

Introduction and Product Specification

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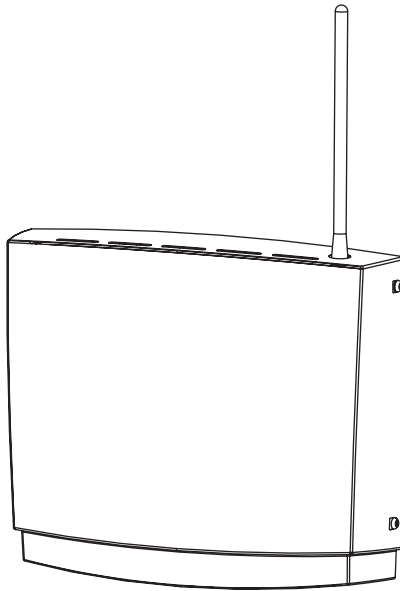
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The contents of this document are subject to revision without notice due to continued progress in methodology, design and manufacturing.

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1 General

Radio Base Unit 1 (BRU1) is a complete one-channel compact radio base station which uses 8 kbps data signalling. The BRU1, which is intended for indoor operation, is a link between the mobile terminals (MOB) and the area exchanges (MOX) in the Mobitex Network.



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Figure 1 The front of Base Radio Unit 1 (BRU1).

2 About the BRU1 Manual

The BRU1 Manual is designed for engineering personnel who are familiar with data communications terminology and protocols and who will work on site with the BRU1.

The Manual is intended for:

- Operation and Maintenance personnel
- Installation and Commissioning personnel
- System engineers
- Training

BRU1 units may be damaged by mismanagement. Therefore, read the documents included in this manual carefully before you start operating the BRU1, especially the *Safety Instructions* document. It is important that this manual be available to all personnel working with the BRU1, and that the BRU1 is operated only by trained personnel.

The manual provides the necessary information for installation, commissioning and operation of the BRU1, and contains the following documents:

- *Introduction and Product Specification (this document)*
- *Safety Instructions*
- *Site Requirements and Installation Instructions*
- *Commissioning Procedure*
- *FBTEST Reference Manual* - complementary to the *Commissioning Procedure*.
- *Operation and Maintenance Instructions*
- *End of Life Treatment*

3 Using the BRU1 Manual

Before using the BRU1 manual, you should have an overall understanding of how the Mobitex system operates as a wide-area packet switching network. If not, first refer to the *NTE Client Library/System Library/System Manual*.

3.1 Safety Instructions

The *Safety Instructions* document contains safety instructions for handling the BRU1 during installation and maintenance. It is recommended to read this document prior to reading the other documents, or starting any kind of installation or maintenance work.

3.2 Site Requirements and Installation Instructions

The *Site Requirements and Installation Instructions* document covers both the site preparations required, in terms of space, power, environment, cables, etc., and information required for a safe installation of the BRU1.

3.3 Commissioning Procedure

The *Commissioning Procedure* document includes two parts, the hardware and the software commissioning procedures.

Hardware Commissioning describes how to put the BRU1 into operation after installation has been completed.

Software Commissioning gives the necessary information for the commissioning of the BRU1 software.

3.4 FBTEST Reference Manual

The *FBTEST Reference Manual* describes the FBTEST test program which is used for the BRU1 hardware commissioning and some maintenance operations.

3.5 Operation and Maintenance

The *Operation and Maintenance Instructions* document informs about first-line operation and maintenance of the BRU1.

The *Design, Function and Operation* chapter describes the design, function and operation of the BRU1 and its constituent parts.

The *Maintenance* chapter describes how to carry out visual and preventive maintenance on the BRU1.

The *Troubleshooting* chapter describes how to act if problems occur when operating the BRU1. Trouble shooting is always carried out in agreement with the NCC operator personnel.

4 Technical Data

4.1 Power Requirements and Dimensions

Power Requirements

	Title	Product No.	Rated Voltage (V DC)	Power Consumption (W)
19	BRU1 19-D	HRB 10472/9	21 - 32	<50

Dimension

	Height (mm)	Width (mm)	Depth (mm)	Weight (kg)
19	285 (TBC)	344(TBC)	101(TBC)	<4.5

4.2 Radio Parameters

Radio data transmission speed	= 8 kbps
Modulation	= Modified GMSK, BT = 0.3
Traffic mode	= Duplex
Channel bandwidth	= 12.5 kHz
Duplex spacing	39MHz
IF1 frequency	77.25 kHz
IF2 frequency	450 kHz
IF3 frequency	42.31 kHz
Rx frequency range	896 - 902 MHz
Sensitivity	= -113 dBm at 1% BER
Receiver adjacent channel rejection	> 55dB
Spurious rejection	> 60dB
Blocking level	> 90dB
Intermodulation response	> 70dB
Tx frequency range	935 -941 MHz
Adjacent channel power	> 55dB
Antenna output power	1W
Antenna impedance	50 ohm

4.3 Environmental Classifications

Weather Protected Locations:

class IP 40 according to IEC-EN 60529

ETS 300 019-1-3: Environmental Class 3.1, with extended temperature range .

19: -0 °C to +45 °C

Humidity:

10 - 85%

Storage:

-40 °C to +60 °C

ETS 300 019-1-1: Class 1.2 for storage.

Transport:

ETS 300 019-1-2: Class 2.3 for public transportation when packed in Ericsson supplied packaging material or equivalent.

4.4 Electromagnetic Compliance and Radio Standards

19: FCC part 68, FCC part 90

4.5 Electrical Safety

19: UL60950 or equivalent