

businessphone



User's Guide

BUSINESSPHONE 6

Compact telephone system

ERICSSON 

Welcome to the BusinessPhone 6 User's Guide. The BusinessPhone 6 is a programmable telephone exchange for small business and practical homes with up to 6 extensions. The BusinessPhone 6 I has one incoming line and the BusinessPhone 6 II has two. The exchange is connected to the Public Service Telephone Net, and can use tone or pulse dialling.

It is possible to impose restrictions on each extension; e.g. block long distance calls. The BusinessPhone 6 II can have an operator telephone for directing all incoming calls. Several functions such as doorbell signalling, door phone and door opening can be implemented in both BusinessPhone 6 I and BusinessPhone 6 II. A telefax in auto mode can be connected to the BusinessPhone 6 II.

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SECURITY

Take care to disconnect the mains electricity plug during thunderstorms in order to prevent damage if lightning should strike nearby. You should also disconnect the mains plug during long absences (all functions will remain as programmed). Telephone equipment connected to a telephone line and to the mains electricity supply is particularly susceptible to damage during thunderstorms.

The guarantee does not cover damage caused by lightning.

ANSWER CALLS



Ringing signal. If it is an external call, all phones will ring (except occupied phones).

Lift the handset

The first to lift the handset takes the call. It is not possible to listen to the conversation from the other extensions.

If the ringing signal has been switched off, you hear the internal dialtone when you lift the handset.

0

Press

You take the external call.

ANSWER DOOR

All phones connected to the exchange emit doorbell signal (except occupied phones). If a door phone or magnetic lock is connected, proceed as follows:

6

Press

You are connected with the door phone.

R*

Press

Activates the magnetic doorlock. The door can be opened.

**"CALL WAITING"-
TONE**



Audible in phones occupied in internal conversation when an external call arrives (all other phones will ring normally).

Replace the handset

The internal call is disconnected. External ringing signal.



Lift the handset

The first to lift the handset takes the call.

* dial 1 if pulse set, see page 10

OUTGOING CALLS

MAKE CALLS



Internal and external calls.

Lift the handset

Internal dialtone.

n

Dial the extension number to make internal call

"n" is the extension number (2 to 6 or 9).

0

or press 0 to make external call

External dialtone.



Dial the external number

On a BusinessPhone 6 II with a fax-link programmed in auto mode, you can select exchange line 2 for external call by dialling 5 instead of 0.

LINE-OUT BUSY

You receive busy tone instead of external dialtone when attempting to make an external call. You can then book the exchange line for your call.

R*

Press

Confirmation tone. The line is booked for your call. If you hear the blocking tone instead, then the line has already been booked.



Replace the handset

When you hear the internal ringing signal (two cycles), the line is available for your external call.

* dial 1 if pulse set, see page 10

**TRANSFER CALL
HOLD CALL**

You can transfer an external call to another extension, or place it on hold whilst you make an internal call (inquiry).

R*

Press

Internal dialtone.

n

Dial the extension number. Replace the handset before answer

"n" is the extension number (2 to 6 or 9). The call is transferred to the extension and must be answered there within 45 seconds or the call will be disconnected.

or wait for answer

Internal conversation (inquiry). If you replace the handset the call is transferred.

**RETRIEVE EXTERNAL
CALL**

After the internal conversation, you can retrieve the external call.

R*

Press

You retrieve the external call.

CONFERENCE

With an external call in progress, you can have a three-party conference with a second extension.

R* **7** **n**

Dial

"n" is the extension number of the third party (2 to 6 or 9). When the called party answers, the conference is established.

* dial 1 if pulse set, see page 10

**HANDLE TWO CALLS
BUSINESSPHONE 6 II****R***

On BusinessPhone 6 II, you can hold one external call while conducting a second external conversation.

Press

Internal dialtone. The first call is put on hold. Waiting tone to call on hold.

0**Press**

You take the second external call. Repeat the procedure to retrieve the first call. The line you serve can be transferred or terminated. When replacing the handset, the call on hold will signal for reconnection.

