BIANCA/BRICK-XS *office*

August 1,1997

Congratulations on becoming our newest BRICK-XS *office* user. The XS office is specifically geared for small and mid-sized companies needing to provide access to and from corporate network resources including, among other services;

⊕ Hardware based fax and modem services
⊕ Remote access services for dial-up clients
   (such as mobile Windows 95 PCs and teleworkers).

Of course that's not all. The BRICK-XS office also includes all the functionality provided by the BRICK-XS Internet as described in the *BRICK-XS User's Guide*. These features, just to name a few, include:

● Multiprotocol routing support for: TCP/IP, IPX, X.25 and Bridging.
● System management via SNMP.
● ISDN Call and IP Session Accounting.
● Advanced Security features including; IP Access Lists, Inband and Outband Authentication, Dual Direction Callback, and Network Address Translation.

This document is intended as an extension to the printed and online manuals and includes the latest information regarding your new XS office.

The XS office Hardware

Your BRICK-XS office is equipped with an internal feature module that provides extended hardware functionality for fax and modem operation that isn't covered in the manuals.

The following types of fax/modem support is included with your new BRICK-XS office.

	Modem operations (V.34/V.32bis modem)	Fax Operations (V.17 fax)
FM-MOD2-14 (2 fax/modems)	• Data rates to 14,400 bps • V.42 LAPM, V.42/MNP4, MNP2-4, and MNP10 error correction modes. • V.42bis (LAPM or MNP10) and MNP5 data compression.	• Group 3 fax data rates from 2400 – 14,400 bps • Class 1 fax transmit • T.30 ECM (error correction mode).

Note: The feature module installed on your system is displayed in Setup Tool's Main Menu as shown on the following page.

The XS office Software

In connection with the feature module included with your XS office, several changes and additions have been made to the Setup Tool menus. Note that this information is not included in your printed or online manuals.

Main Menu

As shown below Setup Tool's main menu displays an entry for the installed feature module. There are no settings for this menu item; its displayed upon detecting the feature module installed on your system (FM-MOD2-14).

```
BIANCA/BRICK-XS Setup Tool              BinTec Communications GmbH
                                                          mybrick

Licenses                    System

LAN Interface:              CM-BNC/TP, Ethernet

WAN Interface:              CM-1BRII, ISDN S0

Feature Module:             FM-MOD2-14

WAN Partner
IP          IPX         X.25        MODEM

Configuration Management
Monitoring and Debugging
Exit


Press <Ctrl-n>, <Ctrl-p> to scroll through menu items, <Return> to enter
```

A new [*MODEM*] menu has also been added to the main menu; this is described in the next section.

New Modem Menu

In the [*MODEM*] menu you can configure up to eight different modem profiles.

The modem profiles can be associated with the Called Party's Number of incoming calls in the [*CM-1BRI*] [*Incoming Call Answering*] menu. Thus, using your available MSNs, you can create separate profiles to support the analog equipment your remote access users (dial-up clients) will be calling from.

In theory you could use only one profile, where all values are set to maximum—or auto, where applicable—and let the calling modem negotiate the values it needs.

This will work in most cases—only older modems will be unable to negotiate the necessary values—but will require more time to negotiate the connection parameters at connect time. After starting the Setup Tool, go to the [*MODEM*] [*Profile Configuration*] menu, and select *Profile 1.*

You must ensure that the modem settings correspond to the type of fax/modem(s) provided by your feature module. The settings are shown below should be fine for 14400 modems.

```
BIANCA/BRICK-XS Setup Tool          BinTec Communications GmbH
[MODEM][PROFILE][EDIT]: Configure Profile            mybrick


     Name                   Profile 1
     Description

     Modulation             V.32bis
     Error Correction       LAPM

     Automode               on
     Min Bps                300
     Max Receive Bps        14400
     Max Transmit Bps       14400

     V.42bis Compression    auto
     MNP5 Compression       auto


            SAVE                        CANCEL

Enter string, max length = 48 chars
```

The fields in this menu have the following meanings:

Name = Profile 1…8. Cannot be changed.

⚠ Note that Profile 1 is used as the *default profile* for modem connections, if no other profile is explicitly specified.

Description = descriptive string for this profile.

