

# Private Manual Exchanges

The right to deviations from illustrations, dimensions, weights and shipping volumes is reserved.

Further particulars of equipment described in this brochure can be obtained from your nearest L M Ericsson agent.

**Telefonaktiebolaget L M Ericsson · Stockholm 32**

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### *Private Manual Exchanges (PMX)*

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# Private Manual Branch Exchanges for CB systems

## SURVEY

Type	Name	Switching devices	Extensions	Exchange lines	Connecting circuits	Ringing	Page	
ADD 1322	Cordless switchboard	Lever keys	6	2	2 + 1	Manual	6	
ADD 1332			9	3	3 + 2			
ADD 1342			16	4	4 + 3			
ADE 121	Wall switchboard	Cords with plugs	Max.	Max.	Max.		7	
			40	6	10			
ADF 143	Floor switchboard		80	12	20			8
ADF 144			180	12				9
ADF 162				180	16	18	10	
ADF 301	Multiple switchboard			480	40	18 per position	Automatic	12
ADF 302				1200	80			13

### Operating voltage

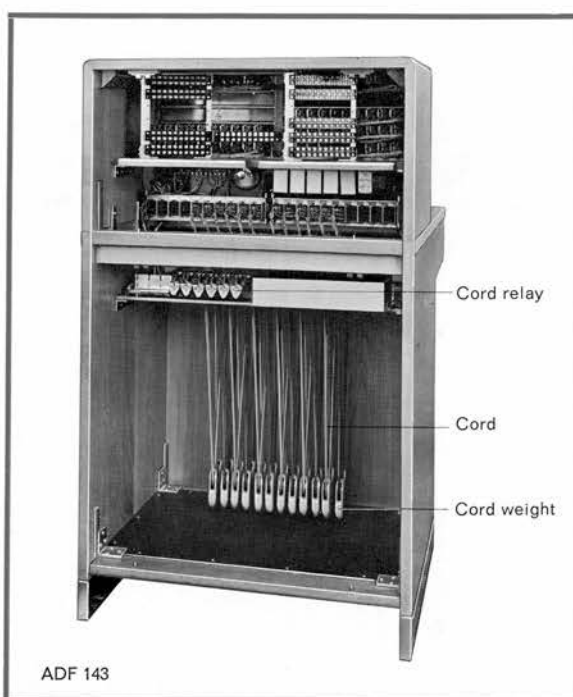
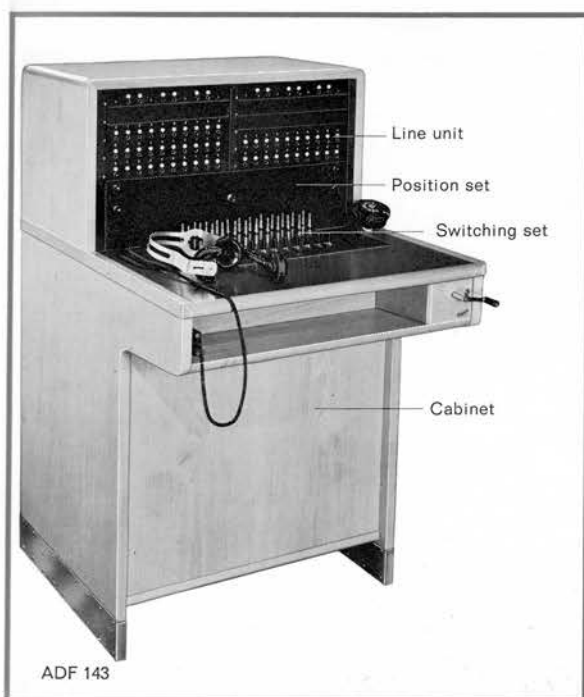
All PMBX operate off 24 V DC. The cord switchboards operate satisfactorily between about 20 and 28 V, the cordless between 15 and 30 V. Either a battery eliminator or a storage battery with charging rectifier can be used as power source. Suitable sizes are recommended under the respective types of PMBX.

### Public exchange

All PMBX can be connected to a public exchange of any type.

### Telephone sets

LM Ericsson's telephone sets for 24 V CB system can be used with all PMBX. If the PMBX is connected to a public automatic exchange the extensions can either have dial telephones, in which case they dial external numbers themselves, or telephones without dial, in which case the operator must dial external numbers. If it is desired to restrict the freedom of extensions in dialling long-distance calls, it may be advisable to provide dial telephones for extensions who are to have full freedom of access to the external network and telephones without dial for the other extensions.





### Common traffic facilities

1. Internal, outgoing and incoming calls extended by the operator.
2. Automatic holding of exchange lines. The operator can therefore leave a connection before the extension has answered the call.
3. Manual holding of exchange line, used for example in conjunction with queuing of calls.
4. Incoming calls on exchange lines signalled even if the operator has not had time to take down a preceding connection on the line.
5. The operator can momentarily disconnect the A extension and speak to the B extension alone. The operator can also ring back to the A extension.
6. The exchange lines can be switched for night service.
7. During a conversation on an exchange line an extension can summon the operator's attention in order, for example, to have the call transferred to another extension.

### Line data

The resistance of an extension line including telephone set may be max. 300 ohms for the cordless and 600 ohms for the cord switchboards. The insulation resistance must be min. 15,000 ohms. The permissible line resistance and insulation resistance of exchange lines are dependent primarily on the public exchange limits.



### Capacity

The numbers of extensions and exchange lines that can be connected to the respective PMBX, and the number of connecting circuits, will be seen from the table on the opposite page.

The cordless switchboards, type ADD, are always fully equipped for the maximum number of lines and connecting circuits, while the cord switchboards can be successively extended to the maximum figures stated in the table. For extension of a PMBX the minimum quantities of equipment which can be added at a time are:

for extensions	10 lines (ADF 302, 20 lines)
for exchange lines	1 line (ADF 162, 8 lines)
for connecting circuits	1 connecting circuit (since the cord relay is common to two cord pairs, however, the addition of two cord pairs at a time is recommended)

### Design features

The design of the **cordless switchboards** is dealt with on page 6. The **cord switchboards** consist essentially of a cabinet, position set, line units, switching sets with associated cord relays and, for ADE 121 and ADF 14, a rack with relay sets for exchange lines. The parts are assembled on site without the use of special tools. This method reduces the cost of transport, installation and maintenance to a minimum.

- The cabinet of the wall switchboard is made of natural-coloured solid oak. The cabinets of the floor switchboards are made of coreboard with a natural-coloured oak veneer. The keyshelf of the floor switchboards is covered with green PVC, which is hard-wearing and makes an excellent base for writing.
- The position set, at the bottom of the vertical jack field, is built-up on a board of cross-glued oak covered with paper laminate and contains the common controls for the switchboard.
- The extension line units have jacks and lamps for 10 lines (in ADF 302, however, the line units are replaced by jack and lamp strips for 20 lines). The frame is of phenolic resin, which has good insulating properties, is hard-wearing and non-fading. The lines terminate on a screw terminal block (in ADF 30 soldering terminals).
- The switching sets, placed in the keyshelf, have a phenolic frame and contain keys, clearing signal devices etc. The switching sets are connected by plug and jack.
- Two cord pairs require one cord relay connected by plug and jack.
- The relay set rack for exchanges ADE 121 and ADF 14 is designed for wall mounting and made of grey enamelled sheet steel. The rack accommodates 6 relay sets for one exchange line each, which are connected to the cabling by plug and jack.
- All components fulfil the requirements of fully adequate insulation, dimensional stability etc. even under unfavourable climatic conditions.

## ADD 1322, ADD 1332, ADD 1342

### CORDLESS CB PRIVATE MANUAL BRANCH EXCHANGES

#### Design features

The exchanges are designed to be placed on a table. They have drop indicators and flag indicators for calling and clearing signals, and lever keys as switching devices.

