

Contents

Pages

English	E - 5
General information	E - 1
Installation	E - 4
Programmation	E - 5
Communication Via PC	E - 8

General information

Safety Instructions

The “*Forum i4 net*” is designed for connection to an ISDN-2 base connection (PtmP).

You can connect all kinds of analogue terminals to the

four internal lines of the “*Forum i4 net*”. Any other use can damage the system.

- The “*Forum i4 net*” meets all prescribed conformity and safety requirements.
- Pull the power pack out of the mains socket to switch off the “*Forum i4 net*” before connecting any leads.



- Make sure that no liquids get inside the “*Forum i4 net*”.
- The “*Forum i4 net*” is out of order during a power cut. You cannot use the phone.

Important information about using analogue terminals

You can connect analogue **terminals** such as telephones (a/b), answering machines, group 2 and 3 fax's and analogue modems to the internal lines of the “*Forum i4 net*”.

The **dialling method** of the analogue terminal may be multi-frequency dialling (DTMF) or pulse dialling (PD). We advise DTMF to make an optimum use of all functions. The “*Forum i4 net*” automatically recognises the dialling method.

You can reach an internal subscriber by dialling the **#**-key (hash) and the internal phone number (11 ..., 14). On telephones without a **#**-key internal dialling is not possible.

You can reach an external subscriber by pressing **0** followed by the external phone number.

For simple operation of the “*Forum i4 net*” your telephone should have a *****- **#**- and an R- (refer back) key.

The functions of an analogue telephone (e.g. dialling repetition, short dialling) can also be used in connection with your “*Forum i4 net*”. Please see the operating manual of the telephone.

Pay attention to the acoustic signals of your “*Forum i4 net*” during operation. You will hear the acknowledgement tone when you have successfully completed a ***** procedure. Otherwise you will hear the error tone (busy tone).

On analogue telephones with the facility “caller number display”, you will see the number of the caller.

The LEDs of the *Forum i4 net*

Green LED – The function LED

- lights steadily when the “*Forum i4 net*” is in operation.
- flashes slowly when a diversion to an external subscriber is set up.
- Flashes rapidly when an incoming call has been missed (this indication has priority over a diversion).

Red LED – The busy LED

- flashes slowly when a channel (B-channel) is busy
- lights steadily when both channels are busy.

Scope of delivery

- 1 ISDN telecommunications system
- 2 plugs and screws
- 2 screw terminals 4-pole
- 1 ISDN connecting cable
- 1 RS-232 connecting cable
- 1 USB cable
- 1 power pack
- 1 short installation manual
- 1 CD-ROM with TK-Soft (TK-Set, TK-Bill and TK-Phone) and ISDN-TA Driver

