

Private Automatic Branch Exchange 1 (PABX 1)

Descriptive leaflet

DLD 411

Private Automatic Branch Exchanges

February 1972

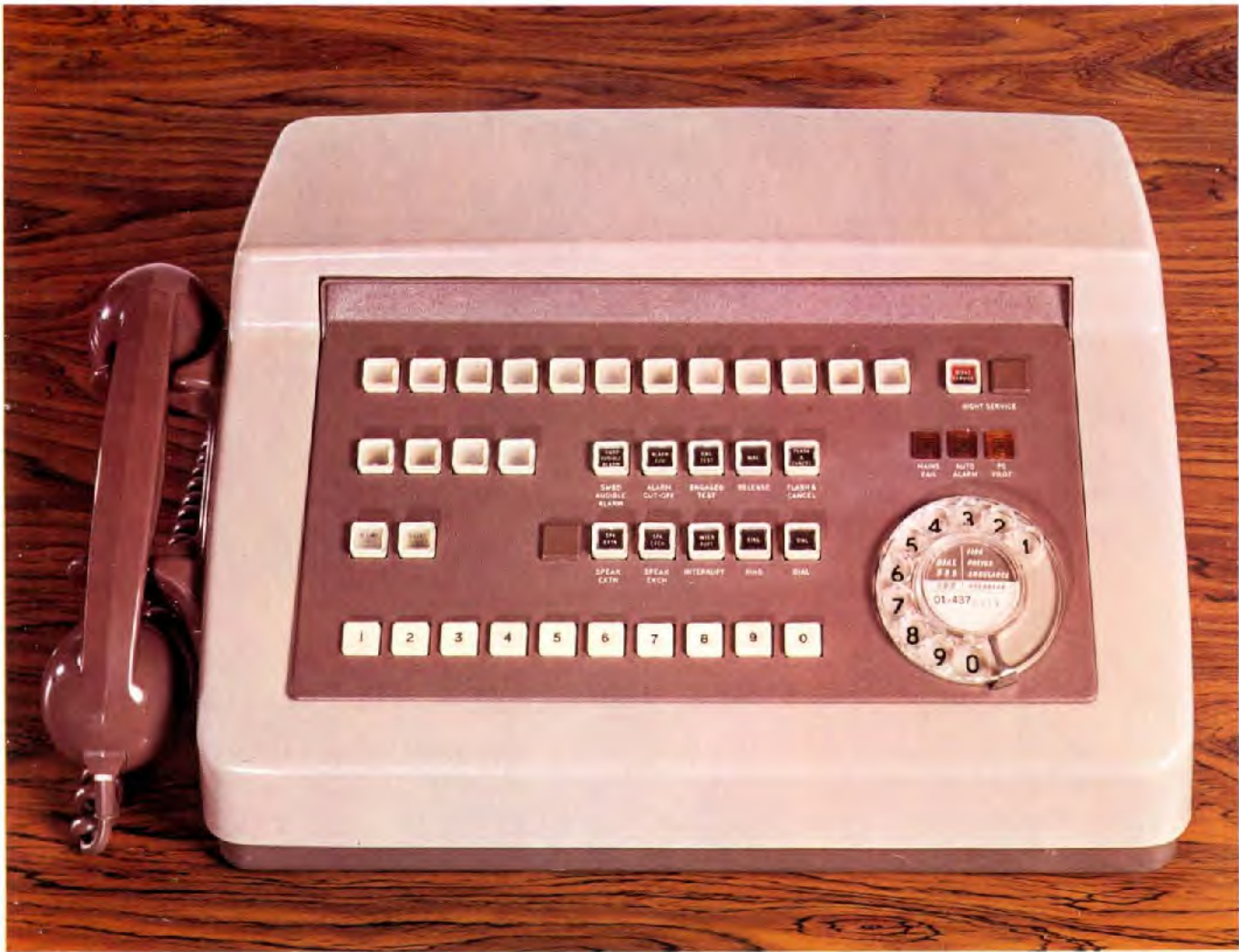
Post Office
Telecommunications

A PABX offers automatic internal telephone service and public exchange service in a single system.

Each automatic extension can dial other extensions and make or receive exchange calls.

The PABX 1 meets the telephone requirements of small and medium size organisations needing up to 10 exchange lines and 49 automatic extensions.





Description

The installation is available in four separate sizes. The largest can accommodate up to 10 exchange lines and 49 automatic extensions.

A few manual extensions and lines to other Private Branch Exchanges (PBXs) can be provided. The PBXs can be automatic or manually-operated.

The PABX operator receives incoming exchange calls on the compact switchboard, illustrated above, and assists the extensions as necessary.

The automatic equipment is contained in a steel cabinet which is usually sited in a small room near the switchboard.

The equipment is powered from a secondary-cell battery, automatically charged from a mains unit.

General facilities

Automatic extensions call each other and manual extensions by dialling two-digit numbers between 21 and 69, the range depending on the PABX size.

Automatic extensions dial 9 to get an exchange line to make outside calls. If required, selected extensions can be connected in such a way that they can only get an exchange call through the switchboard.