DO NOT DISTURB

On each extension, except the main phone (9), the external ringing signal can be switched off or on. Requires a tone signalling set.

Lift the handset of the extension

Internal dialtone.

Switch off/on by dialling*** 0**

Confirmation tone. The ringing signal is switched off and the extension will ring only when called internally.

*** 1**

Confirmation tone. The ringing signal is switched on.

The ringing function can also be programmed from the programming phone (2). See pages 7 and 9

SELECTING FUNCTIONS



Additional functions can be assigned from the programming phone (2) to one or more telephones. The functions are described on page 8.

Lift the handset of the programming phone

Select functions according to the table

"n" is the extension (2 to 6) to which you wish to assign additional functions. The functions of the main phone (9) cannot be changed; it must always meet the requirements of any telephone connected to the Public Service Telephone Net.

7 * n 1 #

Open for outgoing calls. No restrictions for long distance calls. Ringing signal.
(This is the default.)

7 * n 2 #

Open for outgoing calls. No restrictions for long distance calls. No ringing signal.

7 * n 3 #

Open for outgoing calls. Restrictions for long distance calls. Ringing signal.

7 * n 4 #

Open for outgoing calls. Restrictions for long distance calls. No ringing signal.

7 * n 5 #

Blocked for outgoing calls. Ringing signal.

7 * n 6 #

Blocked for outgoing calls. No ringing signal.

Block all outgoing calls

The line is disconnected if an external call is attempted. On delivery, you can make an external call from any extension.

Implement restrictions (block long distance dialling)

On restricted phones, if an attempt is made to call an external number that begins with a restricted digit, then the line is disconnected. The telephone directory shows, for example, which zones are billed at the local rate and the initial digits for those zones.

Restricted phones do not permit long distance dialling, since 0 is not permitted as an initial digit.

Selecting permitted digits, see following page. On delivery, you can call locally and long distance.

Switch off the ringing signal (do not disturb)

On delivery, all extensions ring when an external call arrives.

EXAMPLE

7 * 5 6 #

You want to block extension 5 from making external calls and you do not want the phone to ring.

**OPERATOR MODE
BUSINESSPHONE 6 II**

By programming operator mode, all incoming external calls will be received on main phone (9) (operator). If the call is transferred it must be answered within 20 seconds, otherwise it reverts to the operator.

Dial on the programming phone (2)

7 * 9 1 #

Operator mode.

7 * 9 0 #

Reset to normal mode. This is the default setting.

SELECTING PERMITTED INITIAL DIGITS

On delivery all initial digits from 1 to 9 are permitted. If no selection is made, restricted extensions will be blocked from long distance dialling only; they will be able to call any number not requiring an area code.

8 *
1 2 3
4 5 6
7 8 9
#**Dial on the programming phone (2)**

The exchange is ready for selection of permitted initial digits.

Dial the permitted digits

Digits between 1 and 9. At least one digit must be permitted. The digits must be dialled sequentially.

Press

The permitted digits are now selected. Note that if you want to change one or more of the permitted initial digits, you must re-dial all digits.

EXAMPLE**8 *****3 5 6 7 #**

You want restricted extensions only to be able to call external numbers that begin with 3, 5, 6 or 7.

RESETTING

You can reset the exchange to its delivery state and start again (if you forget the selections).

7 * 7 7 #**Dial on the programming phone (2)****RESET RINGING FUNCTION**

The ringing function on all extensions can be reset from the programming phone.

*** *****Dial on the programming phone (2)**

This cancels any changes made on the extensions. The ringing function on all extensions will be as selected on the programming phone.

- **Please follow the instructions carefully.**
- **Do not terminate the extension lines if the power indicator is lit.**
- **Do not install the exchange lines before the extensions are ready and tested.**

The BusinessPhone 6 should be installed close to the mains outlet and the line outlets of the Public Service Telephone Net. The exchange lines should always be protected with extra surge protection devices if the outdoor wires are above ground level. Single pair extension cables max length 300 meters each. 4 wire twisted pair extension cables max length 10 meters each.