The switchboard consists essentially of a cabinet, front panel with controls, and relay equipment.

- The cabinet is made of natural-coloured solid oak.
- The front panel of green enamelled aluminium carries all signalling devices, keys and dial for operation of the switchboard.
- All relay equipment—except extra relays, if required, for connection to a magneto exchange—is placed inside the cabinet.
- The lines from the switchboard are run in a flexible cable to a wall terminal box.
- The switchboard has a built-in pole changer which generates the ringing current.
- All components fulfil the requirements of fully adequate insulation, dimensional stability etc. even under unfavourable climatic conditions.

quate insulation, dimensional stability etc. even under unfavourable climatic conditions.

#### Traffic facilities

In addition to the traffic facilities on page 5 these switchboards allow **automatic ring tripping** if an extension answers a call while ringing signals are being transmitted.

When switched for **night service** the switchboard consumes no current.

#### Accessories

At mains voltages of 110, 127 or 220 V, 50 Hz, either a battery eliminator BMN 2121 or a charging unit BMM 1716 with 24 V, approx. 10 Ah storage battery is recommended as **power plant**.

If an audible signal is needed outside the switchboard an **extra bell** KLD 1305 can be connected.

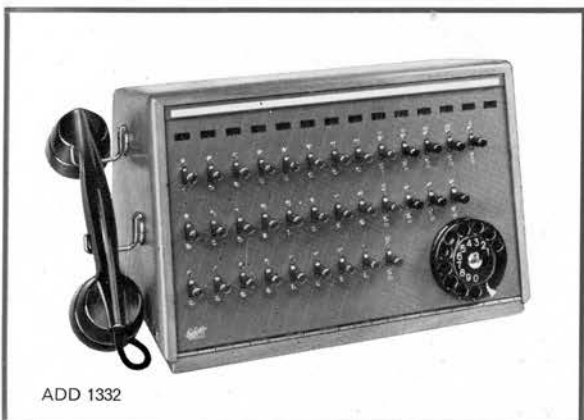
Equipment for magneto exchange lines and accessories must be ordered separately.

Type	Extensions	Exchange lines	Connecting circuits *)		Dimensions			Net weight kg	Switchboards per case	Gross weight per case kg	Shipping volume per case m <sup>3</sup>
			Ext.	Int.	Height mm	Width mm	Depth mm				
ADD 1322	6	2	2	1	200	303	216	7.8	4	55	0.23
ADD 1332	9	3	3	2	249	388	226	12.6	2	50	0.23
ADD 1342	16	4	4	3	310	571	230	21.8	1	40	0.14

\*) The operator can answer a new call even if all internal and/or external connecting circuits are engaged.



ADD 1322



ADD 1332



ADD 1342



## ADE 121

### CB PRIVATE MANUAL BRANCH EXCHANGE FOR WALL MOUNTING



The following types are recommended for normal traffic conditions:

Designation	ADE 121/20+ 4/6	ADE 121/30+ 4/6	ADE 121/30+ 5/8	ADE 121/40+ 6/10
Extensions	20	30	30	40
Exchange lines	4	4	5	6
Cord pairs	6	6	8	10
Height mm	490			
Width mm	336			
Depth mm	415			
Net weight kg	41	42	46	51
Gross weight kg	78	79	84	90
Shipping volume m <sup>3</sup>	0.28	0.28	0.29	0.31

The height of the switchboard including cords and weights is 870 mm. The width does not include the handset and hand generator crank.

The dimensions of the wall rack including relay sets for the exchange lines are:

height 440 mm  
width 256 mm  
depth 165 mm

The switchboard has lamps for indication of calling and clearing signals and cords with plugs as switching devices.

#### Supplementary equipment

For an additional 10 extensions:

1 line unit ..... BEF 2601



ADE 121 with relay equipment

Per additional **exchange line** to CB or automatic public exchange:

1 relay set ..... BCB 1648

The exchange line unit BEF 2603 contains equipment for 6 lines and the rack BDE 8006 accommodates 6 relay sets BCB 1648, which thus cover the requirement up to the ultimate capacity of the exchange.

For an additional 2 cord pairs:

2 switching sets ..... BEH 2507

1 cord relay ..... RAH 90001

4 cord weights ..... RTA 1204

2 red cords with plugs ..... TRM 1351/RPR 3527

2 grey cords with plugs ..... TRM 1325/RPR 3527

#### Accessories

At mains voltages of 110, 127 or 220 V, 50 Hz, the recommended **power supply** is either a battery eliminator BMN 2121 or a charging unit BMM 1716 with 24 V, approx. 15 Ah storage battery.

A **pole changer** RGN 6012 assists the work of the operator. If an audible signal is required outside the switchboard, an **extra bell** KLD 1305 can be connected.

An **MDF** of type NBA is recommended for exchanges with more than 20-30 extensions.

A **floor stand** BAR 1101 with **terminal box** NEF 4301 is recommended if the operator is to sit at a desk and carry out other work in addition to her operating duties. The wall switchboard is in such case placed on the floor stand and connected to the terminal box via the flexible cables. See page 22.

#### Data for orders

Orders should state the type of PMBX and the number of lines and cord pairs to be installed, e.g.:

"ADE 121 for 30 extensions, 5 exchange lines and 8 cord pairs" or "ADE 121/30 + 5/8".

Equipment for magneto exchange lines and accessories must be ordered separately.



Floor stand BAR 1101 and terminal box NEF 4301

## CB PRIVATE MANUAL BRANCH EXCHANGE FOR FLOOR MOUNTING

The following types are recommended for normal traffic conditions:

Designation	ADF 143/40+ 6/10	ADF 143/60+ 7/12	ADF 143/80+ 10/14	ADF 143/80+ 12/16
Extensions	40	60	80	80
Exchange lines	6	7	10	12
Cord pairs	10	12	14	16
Height mm	1 110			
Width mm	640			
Depth mm	765			
Net weight kg	87	99	110	117
Gross weight kg	182	195	216	224
Shipping volume m <sup>3</sup>	0.97	1.02	1.04	1.04

The dimensions of the wall rack including relay sets for the exchange lines are:

height 440 mm  
width 256 mm  
depth 165 mm

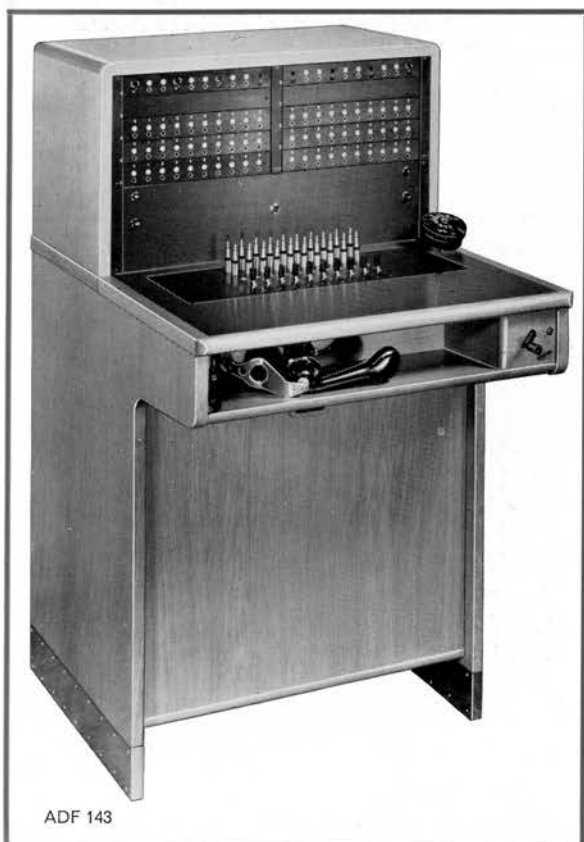
The switchboard has lamps for indication of calling and clearing signals and cords with plugs as switching devices.