Timing of any outgoing exchange call stops and the exchange line is released as soon as the extension handset is replaced.

Incoming exchange calls are received on the switchboard, and connected by the operator to the required extensions.

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Automatic extensions dial 7 to get a line connected to another PBX. It may be possible to dial direct to an extension of another PABX over these lines.

Two other PBX or private circuits, to different destinations if required, can be connected in place of two automatic extensions. They are obtained by dialling the appropriate extension numbers.

Automatic extensions dial 0 to call the PABX operator.

Manual extensions make all outgoing calls through the switchboard, but receive calls automatically.

Calls are not interrupted if there is a mains failure. Service on the PABX can be maintained for several hours by the battery, subject to the load.

Switchboard facilities

The operator calls extensions from the switchboard by pushing buttons in sequence for the required number. Ringing is normally applied automatically to extensions.

Calls to or from extensions are released when the extension handset is replaced.

If an extension is engaged, the PABX operator can let an exchange line caller hold on, to be connected automatically to the extension as soon as it becomes free.

The PABX operator can interrupt an engaged extension to ask if another call can be accepted. A ticking sound (warn tone) lets the extension know that the operator is on the line.

An exchange call can be held by the operator who connects it to a special 'hold' number. The call can then be connected to an extension when required. More than one call may be held in this way, without overhearing.

Extension facilities

Calls between extensions are released when either extension handset is replaced.

On exchange calls, or calls to another PBX, the button on the telephone is pressed twice to call in the PABX operator, who can then hold or transfer the call as required.

An automatic extension can hold an exchange call and make an enquiry of another extension by pressing the button once and dialling its number. Pressing the button again, restores the original extension to the exchange call. Alternatively, if the handset on the original extension is replaced, the call is transferred to the other extension.

Exchange or inter-PBX calls can be transferred as often as required. If the enquiry circuit is engaged the operator will be called in automatically.

PABX 1 Sizes

Size	4 + 15	5 + 24	7 + 35	10 + 49
The capacity shown for each unit cannot be exceeded. Greater capacity can be obtained only by changing the unit for a larger size.				
Exchange lines If 3 inter-PBX lines are required, exchange lines on 10 + 49 are limited to 9.	4	5	7	10
Automatic extensions Reduced by one for each manual extension or inter-PBX line that is provided.	15	24	35	49
Manual extensions	2	2	4	4
Inter-PBX lines	2	2	3	3
Connecting circuits	3	4	6	7
Enquiry transfer circuits	1	1	1	1
Operator assistance circuits	2	2	2	2

Night service facilities

When the night service button on the switchboard is pressed, incoming exchange calls cause suitably sited bells to ring continuously.

Any automatic extension dials 8 to answer the call, which can then be transferred to any other extension.

Another method can be provided, at additional rental, which enables individual exchange lines to be connected to selected extensions.

Conference facilities

A separate unit can be rented which allows up to ten internal or external extensions, or up to five extensions and an exchange line, to be connected together for a telephone conference.

An amplifier can also be rented, to allow up to seven extensions and an exchange line to have a conference.

Distribution frame and cabinet for a 4 + 15 PABX 1 installation.



General Information

Dialling codes usually provided

- 7 – To get lines to another PBX.
- 8 – For answering calls on night service.
- 9 – To get exchange lines.
- 0 – To call the PABX operator.
- 20 – Used by PABX operator for holding calls.
- 21 to 35 – For 15 extensions.
- 21 to 44 – For 24 extensions.
- 21 to 55 – For 35 extensions.
- 21 to 69 – For 49 extensions.

Alarms

Audible and visual signals on the switchboard draw attention to incoming calls, mains failure and fault conditions.

The audible alarm can be switched off when required. It is also switched off when the night service facilities are in use.

Tones

Dialling, ringing, engaged, 'warn' and number unobtainable tones are provided from the PABX equipment.

Accommodation

The automatic equipment cabinet, battery, mains unit and distribution frame should ideally be installed in a separate room as near as possible to the switchboard. The room should have adequate heating, lighting and ventilation.

Sufficient space has to be left around the equipment for maintenance purposes. The cabinet has doors front and rear, so that the engineer can get at both sides of the equipment racks.

The room should be at least 7' 6" (2300mm) high, with not less than the following dimensions.

