

User's Guide
bintec R1200 / R1200w(u) / R3000 / R3000w / R3400 / R3800(wu)
ISDN

Purpose This document is part of the user's guide to the installation and configuration of bintec gateways running software release 7.4.10 or later. For up-to-the-minute information and instructions concerning the latest software release, you should always read our **Release Notes**, especially when carrying out a software update to a later release level. The latest **Release Notes** can be found at www.funkwerk-ec.com.

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Guidelines and standards bintec gateways comply with the following guidelines and standards:

R&TTE Directive 1999/5/EG

CE marking for all EU countries and Switzerland

You will find detailed information in the Declarations of Conformity at www.funkwerk-ec.com.

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1 ISDN Menu

The fields of the *ISDN S0:1* resp. *S0:2* menu are described below.

R3000w Setup Tool	Funkwerk Enterprise Communications GmbH
[SLOT 2 UNIT 0 ISDN BRI]: Configure ISDN	MyGateway
Basic Rate Interface	
Result of autoconfiguration	EURO ISDN, point to multipoint
ISDN Switch Type	autodetect on bootup
D-Channel	dialup
B-Channel 1	dialup
B-Channel 2	dialup
Incoming Call Answering >	
Advanced Settings >	
SAVE	CANCEL

This menu is for configuring the BRI of your gateway. Here you enter data such as the type of ISDN connection to which your gateway is connected.

You can use the BRI of your gateway for both dialup and leased lines over ISDN.

The **ISDN S0:x** menu consists of the following fields:

Field	Description
Result of autoconfiguration:	<p>Status of ISDN autoconfiguration. Automatic >> D-channel detection runs until a setting is found or until the ISDN protocol is selected manually under ISDN SWITCH TYPE. The field cannot be modified.</p> <p>Possible values:</p> <ul style="list-style-type: none"> ■ <i>Euro ISDN point to point</i>: “ISDN Switch Type” on page 5 ■ <i>Euro ISDN point to multipoint</i>: “ISDN Switch Type” on page 5 ■ <i>autoconfiguration disabled</i>: manual setting of ISDN SWITCH TYPE. ■ <i>running</i>: detection is still in process.

Field	Description
ISDN Switch Type	<p>Defines the ISDN >> protocol supplied by your ISDN provider. The following settings are possible:</p> <ul style="list-style-type: none"> ■ <i>autodetect on bootup</i>: automatic D-channel detection for dialup connections (default setting) ■ <i>Euro ISDN point to multipoint</i>: Euro ISDN for point-to-multipoint ■ <i>Euro ISDN point to point</i>: Euro ISDN for point-to-point ■ <i>National ISDN 1 AT&T NI1, EWSD NI1</i>: U.S. BRI type ■ <i>AT&T 5ESS Custom ISDN point to multipoint</i>: U.S. BRI type ■ <i>AT&T 5ESS Custom ISDN point to point</i>: U.S. BRI type ■ <i>National ISDN 1 Northern Telecom DMS100</i>: U.S. BRI type ■ <i>Japan NTT INS64</i>: japanese BRI type ■ <i>none</i>: ISDN interface is not used. ■ <i>leased line B1 channel (64S)</i>: leased line over B-channel 1 (64 kbps)

Field	Description
ISDN Switch Type (cont.)	<ul style="list-style-type: none"> ■ <i>leased line B1+B2 channel (64S2)</i>: leased line over both B-channels (128 kbps) ■ <i>leased line D+B1+B2 channel (TS02)</i>: leased line over D-channel and both B-channels (144 kbps) ■ <i>leased line B1+B2 different endpoints (digital 64S with dual connection)</i>: leased line to two different endpoints.
D-Channel	<p>D-channel configuration. The display of options depends on the value selected in ISDN SWITCH TYPE. Possible values:</p> <ul style="list-style-type: none"> ■ <i>leased dte</i> ■ <i>leased dce</i> ■ <i>dialup</i> (default value) ■ <i>not used</i>
B-Channel 1	<p>Configuration of first ▶▶ B-channel. The display of options depends on the value selected in ISDN SWITCH TYPE. Possible values:</p> <ul style="list-style-type: none"> ■ <i>dialup</i> (default setting): for dialup connections ■ <i>not used</i>: NOT for dialup connections ■ <i>leased dte</i>: for leased lines ■ <i>leased dce</i>: for leased lines
B-Channel 2	<p>Configuration of second B-channel. The display of options depends on the value selected in ISDN SWITCH TYPE. Possible values: "B-Channel 1" on page 6</p>