### Supplementary equipment

For an additional 10 extensions:

1 line unit ..... BEF 2601

Per additional **exchange line** to CB or automatic public exchange:



ADF 143

1 relay set ..... BCB 1648  
The exchange line unit BEF 2603 contains equipment for 6 lines and the rack BDE 8006 accommodates 6 relay sets BCB 1648.

For extending the PMBX **from 6 to 7 exchange lines**:

1 line unit ..... BEF 2603  
1 rack for 6 relay sets ..... BDE 8006  
5 cover plates ..... 403308

Each empty relay set position on the rack must be covered with a plate 403308.

For an additional **2 cord pairs**:

2 switching sets ..... BEH 2507  
1 cord relay ..... RAH 90001  
4 cord weights ..... RTA 1204  
2 red cords with plugs ..... TRM 1353/RPR 3527  
2 grey cords with plugs ..... TRM 1354/RPR 3527

### Accessories

At mains voltages of 110, 127 or 220 V, 50 Hz, the recommended **power supply** is either a battery eliminator BMN 2122 or a charging unit BMM 1831 with 24 V, approx. 30 Ah storage battery.

A suitable **pole changer** is RGN 6012.

If an audible signal is required outside the switchboard, an **extra bell** KLD 1305 can be connected.

An **MDF** of type NBA is recommended.

### Data for orders

Orders should state the type of PMBX and the number of lines and cord pairs to be installed, e.g.:

"ADF 143 for 80 extensions, 10 exchange lines and 14 cord pairs" or "ADF 143/80 + 10/14".

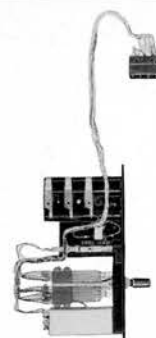
Equipment for magneto exchange lines and accessories must be ordered separately.



Cord relay RAH 90001



Rack BDE 8006 with relay sets BCB 1648



Switching set BEH 2507



## ADF 144

### CB PRIVATE MANUAL BRANCH EXCHANGE FOR FLOOR MOUNTING



The following types are recommended for normal traffic conditions:

Designation	ADF 144/100+ 8/12	ADF 144/120+ 10/14	ADF 144/140+ 10/16	ADF 144/180+ 12/18
Extensions	100	120	140	180
Exchange lines	8	10	10	12
Cord pairs	12	14	16	18
Height mm	1 290			
Width mm	640			
Depth mm	765			
Net weight kg	108	117	120	131
Gross weight kg	221	231	237	251
Shipping volume m <sup>3</sup>	1.09	1.12	1.14	1.18

The dimensions of the wall rack including relay sets for the exchange lines are:

height 440 mm  
width 256 mm  
depth 165 mm

The switchboard has lamps for indication of calling and clearing signals and cords with plugs as switching devices.

#### Supplementary equipment and accessories

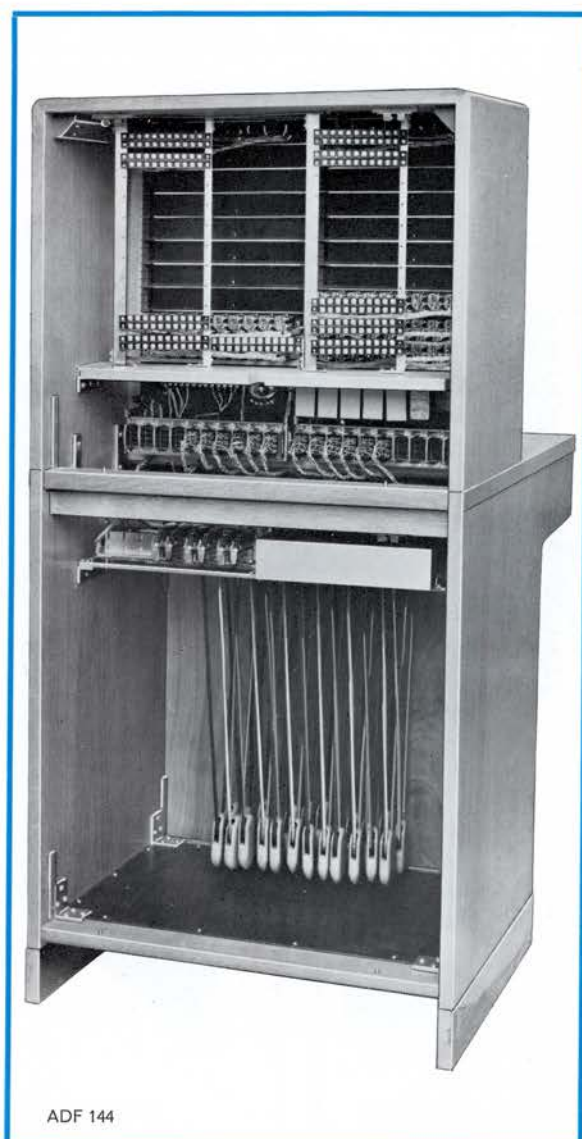
Same as for ADF 143 on the opposite page.

#### Data for orders

Orders should state the type of PMBX and the number of lines and cord pairs to be installed, e.g.:

"ADF 144 for 120 extensions, 10 exchange lines and 14 cord pairs" or "ADF 144/120 + 10/14".

Equipment for magneto exchange lines and accessories must be ordered separately.



## ADF 162

### CB PRIVATE MANUAL BRANCH EXCHANGE FOR FLOOR MOUNTING

The following types are recommended for normal traffic conditions:

Designation	ADF 162/120+ 8/14	ADF 162/140+ 16/16	ADF 162/160+ 16/18	ADF 162/180+ 16/18
Extensions	120	140	160	180
Exchange lines	8	16	16	16
Cord pairs	14	16	18	18
Height mm	1 322			
Width mm	640			
Depth mm	845			
Net weight kg	150	161	171	172
Gross weight kg	244	257	274	277
Shipping volume m <sup>3</sup>	0.83	0.86	0.86	0.86

The necessary functions for connection to CB or automatic public exchanges are built into the line equipment and connecting circuits. For connection to a magneto public

exchange certain auxiliary equipment is required which must be ordered separately.

The switchboard has drop indicators for indicating calls from exchange lines. Otherwise lamps are used for indication of calling and clearing signals. The switching devices consist of cords with plugs.

