



"A.T.M.", "STROWGER" PRIVATE AUTOMATIC EXCHANGE (P.A.X.) SWITCHBOARDS comprise the full switching, ringing, tone and power equipment required for private automatic telephone exchange systems.

The whole of the apparatus is enclosed in a metal cabinet which has a crystalline black enamel finish. (See Figs. 1, 2, 3, 5 and 6.) The standard switchboards are suitable for use under sub-tropical conditions and equivalent switchboards suitable for full tropical conditions can be supplied.

Power for operating the switchboards may be obtained from secondary batteries or from A.C. electricity supply mains through a battery eliminator (rectifier) See Fig. 4, designed in the case of the 10, 25 and 100 P.A.X., (home contracts), for fitting into the switchboard cabinet. In the case of the 50 line P.A.X., (home contracts), and in tropical conditions for the 10, 25, 50 and 100 line P.A.X. a special rectifier is supplied to mount outside the cabinet. For alternative power equipments see Section C.C.

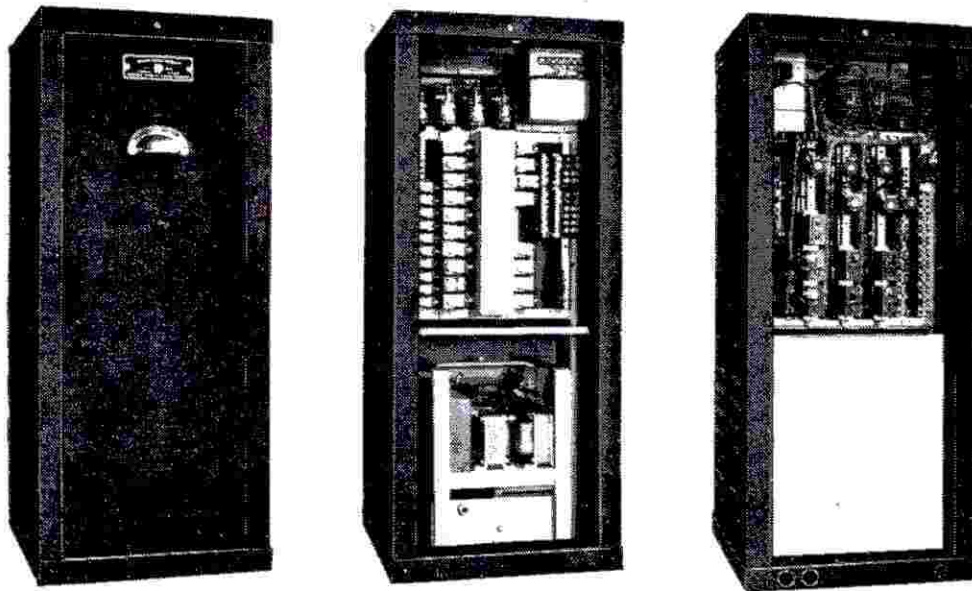


Fig. 1

10-line P.A.X. closed and with front and rear covers removed.

Telephones of standard automatic common battery type may be employed unless they require other than the standard 16 or 25-cycle signalling current or a dial ratio other than 66 $\frac{2}{3}$  break to 33 $\frac{1}{3}$  make.

Loud-speaking Telephones can be used with these switchboards, and will be quoted for on request.

The following Special Services are available:—

- (1) Key Calling.
- (2) Conference Key Calling.
- (3) Secretarial.
- (4) Priority.
- (5) Tie Line.
- (6) Code Call.
- (7) Fire Alarm.
- (8) Party Line Working.
- (9) Discriminatory Ringing.
- (10) Fuse Alarm.
- (11) Release Alarm.
- (12) Watchman's.