Field	Description
SPID B-Channel 1+2 or SPID B-Channel 1 or SPID B-Channel 2	(only valid for ISDN protocols in the USA) SPID = Service Profile Identifier Is only shown if ISDN SWITCH TYPE = <i>AT&T 5ESS Custom ISDN multipoint</i> or <i>AT&T 5ESS Custom ISDN point to point</i> or <i>National ISDN1 AT&T n11</i> , <i>EWSD NI1</i> resp. <i>National ISDN1 Northern Telecom DMS100 A</i> . Here you enter the service ID for B-channel 1 and 2, which you obtain from your provider. This consists of: number + SPID (depends on provider)

Table 1-1: **ISDN** menu fields**Note**

For a leased line or if the ISDN protocol is not detected, the **ISDN SWITCH TYPE** can be entered manually. The automatic D-channel detection is then switched off.

An incorrectly set ISDN protocol prevents ISDN connections being set up!

In most cases, you can accept the preset values for **D-CHANNEL**, **B-CHANNEL 1** and **B-CHANNEL 2**.

If you use an ISDN leased line and have requested a special service from your service provider, it may be necessary to set the local side of the leased line at this point (DTE or DCE). You must then ensure that the far end has set the other value. You must also set **D-CHANNEL**, **B-CHANNEL 1** and **B-CHANNEL 2** to the same values, if you have selected several D-/B-channels under **ISDN SWITCH TYPE** and the values can be changed.

The menu **ISDNS0** leads to the submenu **INCOMING CALL ANSWERING**.

When **ISDN SWITCH TYPE** = *National ISDN1 Northern Telecom DMS100* the sub-menus **INCOMING CALL ANSWERING B1** and **INCOMING CALL ANSWERING B2** are displayed.

2 Submenu Incoming Call Answering

The **INCOMING CALL ANSWERING** submenu is described below.

R3000w Setup Tool		Funkwerk Enterprise Communications GmbH	
[SLOT 2 UNIT 0 ISDN BRI] [INCOMING] [ADD]		MyGateway	
Item	Number	Mode	Bearer
		PPP (routing)	any
		right to left	
		SAVE	CANCEL

The **ISDN S0:x → INCOMING CALL ANSWERING → ADD/EDIT** submenu is for assigning the available ISDN numbers to the desired services (e.g. PPP routing, **➤➤ ISDN Login**).

If you use the BRI for incoming and outgoing dialup connections, you must enter the own numbers for this interface (these settings are not possible for leased lines). The gateway distributes the incoming calls to the internal services according to the settings in this menu. Outgoing calls include the own number as calling party number.

The gateway supports the following services:

- **PPP (Routing):**
The **➤➤ PPP** (routing) service is the gateway's general routing service. This connects e.g. ISDN-WAN partners' data connections to your **➤➤ LAN**. This enables partners outside your own local network to access hosts within your LAN. This subsystem also enables outgoing data connections to be set up to ISDN-WAN partners.
- **ISDN Login:**
The **➤➤ ISDN Login** service allows incoming data connections with access to the **➤➤ SNMP shell** of the gateway as well as outgoing data con-

nections to other bintec gateways. This means the gateway can be configured and administrated remotely.

- The >> **CAPI** service allows connection of incoming and outgoing data and voice calls to communications applications on hosts in the LAN that access the >> **Remote CAPI** interface of your gateway. This enables, for example, hosts connected to your gateway to receive and send faxes. To be able to use CAPI applications from the hosts in the LAN with your gateway, you must also carry out the Remote CAPI configuration on the individual hosts in addition to distributing the extension numbers as described in this chapter.

When a call is received, the gateway first checks the called party number (CPN) and the type of call (data or voice call). The CPN is the extension the partner has dialed to reach the gateway. The call is then forwarded to the corresponding service.



All incoming calls that do not match any of the existing entries, are transmitted to the CAPI service.



If no settings have been made (ex works state), all incoming calls via ISDN are accepted by the ISDN-login service. To avoid this it is recommended to adjust the required settings of this menu.