Modulation = modem standard to use, select with the space bar. Values range from K56flex down to Bell 103. Make sure you select a modulation that your feature board's modem supports; V32bis or below for 14400 modems.

Error Correction = select the type of error correction to use.

Value	Meaning
none	Do not use any error correction.
required	First tries LAPM and then MNP5 error correction. If both fail, the modem will hang up.
auto	First tries LAPM and then MNP5 error correction. If both fail, the modem will not use error correction.
LAPM	Selects LAPM error correction. If this fails, the modem will hang up.
MNP5	Selects MNP5 error correction. If this fails, the modem will hang up.

Automode = enable (*on*) or disable (*off*) negotiation of speed and modulation parameters.

Min Bps = the minimum baudrate you want to use with this profile. You can set any speed supported by the current modulation (i.e. standard). The connection is released, if it cannot negotiate a baud rate $\geq$ to this speed.

Max Receive Bps = the maximum baudrate you want to use with this profile. You can set any speed supported by the current modulation (i.e. standard). Note that the value set in Max Transmit Bps will be used if its < the value set here.

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Max Transmit Bps = only used in conjunction with the *K56flex* modulation. Sets the maximum transmit baudrate (»*downstream*«, server to client) you want to use with this profile. K56flex modulation is not supported for your feature module.

V.42bis Compression = enable (*auto*) or disable (*off*) negotiation for using V.42bis compression.

MNP5 Compression = enable (*auto*) or disable (*off*) negotiation for using MNP5 compression.

Incoming Call Answering Menu

The [*Incoming Call Answering*] menu is slightly different than shown in your printed manuals. Its purpose remains the same; however, it now contains a list of arbitrary entries instead of a mask with only a few possible variations.

The entries in this list are used to distribute incoming ISDN calls received the ISDN to different services. The BRICK distinguishes incoming calls based on the »Called Party's Number« transmitted with each ISDN call.

Select [*ADD*] from the [*CM-1BRI*] [*Incoming Call Answering*] menu to create a new list entry.

```
BIANCA/BRICK-XS Setup Tool              BinTec Communications GmbH
[SLOT 2 ISDN S2M][INCOMING][ADD]: Conf. Incoming Call Answ.    mybrick




     Item                    PPP (routing)
     Number
     Mode                    right to left




          SAVE                         CANCEL


Use <Space> to select
```

Item = the ISDN service you want to use for this call. You can select one of the following:

Value	Meaning
PPP (routing)	Default value, good for all PPP connection types listed below (except for the specific PPP Modem Profile 2 … 8 settings) if the calls are signalled correctly (as is the case in most of Europe). *If in doubt, try this value.*
ISDN Login	login service
PPP 64k	64kbps PPP data connection
PPP 56k	56kbps PPP data connection (not supported by the feature module)
PPP Modem	selects Modem Profile 1 as configured in the [*MODEM*] menu
PPP DOVB	data transmission over voice bearer; useful e.g. in the US where voice calls sometimes cost less than data connections
PPP V.110 (1200 - 38400)	bit-rate adaption according to V.110 (1200 bps, 2400 bps, …, 38400 bps)
Pots	only for V!CAS teleworking routers (not supported by the feature module)
PPP Modem Profile 1 … 8	selects Modem Profile 1 … 8 as configured in the [*MODEM*] menu
CAPI 1.1 EAZ 0 … 9 Mapping	EAZ mapping for CAPI 1.1 applications

Number = the telephone number to use for this item.