#### Design principles

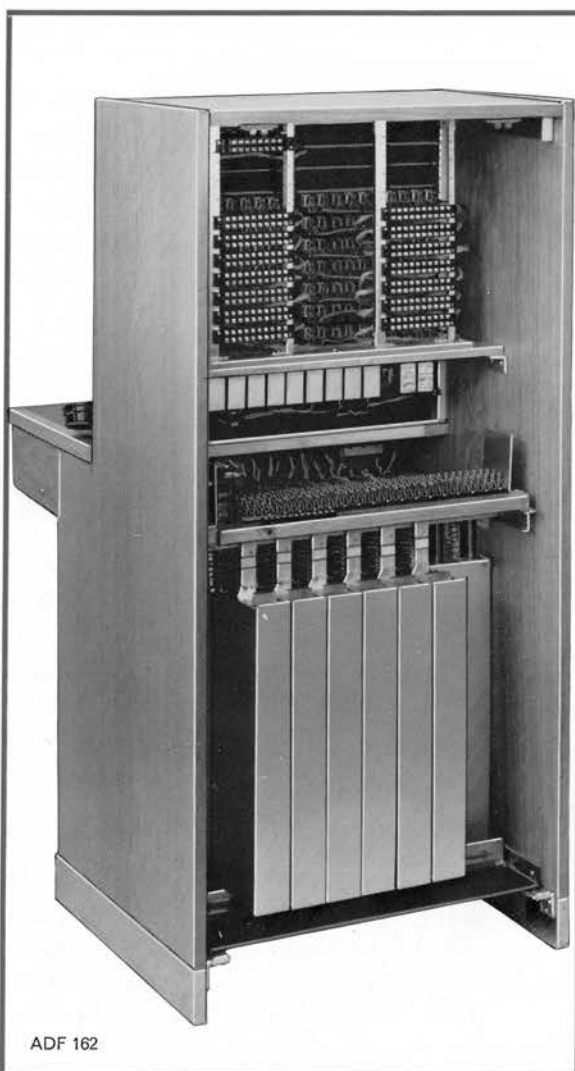
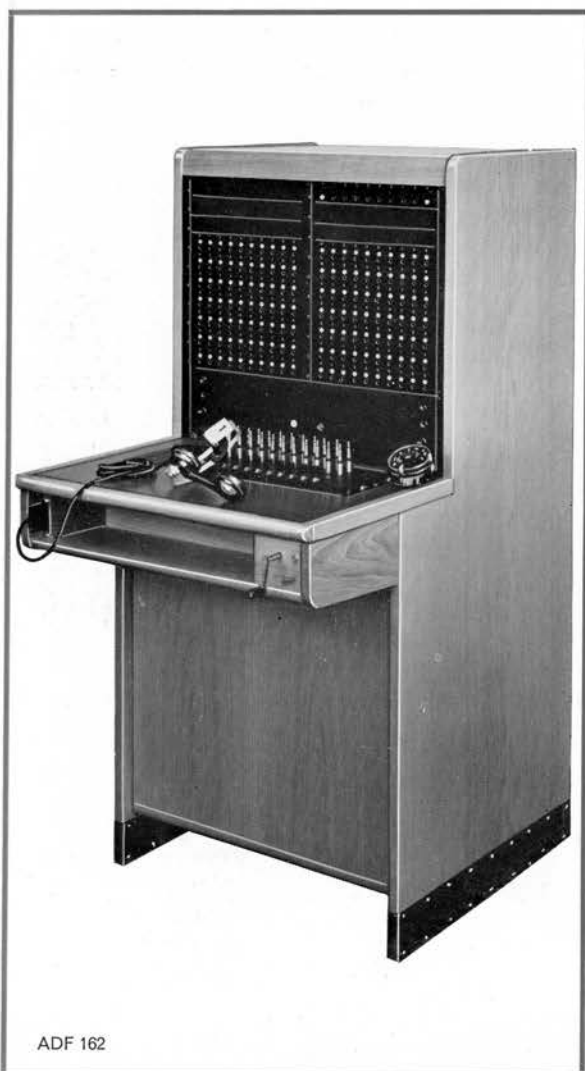
In addition to the features mentioned on page 5 this switchboard contains a wiring unit made of wood with an iron frame. The unit contains all cabling between cord pair equipments and relay sets, which are connected to the unit by plug and jack. The unit also contains the switchboard fuses.

The relay sets for the cord pairs are mounted vertically in the cabinet.

Each relay set serves two cord pairs.

#### Traffic facilities

In addition to the traffic facilities listed on page 5 these switchboards have the following facilities among others:





**Automatic intermittent ringing signals** are sent as soon as the ringing plug is inserted in an extension jack. At the same time the caller hears ringing tone.

**Automatic ring tripping** when the called extension answers.

**Privacy** provided by a warning tone to the conversing parties if the operator enters the circuit on which they are conversing.

The call from the public exchange can be connected to a **waiting jack** in the position set, after which a lamp flashes to remind the operator of the waiting call.

With a **supervisory jack** in the position set the operator can listen on a line to supervise it while serving other lines.

During **night service** the PMBX consumes no current.

### Supplementary equipment

For an additional **10 extensions**:

1 line unit ..... BEF 2601

For extending the PMBX **from 8 to 16 exchange lines** to a CB or automatic public exchange:

1 line unit ..... BEF 1803

For an additional **2 cord pairs**:

2 switching sets ..... BEH 1604

1 cord relay set ..... BCB 111111

4 cord weights ..... RTA 1204

2 red cords with plugs ..... TRM 1353/RPR 3527

2 grey cords with plugs ..... TRM 1354/RPR 3527

### Accessories

At mains voltages of 110, 127 or 220 V, 50 Hz, the recommended **power supply** is either a battery eliminator BMN 2122 or a charging unit BMM 1831 with 24 V, approx. 30 Ah storage battery.

As **ringing current source** either a pole changer RGN 6012 is recommended for connection to 24 V or a frequency transformer RES 252 for connection to the mains voltage. If the frequency transformer is to serve as regular ringing current source with pole changer as standby, a switching relay RGN 6030 is required for automatic connection of the pole changer on mains failure.

If an audible signal is required outside the switchboard, an **extra bell** KLD 1305 can be connected.

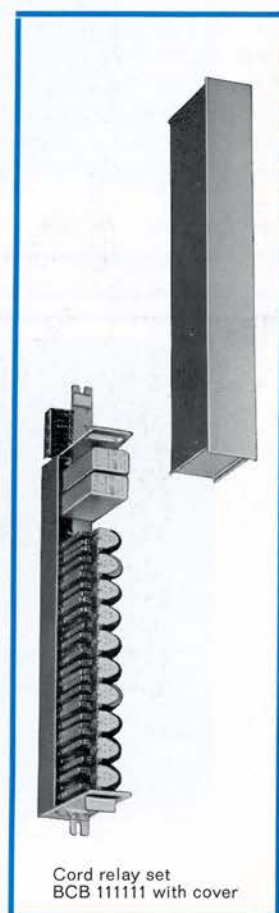
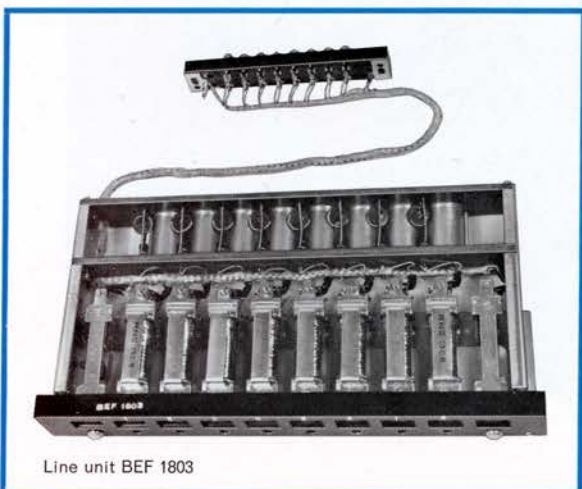
An **MDF** of type NBA is recommended.

### Data for orders

Orders should state the type of PMBX and the number of lines and cord pairs to be installed, e.g.:

"ADF 162 for 160 extensions, 16 exchange lines and 18 cord pairs" or "ADF 162/160 + 16/18".

Equipment for magneto exchange lines and accessories must be ordered separately.





## CB PRIVATE MANUAL BRANCH EXCHANGE WITH MULTIPLE

This exchange can be made up of any number of positions, line and cord pair equipments up to the ultimate capacity of 480 extensions and 40 exchange lines. The exchanges are normally equipped with up to 4 positions with 16 cord pairs per position, while larger exchanges have 18 cords per position.

The exchange has lamps for indication of calling and clearing signals and cords with plugs as switching devices.

