Exhibit 8 Manual

Prepared (also subject responsible if other)		No.		
/ XSNSIXI		8/1551-LZA 701 0001 Uen		
Approved	Checked	Date	Rev	Reference
CBC/XRX/M (Kai Lian)		2011-05-05	C	

dTRU Unit Description

Copyright

Disclaimer

The contents of this document are subject to revision without notice due to continued progress in methodology, design and manufacturing. Ericsson shall have no liability for any error or damage of any kind resulting from the use of this document.

Trademarks

All trademarks mentioned herein are the property of their respective owners. These are shown in the document Trademark Information.

Contents **Page**

1 dTRU Unit Description

The double Transceiver Unit (dTRU) is a 2-TRX replaceable unit. A TRX is a transmitter/receiver and signal-processing unit, which transmits and receives one carrier.

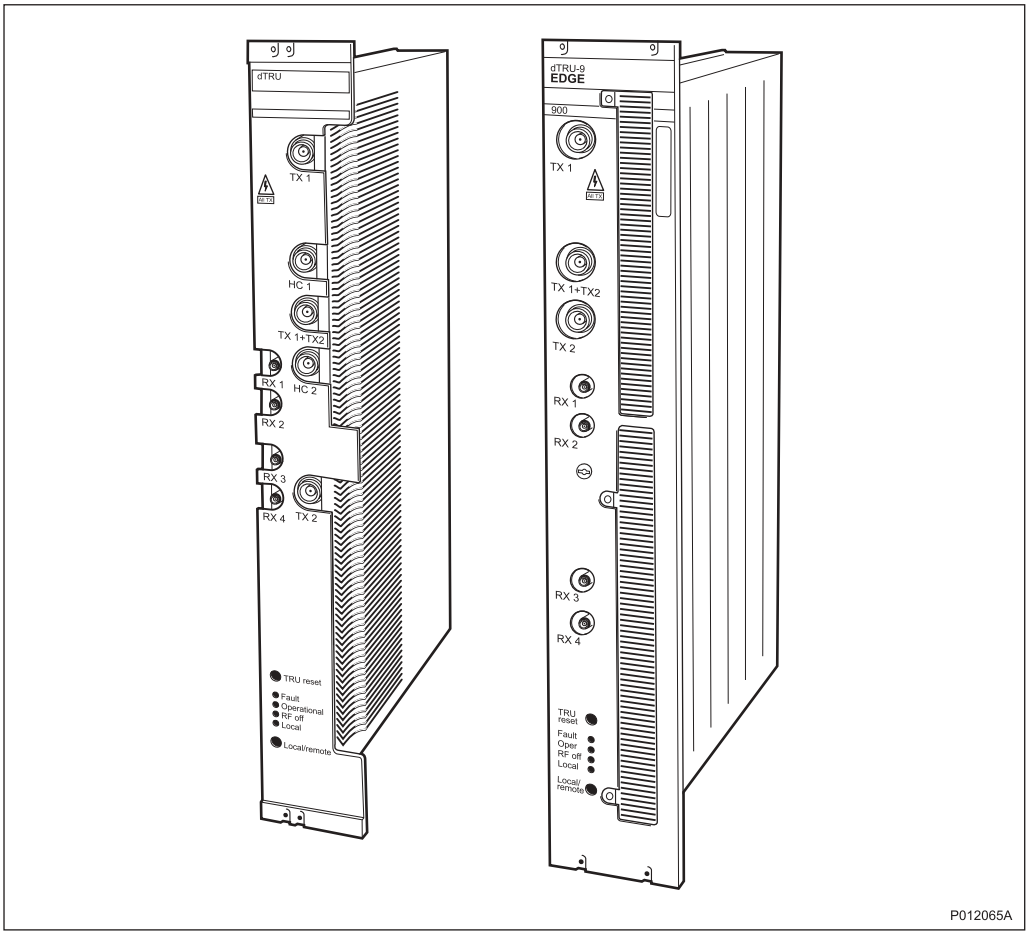

Figure 1 dTRU and dTRU EDGE

1.1 Product Overview

The dTRU is a 2-TRX replaceable unit. A TRX is a transmitter/receiver and signal-processing unit, which transmits and receives one carrier. There are different versions of dTRU depending on the frequency band and modulation capability, that is, GMSK, 8-PSK, 16-QAM and 32-QAM.