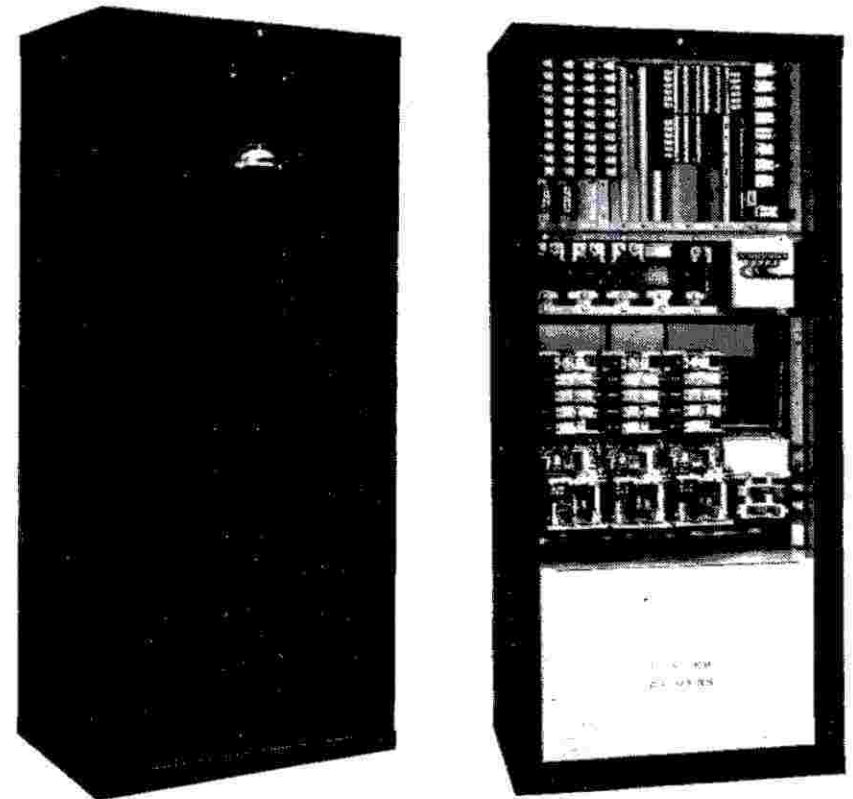


Fig. 2

25-line P.A.X. closed and with cover removed.

These special services can be fitted to all P.A.X. switchboards except the 10-line size (T4353), which is not arranged for 6, 7 and 12.

The standard maximum combinations of special services for each size of P.A.X. are given in Table I; any variations desired require special consideration.

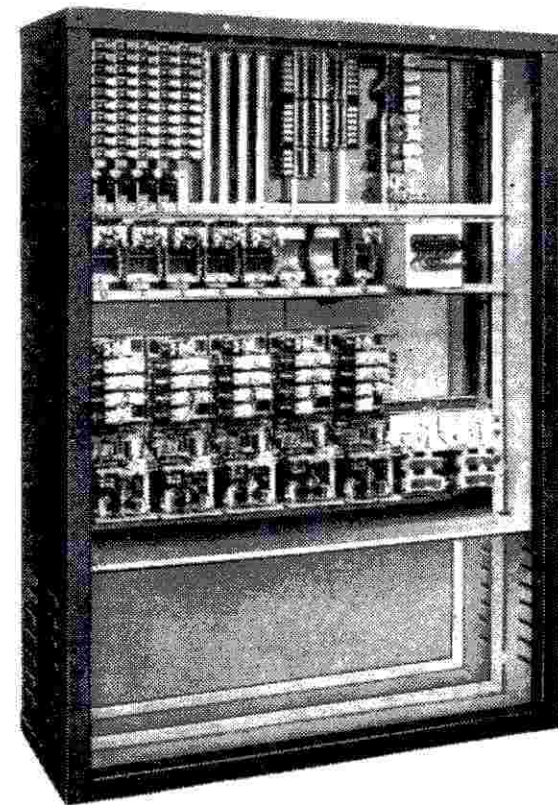


Fig. 3

50-line P.A.X. with cover removed.