Mode = the direction for matching the incoming telephone number (Called Party Number), either starting from the right (*right to left*, this is the default), or from the left (*left to right (DDI)*, only useful for the Direct Dial In (DDI) feature of point-to-point ISDN accesses (*Anlagenanschluß* in Germany).
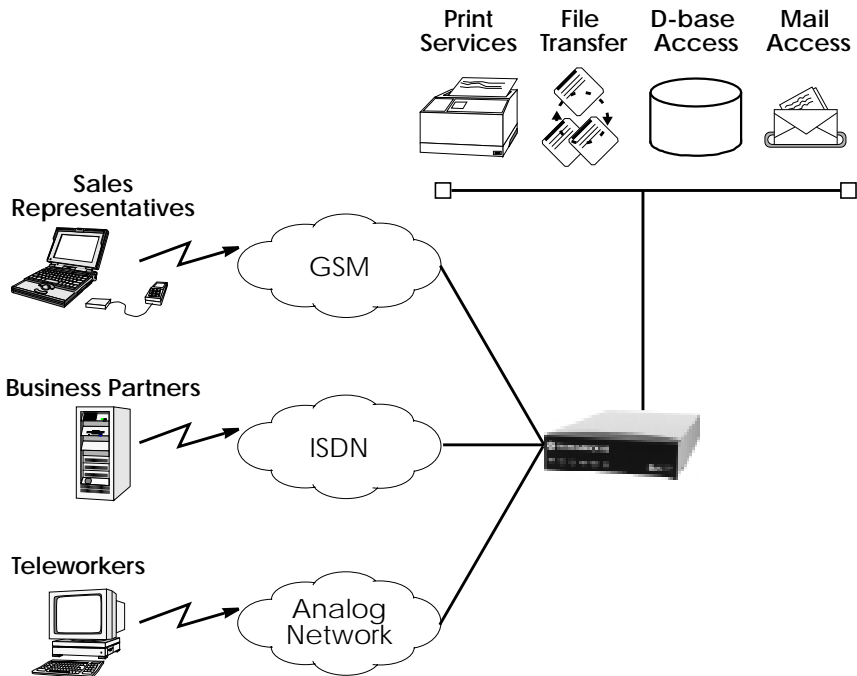
Application Scenarios

To initially install and configure your new XS office refer to the accompanying *Los Geht's/ Getting Started* documentation. After setting up the XS office for basic routing operation refer to the examples in this document when setting up Remote Access Services and/or fax services for local and remote hosts.

The XS office as a Remote Access Server

The XS office accepts dial-up connections from remote hosts via the analog, GSM, and ISDN networks. Configuring remote access for all of these hosts involves two steps which are described below.

Configuring the XS office for Dial-Up Modem Access

Remote PCs that establish network connections with the BRICK-XS office are called Dial-Up Clients. On the BRICK, a WAN partner interface must be created for each dial-up client.

➤ Configure a WAN partner interface for each Dial-Up client by performing the following steps:

1. In the ⬛ WAN PARTNER ➡ ADD ➡ menu create a new WAN partner interface. Here you'll need to set:

```
Partner Name                <Unique Name>
Enabled Protocols           IP
Encapsulation               PPP
Identify by Calling Number  no
PPP Authentication Protocol PAP and CHAP
Partner PPP ID              <Partner's PPP ID>
Local PPP ID                <BRICK's PPP ID>
PPP Password                <Unique Password>
```

2. If this dial-up client already has its IP address configured go into to the ⬛ IP ⬛ submenu and set the IP address and netmask fields appropriately.

3. If you want the BRICK to assign this client an IP address at connect time, in the ⬛ ADVANCED SETTINGS ⬛ submenu set:

```
Dynamic IP-Address Server      on
```

Then select **SAVE** and return to the main menu. This client will be assigned an available address from the IP address pool. IP addresses can be added to the pool from the ⬛ IP ➡ DYNAMIC IP ADDRESSES (SERVER MODE) ➡ menu.

4. If this dial-up client will connect via an analog modem you must ensure that the ISDN number this client calls is associated with a compatible modem profile.

Do this by verifying the settings in the [*Incoming Call Answering*] menu (see page 6). If this client's analog equipment is compatible with Profile 1, you can skip this step. Refer to the ⬛ MODEM ⬛ menu (see page 4) for configuring modem profiles.

Configuring Windows 95 Dial-Up Clients

The Windows 95 Dial-Up Networking subsystem allows remote (or mobile) PCs to establish network connections to remote access servers such as the BRICK-XS office. Once connected to the network user's can work as if they're directly connected to the company LAN accessing such services as:

Remote Mail
With Microsoft Exchange and a Microsoft Mail workgroup post office users can dial in to the network and send and receive electronic mail after establishing a dial-up connection to the XS office (explained below).

Windows 95 Briefcase
Included with Windows 95, this application synchronizes differences between files stored on remote and local PCs.

Deferred Printing
Users can also submit print jobs to printers on the LAN from remote sites.

Database access and other services provided by locally
Access to other network services depending on the local configuration.