To implement the doorbell function, a doorbell should be connected in parallel to the doorbell input. The input is a voltage sensor for 8-12V with a resistance of 3 kOhms. The sensor will trig when the doorbell is activated and then the doorbell signal will ring.

A magnetic door lock can be connected to the door lock output. The output is a closing relay circuit. The current through the door lock output must not exceed 1A at 12-24V.

CHOICE OF TELEPHONES

Programming phone (2):

Tone signalling set with * and # buttons (DTMF set).

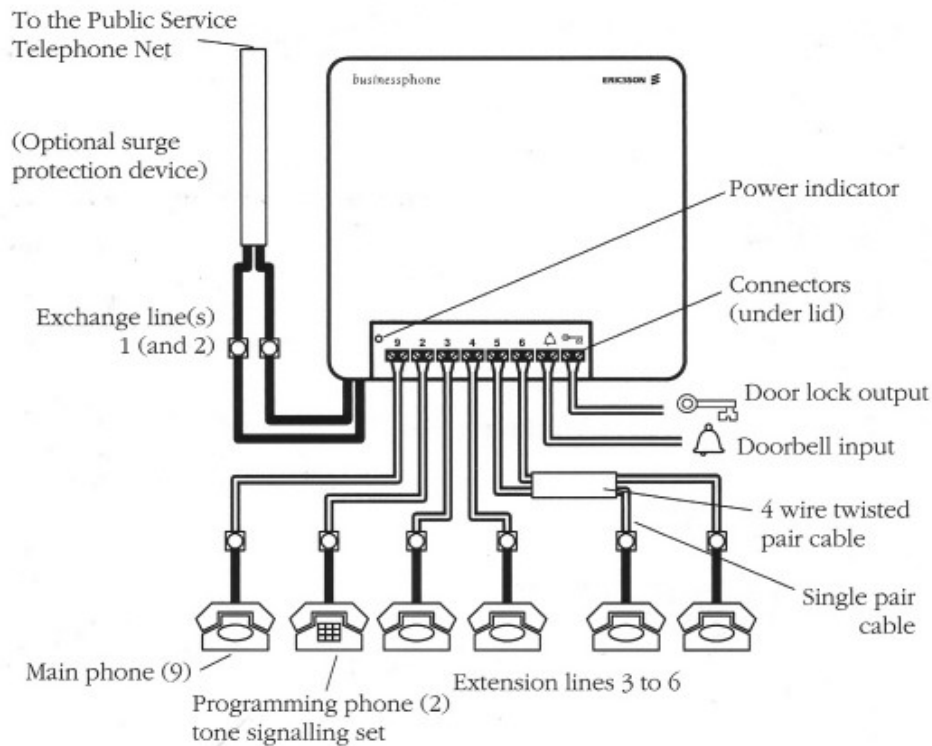
Main phone (9):

Compatible with the type of Public Exchange to which you are connected. This is because in the event of a power failure, exchange line 1 is directly connected to the main phone (9). If the Public Exchange accepts pulse signalling only, the set must be of the pulse dialling type. See also page 12.

Extensions 3 to 6:

Any type; tone or pulse. The pulse signalling type is recommended if the Public Exchange accepts pulse only. When using pulse signalling telephone sets, the key 1 is used as register recall to obtain access to the services. Whenever the R-key is required for a service, dial 1 instead. When using tone signalling sets, a register recall (R key) with timed break is required. This gives access to the services.

- 1 - Mount the BusinessPhone 6 on the wall.
- 2 - Connect the extension lines to the terminals under the lid. Extension lines no. 9 (main phone) and no. 2 (programming phone) must not be placed outside your premises. Check the wiring carefully.
 - Door phone (if used) be connected to extension 6.
 - Telefax in auto mode (if used) be connected to extension 5.
 - If a doorbell or door lock is used, please refer to page 10.
- 3 - Connect the exchange to the mains outlet. The power indicator is lit.
- 4 - Connect the telephone sets.
- 5 - Check for dialtone in the sets and test all extensions by dialling.
- 6 - Connect the exchange line(s) to the BusinessPhone 6.