### Design features

The design principles for this exchange are the same as those outlined on page 5. The switchboard also contains a wiring unit BEB 1001 of wood with iron frame which contains all cabling between cord pair equipments and relay sets, which are connected to the unit by plug and jack. The relay sets for cord pairs and CB exchange lines are vertically placed in the cabinet or cable turning section. The cord pair relay set serves two cord pairs and each exchange line relay set contains equipment for 10 lines.

### Traffic facilities

In addition to the traffic facilities listed on page 5 these switchboards have the following facilities among others: **Automatic intermittent ringing signals** are sent as soon as the ringing plug is inserted in an extension jack. At the same time the caller hears ringing tone.

**Automatic ring tripping** when the called extension answers.

**Privacy** provided by a warning tone to the conversing parties if the operator enters the circuit on which they are conversing.

The call from the public exchange can be connected to a **waiting jack** in the position set, after which a lamp flashes to remind the operator of the waiting call.

With a **supervisory jack** in the position set the operator can listen on a line to supervise it while serving other lines. During **night service** the PMBX consumes no current.

### Accessories

At mains voltages of 110, 127 or 220 V, 50 Hz, the re-

commended **power supply** is either a battery eliminator or a charging unit with 24 V storage battery as tabulated below:

Number of positions	Battery eliminator	Charging unit	Storage battery Ah
2 - 3	BMN 35003	BMM 1832	30
4 - 6	BMN 35003	BMM 1923	60

As **ringing current source** either a pole changer RGN 6012 is recommended for connection to 24 V or a frequency transformer RES 252 for connection to the mains voltage.

If the frequency transformer is to serve as regular ringing current source with pole changer as standby, a switching relay RGN 6030 is required for automatic connection of the pole changer on mains failure.

If an audible signal is required outside the switchboard, an **extra bell** KLD 1305 can be connected.

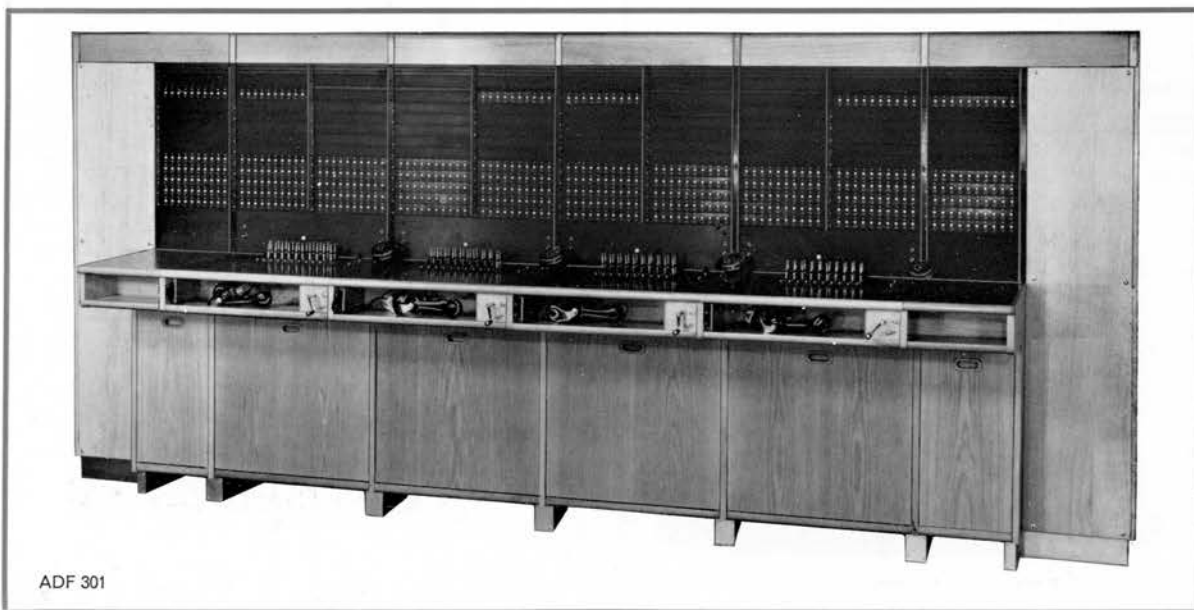
A floor rack BAB 16 or wall rack BAB 26 is recommended as **MDF**.

Switchboard and rack are interconnected by PVC-insulated **switchboard cable** which is placed on **cable runways** or in cable ducts.

### Data for enquiries

The following primary data are required for quotations for ADF 301 installations:

- number of extensions
- number of CB exchange lines
- number of magneto exchange lines
- number of calls per line in busy hour and mean conversation time or
- number of positions and number of cord pairs per position
- floor plan of switchroom
- ceiling height of switchroom
- power supply data



## ADF 302

### CB PRIVATE MANUAL BRANCH EXCHANGE WITH MULTIPLE



This exchange can be made up of any number of positions, line and cord pair equipments up to the ultimate capacity of 1200 extensions and 80 exchange lines. Normally each position is equipped with 18 cord pairs.

The exchange has lamps for indication of calling and clearing signals and cords with plugs as switching devices.

#### Design features

Similar to ADF 301 (see preceding page), but the extension line equipment consists of lamp and jack strips, while the necessary relay equipment is placed on a separate relay rack.

#### Accessories

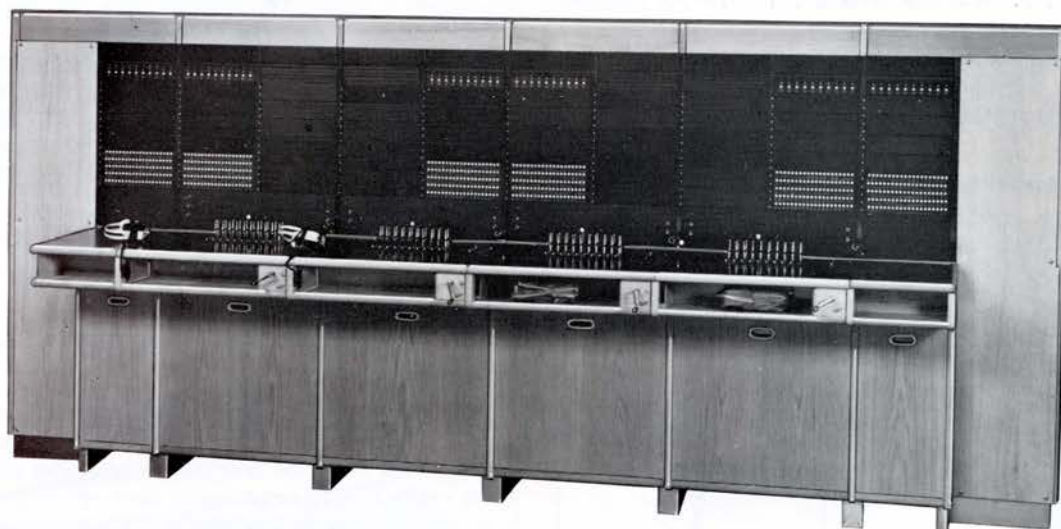
Similar to ADF 301 (see preceding page) but the recom-

mended **power supply** is either a battery eliminator or a charging unit with 24 V storage battery as tabulated below:

Number of positions	Battery eliminator	Charging unit	Storage battery Ah
2 - 4	BMN 35003	BMM 1923	60
5 - 6	—	BMM 1924	90

#### Data for enquiries

As for ADF 301 on preceding page.



ADF 302



ADF 302 with rear panels removed

# Private Manual Branch Exchanges for Magneto Systems

## SURVEY

Type	Name	Switching devices	Extensions	CB-exchange lines	Connecting circuits	Page
ABG 1550	Cordless switchboard	Plugs	4	1	2	15
ABG 1560			8	2	3	
ABG 1570			17	3	4	
			Max.	Max.	Max.	
ABH 162	Wall switchboard	Cord with plugs	40	4	10	16
ABK 205	Floor switchboard		80	8	20	17
ABK 206			180	8		18

### Operating voltage

for cordless switchboards is 3 V and for cord switchboards 6 V DC. The voltage can be delivered from a dry cell battery. A suitable type of battery is recommended for each exchange under the heading Accessories.