➤ Configure Windows 95 Dial-Up clients as follows:

1. In the My Computer window double-click the **Dial-Up Networking** folder.

2. Then in the Dial-Up Networking window double-click the **Make New Connection** icon to start Window's Make New Connection Wizard.

3. In the resulting dialog select the dialup device to use (modem or GSM), assign the connection a name, and configure the device as needed. Click Next.

4. In the **Telephone Number** field enter the ISDN number configured for routing on your XS office. If this client is calling in via an analog modem, make sure the number

you set here is associated with a compatible modem pro-
file on the XS office. (See step 4 on page 9.) Click Finish.

5. A new connection icon will appear in the Dial-Up Net-
    working window. Right-click this new icon and edit the
    Properties for this connection.

    Under **Server Types**, make sure **PPP: Windows 95,
   Windows NT, Internet** is selected as the server type.

Advanced options should be set as follows:

optional	Log on to network
	(if an NT server is on the LAN)
recommended	Enable software compression
	(saves money on connections costs)
disable	Require encrypted password

In the **Allowed network protocols** section only allow
those protocol that you enabled in the [*WAN Part-
ners*][*IAdvanced Settings*] menu on the XS office. NetBEUI
is not yet supported on the BRICK.

6. Click **TCP/IP Settings** to set the IP address and name-
    server settings.

If the BRICK is set to assign this client an IP address at connect time (see step 3 on page 9) leave the settings in this dialog to their default values as shown below.
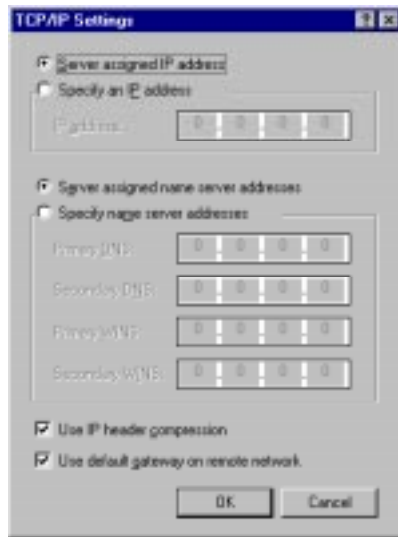
Otherwise set the nameserver, and other routing information as needed.

7. Click OK once, and then again to finish.

➤ **Establishing the Dial-Up Link to the XS office**

1. To establish a dial-up connection from this PC double-click the connection icon. A pop-up will appear.

Before connecting enter the following:

User name: *<Partner PPP ID>*

Set in [*WAN Partners*] menu on the BRICK

Password: *<PPP Password>*

Set in [*WAN Partners*] menu on the BRICK

Verify the telephone number and click Connect. The **S**ave password field can be enabled to save the PPP ID and password settings for this dial-up connection.

2. As the PC dials up your BRICK-XS office a pop-up window will appear. When the dial-up link is established a status window will show the data rate and duration of the connection.
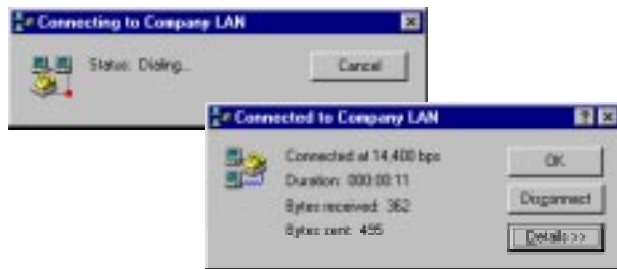
Note Upon connecting the status window may automatically minimize. An active dial-up connection can also be identified by the network symbol is added to the Windows Taskbar.
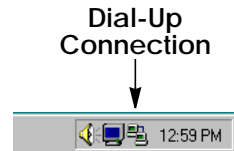
Dial-Up Connection

TIP: If you run into trouble getting dial-up clients to connect there are a couple of places to start looking for problems.

1. Windows keeps logs each dial-up connection attempt in the **ModemLog.txt** file in the **C:\Windows** directory. (This log file is only created if you enable the Record to log file field when adjusting connection properties in the **General→Connection →Advanced** menu.)

2. You can also use the debug command while the dial-up client dials in. The **debug all** command should help in determining what's happening during call connection

The XS office as a fax server

PCs on the LAN that don't have locally attached fax hardware can access the XS office's fax/modems using CAPI based fax solutions. Some commercially available fax applications that can be used with the XS office include the following; contact the manufacturers for details.

