User's Guide

bintec R4100 / R4300

Serial Unit

Copyright © July 17, 2006 Funkwerk Enterprise Communications GmbH
Version 0.9

Purpose

This document is part of the user's guide to the installation and configuration of bintec gateways running software release 7.4.5 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.

Liability

While every effort has been made to ensure the accuracy of all information in this manual, Funkwerk Enterprise Communications GmbH cannot assume liability to any party for any loss or damage caused by errors or omissions or by statements of any kind in this document and is only liable within the scope of its terms of sale and delivery.

The information in this manual is subject to change without notice. Additional information, changes and **Release Notes** for bintec gateways can be found at www.funkwerk-ec.com.

As multiprotocol gateways, bintec gateways set up WAN connections in accordance with the system configuration. To prevent unintentional charges accumulating, the operation of the product should be carefully monitored. Funkwerk Enterprise Communications GmbH accepts no liability for loss of data, unintentional connection costs and damages resulting from unsupervised operation of the product.

Trademarks

bintec and the bintec logo are registered trademarks of Funkwerk Enterprise Communications GmbH.

Other product names and trademarks mentioned are usually the property of the respective companies and manufacturers.

Copyright

All rights are reserved. No part of this publication may be reproduced or transmitted in any form or by any means – graphic, electronic, or mechanical – including photocopying, recording in any medium, taping, or storage in information retrieval systems, without the prior written permission of Funkwerk Enterprise Communications GmbH. Adaptation and especially translation of the document is inadmissible without the prior consent of Funkwerk Enterprise Communications GmbH.

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.

How to reach Funkwerk Enterprise Communications GmbH

Funkwerk Enterprise Communications GmbH Suedwestpark 94 D-90449 Nuremberg Germany Telephone: +49 180 300 9191 0 Fax: +49 180 300 9193 0 Internet: www.funkwerk-ec.com	Bintec France 6/8 Avenue de la Grande Lande F-33174 Gradignan France Telephone: +33 5 57 35 63 00 Fax: +33 5 56 89 14 05 Internet: www.bintec.fr

1 Serial Unit Menu 3

Index: Serial Unit 9

1 Serial Unit Menu

The fields of the *SERIAL: UNIT 0* and *UNIT 1* menu are described below.

```
R4300 Setup Tool               Funkwerk Enterprise Communications GmbH
[SLOT 4 UNIT 0 SERIAL]: Configure Serial Interface           MyGateway
                      - Unit 0


    Cable Detection          interface & connector type

    Interface Type           unknown      (autodetected)
    Connector                unknown      (autodetected)


    Layer 2 Mode             auto

    Interface Leads          disabled


           SAVE                                  CANCEL
```

In the ***SERIAL: UNIT X*** menu you configure the serial WAN interface of your gateway.

Your gateway provides for an integrated X.21/V.35 interface.

The ***SERIAL UNIT*** menu consists of the following fields:

Field	Description
Cable Detection	Defines whether the interface and connector types used are to be detected automatically (autodetected) or set manually. Possible values: ■ *interface & connector type*: The interface and connector types are detected automatically. ■ *interface type*: Only the interface type is detected automatically. The connector type must be set manually. ■ *connector type*: Only the connector type is detected automatically. The interface type must be set manually. ■ *manual*: Both the interface and connector type must be set manually.
Interface Type	Defines the interface type of the port used. If you select *interface type* or *interface & connector type* for the ***CABLE DETECTION*** field, the interface type is detected automatically. The detected value is displayed, e.g. *V.35 (autodetected)*. If you select *connector type* or *manual* for the ***CABLE DETECTION*** field, you must set the ***INTERFACE TYPE*** field manually. For possible values see "Interface Type Options" on page 7.

Field	Description
Connector	Defines the connector type of the port used. If you select *connector type* or *interface & connector type* for the ***CABLE DETECTION*** field, the connector type is detected automatically. The detected value is displayed, e.g. *dte (autodetected)*. If you select *interface type* or *manual* for the ***CABLE DETECTION*** field, you must set the ***CONNECTOR*** field manually. For possible values see "Connector options" on page 8.
Speed	Only for ***CONNECTOR*** = *dce*. Transmission rate of connection. Possible values: ■ *2400 bit/s, 9600 bit/s, 14400 bit/s, 19200 bit/s, 38400 bit/s, 64000 bit/s* ■ *128 kbit/s, 256 kbit/s, 512 kbit/s* ■ *1 Mbit/s, 2 Mbit/s, 4 Mbit/s, 8 Mbit/s* ■ *custom*: The field ***VALUE (BIT/S)*** appears. Scalable from 2400 bps to 8 Mbps. The value to be set depends on the quality and length of the cable, the connector type and the min./max. speed accepted at the DTE end. Up to 8 Mbps are possible over a short distance of up to 5 m if shielded twisted-pair cables are used. Default value: *64000 bit/s*.

Field	Description
Layer 2 Mode	Defines the value of the HDLC address field in the transmitted command frames (Layer 2). Possible values: ■ *auto* (default value): The selection made for Connector is assumed. You can usually accept this setting, e.g. for access to a public data network such as Datex-P. ■ *dte*: The address field has the value for DTE. ■ *dce*: The address field has the value for DCE.
Interface Leads	Defines whether the router checks the status of the interface line. The same value should be set for both connection partners. Possible values: ■ *enabled*: The Layer 1 signaling of the opposite station is checked on the signal line (I for X.21, CTS for V.35). The check correspondingly affects the variable L1State. ■ *disabled* (default value): The Layer 1 signaling of the opposite station is not checked, your router assumes that the physical line is always "up". In this setting, you should monitor the interface line in some other way, e.g. with PPP Keepalive.

Table 1-1: ***SERIAL UNIT*** menu fields

The field ***INTERFACE TYPE*** has the following options:

Value	Description
unknown (autodetected)	No cable is connected to the port or the cable connected does not support autodetection.
none	The port is not used.
X.21 (term)	V.11 on all lines, 120-ohm terminating resistor on critical input lines.
V.35	V.35 on critical lines, V.28 on uncritical lines.
V.36	V.11 on critical lines, V.10 on uncritical lines.
X.21bis	V.28 on all lines.
X.21 (not term)	Unterminated V.11 on all lines.
RS-449	V.11 on critical lines, V.10 on uncritical lines.
RS-530	V.11 on critical lines, V.10 on uncritical lines.

Table 1-2: ***INTERFACE TYPE*** Options

Note

If you use an X.21 cable that supports autodetection, the value X.21 (term) is selected automatically. If you do not want termination, you must disable auto-detection and make the configuration manually.

Data and clock lines are generally designated as critical lines.

Control lines are generally designated as uncritical lines.

The field ***CONNECTOR*** has the following options:

Value	Description
unknown (autodetected)	No cable is connected to the port or the cable connected does not support autodetection.
dte	The pins are assigned as DTE interface. This setting is necessary, for example, if the router is connected to a public data network like Datex-P in Germany.

Value	Description
dce	The pins are assigned as DCE interface.

Table 1-3: ***CONNECTOR*** options

Advanced Configuration

If you use a leased line, you can implement a backup solution using the Bandwidth on Demand feature (see **User's Guide** chapter ***IP ➜ BANDWIDTH MANAGEMENT (TDRC / LOAD BALANCING / BOD) ➜ IP TRIGGERED BANDWIDTH ON DEMAND (IP BOD)***). If you use this option, a dialup connection is set up to the connection partner if the leased line fails.

Index: Serial Unit

C

Cable Detection 4
Connector 5

I

Interface Leads 6
Interface Type 4

L

Layer 2 Mode 6

S

Speed 5