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**Table I. Maximum Combinations of Special Services.**

No.	Special Service.	Space Units required for each Circuit.	10 Line.	25 Line.	50 Line.	100 Line.	200 Line.
1	Key Calling to 10 or 20 lines ... ..	{ 3 (for 10 lines) 4 (for 20 lines)	2	4	6	8	10
2	Conference Key Calling to 10 or 20 lines... (see Note i)	{ 6 (for 10 lines) 10 (for 20 lines)	1	1	1	1	1
3	Secretarial ... ..	Nil	Yes	Yes	Yes	Yes	Yes
4	Priority (see Note ii) ... ..	Nil	Yes	Yes	Yes	Yes	Yes
5	Tie Lines ... ..	Nil	1	2	4	5	10
6	Code Call, Audible ... ..	5	—	1	1	1	1
6a	Code Call, Visual Colour Code ... .. (see Note iii)	8	—	1	1	1	1
7	Fire Alarm ... ..	4	—	1	1	1	1
8	Party Line Working ... .. (see Note iv)	Nil	Yes	Yes	Yes	Yes	Yes
9	Discriminatory Ringing ... ..	—	Yes	Yes	Yes	Yes	Yes
10	Fuse Alarm ... ..	Nil	Yes	Yes	Yes	Standard	Standard
11	Release Alarm ... ..	—	—	Yes	Yes	Standard	Standard
12	Watchman's ... .. (see Note v)	—	—	—	—	—	—

When the amount of special service apparatus exceeds the capacity of a cabinet extension (see Fig. 6), auxiliary cabinets can be employed which, externally are replicas of switchboard cabinets used with types 10-2 and 25-4A, and to which top extensions can be added. The "space units" capacities of the several cabinets and extensions are given, together with the number of "space units" occupied by each circuit of a special service, so that the cabinet capacity required for any particular equipment can be calculated. If auxiliary eliminators are required they can be fitted in auxiliary cabinets where they occupy respectively 7 space units in a type 10-2, or 12 space units in a 25-4A cabinet.

**NOTES:**

- (i) A conference is limited to 10 participants who may be any predetermined 10 of those connected to the conference key calling cabinet.
- (ii) Standard priority service can interrupt key calling priority and vice versa.
- (iii) Code Call (Audible) and Code Call (Visual Colour Code) are alternatives.
- (iv) The following variations of party line service are available:—
  - (a) 2-Party selective ringing (standard), each party requires a separate number on the P.A.X.
  - (b) Omnibus circuits with selective ringing; maximum 10 instruments; special consideration required.
  - (c) Revertive calling may be applied to (a) or (b); special consideration required.
- (v) Watchman's Service is available for each P.A.X. except Type 10-2, but as individual requirements vary, special consideration must be given to each case before a quotation can be made.