### Public exchange

All PMBX can be connected to a CB or automatic public exchange of any type. Lines to magneto public exchanges can also be connected to the normal extension instruments. If all exchange lines are of magneto type, a PMBX of suitable size should be chosen from Brochure 2160 PUBLIC MANUAL EXCHANGES, in which case the necessary number of exchange lines corresponds to the sum of the extension and exchange lines stated in the Brochure.

### Telephone sets

All LM Ericsson magneto telephone sets can be used. If the PMBX is connected to an automatic public exchange, the operator must put through calls to public exchange subscribers from the dial on her switchboard.

### Line data

The permissible resistance and insulation resistance values for the exchange lines are dependent principally on the limits of the public exchange. General data concerning the permissible length of line can therefore not be supplied.

### Capacity

The number of extensions, exchange lines and connecting circuits that can be connected to the PMBX are tabulated above. The cordless switchboards (type ABG) are always fully equipped, whereas cord switchboards can be successively extended to the maximum number of lines and connecting circuits shown in the table. The minimum quantity of equipment which can be added at any one time is:

for extensions	10 lines
for exchange lines	2 lines
for connecting circuits	1 connecting circuit

### Design features

The design of the **cordless switchboards** is dealt with on page 15. The **cord switchboards** have equipments for connection of CB exchange lines but are otherwise identical to the corresponding switchboards dealt with in Brochure 2160 PUBLIC MANUAL EXCHANGES. For design features etc., therefore, reference should be made to the pertinent sections of that brochure. The CB exchange line unit is designed for 4 lines. The frame is of phenolic resin, which has good insulating properties, is hard-wearing and non-fading. The lines terminate on a screw terminal block. The rack for the exchange line relay sets is designed for wall mounting and made of grey enamelled sheet steel. The rack accommodates two relay sets, each for two exchange lines. The relay sets are connected to the cabling by plug and jack and the lines terminate on a screw terminal block at the bottom of the rack.

The switchboards are equipped with a dial.



### Design features

The switchboards are designed to be placed on a desk. Drop indicators are used for calling and clearing signals and jacks and plugs as switching devices.

The switchboards consist essentially of a cabinet, position set and line units.

- The cabinet is of natural-coloured solid oak.
- The position set at the far right of the switchboard has a frame of black enamelled sheet steel. The unit contains all common controls for the switchboard and clearing signal drop indicators.
- The line units have a phenolic frame on which are jacks and calling indicators. The frame has satisfactory insulating properties, is hard-wearing and non-fading.
- Outgoing lines from the switchboard are run in a flexible cable to a wall terminal box.
- All components fulfil the requirements of fully adequate

insulation, dimensional stability etc., even in unfavourable climatic conditions.

### Traffic facilities

In addition to the normal traffic facilities these switchboards have the following facilities among others:

Several lines can **be rung simultaneously**.

If several plugs are placed in the same line of jacks, a **conference call** can be established.

### Accessories

Two **dry cells** BKA 2002 in **battery box** BKY 1001 are recommended as power supply.

If an audible signal is required outside the switchboard an **extra bell** KLD 1301 can be connected.

Accessories must be ordered separately.

Type	Extensions	CB exchange lines	Connecting circuits *)	Dimensions			Net weight kg	Switchboards per case	Gross weight per case kg	Shipping volume per case m <sup>3</sup>
				Height mm	Width mm	Depth mm				
ABG 1550	4	1	2		268		7.8	2	38	0.16
ABG 1560	8	2	3	257	368	205	9.9	2	47	0.23
ABG 1570	17	3	4		618		14.0	2	53	0.23

\*) The operator can answer a new call even if all internal and/or external connecting circuits are engaged.



## MAGNETO PRIVATE MANUAL BRANCH EXCHANGE FOR WALL MOUNTING

The following types are recommended for normal traffic conditions :

Designation	ABH 162/20+ 2/5	ABH 162/30+ 2/7	ABH 162/30+ 4/8	ABH 162/40+ 4/9
Extensions	20	30	30	40
CB exchange lines	2	2	4	4
Cord pairs	5	7	8	9
Height mm	490			
Width mm	336			
Depth mm	415			
Net weight kg	27	30	33	34
Gross weight kg	65	70	72	76
Shipping volume m <sup>3</sup>	0.28	0.31	0.31	0.31

The height of the switchboard including cords and weights is 870 mm. The width does not include the handset and hand generator crank.

The dimensions of the wall rack including relay sets for the exchange lines are :

height 260 mm

width 256 mm

depth 165 mm

The switchboard has drops for indication of calling and clearing signals and cords with plugs as switching devices.

### Supplementary equipment

For an additional **10 extensions** :

1 line unit ..... BEF 1601

For an additional **2 CB exchange lines** :

1 relay set ..... BCB 1602

The exchange line unit BEF 1605 contains equipment for 4 lines and the rack BDE 8004 accommodates 2 relay sets BCB 1602, which thus cover the requirement up to the ultimate capacity of the exchange.

For an additional **cord pair** :

1 switching set ..... BEH 1501

2 cord weights ..... RTA 1204

2 red cords with plugs ..... TRM 1351/RPR 3527

2 grey cords with plugs ..... TRM 1352/RPR 3527

### Accessories

**Four dry cells** BKA 2002 in **battery box** BKY 1003 are recommended as power supply.

A suitable **pole changer** is RGN 6011.

If an audible signal is required outside the switchboard, an **extra bell** KLD 1303 can be connected.

An **MDF** of type NBA is recommended for exchanges with more than 20-30 extensions.

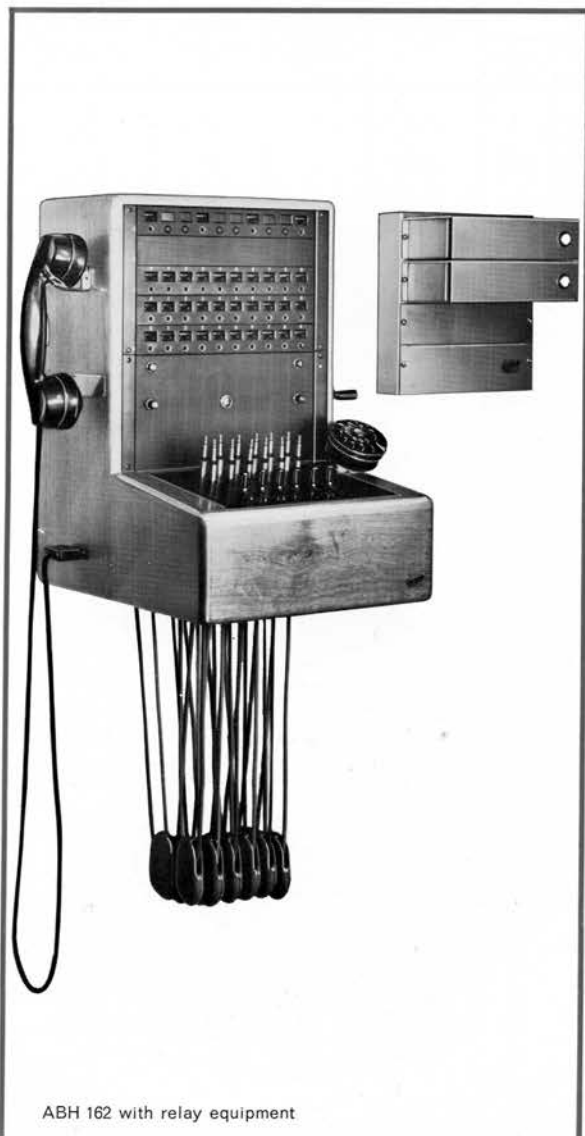
A **floor stand** BAR 1101 with **terminal box** NEF 4301 is recommended if the switchboard is to be placed on the floor. See page 22.