**PROGRAMMING
EXCHANGE TYPE**



7 * 0 0 #

7 * 0 1 #

The BusinessPhone 6 has to be programmed if it is connected to a Public Exchange that accepts tone signals (if a test call with a tone signalling set on the exchange line is successful, the Public Exchange accepts tone signals).

Lift the handset of the programming phone

Select the type of Public Exchange

The Public Exchange accepts tone signals. To obtain access to functions in the Public Exchange requiring use of the R-key, dial R + 1 instead.

The Public Exchange accepts pulse only. This is the default.

**EXCHANGE LINES
BUSINESSPHONE 6 II**



7 * 1 0 #

7 * 1 1 #

7 * 1 2 #

The BusinessPhone 6 II can be programmed to have one or two exchange lines, or with line two as a direct faxlink to extension no. 5.

Lift the handset of the programming phone

Set the status of the exchange lines

Line 2 is switched off

Line 2 is switched on. This is the default.

Faxlink. Incoming faxlink calls on line 2 will be signalled on extension 5 only. Incoming calls on line 1 will not be signalled on extension 5.

**DEFINING
UNCONNECTED
EXTENSIONS**



7 * n 0 #

If you choose not to connect extension lines to all six exchange outlets, you must inform the exchange as to which outlets are not in use.

Lift the handset of the programming phone

Dial

"n" is the number of the outlet(s) not connected to an extension. If you later decide to use these outlets, you can cancel the above message by selecting which functions the extensions are to have, see page 7.

**SELECTING THE DOOR
PHONE FUNCTION**



7 * 6 8 #

Extension number 6 used as a door phone.

Lift the handset of the programming phone

Dial

Extension number 6 has been defined as a door phone and cannot be used as a normal extension.

The door service can be expanded also to include a magnetic door lock; a lock which can be released by means of an electrical signal. How to operate the door phone and the door lock, see page 3.

Fault description	Possible fault	Action
The BusinessPhone 6 is inoperative Nothing works	Power failure. The main phone (9) is directly connected to the public network (do not dial 0 to obtain the external dialtone).	Check the mains connection. When power returns, all the functions remain as programmed in the exchange. If no solution, send for repair.
No dialtone on one extension.	Programming. Supply voltage. Wiring. Another set off hook.	Check programming. Check supply (listen for sidetone when you make a noise in the microphone). Check the wiring by making an internal call to the inoperative line. Busy tone indicates short-circuit, ringing tone indicates break in circuit. If no solution, send for repair.
No ringing signal or ringing signal to extension 9 only.	Turned off by programming.	Check programming.
Cannot make outgoing calls.	Restrictions in use.	Check programming.
BusinessPhone 6 does not respond to programming instructions	Wrong type of telephone set in use, wrong line.	Use tone signalling set only. Programming phone is number 2.

Mains voltage	90-138V AC, 60Hz/200-250V AC, 50Hz. Consump. 8W.
Attenuation	External/internal line<1,5dB/600
Crosstalk	Less than -80dB.
Distortion	Signal distortion less than 1% at 0dBm signal level.

External line

Impedance	Speech mode $R_d > 14\text{dB}/600\ \text{Ohm}$. Ringing mode $Z > 15\text{kOhm}$.
Loop resistance	DC-resistance $R < 350\ \text{ohm}$. Max. line current 125mA.
Background noise	$V_n < -70\text{dBm}$.
Register recall	Timed break of external line, $t: 100\ \text{ms} - 110\ \text{ms}$.
Ringing detector	Threshold level $U_r > 25\text{V}$, frequency 20-55 Hz.

Extension line

Impedance	Speech mode $R_d > 15\ \text{dB}$.
Cable resistance	$R < 50\ \text{ohm}$, i.e. max. cable length approx, 300 m.
Input system	Input voltage 12V, constant current 20-25 mA.
Ringing voltage	$U_r = 48\text{V AC}, \pm 2\text{V}, 50/60\text{Hz}$.