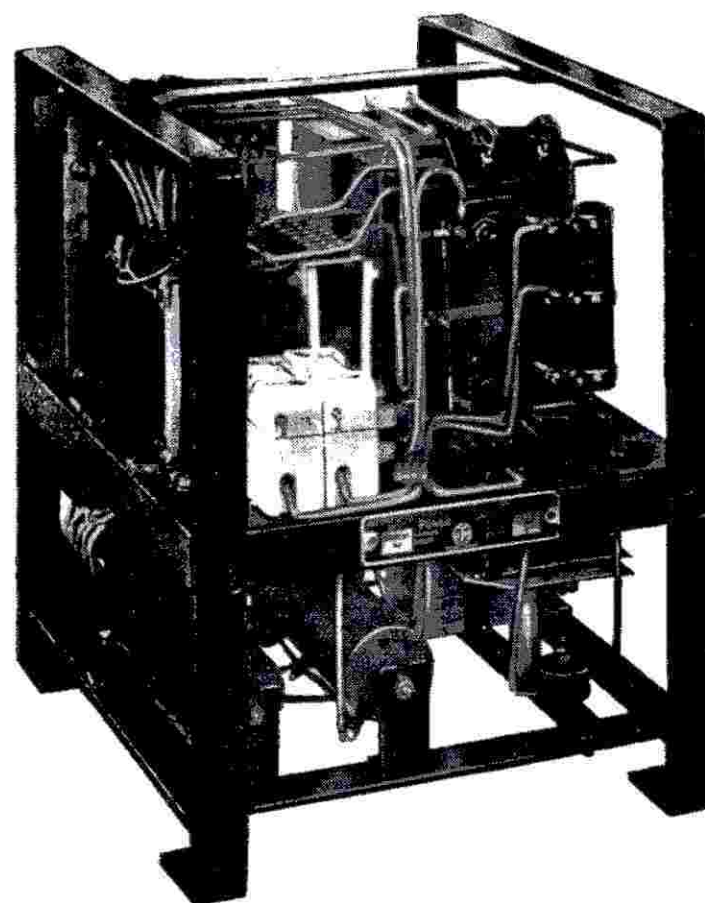


Fig. 4

Battery Eliminator (Rectifier).

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**Table II. P.A.X. Switchboards. Standard Capacities and Equipment**

Catalogue No.	Wired for			Equipped with			Approximate Dimensions and Weight.				Floor Space Required.
	Local Telephone Circuits (Note 1).	Tie Lines.	Connecting Links.	Local Telephone Circuits (Note 2).	Connecting Links (Note 3).	Battery Eliminator	Height (Note 4).	Width.	Depth.	Weight (Note 5).	
<b>Type T4353</b>	<b>10-2 P.A.X. switchboard.</b> 10            1            2			10	2	T4417 2 amp.	3' 0" (.915 m.)	1' 3" (.382 m.)	1' 4" (.406 m.)	96-lbs. (43.5 kg.)	2' 9" x 5' 10" (.837 x 1.78 m.)
<b>Type T4358</b>	<b>25-4a P.A.X. switchboard.</b> 25            2            4			15	3	T4419 2 amp.	4' 6" (1.37 m.)	2' 0" (.61 m.)	1' 4" (.406 m.)	287-lbs. (130 kg.)	3' 6" x 5' 10" (1.07 x 1.78 m.)
<b>Type T4363</b>	<b>50-7a P.A.X. switchboard.</b> 50            4            7			30	5	T4420 6 amp.	4' 6" (1.37 m.)	3' 2" (.965 m.)	1' 4" (.406 m.)	450-lbs. (204 kg.)	4' 8" x 5' 10" (1.42 x 1.78 m.)
<b>Type T4365</b>	<b>100-10a P.A.X. switchboard.</b> 100           5           10 (See Note 6)			60	7	T4421 8 amp.	5' 6" (1.675 m.)	4' 6" (1.37 m.)	1' 4" (.406 m.)	782-lbs. (354 kg.)	6' 0" x 5' 10" (1.86 x 1.78 m.)
<b>Type T4366</b>	<b>200-20a P.A.X. switchboard.</b> 200           10          20			120	14	T4421 (2 sets) 16 amp.	5' 6" (1.675 m.)	9' 3" (2.82 m.)	1' 4" (.406 m.)	1563-lbs. (709 kg.)	10' 9" x 5' 10" (3.28 x 1.78 m.)

**NOTES:**

- One local telephone circuit is occupied by each tie line equipped. With 1 digit working, a complete level of 10 numbers is required for from 1 to 10 tie lines.
- Telephone instruments are not included. See Section "E" for suitable types.
- Each conversation occupies a connecting link. Therefore with 4 connecting links, 4 simultaneous conversations are possible, that is, 8 telephones in use at the same time. A code call occupies 2 connecting links.
- If top extension for special services is added to T4353, T4358, or T4363, the height of the cabinet is increased by 1-ft. 2-in. (356 mm.) (see Fig. 6). Top extensions are not made to cabinets of T4365 and T4366.
- Weight equipped as indicated. An average equipment of special service apparatus adds approximately 50-lbs. (22.7 kg.) to weight of switchboard.
- T4365 is the first unit of T4366 and may therefore be extended up to 200 lines.
- For further information regarding any type see relative brochure.