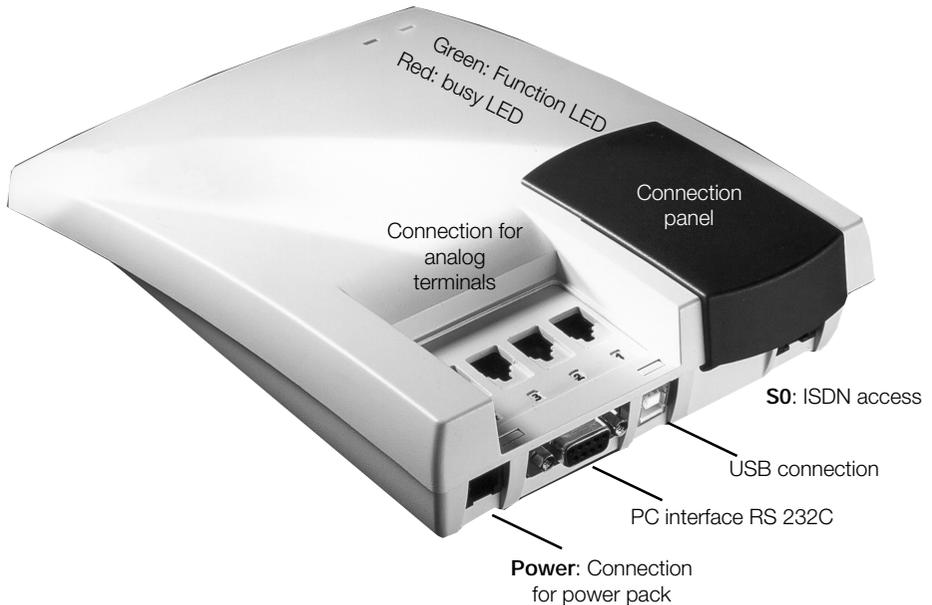


Fig. 1: Connections of the "Forum i4 net"

Choosing the location

The "Forum i4 net" is suitable for operation on a desk top or for wall mounting.

The distance between the RS-232 or USB Interface and your PC can not be longer then 3 meters.

Only install the "Forum i4 net" in a dry room.

- Ambient temperature: 5°C to 40°C
- Humidity: max. 70 % (no condensation)

It may not be installed:

- in the vicinity of air conditioning systems, heaters
- where it may be exposed to direct sunlight
- in an excessively dusty environment
- in places where it may be splashed by liquids

Power supply

The "Forum i4 net" does not work when the mains voltage fails.

Only use the power pack model no.: TST 53328 provided.

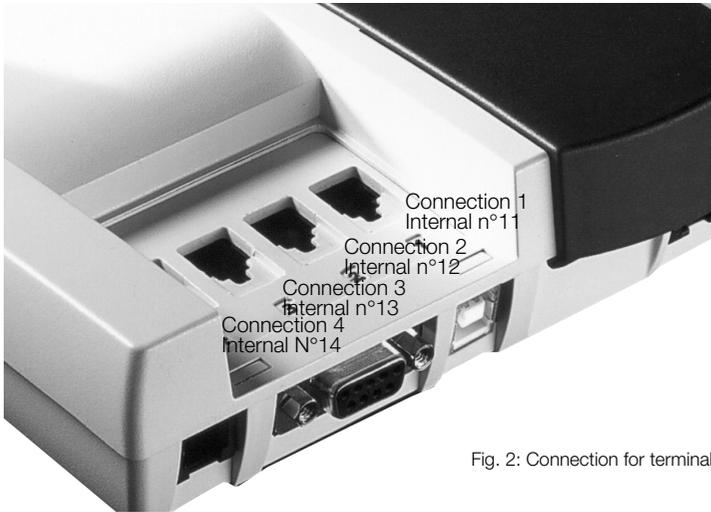


Fig. 2: Connection for terminals

Notes on the ISDN access (T0)

The "Forum i4 net" is designed for connection to an ISDN-2 basic access (multi-equipment access-PtmP).

You can also operate other ISDN terminals at this access, e.g. your PC with ISDN card, an ISDN telephone and more.

Up to 8 ISDN sockets may belong to this bus. You can connect up to seven other ISDN terminals to the ISDN bus in addition to your "Forum i4 net".

Installation

Wall mounting

- Mark two drill holes 125 mm vertically apart on the wall.
- When marking the drill holes, make sure that there are no concealed lines at these points (gas, water pipes, electric cables or similar).
- Drill the two holes.
- Hammer in the plugs flush with the wall.
- Screw in the two screws leaving the head protruding by about 4 mm.
- Hang the „Forum i4 net“ on the screws and pull it down until it snaps into place.

Ready to start in seconds

- Plug the connector of the power pack into the socket marked “Power” until it snaps in audibly.
 - Plug one of the RJ45 plugs of the ISDN cable into the socket marked “S0” until it snaps in audibly.
 - Plug the other RJ45 plug of the ISDN cable into the NT1 or an installed ISDN socket.
 - Plug the RJ11 plugs of your terminal into the RJ11 sockets of the “Forum i4 net”
- In the **as-delivered state**, the connections 1 and 2 are set to telephone, connection 3 to answering machine and connection 4 to combi-port, e.g. for fax.
- Plug the power pack into a socket. The green LED lights up.
 - Your “Forum i4 net” is ready.
 - The connections 11, 12, 13 and 14 ring when one of your phone numbers (MSN) is called.