TONES AND SIGNALS

Tones are audible in the handset. Ringing signals are emitted from the phones.

Internal dialtone		
Busy tone		
Blocking tone		
Waiting tone (external call arriving)		- repeated after 10 s -
Waiting tone (to external call on hold)		- repeated after 4 s -
Ringing tone		- repeated after 4 s -
Confirmation tone		
Internal ringing signal		- repeated after 4 s -
External ringing signal		- repeated after 4 s -
Doorbell signal		

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The Ericsson Group is a Sweden-based multinational organisation with over 110 years pioneering experience in telephony. As a part of this group, Ericsson Business Communications is able to put its resources to work for the business community.

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INSTALLATION MANUAL

ERIFOX I

ERIFOX II

This manual describe the programming an use of the pabx's
ERIFOX I and ERIFOX II. For full user instructions,
please refer to the USER'S GUIDE.



1 ERIFOX START-UP PROCEEDURE. PROGRAMMING FUNCTIONS.

The ERIFOX is now ready installed. Plug the power cord to the mains outlet, and the indicator located under the lid will light up. Put the lid back on its place, and tighten the screws.

Before you can start using the PABX, it is necessary to program the type of exchange lines in use. If the Public Exchange accept DTMF signals, the ERIFOX must be programmed to perform the right type of dialing.

The procedure is as follows:

Disconnect the exchange line(s), and plug the DTMF telephone set into the line(s). Make a call attempt. If the call is successful, the Public Exchange accept DTMF signals. In this case it is necessary to program a new code as stated below.(A). If the call attempt is not working, proceed to step (B).

2 PROGRAMMING.

All programming is performed from station no. 2. using a DTMF telephone set.

A) Programming the type of exchange lines.

Lift the handset, dial : 7 * 0 0 # The Public Exchange accept DTMF.

Default value: 7 * 0 1 # The Public Exchange accept pulse only.

B) Programming the exchange line status. **ERIFOX II only.**

If you want to run the ERIFOX II with only one line connected, or with line 2 as a direct **faxlink**, proceed as follows:

Lift the handset, dial : 7 * 1 0 # Line 2 is switched off.

Default value: 7 * 1 1 # Line 2 is switched on.

7 * 1 2 # Line 2 is directly linked to ext. 5, faxlink.

The feature FAXLINK is specified in part 5, special user guide.

C) Programming running mode. **ERIFOX II only.**

In normal mode, all the extensions have the same features and functions.

In operator mode, only the main instrument no. 9 will receive incoming calls.

The ERIFOX II is pre-programmed to **normal mode**. If you want to change to operator mode, the procedure is as follows:

Lift the handset, dial : 7 * 9 1 # Operator mode.

Default value: 7 * 9 0 # Normal mode.

D) Programming the extensions.

You can change the functions on every extension 2-6 by selecting function codes.

Please refer to the user's guide chapter 4 for selecting the functions.

E) Programming the call restriction digits.

Whenever the call restriction is used, the PABX will control the first digit dialed to the exchange line(s). Please refer to the user's guide chapter 4, 4.

3 USER'S GUIDE. NEW features.

Conference. A 3-party conference is possible, two internal + one external. Set up a external call. Dial -R- 7 n, n being the second internal party. As this call is answered, the conference is established.

ERIFOX II only.

Operator mode. By programming operator mode, all the incoming external calls will be received on station no. 9. (operator). The calls can be transferred as before. If the transferred call is not answered within 20 sec., the call is reverted to no. 9.

Handling two calls. In any mode, it is possible to handle two calls, as one is on hold while talking to the other. You can switch between the two external lines by dialing the R-button, and -0-. The line you serve can be transferred or terminated. Whenever putting the handset on hook, the parked call will signal for reconnection.