### Data for orders

Orders should state the type of PMBX and the number of lines and cord pairs to be installed, e.g. :

"ABH 162 for 30 extensions, 2 CB exchange lines and 7 cord pairs" or "ABH 162/30 + 2/7".

Accessories must be ordered separately.



ABH 162 with relay equipment



## ABK 205

### MAGNETO PRIVATE MANUAL BRANCH EXCHANGE FOR FLOOR MOUNTING



The following types are recommended for normal traffic conditions:

Designation	ABK 205/40+ 4/9	ABK 205/60+ 4/10	ABK 205/60+ 6/11	ABK 205/80+ 6/12
Extensions	40	60	60	80
CB exchange lines	4	4	6	6
Cord pairs	9	10	11	12
Height	mm 1 110			
Width	mm 640			
Depth	mm 765			
Net weight	kg 70	kg 72	kg 79	kg 82
Gross weight	kg 165	kg 167	kg 177	kg 179
Shipping volume	m <sup>3</sup> 0.97	m <sup>3</sup> 0.99	m <sup>3</sup> 1.02	m <sup>3</sup> 1.02

The dimensions of the wall rack including relay sets for the exchange lines are:

height 260 mm  
width 256 mm  
depth 165 mm



ABK 205

The switchboard has drops for indication of calling and clearing signals and cords with plugs as switching devices.

#### Supplementary equipment

For an additional **10 extensions**:

1 line unit ..... BEF 1601

For an additional **2 CB exchange lines**:

1 relay set ..... BCB 1602

The exchange line unit BEF 1605 contains equipment for 4 lines and the rack BDE 8004 accommodates 2 relay sets BCB 1602.

For extending the PMBX from **4 to 6 CB exchange lines**:

1 line unit ..... BEF 1605

1 rack for 2 relay sets ..... BDE 8004

2 cover plates ..... 403308

Each empty relay set position on the rack must be covered with a plate 403308. One plate is also required for the bottom uncabled position.

For an additional **cord pair**:

1 switching set ..... BEH 1501

2 cord weights ..... RTA 1204

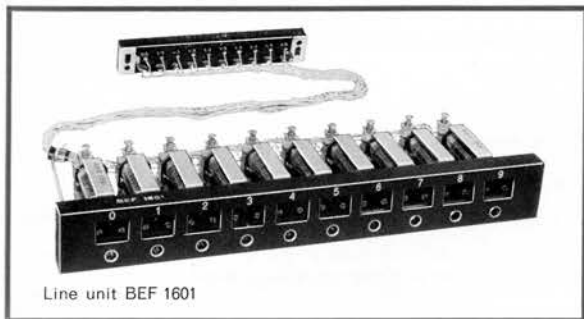
2 red cords with plugs ..... TRM 1353/RPR 3527

2 grey cords with plugs ..... TRM 1354/RPR 3527

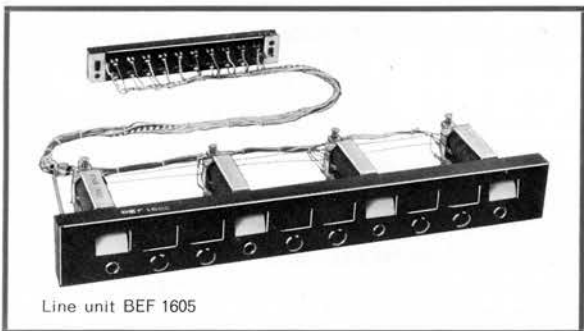


Switching set BEH 1501

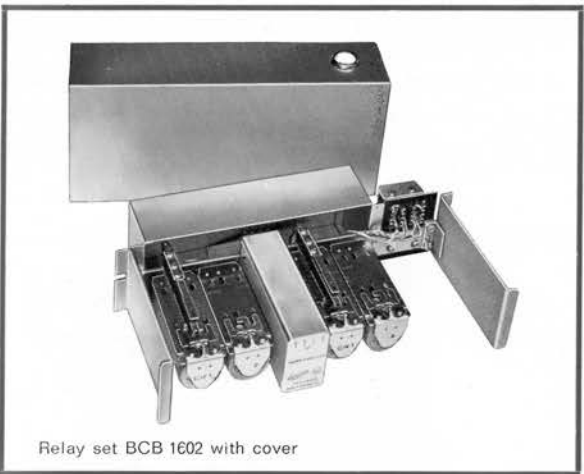




Line unit BEF 1601



Line unit BEF 1605



Relay set BCB 1602 with cover



Rack BDE 8004 with relay sets BCB 1602

## Accessories

Four dry cells BKA 2002 in battery box BKY 1003 are recommended as power supply.

A suitable pole changer is RGN 6011.

If an audible signal is required outside the switchboard, an extra bell KLD 1303 can be connected.

An MDF of type NBA is recommended.

## Data for orders

Orders should state the type of PMBX and the number of lines and cord pairs to be installed, e.g. :

"ABK 205 for 60 extensions, 6 CB exchange lines and 11 cord pairs" or "ABK 205/60 + 6/11".

Accessories must be ordered separately.

## ABK 206

### MAGNETO PRIVATE MANUAL BRANCH EXCHANGE FOR FLOOR MOUNTING

The following types are recommended for normal traffic conditions :

Designation	ABK 206/100+ 6/14	ABK 206/120+ 8/15	ABK 206/140+ 8/16	ABK 206/180+ 8/18
Extensions	100	120	140	180
CB exchange lines	6	8	8	8
Cord pairs	14	15	16	18
Height	mm 1 290			
Width	mm 640			
Depth	mm 765			
Net weight	kg 89	kg 93	kg 96	kg 100
Gross weight	kg 196	kg 201	kg 204	kg 212
Shipping volume	m <sup>3</sup> 1.14	m <sup>3</sup> 1.14	m <sup>3</sup> 1.14	m <sup>3</sup> 1.20

The dimensions of the wall rack including relay sets for the exchange lines are :

height 260 mm  
width 256 mm  
depth 165 mm

The switchboard has drops for indication of calling and clearing signals and cords with plugs as switching devices. Apart from capacity this switchboard is identical to ABK 205 on page 17. For particulars of supplementary equipment, accessories etc., therefore, reference should be made to the latter.

## SURVEY

Type	Name	Switching devices	Extensions max.	Cord pairs max.	Page
ADE 121	Wall switchboard	Cords with plugs	50	10	See below
ADF 143	Floor switchboard		100	20	20
ADF 144			200		20

### General

The PMX for CB systems have no equipment for connection of exchange lines but in all other respects are similar to the corresponding types of PMBX. The space otherwise occupied by exchange line equipment can be used for a rather larger number of extension lines as tabulated above.

### ADE 121

#### CB PRIVATE MANUAL EXCHANGE FOR WALL MOUNTING

The following types are recommended for normal traffic conditions:

Designation	ADE 121/20/4	ADE 121/30/6	ADE 121/40/6	ADE 121/50/8
Extensions	20	30	40	50
Cord pairs	4	6	6	8
Height mm	490			
Width mm	336			
Depth mm	415			
Net weight kg	23	26	29	30
Gross weight kg	57	62	66	67
Shipping volume m <sup>3</sup>	0.24	0.25	0.28	0.30

The height of the switchboard including cords and weights is 870 mm. The width does not include the handset and hand generator crank.

### Supplementary equipment and accessories

See corresponding data for ADE 121 on page 7.