**ADDITIONAL LINES:**

- T4403** For extension of 5 lines to **T4358** or **T4363**.
- T4404** " " " " **T4365** or **T4366**.

**ADDITIONAL CONNECTING LINKS:**

- T4370** Additional link including final selector for **T4358** or **T4363**.
- T4405** Additional link including final selector for **T4365** or **T4366**.

**SPECIAL SERVICES**

for 10-line P.A.X. switchboard **T4353**:-

Catalogue No.	Description.
<b>T4373</b> ...	Tie line for interconnection with another P.A.X. switchboard.
<b>T4374</b> ...	Second tie line.
<b>T4375</b> ...	Fuse alarm.
<b>T4376</b> ...	Key calling to 20 lines for one master station.
<b>T4377</b> ...	Key calling to 10 lines for one master station.
<b>T4378</b> ...	Conference key calling with 20 lines for one master station.
<b>T4379</b> ...	Conference key calling with 10 lines for one master station. Key calling cabinet is illustrated in Fig. 7.
<b>T4368</b> ...	Secretarial service (one required for each line furnished with secretarial service). (See Fig. 8.)
<b>T4369</b> ...	Priority service.
<b>T3815</b> ...	Top extension to cabinet (1 group of 7 space units).
<b>T3816</b> ...	2nd top extension to cabinet (1 group of 7 space units).
<b>T3817</b> ...	Auxiliary cabinet (2 groups of 7 space units).

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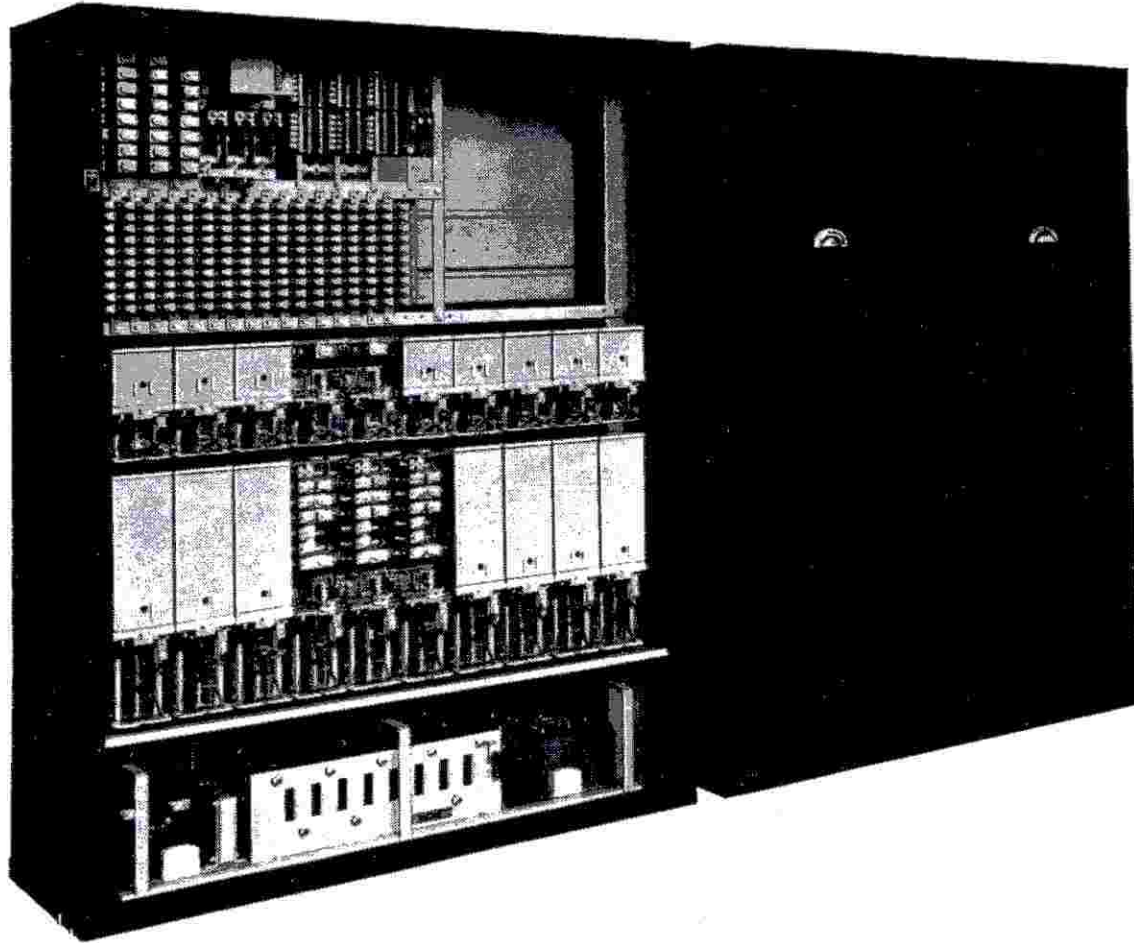