If **ISDN SWITCH TYPE National ISDN 1 Northern Telecom DMS100** is set, two options appear in this field: **INCOMING CALL ANSWERING B1** and **INCOMING CALL ANSWERING B2**.

The **INCOMING CALL ANSWERING → ADD/EDIT** menu consists of the following fields:

Field	Description
Item	Service to which a call to the NUMBER below is to be assigned. Possible values: see table "Selection options for ITEM field," on page 12 .

Field	Description
Number	Phone number which is used to verify the called party number. It is sufficient, that only single figures of the entry match considering MODE .
Mode	Mode in which your gateway compares the digits of NUMBER with the called party number of the incoming call: <ul style="list-style-type: none"> ■ <i>right to left</i> (default value) ■ <i>left to right (DDI)</i>: Always select if your gateway is connected to a point-to-point connection.
Bearer	Type of incoming call (service identification). Possible values: <ul style="list-style-type: none"> ■ <i>data</i>: Data call ■ <i>voice</i>: Voice call (modem, voice, analog fax) ■ <i>any</i>: both data and voice calls (default value)

Table 2-1: Fields in submenu **INCOMING CALL ANSWERING**

The **ITEM** field contains the following selection options:

Description	Meaning
PPP (routing) (default value)	Default setting for >> PPP routing. Includes the automatic detection of the PPP connections listed below except <i>PPP DOVB</i> .
ISDN Login	Enables logging in with >> ISDN Login .
PPP 64k	Enables 64 kbps PPP data connections.

Description	Meaning
PPP DOVB	Data transmission Over Voice Bearer - useful in the USA, for example, where voice connections are sometimes cheaper than data connections. DOVB contains an automatic bandwidth modification from 64 kbps to 56 kbps. This function depends on the type of device. Ask the bintec Support (contact via www.funkwerk-ec.com) if DOVB can be used with your gateway.
PPP V.110 (1200...38400)	Permits PPP connections to V.110 at bit rates of 1200 bps, 2400 bps,..., 38400 bps.
PPP V.120	Permits incoming PPP connections to V.120.
IPSec	Enables a number to be defined for IPSec call-back.

Table 2-2: Selection options for *ITEM* field

3 Advanced Settings Menu

The fields of the **ADVANCED SETTINGS** menu are described below.

R3000w Setup Tool		Funkwerk Enterprise Communications GmbH	
[SLOT 2 UNIT 0 ISDN BRI] [ADVANCED]:		MyGateway	
Advanced Settings of BRI Interface			
X.31 TEI Value		not specified	
X.31 TEI Service		Packet Switch	
SAVE		CANCEL	

The menu **ISDN S0 → ADVANCED SETTINGS** contains settings for X.31 TEI (X.25 in the D-channel). You only need to make changes here if you want to use an assigned X.31 TEI value for CAPI applications.

The menu consists of the following fields:

Field	Description
X.31 TEI Value	An existing X.31 TEI is detected automatically in ISDN autoconfiguration and this value set to specify. If autoconfiguration has not detected TEI, you can specify manually. Default value is <i>not specified</i> .
Specify TEI Value	For X.31 TEI VALUE = specify only. The value for X.31 TEI assigned by the exchange. This value is detected automatically by ISDN autoconfiguration, but can also be entered manually. Possible values are 0 ... 126.

Field	Description
X.31 TEI Service	<p>Here you select the service for which you want to use X.31 TEI.</p> <p>Possible values:</p> <ul style="list-style-type: none">■ <i>Packet Switch</i> (default value)■ <i>Capi Default</i>■ <i>Capi</i> <p>Set to <i>Packet Switch</i> if you want to use X.31 TEI for X.25 routing in your gateway.</p> <p><i>Capi</i> and <i>Capi Default</i> are for using X.31 TEI for CAPI applications. For <i>Capi</i>, the TEI value set in the CAPI application is used. For <i>Capi Default</i>, the value of the CAPI application is ignored and the SPECIFY TEI VALUE is always used.</p>

Table 3-1: **ADVANCED SETTINGS** menu fields

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	Leased line	5
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N	Number	11
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	Point to point	5
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	PPP 64k	11
	PPP DOVB	12
	PPP V.110 (1200...38400)	12
	PPP V.120	12
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