The dTRU EDGE supports GMSK, 8-PSK, 16-QAM and 32-QAM, as well as Voice services over Adaptive Multi-user channels on One Slot (VAMOS). Some

versions of dTRU EDGE have limitations on VAMOS. For details, please refer to document BTS Parameter Limitations.

The dTRU has two TX antenna terminals and four RX antenna terminals. The dTRU features a built-in hybrid combiner. The hybrid combiner can be used to combine the two TX antenna terminals to one common terminal.

Two of the RX antenna terminals are used for 2-branch diversity reception. The dTRU is hardware prepared for 4-branch diversity reception through the remaining two antenna terminals.

1.1.1 Main Functions

The dTRU is a distributed main CPU DMCN and its main functions are:

- Transmits and receives radio frequency signals - GMSK, 8-PSK, 16-QAM or 32-QAM modulation
- Processes signals

1.1.2 Variants

There are two dTRU variants available:

- Built in hybrid combiner connected through jumper cables
- Built in hybrid combiner connected through a switching relay

1.2 Dimensions

The dTRU has the following dimensions:

Table 1 Size and Weight

Height	Width	Depth	Weight
400 mm (9 HE x 44.45 mm)	71 mm (14 TE x 5.08 mm)	270 mm	6.2/7.6 kg

1.3 Power Consumption and Heat Generation

Table 2 Power Consumption and Heat Generation

Max. power consumption	Max. heat generation
485 W	380 W

Prepared (also subject responsible if other)		No.		
/ XSNSIXI		8/1551-LZA 701 0001 Uen		
Approved	Checked	Date	Rev	Reference
CBC/XRX/M (Kai Lian)		2011-05-05	C	