Connecting terminals to separate screw sockets

If you want to connect your terminals to separate screw sockets, you will find the connection panel for the plug-in terminals underneath the grey cover.

Unplug the power pack from the mains socket before removing the cover from and working on the connection panel. Replace the cover before plugging the power pack back into the mains socket.

To open the connection panel pull downwards as seen in fig. 3.

The assignment of the terminal connections is displayed on the connection panel.

To ensure perfect functioning of the “Forum i4 net” with the connected terminals, you should connect the terminals either to the RJ11 sockets or the plug-in terminals! This means that if a terminal is connected directly via an RJ11 socket, e.g. connection 1, no second device should be connected via the terminals at the same terminal connection, e.g. La1/Lb1.



Fig. 5: Pulling off the cover

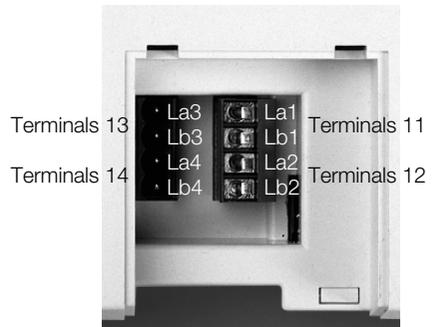


Fig. 6: Open connection panel

The connections La and Lb of the plug-in terminals must be connected to a and be of your wallplug.

You can use commercially available telephone lines for the connection.

We recommend telephone lines UTP/FTP
Max Length : max. 800 metres at 0.6 mm diameter.

Configuration

Your „Forum i4 net“ is ready after installation so that you can receive and make calls immediately.

The programming of the „Forum i4 net“ is easy so that you can set it up to meet your own personal requirements in no time.

You have the following possibilities for programming your „Forum i4 net“:

- Programming with a PC
- Remote configuration by Belgacom
- Programming with a telephone

Configuration via telephone

Quick entry of multiple subscriber numbers

You can enter your telephone numbers (MSN's), supplied by Belgacom, in the „Forum I4 net“ easily. Enter the desired number, without the leading 0, at one of the terminals and this terminal will ring whenever this number is called.

Example (Brussels): Enter your phone number (29345678) at connections 1, 2 and 3. At connection 4 the number of your fax (29345677). Callers then reach your telephones and answering machine by calling 02/934.56.78. The fax can be reached by calling 02/934.56.77.

PRO

Start programming mode:  * 7 7 6 (system -PIN, if programmed)  

 * 6 7 6 7 6  #  

Lift handset

MSN quick save

Enter telephone number without leading 0 (MSN)

Acknowledgement tone

Replace handset

Exit programming mode:  * 3 6 3  

Entering terminal types

Settings are available dependent on the connected terminal types. Certain functions are then automatically active.

Make the setting on every terminal:

- **Telephone:** The call waiting tone is active and can be switched off.
A call with the "Fax" service ID is not signalled.
- **Answering machine:** The call waiting tone is desactivated permanently. Anyone can pick up a call from this connection.
- **Fax:** The call waiting tone is desactivated permanently. A call cannot be picked up. The "Fax" service is transmitted. Calls with the "Fax" service ID are always signalled at this connection.
- **Modem:** The call waiting tone is desactivated permanently. A call cannot be picked up.
- **Combi-device:** A combi-device is a telephone with integrated fax. In the combi-device a call is

generally signalled irrespective of the transmitted service ID. In the case of external seizure with "0", the "Telephone" service is send. In case of external seizure with "10" you send the "Fax" service.
The call waiting tone is desactivated permanently

As-delivered state:

- Connection 1 – telephone, internal phone number 11
- Connection 2 – telephone, internal phone number 12
- Connection 3 – answering machine, internal phone number 13
- Connection 4 – combi-device, internal phone number 14

Introduce the following sequence if the default setting is not meeting your demands:

Start programming mode:  * 7 7 6 (system -PIN, if programmed)  

		PRO			
	* 8 9 7	3 Enter	8	8 3 5	TELEphone
		5 Delete (telephone)		2 6 7	Answering machine
				3 2 9	FAX 
				6 6 3	MODem
				5 6 6	Combi-device 
Lift handset	TYPE of terminal	Selection		Selection	Ackn. tone
					Replace handset

Continue programming or exit programming mode:  * 3 6 3  
END

Configuration by PC

You can program your „Forum i4 net“ from a PC/laptop via the RS-232 interface without knowledge of any programming language. Easily comprehensible menus guide you through the configuration

program. The “TK-Set” configuration software is part of the TK-Soft package which can be found on the enclosed CD-rom.

Minimum PC requirements

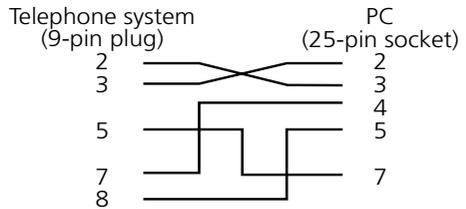
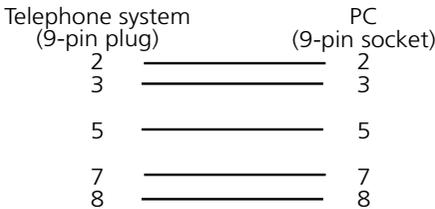
- IBM or compatible PC with 80386 PC or higher (recommended: Pentium)
- CD ROM drive
- Hard disk
- VGA card
- Black and white monitor
- Windows 95, Windows 98, Windows NT

Installing Forum TK-Soft

1. Select / doubleclick) the symbol “My Computer” on your desktop.
2. Open the symbol for your CD ROM drive
3. Start the Programm Setup (.exe).
4. When prompted to do so, enter the path and confirm it. All files required are now automatically copied to your hard disk.

Connecting the PC to the „Forum i4 net“

- Connect the RS-232 interface (DB-9) of the „Forum i4 net“ to the PC’s COM port.
- Use the supplied RS-232 cable .
- Start the configuration program.
- Configure the „Forum i4 net“. Download your configuration into the system after completion.
- Disconnect the cable from the „Forum i4 net“ after the download.



Connection assignment of the PC cable

Communication via PC

General

Software overview

The CD-ROM supplied contains the software package **TK-Soft and the necessary Drivers**. These drivers make it possible to use communications software, available on the market, via the USB connection.

These softwares must be CAPI 2.0 compatible.

Program components of software package TK-Soft

TK-Bill - is responsible for costing your calls. Provided you applied to this service Belgacom transmits the tariff information, the software calculates all call costs. TK-bill sorts and calculates by extension, date, call numbers or customers. TK-bill not only logs the cost information but if requested will also log incoming calls, producing a logbook of all telephone activities.

TK-phone - with the CTI program (computer telephone integration) your PC can set-up your calls via the „Forum i4 net“. TK-phone will inform you on the monitor at any time who is or was trying to call you. Simply double-click on the missed call to return the call. You can also store all telephone numbers in the computer. The TK-phone directory is limited only by the size of the hard disk.

TK-phone also allows you to select any telephone number on the screen: copy this number and paste it in the field marked „Telephone number“. After pressing send your „Forum i4 net“ will set-up the call.

TK-set - With this software you can configure your „Forum i4 net“. Call diverting, ring sequences, daytime/ night switching and all the parameters of the „Forum i4 net“ can be quickly and easily modified. With TK-set you can also store your individual configuration on the hard disk or diskette. If necessary you can transfer everything back to the „Forum i4 net“.