• **ComFax**	ComMtex, Munich	Unix based
• **|*Fax**	Servonic, Munich	Win/WinNT
• **FaxWare**	David Tobit, Ahaus	Novell based
• **FaxServe**	Cheyenne, CO., USA	Novell based
• **Edition 1**	Dr. Materna, Berlin	Novell based

RVS/COM for Windows 95 and Windows NT, included on the Companion CD, provides both hardware and software based solutions for faxing via a PC on the LAN. Both solutions are based on BinTec's Remote CAPI Client. The hardware solution is for PCs that have LAN access to fax hardware; in this case provided by the XS office. The software solution is for PCs that have access to ISDN hardware but not to fax hardware (such as mobile users operating laptop computers with ISDN access.

The RVS/COM software easily integrates into the Microsoft mailing system allowing the user to send/receive faxes via configured Addressbook entries. Faxes can also be sent via MS applications by accessing Windows printer drivers.

NOTE: RVS/COM Lite is supplied with one user license and may be installed on one PC. Additional licenses may be purchased separately however.

➤ **Using the RVS/COM Solution for a PC on the LAN**

TIP: Since this solution involves adding the RVS Fax service as an additional e-mail transport service, the Windows e-mail system should already be installed and configured.

1. First, install RVS/COM Lite and BRICKware for Windows to your PC from the Companion CD. The Remote CAPI client must also be configured and involves assigning the TCP port and IP address of your XS office.

2. From the RVS/COM for Windows and Windows 95 program group, start the Installation Wizard. The Wizard guides you through setting up RVS/COM components on the PC.

3. In an initial dialog you will asked to select the components to setup. To allow for incoming and outgoing faxing the following components must be installed:

    *   ISDN Adapter   Steps 4 – 6
    *   ISDN Phone Numbers   Steps 7 – 9
    *   RVS/COM E-Mail Services Step   10

4. As mentioned above, the remote CAPI must be installed and configured first. If the PC can access the XS office (via the LAN) you should see the following dialog.

Verify CAPI 2.0 services are available and click Next.

5. The next dialog shows which protocols and services are available. All the fields here are subdued (they cannot be changed). Click <u>N</u>ext> to move on to the Softfax option.

6. The Softfax solution is for PCs that have access to an ISDN adapter but not to fax hardware. Since the XS office provides the fax hardware you can disable the Softfax options for both send and receive. Click <u>N</u>ext>.

7. Continue until you arrive at the **ISDN Line and Location** dialog. Verify the ISDN protocol is correct and click Dialing Properties to control how outgoing local and international calls are placed from the PC. Click OK, then <u>N</u>ext>.

8. In this dialog you associate the telephone numbers used by your XS office with an MSN. Specific RVS/COM services are associated with these numbers in the next dialog. Click <u>N</u>ext>.
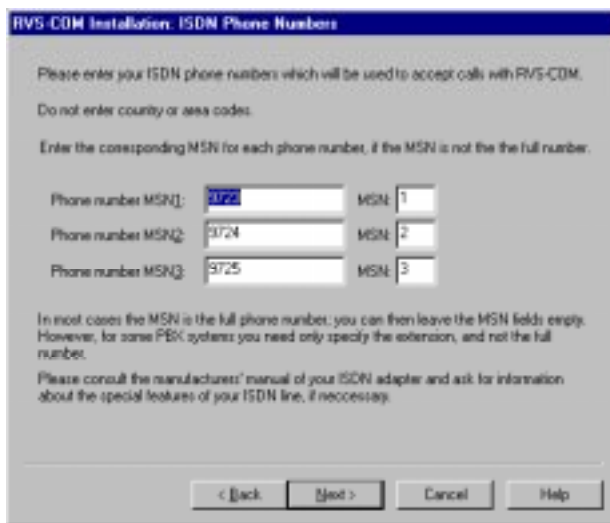
9. The next step is to associate the MSNs defined above with a specific service. This is required so that incoming calls dispatched by the XS office can be automatically answered by the appropriate RVS/COM service on your

PC. As noted in the dialog, you can only activate 1 analog and 1 digital service for each available MSN.