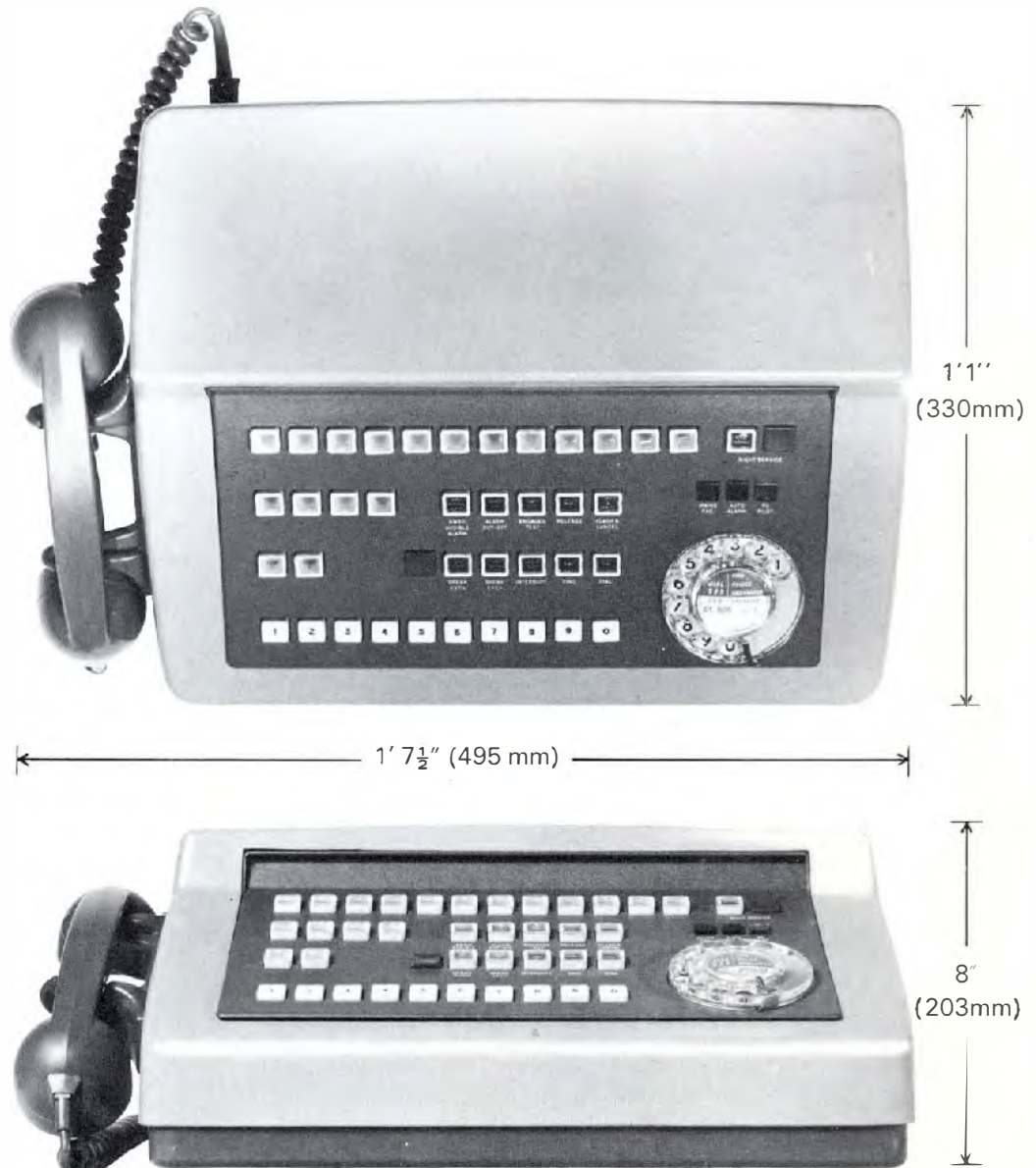
4 + 15 or 5 + 24 size –
8' 6" by 6' 8" (2600mm by 2000mm)

7 + 35 or 10 + 49 size –
9' 0" by 8' 0" (2700mm by 2400mm)

Dimensions and weights of equipment

Equipment	Width	Depth	Height	Weight	
Cordless manual switchboard	1' 7½" 495mm	1' 1" 330mm	8" 203mm	25 lb 11 kg	
4 + 15 or 5 + 24 cabinet	2' 10" 864mm	2' 0" 610mm	6' 11" 2108mm	924-980 lb 419-445 kg	
7 + 35 or 10 + 49 cabinet	3' 9" 1143mm	2' 0" 610mm	6' 11" 2108mm	1232-1288 lb 559-584 kg	
Distribution frame	1' 6" 457mm	2' 0" 610mm	6' 9" 2057mm	160 lb 73 kg	
Mains rectifier unit	1' 3½" 394mm	9½" 241mm	1' 8¾" 527mm	53 lb 24 kg	
Secondary-cell battery	4 + 15 or 5 + 24 size	3' 4" 1016mm	9" 229mm	5' 0" 1524mm	308 lb 140 kg
		7 + 35 size	3' 4" 1016mm	9" 229mm	5' 0" 1524mm
	10 + 49 size	4' 1" 1245mm	1' 6" 457mm	6' 10" 2083mm	1008 lb 457 kg

The Switchboard



Equipment provided for 10 + 49 PABX1 installation

(The items are shown approximately in proportion)



Equipment cabinet



Distribution frame



Mains unit



Battery

Please note
We do our best to supply our customers with the apparatus they ask for but we may have to provide apparatus which does not accord exactly with the descriptions and illustrations in this leaflet.

Rental and connexion charges are quoted in DLD 1 the preface sheet for section D descriptive leaflets.

YOUR TELEPHONE SALES OFFICE WILL GLADLY SUPPLY ANY FURTHER INFORMATION