WAN Miniport - is a driver for Windows 98 with which you can use the remote data transmission network via ISDN. You can make connections to the Internet using this and connect computers to one another (via the Remote Access Service). Further information on the remote data transmission network is available in Windows 98 documentation.

CTI - Computer-assisted calling via TAPI interface

TAPI - (Telephony Applications Programming Interface) In contrast to TK-Phone TAPI is not a stand-alone CTI application but an interface between a TAPI-compatible Windows application and the „Forum i4 net“. Applications which support this interface can control the „Forum i4 net“. The extent of control depends on the application used. However it usually includes starting outgoing calls (selection from the application) and display of incoming calls.

TAPI is a Microsoft Operating Systems interface for Telephony. To connect this interface to the „Forum i4 net“ a Telephony-Service-Provider (TSP) is necessary. This TSP is automatically installed together with the ISDN-TA driver. It executes the required TAPI functions and controls the necessary data exchange between the PC and the „Forum i4 net“.

Installation of the ISDN-TA driver

System requirements

System requirements for installation of the software packages:

- . Pentium processor from 133 MHz
- . RAM minimum 32 MB (more working memory improves performance)
- . Hard disk memory approx. 30 MB
- . CD ROM
- . 1 free USB interface
- . Microsoft Windows 98 or Windows 2000

Set up USB connection

1. Connect the „*Forum i4 net*“ to a PC with the supplied USB-Cable.
2. Switch your computer on.

When you first start up your PC with the „*Forum i4 net*“ connected the hardware assistant will detect new hardware. See further

Install driver software

Important ! If you have already installed an ISDN card in your computer you must first remove this card and deinstall the software and drivers. Follow the instructions in the manufacturer’s handbook.

Before you install the driver software, the „*Forum i4 net*“ must be connected to the PC via the USB interface.

Remark: It may be necessary to reinstall some files of your Windows operating system, so make sure you have your Windows installation disk nearby.

1. When your PC has recognised the „*Forum i4 net*“ , the “HardwareAssistant” appears. The Hardware Assistant installs all necessary software.
2. Place the CD in the CD-ROM slot and click on “NEXT”.
3. In the next dialog window select “Look for the best driver for the equipment (recommended)” and click on “NEXT”.

4. Activate the option “CD-ROM” in the next dialog window and de-activate all other boxes and click on “NEXT”.
5. Once the drivers have been found, click on “NEXT” to start installation.
6. Follow the Windows instructions to complete your installation. Your switch protocol is “DSS1 connection”. It is not necessary to fill in your telephone number 1 and 2.
7. The drivers will be installed.
8. Once installation is completed, restart your PC again.

Uninstall driver software

If at a later date you no longer want the driver software on your PC, you can uninstall this. Remove the „*Forum i4 net*“ in the Device Manager

(find under settings/control pannel/system/Device Manager/Network adapters/Forum I4 Net ISDN).

Connections to Internet or other network

These instructions show you how to connect to the Internet or other network with the Microsoft Dial-up Networking.

1. Open (double-click) the symbol "My Computer" on the desktop.
2. Open (double-click) the symbol "Dial-up Networking".
3. If this is the first connection, click on "NEXT". Otherwise open (double-click) "Make new connection".
4. Enter a name for the connection e.g. the name of your provider.
5. Under "Select device" select "FORUM NDISWAN Miniport Driver-Line 1" and click on "NEXT".
6. Enter the telephonenumber for your Internet provider or the remote network and click on "NEXT".
7. Click on "FINISH". A symbol for this connection will appear.

Configure connection

1. If the Dial-up Networking is not open: Open (double-click) the symbol "My Computer" on the desktop. Open (double-click) the symbol "Dial-up networking".
2. Open the dialog window in which you can configure your connection. Click with the right mouse key on the symbol for the previously installed connection and select "Properties".
3. Activate the registration card "Server types". Execute the following steps:
 - . If you are setting up an Internet connection, deactivate "Log on to network".
 - . Activate "software compression".
 - . For connections to the Internet activate only "TCP/IP" as the protocol.