1.4 Function Description

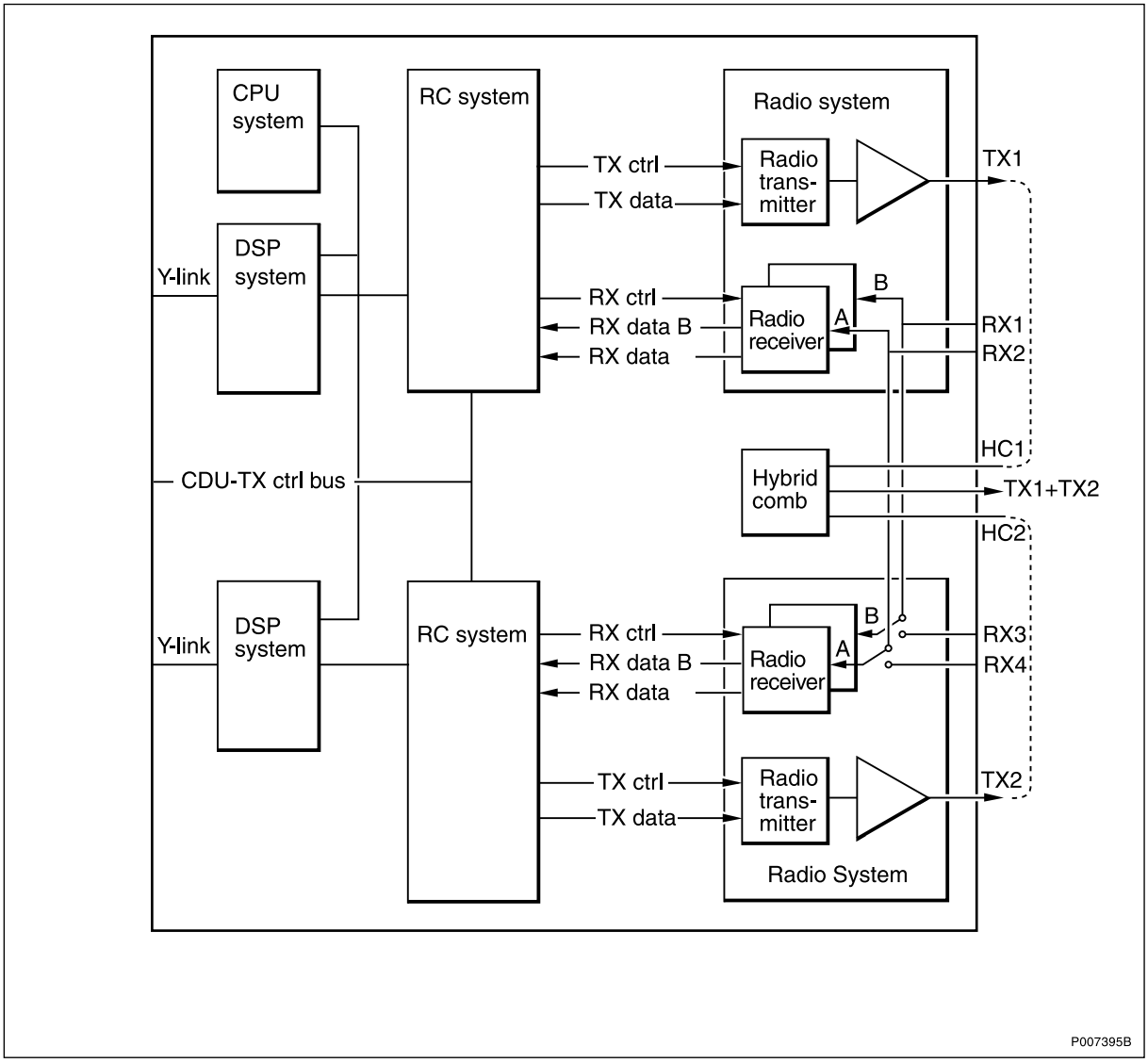

Figure 2 Block diagram of the dTRU

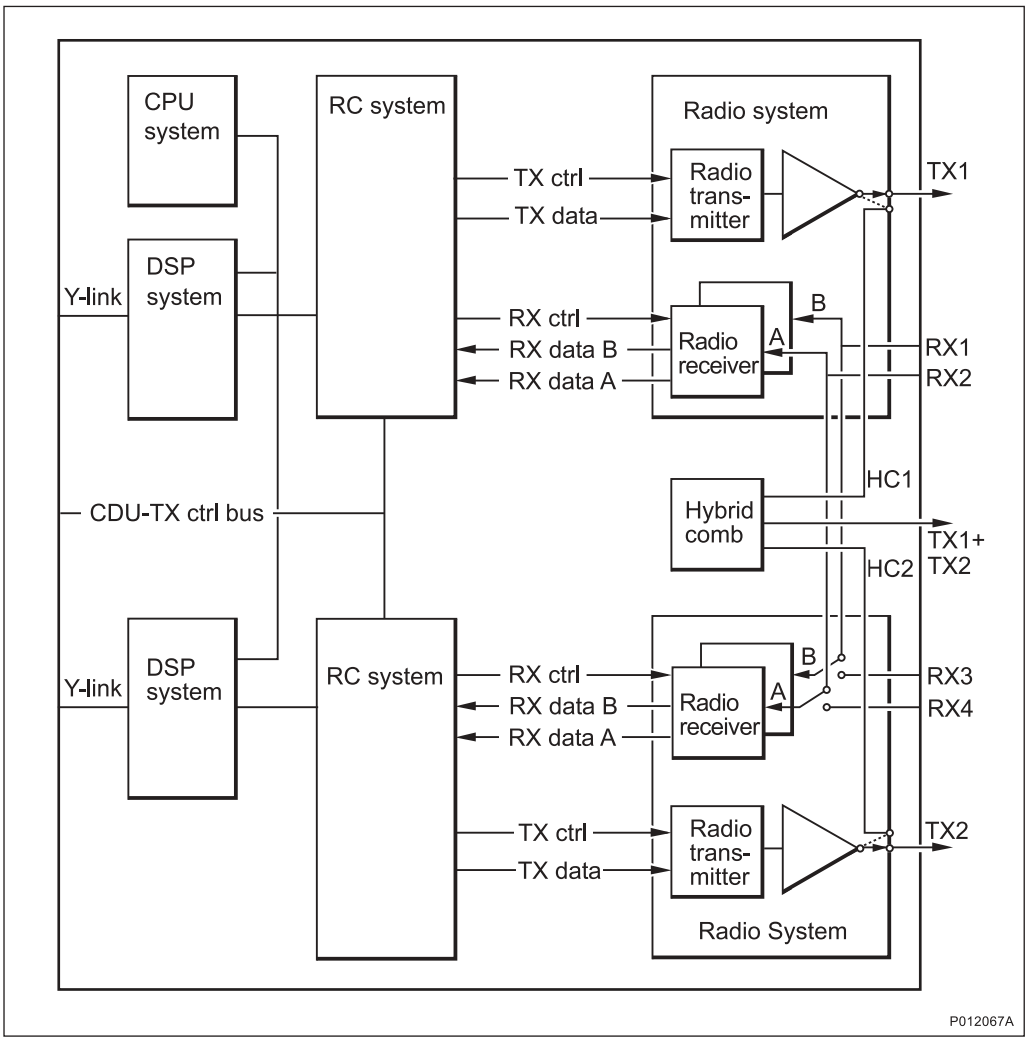

Figure 3 Block diagram of the dTRU with switching relay

The TRU consists of the following main blocks:

- CPU system
- DSP system
- RC system
- Radio system

1.4.1 CPU System

The CPU system is a control unit in the RBS. It consists of a CPU, support logic, memory and logic for handling the interfaces.

1.4.2 DSP System

The DSP system performs all baseband signal processing necessary for one TRX. For downlink, this includes Terrestrial Protocol Handling (TPH), encoding, ciphering and burst generation. For uplink it includes equalization, combining, decoding and TPH.

1.4.3 Radio Control System

The RC system is responsible for synchronizing and controlling the different parts of the radio, for modulation and D/A conversion of the data to transmit, for filtering the received radio signal with a channel selective filter and for compensating the RX and TX delay and gain variations.

The RC system is seen by the rest of the RBS as the front end to the radio, which can be asked to transmit a burst of data using a selected modulation, or asked to receive a burst using a selected digital filter.

All time critical radio control functions are performed by the RC system and no computing support is required from the CPU system on a real-time basis.

1.4.4 Radio System

Each radio system contains two radio receivers and one radio transmitter including power amplifiers.

The radio receiver receives RF modulated uplink data from one or two diversity branches and sends it to the RC system.

The radio transmitter generates the RF downlink signal from the modulated baseband signal. It then sends the RF signal to the power amplifier, which amplifies the downlink RF signals.

1.5 Interfaces

The dTRU has the following external interfaces:

- CDU-TX control bus
- LEDs and buttons
- RX (front)
- TX (front)
- Y link

1.5.1 Signal and Power Interfaces

The Y link, CDU TX control bus and connectors are located on the back of the dTRU.

1.5.2 Operator Interface

Table 3 Indicators

Indicator	**Color**
Fault	Red
Operational	Green
RF off	Yellow
Local mode	Yellow

Table 4 Switches

Switch	**Function**
TRU reset	Resets the TRU
Local/remote	Local/remote mode

2 References

[1] *BTS Parameter Limitations*
,86/1551-LZA 701 0001