal assigned to that group of trunks will ring, otherwise, this is the same as universal night answer where a single digit is dialed to pick up an incoming trunk. All stations retain full service. When predetermined night answer is used, a predetermined telephone, equipped with grounding pushbutton, is connected directly to a trunk so that this station may receive and place trunk calls. None of the other stations are operative.

Stock packages can be ordered and received in shorter intervals than fully engineered jobs.

### Type 320 Step-By-Step PABX

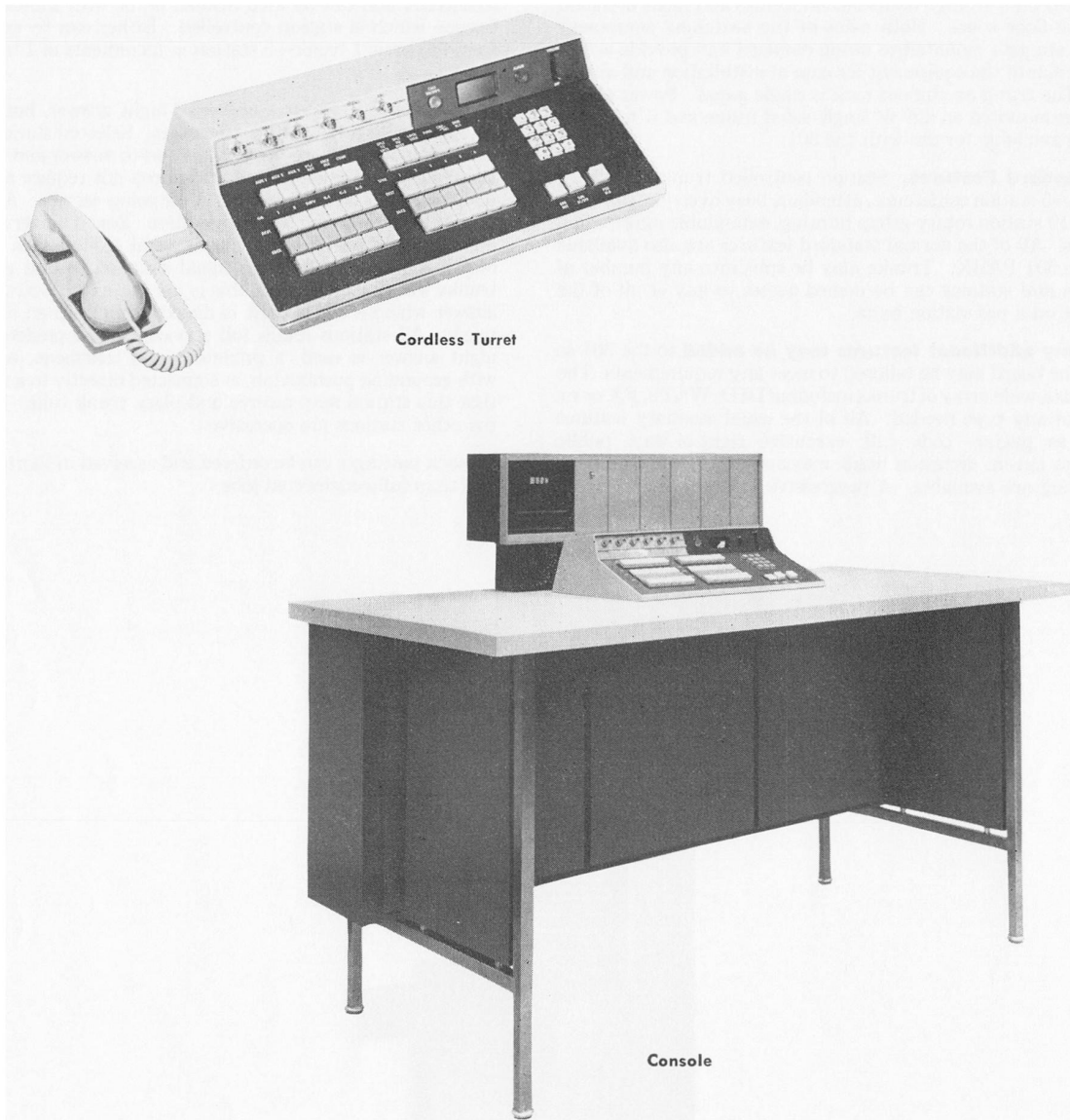


The same expandable step-by-step PABX switching equipment as the Type 301 PABX, but providing a cord-type attendant cabinet instead of a cordless turret. All inward and outgoing trunk calls can be controlled by the attendant, although PABX stations can dial outside numbers after the attendant connects to a trunk. Alternatively, trunks can be connected to the switching equipment for automatic access from the PABX stations for outgoing calls.

The Type 33A19 attendant cabinet is available in either dark mahogany or cinnamon blonde finishes. The cabinet measures 51" H x 27" W x 34" D, and has a 400 line capacity on two panels. The 33A19 is easily multiplied with another 33A19 providing two or three positions, capable of 1200 lines. Each 33A19 contains up to 15 cord circuits. A junior multiple, up to 1200 lines, and senior multiple, up to 1600 lines, are available on a specially engineered basis.

Prices on application.

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**Type 311 Switching System**

The Type 311 is an expandable system, combining step-by-step, crosspoint relay switches and electronic circuitry. It offers a wide range of features and services.

This system can furnish either PABX or Centrex service. Centrex service can be either CU or CO. With CO Centrex, the switching equipment is located in the central office and can be shared by several customers.

The attendant facility is a newly designed turret which greatly simplifies operation. All attendant-seeking traffic is concentrated through a call distributor which distributes one call at a time to the turret. On multi-turret installations, traffic is distributed equally to all turrets. The turret incorporates a unique readout panel which informs the attendant of the type of call she is receiving. This turret also provides all the usual attendant services plus camp-on

busy and break-in. It measures 7" H by 12" D by 20" W.

The 311 offers distinctive trunk ring, call diversion, AUTOVON switch connection and many other features for large or complex applications.

The versatility of the 311 switching system allows in-dialing, station transfer, consultation, conference with conference repeater facilities on incoming and outgoing calls and TCMF or dial operation. In addition, tandem, station or attendant-controlled trunk-to-trunk calling and multiple user arrangements are available. Automatic identification of direct outward dialed calls for individual station billing can be provided. Equipment can be arranged to automatically divert a direct inward call from a ringing station to the attendant after a timed interval.