4. Certain providers support channel bundling. In this way you can bundle your two B-Channels (64 Kbps) and connect at a speed of 128 Kbps. To do this select the "Multilink" card and execute the following steps:

- Select "use additional devices"
- Select Add device
- Select the device name "FORUM NDISWAN Miniport Driver-Line 2"

Dialling the Internet or other network

Once you have set up the connection to your internet provider or the network as described you can now dial into the corresponding network. If you want to surf the net or access your e-mail you must have a web browser or e-mail application installed.

To connect, follow these steps:

1. Open (double-click) the symbol "My Computer" on the desktop.
2. Open (double-click) the symbol "Dial-up Networking".
3. Open (double-click) the symbol for the connection set up previously
4. In the dialog window "connect to" do the following: Input the name made available by your internet provider and the code word. Click on "connect". As soon as the connection is made the dialog window "connected to" appears.
5. You can now surf the internet with your web browser or access your e-mails with an e-mail application.

Disconnecting

To disconnect click on the dialog window "connected to" on "disconnect". If this window has minimised to a symbol, click on the symbol in the task bar.

Technische gegevens

Housing dimensions:	15,4 x 21,5 x 4,6 (Width x height x depth) in cm
Weight:	980 g. including power pack
Ambient temperature - Operation/storage:	5°C tot 40°C/-25°C tot +70°C
Humidity:	Max. 70% (no condensation)
Main connection:	230 VAC, +/-10%, 50 Hz
- Power consumption at $U_{rated} = 230\text{ V}$ and full load:	$I_{nominaal} = 40\text{ mA}$ (9 VA)
- length of the connecting cable:	2 m
- Power pack (type):	TST 433238
S0 access	PTMP, Euro-ISDN
- Connection:	By Western-socket RJ45 and inclosed IAE-connecting cable IAE8/IAE8
- length IAE-cable:	1,5 m
<i>Analogue terminals:</i>	4 a/b-terminals (telephone, answering machine, fax, modem)
- Range:	2 x 50 ohm (\varnothing 0,6 mm, 800 m)
- connection:	Symmetrical, 2-wire via TASE-without coding F- or N- or via screwing terminals, plug-in
- Dialling method:	Pulse dialling or DTMF
- Refer back key:	50 tot 200 ms
- Modem operation:	Transmission speed up to 56.600 bps,
<i>PC-interface:</i>	RS 232C
- range:	max 3 m,
- connection:	9-pole D-Sub-socket
USB-interface:	Universele serial bus
- length of the USB cable:	max 3 m
Data-backup tijdens during power failure:	unlimited
Music on hold (MoH):	Internal, 1 melody

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Technical modifications

BELGACOM reserves the right to change representations and data in this documentation in the interests of technical progress without prior notice.

This documentation has been prepared with the utmost care and is revised regularly. Despite all our

care, however, technical inaccuracies and typographical errors cannot be totally ruled out. All errors which become known to us will be corrected in new editions. We are grateful for any hints at errors in this documentation.

Technical hotline

If you have any questions concerning operation of your telecommunications system which these operating instructions cannot answer, please consult Belgacom.

Before calling Belgacom you should have the following information ready to save time:

- What kind of telecommunications system do you have?
e.g. Forum I4 Net (is printed on the rating plate on the system)
- What multiple subscriber numbers (MSN) have you got?
(is on the registration form or confirmation of the network operator)
- What software version is on your BELGACOM installation diskettes? (printed on the diskettes)
- What software version does your telecommunications system have?
(can be read out on the PC)
- What terminals have you connected to your telecommunications system? (analogue terminals with an without DTMF dialling, fax machines etc.)
- Keep the operating instructions of the connected terminals and this manual ready.
- Start your PC and read out the configuration with I4-Set. Print out the configuration of your telecommunications system if possible.

Installation problems?

Call: 0903-99 058 - 45 Bef/min