Click Finish>. The ISDN Phone Numbers component is configured.

10. Now you need to enable the RVS E-Mail Service. The RVS E-Mail service works together with Windows compatible e-mail systems such as MS Exchange, MS Outlook, and Windows Messaging. By enabling the RVS Fax service in this dialog, a new transport service will be added to mail applications allowing messages to be sent from the mail reader via Addressbook entries. See: Faxing from Microsoft Exchange on page 19.

Incoming faxes are saved as Inbox messages that can be displayed by the mail reader.

Note that some mail programs may need to be restarted before the RVS FAX driver is acknowledged.

➤ Faxing from MS Applications via RVS Fax

Once the RVS/COM components are configured outgoing faxes can be sent from any MS application that has access to the Windows printing system. From the application the document to be faxed as follows.
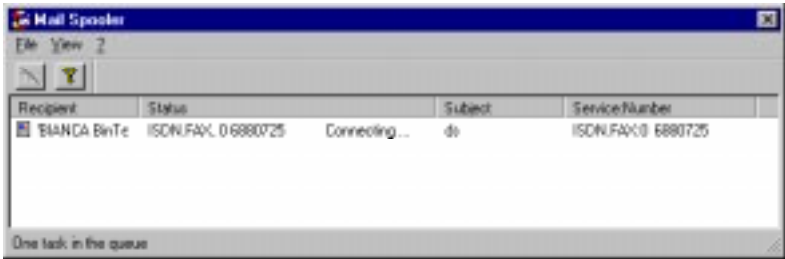
1. From the application menu select the File option then Print...

2. In the Printer section of the print setup dialog, select the printer name **RVS Fax**.

3. The RVS Fax Assistant is then started. The parameters for this fax can be defined here.
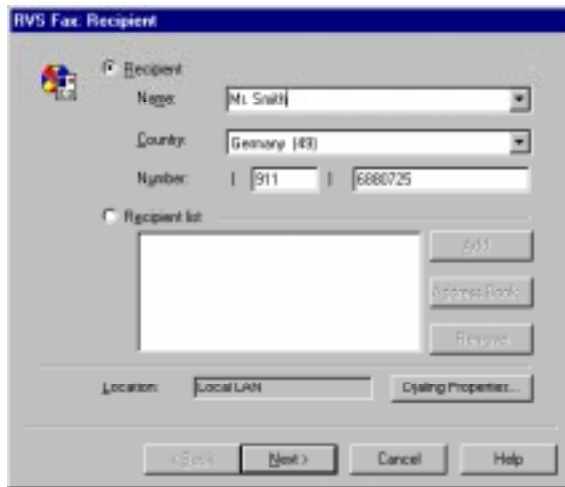
4. The new fax is then spooled to the Mail Spooler which shows the status of the fax transmission.

➤ Faxing from Microsoft Exchange

With the RVS/COM components configured as noted above, faxes can also be sent directly from Microsoft Exchange. By creating the appropriate addressbook entries (shown below) fax messages from Exchange are sent just like sending email messages.

1. In Microsoft Exchange's Services menu the following services should be listed. Verify that RVS Fax service is available here.
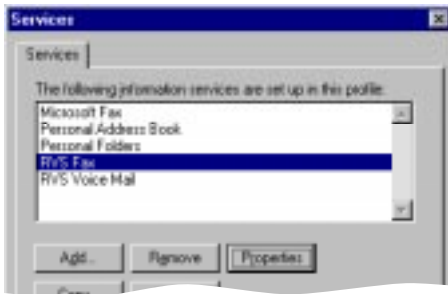
2. An AddressBook entry can be created by selecting: Tools➔Addressbook➔New Entry from Exchange's main menu. Select RVS Fax and click OK
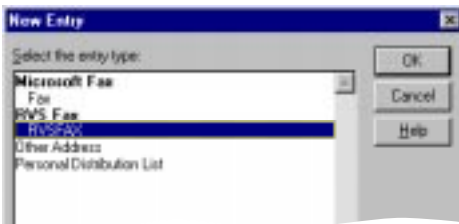
3. Select the RVS Fax tab to associate a Fax number with this addressbook entry. When email messages are sent to this addressbook entry the messages will be spooled to the mail spooler where the connection status of the fax transmission is displayed.