Fig. 5

200-line P.A.X.  
with one cover removed.

**SPECIAL SERVICES** for 25-line and larger P.A.X. switchboards T4358, T4363, T4365 and T4366.

Note (a)—Suitable bells, buzzers, horns, lamps, etc., to give code signals, are listed in Section H; they are not included above.

Note (b)—Space available on T4365: 1 group of 8 space units. On T4366: 2 groups of 8 space units.

Catalogue No.	Description.
T4371 ...	Tie line, 1-digit, for interconnection with another P.A.X. switchboard.
T4372 ...	Tie line, 2-digit, for interconnection with another P.A.X. switchboard.
T4380 ...	Fuse alarm.
T4381 ...	Release alarm.
T4382 ...	Key calling to 10 lines for one master station.
T4383 ...	Conference key calling with 10 lines for one master station. Key calling cabinet is illustrated in Fig. 7.
T4384 ...	Secretarial service (one required for each line furnished with the service). (See Fig. 8.)
T4385 ...	Priority service.
T4388 ...	Code call audible for 22 codes. See Note (a).
T4406 ...	Code call visual for 22 codes for T4358 and T4363. See Note (a).
T4407 ...	Code call visual for 22 codes for T4365 and T4366. See Note (a).
T3818 ...	Top extension to cabinet of T4358 (1 group of 12 space units).
T3819 ...	Auxiliary cabinet as for T4358 (3 groups of 12 space units).

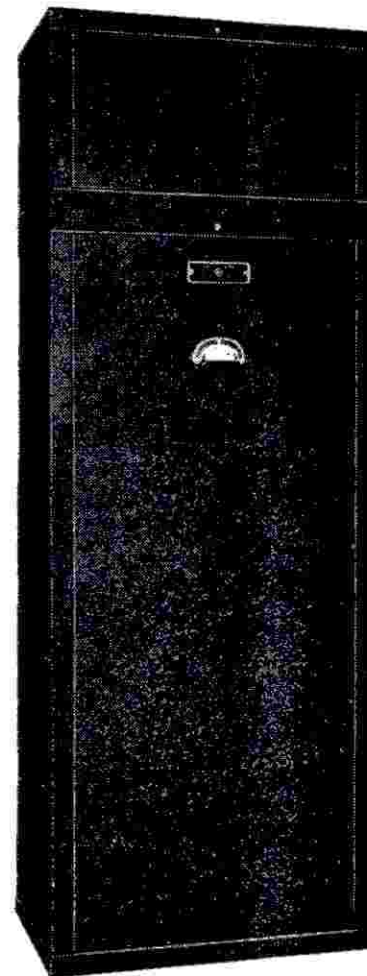


Fig. 6

25-line P.A.X. showing  
Special Services  
extension at top.

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