Faxlink. If faxlink is programmed, ext. no. 5 is linked to exchange line 2. Incoming calls on line 2 will be signalled on ext. 5 only. Incoming calls on line 1 will not be signalled on ext. 5. This makes the ext. 5 ideal for automatic telefax use. The telefax must be connected to ext. 5. You can use exchange line 2 for outgoing calls from any station. The procedure for selecting line 2 is simply to dial 5.

SHORT-FORM USER MANUAL

Symbols:	Lift handset	Δ	Replace handset	•	Dial R-button	⊙
	Ringing signal	⊗	External convers.	∞	Internal convers.	<<
	Dial another ext.	n	Dial a digit	x	Dial-tone	*
Internal calls	Δ	=	n		Ringing tone ..	<<
External calls	Δ	=	-0-		new dial-tone x1, x2, --etc.	∞
Receiving internal calls	⊗	Δ	<<			
Receiving external calls	⊗	Δ	∞			
External call pick-up	⊗	Δ	=	-0-	∞	
Enquiry call	∞	⊙	=	n	<<	
Enquiry call to superior pabx	∞	⊙	1	=	n	<< (DTMF)
Call transfer	∞	⊙	=	n	<<	•
Call transfer before answer	∞	⊙	=	n	•	
Wait for outgoing line	Δ	=	0		Busytone ⊙	•
Turn the ringing signal off	Δ	=	* 0		•	(DTMF)
Turn the ringing signal off	Δ	=	* 1		•	(DTMF)
Conference	∞	⊙	7	n	Ringing tone ..	<<∞
Operating the door phone	⊗(s)	Δ	=	6	<<	
Operating the door lock	<<(6)	⊙		•		
Outgoing call to line 2, faxlink	Δ	=	-5-		new dial-tone x1, x2, --etc.	

(DTMF) indicate that the service is available only using a DTMF telephone set. If an impulsing telephone set is used, the digit -1- is used instead of the R-button.

4 FAULT- FINDING ON ERIFOX I AND ERIFOX II

Problems during installation: Missing dial-tone.

- Feeding.** Check the feeding voltage to the telephone set by listening for the side-tone. This is easily heard as you make a noise in the microphone. If the feeding is OK, make sure no other instruments are off hook.
- Program.** The line may be programmed out-of use. Dial 7 * 7 7 # ,and proceed to the programming instructions.
- Wiring:** If the feeding is not OK, there is a short circuit or a break in the loop. Make a internal call to the line not working. If you receive a busy-tone, there is a short-circuit. If you receive ringing tone, there is a open circuit.

Problems that rise after some time in use.

- Exchange.** You may suspect that exchange line 2 on your ERIFOX II is not working. Try to set up two outgoing calls at the same time. If you receive busy-tone, see the programming instructions above, step B.
- Extension.** You may experience that some service, like the ringing signal, restricted access to external calls etc. is not available. This is normally caused by programming set-up. Please proceed to user's guide chapter 4 for changing the functions.

Waiting for dial-tone.

In some cases where two extension generate a new call at the same time, one must wait for the internal dial-tone. Normally the dialing is ready within 2-3 seconds, but whenever using DTMF telephone sets towards Public Exchanges requiring pulse signals, the dial-tone is not free until 6 sec. after the last digit entry. If you do not receive the dial-tone, please wait a few seconds, and try again.

<u>Fault description</u>	<u>possible fault</u>	<u>Action</u>
The PABX is dead. Nothing works	Power-failure.	Check the mains connection. If OK, send for repair
No dial-tone on one extension.	Short-circuit or open circuit. Programming.	Check the wiring. Programming. If no solution, send for repair.
Missing ringing signal.	Turned off by programming	Se the user's guide chapter 4. Dial * * from station no. 2.
Ringing signal to station no. 9 only.	Turned off by programming	Se the programming instructions above, step C.
Cannot perform outgoing calls.	The line is restricted in use.	Se the user's guide chapter 4. Check the telephone set.
ERIFOX does not respond to programming instr.	Wrong type of telephone set in use, wrong line.	Use DTMF telephone set only. Programming station is no. 2.