### Data for orders

Orders should state the type of PMX and the number of lines and cord pairs to be installed, e.g.:

"ADE 121 for 40 extensions and 6 cord pairs" or  
"ADE 121/40/6".

Accessories must be ordered separately.



## ADF 143

### CB PRIVATE MANUAL EXCHANGE FOR FLOOR MOUNTING

The following types are recommended for normal traffic conditions :

Designation	ADF 143/50/8	ADF 143/60/10	ADF 143/80/10	ADF 143/100/12
Extensions	50	60	80	100
Cord pairs	8	10	10	12
Height mm	1 110			
Width mm	640			
Depth mm	765			
Net weight kg	65	68	70	74
Gross weight kg	158	164	165	171
Shipping volume m <sup>3</sup>	0.93	0.98	0.98	1.02

#### Supplementary equipment and accessories

See corresponding data for ADF 143 on page 8.

#### Data for orders

Orders should state the type of PMX and the number of lines and cord pairs to be installed, e.g. :

"ADF 143 for 60 extensions and 10 cord pairs" or  
"ADF 143/60/10".

Accessories must be ordered separately.

## ADF 144

### CB PRIVATE MANUAL EXCHANGE FOR FLOOR MOUNTING

The following types are recommended for normal traffic conditions :

Designation	ADF 144/120/12	ADF 144/140/14	ADF 144/170/16	ADF 144/200/18
Extensions	120	140	170	200
Cord pairs	12	14	16	18
Height mm	1 290			
Width mm	640			
Depth mm	765			
Net weight kg	79	83	87	92
Gross weight kg	182	191	195	204
Shipping volume m <sup>3</sup>	1.07	1.14	1.14	1.20

#### Supplementary equipment and accessories

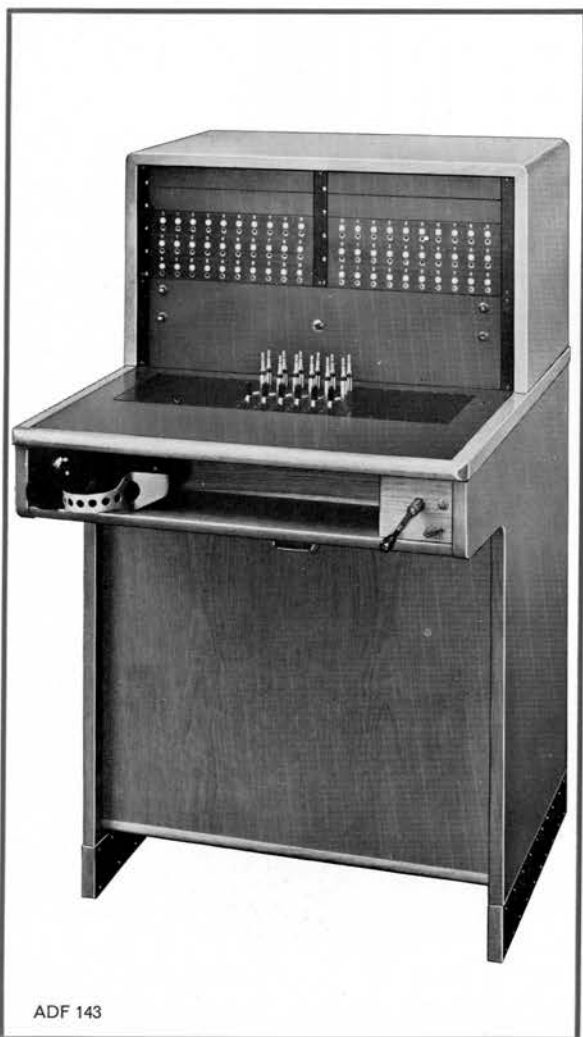
See corresponding data for ADF 144 on page 9.

#### Data for orders

Orders should state the type of PMX and the number of lines and cord pairs to be installed, e.g. :

"ADF 144 for 170 extensions and 16 cord pairs" or  
"ADF 144/170/16".

Accessories must be ordered separately.





# Private Manual Exchanges for Magneto Systems



## SURVEY

Type	Name	Switching devices	Extensions	Connecting circuits	Page
ABG 1505	Cordless switchboard	Plugs	5	2	See below
ABG 1510			10	3	
ABG 1520			20	4	
ABH 162	Wall switchboard	Cords with plugs	Max.	Max.	
			50	10	
ABK 205	Floor switchboard		100	20	
ABK 206			200		

The PMX for magneto systems have no equipment for connection of CB exchange lines and are therefore identical to the corresponding types in Brochure 2160 PUBLIC MANUAL EXCHANGES. For details of the switchboards, therefore, reference should be made to that brochure.

### ABG 1505, ABG 1510, ABG 1520 CORDLESS PMX FOR MAGNETO SYSTEM

The switchboards are made for 5, 10 and 20 extensions with respectively 2, 3 and 4 connecting circuits. Even if all connecting circuits are engaged the operator can answer new calls.

#### Recommended accessories

Dry cells, battery box and extra bell, which must be ordered separately.

### ABH 162, ABK 205, ABK 206 PMX FOR MAGNETO SYSTEM

The switchboards can be equipped with any number of line units and switching equipments up to the ultimate capacities tabulated above.

#### Recommended accessories

Dry cells, battery box, pole changer, extra bell, MDF and, for ABH 162, floor stand and wall terminal box.

#### Data for orders

Orders for ABH 162, ABK 205 and ABK 206 should state the type of PMX and the number of lines and cord pairs to be installed, e.g.:

"ABH 162 for 30 extensions and 6 cord pairs" or  
"ABH 162/30/6".

Accessories must be ordered separately.



# Accessories for PMBX

## BAR 1101

### FLOOR STAND

A wall switchboard can be placed on a portable floor stand and connected by a flexible cable to a wall terminal box NEF 4301. The operator can then sit at a desk and perform other work while having the switchboard conveniently within her reach. The operator's time can thus be better used than if the switchboard is mounted on a wall, and the combination is cheaper than a detached switchboard.  
**Dimensions:** height 480 mm, width 336 mm, depth 415 mm.  
**Net weight:** 6.7 kg.



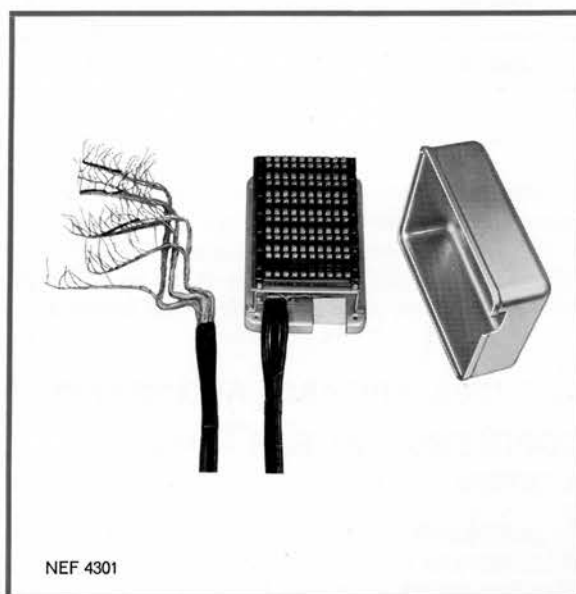
## NEF 4301

### WALL TERMINAL BOX

The wall terminal box used with floor stand BAR 1101 is supplied with terminal blocks and flexible cables for the maximum capacity of the switchboard. The free length of the cables is 1.7 m.

**Dimensions:** height 252 mm, width 162 mm, depth 95 mm.

**Net weight:** 3 kg.







2158

**TELEFONAKTIEBOLAGET LM ERICSSON**

**STOCKHOLM 32 SWEDEN**